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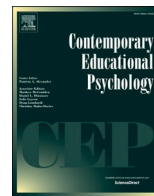
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Theoretical Analysis

Parent–child conflict during homeschooling in times of the COVID-19 pandemic: A key role for mothers' self-efficacy in teaching

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ABSTRACT

To contain the COVID-19 pandemic schools have been closed in many countries. Children stayed at home and were assisted by their parents with their schoolwork. Evidently, homeschooling puts extra demands on parents. We presumed that parents' sense of efficacy in teaching would play a key role in how they cope with this extra task of homeschooling. In particular, we hypothesized that parental characteristics (level of parental education and stress) and social contextual factors (household chaos and school support) would contribute to parents' teaching self-efficacy and that, in turn, a lower efficacy would result in more parent–child conflict during home schooling. Participants were 173 mothers of children in kindergarten or early elementary schools, who provided information for one of their children about interpersonal conflicts around schoolwork before and during school closure. Additionally, they reported on their self-efficacy in teaching, perceived stress during lockdown, home chaos, and school support. Path analyses indicated that mothers' perceived stress and household chaos were associated with a lower sense of efficacy in teaching, whereas school support, but not level of parental education, was related to a higher level of teaching self-efficacy. Higher levels of self-efficacy beliefs, in turn, were associated with a lower degree of mother–child conflict during schoolwork, even after controlling for prior levels of conflict. We discuss how the results of this study might be used to foster parents' self-efficacy in teaching and thereby decrease the amount of parent–child conflict during parents' support with schoolwork.

1. Introduction

The COVID-19 pandemic has led to temporary school closures in many countries around the world. As a result, hundreds of millions of children were forced to do their schoolwork at home for weeks in a row (Unesco, 2021). During this period, parents often had to assist their children with their schoolwork. This role as a part-time teacher put extra demands on parents, posing a number of additional problems for them (Chung, Lanier, & Wong, 2020). Due to stress or a lack of support some parents might have felt less able to teach their child at home. Furthermore, parents might have experienced difficulties regulating the behavioral problems and negative emotions of their child that can occur during their help with schoolwork (Fuligni, Yip, & Tseng, 2002; Pomerantz, Wang, & Ng, 2005, 2006). In the present study, we examined parent factors (i.e., parents' level of education and amount of stress) and social contextual factors (e.g., household chaos and school support) that may have contributed to parents' sense of efficacy in teaching young children during the COVID-19 pandemic, as well as the extent to which

these parental self-efficacy beliefs in teaching in turn contributed to parent–child conflict around schoolwork.

2. The role of parents' self-efficacy in teaching

Parents' home-based involvement with schoolwork, including practices such as creating a quiet and orderly place to study, talking about school-related issues, and helping children in completing their homework (Pomerantz, Moorman, & Litwack, 2007), is nowadays increasingly considered a relevant yet controversial factor in affecting children's school adjustment (e.g., Gonida & Urdan, 2007; Hoover-Dempsey et al., 2001; Pomerantz et al., 2005). Not only is parents' assistance with schoolwork the most frequent form of involvement, it can also be viewed as the central activity in which the home and school environment intersect most closely and in which most school-related interactions are exchanged (Moroni, Dumont, Trautwein, Niggli, & Baeriswyl, 2015; Pomerantz et al., 2007; Ritblatt, Beatty, Cronan, & Ochoa, 2002). As such, the atmosphere that parents create around their

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children's schoolwork may provide plenty opportunities to either enhance or hamper children's motivational and academic development (Moè & Katz, 2018; Moè, Katz, Cohen, & Alesi, 2020; Moroni et al., 2015; Pomerantz et al., 2007).

One factor that may influence how parents act and behave toward their child during school-related activities is their parental self-efficacy in teaching (Bandura, 1997). Generally, parental self-efficacy reflects parents' beliefs about their ability to parent children successfully—to guide and support children such that it optimizes their development (Coleman & Karraker, 1998; Jones & Prinz, 2005). From the moment their children enter formal schooling, however, parents' role as a caregiver naturally broadens to include school-related responsibilities as well. Conceivably, such responsibilities also come with specific expectations of efficacy to adequately assist with schoolwork (cf. Bandura, 1997). This may have been especially true during the COVID-19 pandemic, which forced many parents to assist their children with schoolwork for weeks in a row.

To date, no formal definition of parents' self-efficacy in teaching in the context of homeschooling exists. Conceivably, though, there may be broad similarities between teachers' and parents' roles during the COVID-19 pandemic in terms of cognitive (e.g., providing alternative explanations when children do not understand the task at hand) and affective supports (e.g., helping children to value learning and providing a safe and secure learning environment; cf. Pomerantz et al., 2005; Zee & Koomen, 2016). Therefore, we extended the concept of teacher self-efficacy to the context of homeschooling. In this context, parental self-efficacy in teaching concerns parents' judgments of their ability to adequately instruct, engage, and emotionally support their child in schoolwork. When parents believe their involvement will make a positive difference for their children's schoolwork, they are more inclined to be involved in their children's schoolwork (Hoover-Dempsey et al., 2001). In addition, a self-efficacious outlook on teaching may further help parents decide which homeschooling activities to pursue and how they can make their interactions with children enjoyable, loving, and supportive (Pomerantz et al., 2005, 2007). Lastly, parental self-efficacy may determine whether parents persist in the face of difficult situations and how they interpret the behaviors of their children during frequent and sometimes challenging interactions with them (Albanese, Russo, & Geller, 2019; Bandura, 1997; Zee, de Jong, & Koomen, 2017).

As yet, relatively little is known about the specific relation between parents' sense of efficacy in teaching and parent-child conflict around schoolwork, especially in times of extra homeschooling. Evidence from research on parental self-efficacy shows, however, that a higher sense of parental efficacy increases the likelihood of success in parenting, resulting in better child development (Jones & Prinz, 2005). Relevant to homeschooling, a higher sense of parental efficacy is associated with less behavioral problems in children (Albanese et al., 2019), which might generalize to parent-child conflicts during parental help with schoolwork as well. Furthermore, various empirical studies have suggested that children frequently experience unpleasant feelings and emotions during homework sessions, including frustration, anxiety, boredom, or lack of motivation (e.g., Chen & Stevenson, 1989; Dettmers et al., 2011; Pekrun, Goetz, Titz, & Perry, 2002; Verma, Sharma, & Larson, 2002). Such emotions may not only have direct repercussions on parents' own beliefs and experiences of negative affect, but also increase the chance that parents become more controlling and less able to focus on the learning process (Fulgini et al., 2002; Moè, Katz, & Alesi, 2018; Pomerantz et al., 2005).

Last, evidence from the adjacent field of teacher self-efficacy suggests that teachers' capability beliefs may affect the quality of teacher-child relationships (e.g., Hamre, Pianta, Downer, & Mashburn, 2008; Jimmieson, Hannam, & Yeo, 2010; Kunemund et al., 2020; Mashburn, Hamre, Downer, & Pianta, 2006; Zee & Koomen, 2016). For example, Hamre et al. (2008) found that teachers with generally low self-efficacy judgments experienced higher degrees of teacher-child conflict than would be expected based on their judgments of these children's problem

behaviors. More recent results also concur with this idea, suggesting that teachers who feel less self-efficacious in managing individual children's behaviors in class generally experience more conflict with them (Kunemund et al., 2020; Zee et al., 2017). Thus, based on research on both parental and teacher self-efficacy, it seems likely that parents who feel less efficacious in teaching their children will also experience more conflicts with their child during help with schoolwork.

3. Sources of parents' self-efficacy in teaching

Self-efficacy is shaped by mastery experiences (i.e., the extent to which parents experience themselves as supporting their children successfully) and emotional states, like stress (Bandura, 1997; Morris, Usher, & Chen, 2017). Similar to parenting behaviors (Belsky, 1984), parental self-efficacy in teaching seems to be influenced by factors in three domains: Personal characteristics of the parent, social contextual or family factors, and child characteristics (Sevigny & Loutzenhiser, 2010). Several of these factors provide information which might be used to develop a sense of efficacy for teaching.

With respect to parent characteristics, one of the factors that might act as a source of mastery experiences is parents' socioeconomic status (SES). There is abundant evidence that parents with a higher SES, partly indicated by parents' level of education, provide more favorable home learning environments (HLE) with richer and more elaborate language (Hoff, 2013), better instructional quality and emotional support during joint book reading (Leseman & de Jong, 1998), and more literacy and numeracy related activities (e.g., Niklas & Schneider, 2017). In turn, a more favorable HLE has positive effects on early literacy and numeracy development (Kleemans, Peeters, Segers, & Verhoeven, 2012; Sénéchal, Whissell, & Bildfell, 2017), an outcome that may provide parents with the type of mastery experiences needed to feel self-efficacious in teaching their child. However, whether parents with a higher level of education also judge themselves as more capable to teach their child is largely unknown. Dulay, Cheung, and McBride (2018) found that parents of 3- to 5-year-old Philippine children with a higher SES, and especially those of the younger children, felt more self-efficacious than those with a lower SES. More recently, Tazouti and Jarlégan (2019) showed a relation between SES and parental self-efficacy in parents of French Grade 1 and 2 children. Interestingly, the relation was far stronger in mothers than in fathers. However, self-efficacy in these studies was mostly concerned with more general feelings about parenting ability and did not (Dulay et al., 2018) or only partly (Tazouti & Jarlégan, 2019) consider whether parents felt able to teach their child.

Parents may also use information about their own emotional states when judging what they can do to teach their children at home (Bandura, 1997). Perceived stress seems a particularly relevant factor in times of the COVID-19 pandemic and school closure, as there are threats to financial security and health, as well as a continuous time pressure caused by job requirements and the demand to assist children with schoolwork (Coyne et al., 2021). The negative emotional states generated by such threats and other commitments are particularly likely to color parents' involvement on the home front (Reay, 2000). Also in normal times, however, stress is found to be moderately related to the broader concept of parenting efficacy (see Fang, Boelens, Windhorst, Raat, & van Grieken, 2021, for a review). Furthermore, teachers tend to report a lower sense of efficacy when they experience more stress from their class (e.g., Klassen & Chiu, 2010). Hence, it seems apt to expect that more stress during school closure will be associated with a lower sense of efficacy in teaching.

A social contextual factor that might affect parents' mastery experiences is household chaos. Homeschooling will generally require regular help with schoolwork and parents have to (re)organize their household to fulfill this requirement. Some households, denoted as chaotic households, are characterized by high levels of disorganization as expressed by limited structure, a lack of daily routines, and elevated levels of noise (Matheny, Wachs, Ludwig, & Phillips, 1995; Mills-Koonce

et al., 2016). Young children growing up in a chaotic home environment tend to show more conduct problems and poorer cognitive and academic outcomes (Garrett-Peters et al., 2016; see Marsh, Dobson, & Maddison, 2020, for a review). Household chaos might impose a challenge for parents to find a quiet place to attend to and support their child with schoolwork. As such experiences cannot be attributed to a lack of effort, they may seriously affect parents' sense of efficacy to help their child (cf., Bandura, 1997; Tschannen-Moran & McMaster, 2009). These effects are probably larger in lower SES families, who generally have smaller houses, less working space, and a lower number of devices that are fit for online learning (Bansak & Starr, 2021). Hence, the overall inability to organize an orderly household may serve as a source of failure that will probably lead to a lower sense of efficacy of parents to help their children with schoolwork.

Support from children's schools might also help parents to develop and sustain a sense of efficacy in teaching. This is especially true in difficult times such as the COVID-19 lockdown (cf. Bandura, 1997, p. 101), which required most parents to swiftly take over the lessons planned by the school to guide their children. Higher levels of perceived school support, like clear instructions, access to the needed lesson content, and properly working digital learning platforms, may contribute to parents' sense of efficacy in teaching, as this type of support can ease parents' efforts in their homeschooling activities. Indeed, evidence from research on teachers' self-efficacy has shown that higher levels of perceived school support in terms of clear goal structures and appreciation are positively related to teachers' sense of efficacy (Calik, Sezgin, Kavgaci, & Kilinc, 2012; Fackler & Malmberg, 2016; Stipek, 2012). Furthermore, such external school supports have been found to increase the degree of parental involvement in supporting their children during normal school times (Niehaus & Adelson, 2014).

4. Present study

The aims of the present study were to advance our understanding of 1) parent characteristics and social contextual factors that affect parents' teaching self-efficacy; 2) the relation between parents' teaching self-efficacy and parent-child conflict during parents' help with

schoolwork; 3) the extent to which parents' sense of teaching efficacy mediates the relation of parent and social contextual characteristics with parent-child conflict during homeschooling. The relationships among the variables included in this study are depicted in Fig. 1.

The main parent characteristics were the level of education of the parents and stress during school closure. In assessing their relationships with self-efficacy in teaching we controlled for the number of parents' working hours and whether they worked at home. Social contextual characteristics involved household chaos and perceived support by the school. In addition, the number of rooms, workplaces (desks), and devices (computers and tablets) in parents' houses were registered as these might be confounded with household chaos. We also controlled for the gender and grade of the child. More importantly, we controlled for the level of parent-child conflict during parents' help with schoolwork before school closure. As shown in Fig. 1, our main hypothesis was that the relations of parent and family characteristics with parent-child conflict around schoolwork during school closure are mediated by parents' sense of teaching efficacy.

5. Method

5.1. Participants

Participants were recruited through 54 schools in a rural area in the Netherlands that took part in a research project on the effects of a prevention program for dyslexia. All schools were asked to email a link to a questionnaire to the parents of children in kindergarten and in first and second grade. Parents from 272 children agreed to participate. Of these parents, 70 were ultimately removed. In one school, 10 participants gave information about the same two children and choose the same alternative on each question of the rating scales. Therefore, these parents were removed. In addition, 22 parents only completed 3% of the questions and 38 parents only finished the first part of the questionnaire. For these 60 participants, information was missing for the majority of variables (stress, household chaos, support by schools, teaching self-efficacy, parent-child conflict). We did not find any significant differences between the group of parents who finished the first part of the

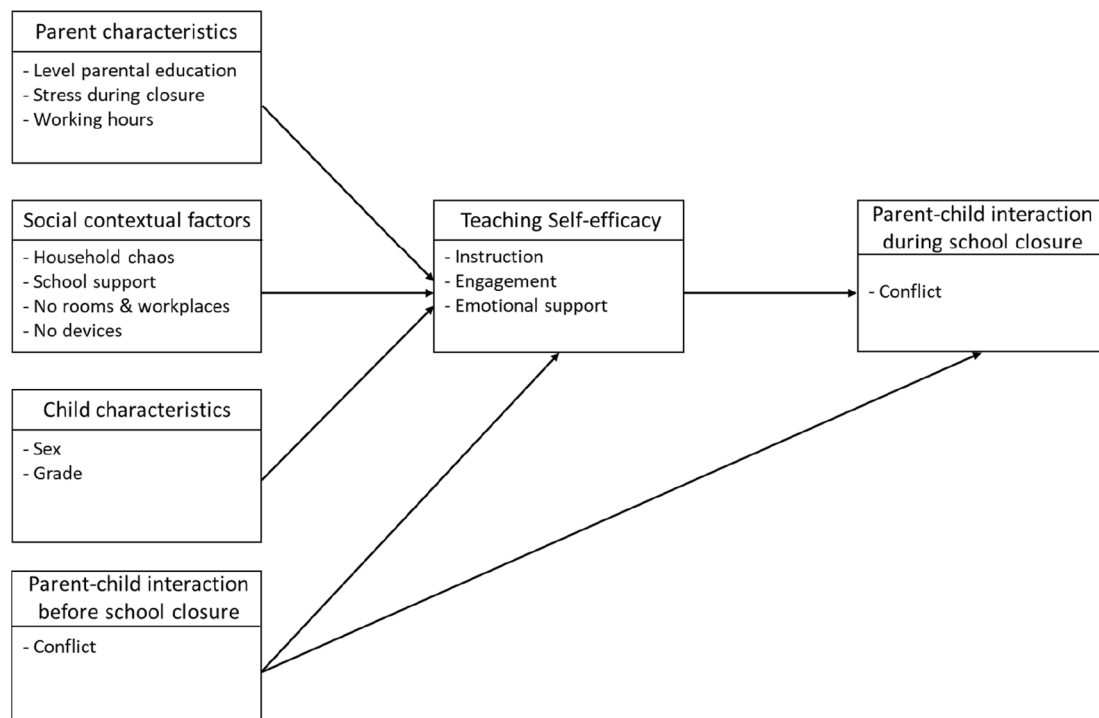


Fig. 1. Predictors of Parents' Teaching Self-Efficacy and Conflict Around Schoolwork During School Closure.

questionnaire and the group who continued on questions regarding the proportion of mothers, the education of the parents, the age of the child, and the amount of help with homework.

The remaining 202 participants from 23 schools consisted of 173 mothers, 25 fathers, and 4 persons with missing information about their gender. Of the fathers, 13 reported about the same child as one of the mothers. Because the percentage of fathers in our sample was only about 7% and, thus, far lower than to be expected in the population of parents, we decided to restrict the study to mothers (see the Discussion section for a further rationale).

Each mother was asked to report on one particular child about her conflicts around schoolwork. Some mothers had children who participated in a prevention program for dyslexia (see below). These mothers were asked to report on this particular child. The other mothers were asked to select a child in kindergarten or first or second grade, but preferably a child in the latter two grades. This resulted in 173 mother-child dyads. Of the 173 children, 65 were in kindergarten (30 boys, 35 girls) with a mean age of 5 years and 8 months ($SD = 5.5$ months), 75 in Grade 1 (46 boys, 29 girls) with a mean age of 6 years and 9 months ($SD = 4.44$ months), and 33 in Grade 2 (17 boys, 16 girls) with a mean age of 7 years and 10 month ($SD = 7.4$ months).

In this sample, the mean age of the mothers was 37.50 years ($SD = 4.41$). The number of mothers with a college degree was higher than the average in the Netherlands (56.6% versus 41%; Social Cultural Institute, 2020), but ranged from the lower educational tracks to PhD-level. The educational level of their partners was indicated by the mothers (see below). Presuming that the overall majority of these partners were fathers, educational level was somewhat higher than average (44.6% versus 41% in the total population), but with a similar variation as in the mothers. The mothers worked less hours per week than average (22.5 versus 28), but varied from no work to 40 h a week. Thus, although the response rate was low and the sample might not be fully representative, variation in scores on key variables of interest for this study was large.

5.2. Measures

5.2.1. Background measures

Working hours. Mothers were asked to report on the number of paid hours and whether they worked outside the home (yes or no) during the lockdown.

Level of parental education. In this study, the level of education of the mother and her partner was measured on a scale ranging from 1 (*only primary education*) to 9 (*PhD or equivalent*). The mothers indicated their own level of education as well as the educational level of their partner. Parental education was the mean of both scores. If the educational level of the partner was not indicated (8.1%), the score was based on the level of education of the mother only.

Perceived Stress. The Dutch version of the short form of the Perceived Stress Scale (PSS) was administered (Cohen, Kamarck, & Mermelstein, 1983; Korten, Comijs, Penninx, & Deeg, 2017). The PSS is generally regarded as a measure of global levels of stress. The scale consists of two subscales, perceived helplessness and perceived self-efficacy. For purposes of the current study we only selected the items that belonged to the perceived helplessness scale. On each item, participants had to report on a scale ranging from 1 (*never*) to 5 (*very often*) about feelings of helplessness and loss of control. We asked about these feelings during the lockdown. An example of an item is: "When the schools were closed, how often have you been upset because of something that happened unexpectedly?". The scale consisted of 6 items, over which a mean score was computed. Cronbach's α of the scale was 0.90.

Help with schoolwork. Mothers indicated how often they and their partner helped their child with their schoolwork before and during school closure. Before the schools were closed, the frequency was rated on a scale from 1 (*not at all*), 2 (*once per week*), 3 (*2 to 3 times a week*) to 4 (*four or more times a week*). During school closure mothers rated the help of their partners on the same scale. However, mothers were expected to

give far more help during school closure than their partners, presumed to be mostly the fathers, and therefore, to avoid a ceiling effect, the scale of the mothers was changed to 1 (*not at all*), 2 (*couple of times per week*), 3 (*1 time per day*), 4 (*2 to 3 times a day*) to 5 (*four or more times a day*).

5.2.2. Social contextual factors

Physical characteristics of the home. Questions were asked about the number of rooms in the house (not counting bathrooms and kitchen), the number of places with desks or tables, and the number of devices (computers and tablets).

Household chaos. We selected seven, mostly positively worded, items from the Chaos, Hubbub, and Order Scale (items 1, 4, 7, 8, 12, 14, 15; see Matheny et al., 1995) because not all items of the original scale seemed to fit the Dutch situation. We added two more items: "We always eat at the same times" and "We have a well-organized household". Mothers had to indicate the extent to which a statement fitted their household on a scale from 1 (*certainly not*) to 5 (*fits certainly*). A mean score across the nine items was computed. Cronbach's alpha of the scale was 0.78, which is virtually equal to the reliability of the original scale (Matheny et al., 1995).

School support. Parents were asked to evaluate the quality of the support received from the school during the lockdown. Support of parents by the school concerned, for example, the quality of instruction about how to tutor their children at home, the quality of the learning materials offered during the lockdown, the digital learning environment, and the accessibility of the teacher and the principal. Parents were asked to rate the quality of school support on a scale ranging from no support" (0), "poor" (1) to "very good" (10). The scale consisted of 9 items. Cronbach's alpha of the scale was 0.86.

5.2.3. Outcome measures

Parents' teaching self-efficacy. Three scales of the short form of the Student-Specific Teacher Self-efficacy Scale (Zee, Koomen, Jellesma, Geerlings, & de Jong, 2016; Zee, Koomen, & de Jong, 2018) were used to measure mothers' self-efficacy beliefs in helping their child with schoolwork. The scale Instructional Strategies consisted of four items about whether mothers felt able to give their children instruction. An example is the item "To what extent can you provide an alternative explanation or example when your child is confused?". The four items of the scale Engagement enquired to what extent mothers felt able to motivate their children for schoolwork. An example is the item "To what extent can you motivate your child for his/her schoolwork?". The scale Emotional support included four items and concerned mothers' perceived ability to give positive feedback, provide support at the right moment, and create settings in which their children feel free to explore and learn. An example of an item is "How well can you respond positively and sincerely to your child during your help with schoolwork?". A few questions had to be slightly adapted to the situation of mothers' help with schoolwork. For example, the last question was originally "How well can you respond positively and sincerely to this student in the classroom?". Each item was rated on a seven-point scale, ranging from "not at all" (1) to "a great deal" (7). The items of the three scales were added to one sum score indicating mothers' teaching self-efficacy. Cronbach's alpha of the full scale was 0.94.

Mother-child conflict. Three items that could be adapted to the situation of homeschooling were selected from the short form of the Dutch authorized version of the Student-Teacher Relationship Scale (STRS; Koomen, Verschueren, Van Schooten, Jak, & Pianta, 2012). Two more items were taken from the short English and long version of the Child Parent Relationship Scale (CPRS, Driscoll & Pianta, 2011). Each item concerned a statement about the amount of conflict in the parent-child relationship. The items were adapted to the situation in which the mother assists the child with homework. For example, the item 'Dealing with my child drains my energy' was changed to 'Dealing with my child drains my energy when I have to help with schoolwork'. Each of the five items had to be rated on a five-point scale from "definitely

does not apply" (1) to "definitely applies" (5). Mothers were asked to rate the items first in retrospect, that is, before closure of the school, and then after the schools were closed. The reliability of the scale (Cronbach's alpha) was 0.90 when rated before school closure and 0.91 during school closure.

5.3. Procedure

The study was conducted during or immediately after the 8-week school closure in the spring of the year 2020. Parents were sent an email through the school of their children to inform them about the study and privacy conditions, and to invite them to participate. If they were interested, they could click on a link that led them to a website on which they were informed about the privacy regulations prescribed by the Ethics Committee of the University of Amsterdam and could provide informed consent. Only after active consent was given, participating parents could fill out the questionnaire. The questionnaire started with questions about background characteristics such as gender, age, and educational level, and continued with questions about the amount of help provided before and during school closure, about mothers' perceptions of conflict and teaching self-efficacy in relation to their child, household chaos, perceived stress, and support by school. The questionnaire took on average 30–45 min to complete.

5.4. Data analysis

We conducted path analysis to examine the mediating role of mother's sense of teaching efficacy in the relation between various parental and social contextual factors and mother-child conflict when mothers helped with homework during the school closure (see Fig. 1). Following the recommendations of Kline (2012), we took a model building approach to analyzing our data. First, we specified a full mediation model, in which mothers' teaching self-efficacy fully mediated the associations of SES, perceived stress, household chaos, and school support with conflict around schoolwork. Subsequently, we added the direct paths of these parent and social contextual factors to conflict one by one. Only statistically significant paths that improved the overall model's fit were retained. In our final model, we controlled for conflicts during homework in the period before school closure.

Models were estimated in *Mplus* version 7.11 (Muthén & Muthén, 1998-2013) with full information maximum likelihood estimation accounting for missing data. Model fit was evaluated using the chi-square statistic of overall goodness of fit, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). A chi-square *p*-value larger than 0.05 indicates exact fit (Hayduk, 1996). A CFI larger than 0.95 is considered a good fit (Hu & Bentler, 1999). Values of the RMSEA below 0.05 were taken as close fit, below 0.08 satisfactory fit, and values over 0.10 indicate poor fit (Browne & Cudeck, 1993).

6. Results

6.1. Descriptive statistics

Data were checked for missing values and outliers. On the variables Perceived Stress, Household Chaos, and School Support, nine mothers had a missing score. These mothers had terminated the questionnaire before the end was reached. Descriptive statistics of the variables are presented in Table 1. With one exception, the distributions of all variables are approximately normal. Only the distribution of the amount of help with homework by the father before school closure was skewed and had a high kurtosis.

A number of descriptive findings are particularly relevant for the study purposes. First, as expected, frequency of helping children with their schoolwork by both mothers and their partners, mostly fathers, increased substantially after school closure. For mothers, the frequency of help on average increased from approximately once a week to one to

Table 1
Descriptive statistics of the main variables.

Variable	<i>N</i>	Max.	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
Help with schoolwork						
Mother before closure	173	4	1.93	1.12	0.69	-1.08
Mother during closure	173	5	3.85	1.22	-0.66	-0.92
Partner (father) before closure	173	4	1.39	0.77	2.00	2.96
Partner (father) during closure	173	4	2.91	1.18	0.05	-0.93
Parent characteristics						
Hours of work	173	-	22.58	9.89	-0.87	0.57
Parental education	173	9	5.23	1.56	-0.23	-0.27
Perceived stress	164	5	2.19	0.57	0.55	-0.35
Social contextual factors						
Number of rooms	173	-	5.25	1.17	0.70	1.60
Number of places to work	173	-	4.11	1.36	0.82	1.04
Number of devices	173	-	4.60	1.67	0.16	-0.42
Household chaos	164	5	1.90	0.57	0.55	-0.35
School support	164	10	7.87	1.80	-0.59	0.25
Mothers' teaching self-efficacy	173	7	5.44	1.03	-0.50	-0.14
Conflict						
Before closure	173	5	2.09	1.03	1.01	0.20
During closure	173	5	2.49	1.16	0.50	-0.88

Note. The mean amount of help with school work for the mother before and during school closure cannot be compared as the alternatives were different.

three times a day. We could not test the difference, because of differences between the scales, but it seems to indicate a large increase in help. The help of partners, presumably mostly fathers, as rated by the mothers, increased from hardly ever to about two to three times a week, $t(172) = 16.61, p < .001, d = 1.57$. Second, the average Stress levels during the period of homeschooling was below the mean of the scale. Importantly, however, there was considerable variation in perceived Stress and around 18% of the mothers experienced levels of stress that exceeded the midpoint of the scale. Third, the amount of conflict during help with schoolwork was larger when schools were closed than before school closure, $t(172) = 7.51, p < .001, d = 0.37$.

For each variable listed in Table 1 we examined the mean difference between the group of children in kindergarten ($N = 65$) and the group in Grade 1 or 2 of primary school ($N = 108$). As could be expected, *t*-tests showed that mothers with a child in primary school helped their children significantly more frequent than mothers of kindergarten children, both before ($M = 2.12, SD = 1.16$ versus $M = 1.62, SD = 1.00$) and during school closure ($M = 4.08, SD = 1.19$ versus $M = 3.46, SD = 1.19$), $t(171) = 2.93, p < .01$; and $t(171) = 3.34, p < .01$, respectively. For fathers the differences between the two groups in the frequency of help with schoolwork were not significant. For the other 11 variables, just two reached significance. Mothers of primary school children reported more places or desks in the home ($M = 4.29, SD = 1.31$ versus $M = 3.82, SD = 1.41$), $t(171) = 2.23, p = .027$, and somewhat more support from school ($M = 8.09, SD = 1.58$ versus $M = 7.51, SD = 2.09$), $t(162) = 2.23, p = .045$, than mothers of the kindergarten children. Overall, the mean differences between the groups were minimal.

Next, we computed correlations of the parent and the social contextual characteristics with the outcome variables Mothers' Teaching Self-Efficacy (MTSE) and mother-child Conflict during home teaching. The relationships of some of the characteristics of the parent, child, and family with the outcome variables were not significant. In particular, the correlations of number of working hours, number of rooms, working places, and devices in the home with the outcomes were close to zero. However, the latter variables were, as expected, related to Parental Education. Families with a higher level of Parental Education had more rooms ($r = 0.33, p < .01$), more working places ($r = 0.24, p < .01$), and more devices ($r = 0.32, p < .01$). Similarly, Age and Gender of the child did not have any effect on the amount of Conflict during help with schoolwork. We also computed the correlations of amount of help

with schoolwork before and during school closure. These correlations were very small ($r < 0.10$) and not significant. Because all these variables were unrelated to our main variables of interest, MTSE and mother-child Conflict, they were not included in further analyses.

In Table 2, the correlations among the parent factors, family characteristics, and outcome variables are presented for the complete sample. The correlations among these variables in the subsamples of kindergarten and primary school children were highly similar. This was confirmed in a multi-group analysis with *Mplus* in which all variances and covariances among the variables, 28 in total, were constrained to be equal across the two groups. The chi-square difference between this model and a fully unconstrained model was not significant, $\Delta\chi^2(28) = 36.36, p = .13$. Given minimal or absent mean differences between the groups as well as highly similar correlations among the variables, we used the total variance-covariance matrix in subsequent analyses.

As revealed in Table 2, the correlations of Parental Education with the other variables were small or not significant. We found that a higher level of Parental Education was related to less Stress and a somewhat higher MTSE. The relations of Perceived Stress and Household Chaos with MTSE were moderate. There was also a small relation between the amount of School Support and MTSE. More stress and a larger degree of Household Chaos were associated with lower MTSE, whereas additional School Support was related to higher MTSE. In turn, a higher MTSE was strongly associated with less Conflict. Interestingly, the correlation of MTSE and Conflict was lower before than during the school closure, when the amount of home schooling had increased substantially.

6.2. Path analyses

We conducted path analyses to examine the relations among the variables as depicted in Fig. 1. Two models were specified. In the first model, we tested whether the paths from SES, Perceived Stress, Household Chaos, and School Support to Conflict during school closure were fully mediated by MTSE. In this model, the path of mother-child Conflict during homework before school closure was not yet included. This full mediation model did not fit the data, $\chi^2(4) = 15.02, p < .01$, RMSEA = 0.126 (90% CI [0.063-0.197]), CFI = 0.926, SRMR = 0.045. However, after adding a direct path of Perceived Stress to Conflict, the model fitted the data satisfactory, $\chi^2(3) = 3.56, p = .313$, RMSEA = 0.033 (90% CI [0.000-0.136]), CFI = 1.00, SRMR = 0.018. All modification indexes were below 3.84, suggesting that significant improvement of the model was not possible. The standardized regression parameters of this model are presented in Table 3.

The model parameters show that Perceived Stress, Household Chaos, and School Support had independent significant associations with MSTE. The path of Parental Education was not significant. The paths from Household Chaos and School Support to Conflict during school closure were fully mediated by the significant and strong negative effect

Table 2
Correlations Among Parent Characteristics, Home Characteristics, Teaching Self-Efficacy and Conflict.

Variable	1	2	3	4	5	6
1. Parental Education	–					
2. Perceived Stress	–0.17*	–				
3. Household Chaos	–0.13	0.50**	–			
4. School sup.	0.02	–0.05	0.01	–		
5. MTSE	0.17*	–0.42**	–0.44**	0.22**	–	
6. Conflict BC	–0.14	0.41**	0.42**	–0.15	–0.52**	–
7. Conflict DC	–0.07	0.44**	0.41**	–0.16*	–0.63**	0.80**

Note. MTSE = Mothers' Teaching Self-Efficacy; BC = Before Closure; DC = During Closure.

* $p < .05$. ** $p < .01$.

Table 3
Results of Path Analyses: Standardized Coefficients of Paths to MTSE and Conflict.

Variable	Model without Conflict BC		Model with Conflict BC	
	MSTE	Conflict DC	MSTE	Conflict DC
Parental Education	0.08		0.06	
Perceived Stress	–0.25**	0.22**	–0.16*	
Household Chaos	–0.31**		–0.22**	
School Support	0.21**		0.16**	
MTSE		–0.53**		–0.29**
Conflict BC			–0.33**	0.65**
R^2	0.30	0.43	0.38	0.70

Note. BC = Before Closure; DC = During Closure.

* $p < .05$. ** $p < .01$.

of MTSE on Conflict. The Perceived Stress pathway was only partially mediated by MTSE. There was also a statistically significant direct path from Perceived Stress to Conflict.

The second model included the path of Conflict before school closure. This full mediation model had an acceptable fit, $\chi^2(4) = 5.93, p = .204$, RMSEA = 0.053 (90% CI [0.000-0.135]), CFI = 0.99, SRMR = 0.015. In this final model (see also Fig. 2), the path of Conflict during help with schoolwork before school closure had a moderate effect on MTSE and a large effect on Conflict during school closure. The other associations were similar, although lower in magnitude than in the model without Conflict before school closure. Importantly, the effect of MTSE on Conflict during school closure remained significant after the effect of Conflict before school closure was controlled. Put differently, MTSE appeared to be related to the increase in mother-child Conflicts during schoolwork since the schools were closed.

7. Discussion

The COVID-19 pandemic has led to school closures worldwide and a demand for parents to support their children with schoolwork. Apart from the stress and family disruptions it might create (e.g., Brown, Doom, Watamura, Lechuga-Pena, & Koppels, 2020; Chung et al., 2020; Prime et al., 2020), this demand may also place an additional burden on parents' ability to teach their children and maintain positive interactions with them. This study aimed to examine the extent to which a number of parent and social contextual factors predict how efficacious parents feel in homeschooling their children, and, in turn, whether higher parental self-efficacy in teaching is associated with lower levels of parent-child conflict during parental support with schoolwork. Due to the very low response rate of fathers, the study was confined to the determinants of mother-child conflict during help with schoolwork.

Mothers reported a substantial increase in the time spent helping children with schoolwork, amounting to an average of one to three times a day. As expected, this increase during school closure was accompanied by more conflict between mother and child during mothers' assistance with schoolwork. This finding is in line with prior research on home-based involvement, suggesting that parents' negative affect and stress, and those of mothers in particular, may increase the already high levels of negative affect they often experience during homework (e.g., Moè et al., 2020) Pomerantz et al., 2005). It also corroborates other research (Moroni et al., 2015) in which both the quantity of help during schoolwork and level of parents' intrusiveness and control has been found to negatively affect children's school outcomes. In addition to these descriptive findings, several key results emerged from our path-analytic models. The first main finding concerned the central role of mothers' sense of efficacy in teaching for the degree of conflict during help with homework. In keeping with Bandura's (1997) social-cognitive assertions, mothers who felt less efficacious in providing instructional and affective support to their children were more likely to engage in conflicts with them during schoolwork. To some degree, these findings

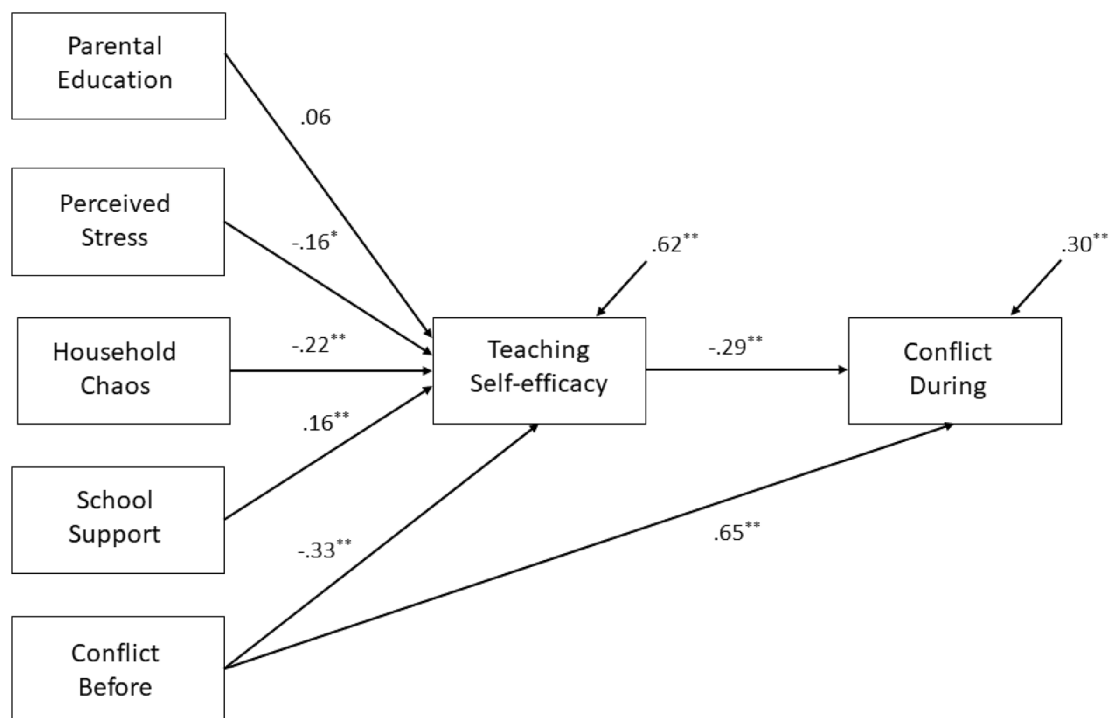


Fig. 2. Final Model of Mothers' Teaching Self-Efficacy and Conflict Around Schoolwork During School Closure.

substantiate those of previous studies on maternal self-efficacy, showing that such self-efficacy beliefs may contribute to more positive parent-child relationships and maternal involvement at home (Albanese et al., 2019; Leivent, 2007). They are also in line with recent work in the adjacent field of teacher self-efficacy, suggesting that teachers' lack of confidence and willingness to take risks in the face of challenges caused by COVID-19 may create feelings of hopelessness and guilt toward their students (Anderson, Bousset, Katz-Buoincontro, & Todd, 2020) and affect their commitment as well (Baloran & Hernan, 2020). Accordingly, it is possible that mothers who do not believe they can muster whatever it takes to support their child find it more difficult to remain patient and supportive and to feel positive energy when dealing with their child during homeschooling activities.

The relation between mothers' teaching self-efficacy and amount of conflict during school closure existed above and beyond pre-lockdown levels of mother-child conflict during assistance with schoolwork. In line with evidence that self-efficacy directly shapes parent-child interactions (Mouton & Roskam, 2015), this indicates that conflicts during school closure increased more specifically when mothers had a lower sense of efficacy in teaching. Importantly, the finding that the self-efficacy beliefs of mothers remain to have an effect after controlling for the amount of conflict during schoolwork before school closure lends some support for a causal interpretation of the effect of self-efficacy on conflict during schoolwork (Gollob & Reichardt, 1987).

The central role of mothers' sense of teaching efficacy is further supported by the finding that it mediated the relation between social contextual factors and mother-child conflict during assistance with school work. The factors that are likely to be the most important for mothers' teaching self-efficacy were household chaos, perceived stress, and support by school. More specifically, mothers felt more self-efficacious in teaching when they reported less stress, had a more orderly household, and felt supported by their children's school. These higher levels of teaching self-efficacy, in turn, translated into fewer conflicts with their children during assistance with school work.

That stress and household chaos contribute to mothers' feelings of teaching self-efficacy is perhaps not surprising. During the COVID-19 pandemic, many parents were faced with difficult and stressful

situations, as they had to simultaneously work remotely from home and meet the needs of their employers, and had to care for and teach their school-going children (Chung et al., 2020). Such a collision of roles and responsibilities may not only lead to uncertainty, stress, and chaos (Brown et al., 2020; Coyne et al., 2021), but may also pave the way for family violence and poorer parent-child relationships (Campbell, 2020; Chung et al., 2020), especially when there is less social contact and support. Furthermore, there is some evidence to suggest that a lack of routines in the home can be traced back to mothers' sense of efficacy (Aldoney-Ramirez, 2017). As such, it is possible that the COVID-19 pandemic and associated school closures may have generated a vicious cycle in which stress, household chaos, and self-efficacy negatively influenced each other in a reciprocal way.

Next to perceived stress and household chaos, the modest role of support by children's schools fits reasonably well with prior empirical research on teachers' self-efficacy beliefs, indicating that perceived support from school administrators or colleagues may contribute to a healthy sense of efficacy (Capa Aydin & Woolfolk Hoy, 2005; Woolfolk Hoy & Burke-Spero, 2005). Such supports and evaluations have been shown to be particularly relevant for teachers when they are early in their career and have little experience with teaching (Milner & Woolfolk Hoy, 2003; Morris & Usher, 2011). Because mothers, to some extent, can be considered novice teachers during the COVID-19 pandemic and may have to resolve uncomfortable tensions about how their role has shifted from a caring parent to a sometimes more strict teacher, support from schools seems especially relevant (cf. Hanna, Oostdam, Severiens, & Zijlstra, 2019). Indeed, a recent study showed that parents who had positive feelings about the school of their child felt more self-efficacious in helping their child to do well in school (Liu & Leighton, 2021). Together, these findings show that established antecedents of parental self-efficacy (e.g., stress and social support; Crnic & Ross, 2017; Razurel, Kaiser, Antonietti, Epiney, & Sellenet, 2017) hold in extreme circumstances, such as homeschooling children during a pandemic.

The level of the education of mothers and their partners only had a small positive relation with teaching self-efficacy and did not contribute independently to mothers' teaching self-efficacy when household chaos, perceived stress, and school support were controlled. This relatively

small contribution of parental education is in line with the finding of [Dulay et al. \(2018\)](#) that parents with a higher SES, including educational level, seem to feel hardly more competent in supporting their child than those with a lower SES. It is also consistent with the idea that the level of parents' education, as a potential factor influencing parents' mastery experiences, may inform their teaching self-efficacy only to the extent to which they judge them to be in line with the task of teaching their child at home (cf. [Morris et al., 2017](#)). This is in line with recent results showing that during the pandemic, SES is unrelated to the amount of help parents provide with schoolwork ([Bansak & Starr, 2021](#)). Possibly, parents' level of education may play a more indirect role in parents' capability to teach by affecting the quality of resources and language spoken at home (e.g., [Hoff, 2013](#)). As such, this factor in itself may not be very informative for mothers' judgments of efficacy in teaching, but may rather act as a gateway for interpreting other sources of self-efficacy information.

Taken together, findings from the present study are fairly consistent with the social-cognitive premise that parents' beliefs in their self-efficacy in teaching are shaped by multiple sources of information ([Bandura, 1997](#)). Furthermore, the more such sources are deemed to be aligned with the task of teaching at home, the more informative they are for mothers' judgments of teaching efficacy.

7.1. Strengths, limitations, and future directions

Our study has several strengths. First, we asked mothers about their teaching self-efficacy and conflicts with respect to one child in a specific situation (i.e., home schooling during lockdown). This approach fits with an increasing emphasis on specifications of self-efficacy that adequately match with the realms of activity, situational demands, and (characteristics of) persons toward whom a person's behaviors and actions are directed (e.g., [Zee et al., 2016, 2018](#)). We did not include a measure of parenting self-efficacy, but parents' sense of efficacy in teaching is probably related to their overall sense of efficacy (see for example [Tazouti & Jarlégan, 2019](#)). It seems an important topic for further research to examine the similarities and differences between these types of parental self-efficacy. Moreover, it seems interesting, such as in recent research on teacher self-efficacy ([Zee et al., 2018](#)), to examine parenting efficacy both in a general sense and with respect to a particular child.

Second, we inquired about the key role of self-efficacy in rather extreme circumstances. Interestingly, however, most of our findings seem similar to those of studies conducted in more normal circumstances (see [Morris et al., 2017](#), for a review). Specifically, the results of our study lend some support for the social-cognitive idea that many different sources of capability-related information, including an orderly household or a high family SES, may generate the type of mastery experiences that persuade mothers of their teaching capabilities ([Bandura, 1997](#)). Furthermore, although we did not account for whether or not mothers believed these general factors were actually relevant, they were appraised in the specific context of school closures during the COVID-19 pandemic. As such, mothers were possibly able to weigh the importance of these information sources against the relevance for their self-efficacy prior to the corona outbreak.

However, we also should mention a number of limitations. First, we have to acknowledge that the current results only provide scant evidence for a causal relation of self-efficacy in teaching with conflicts around schoolwork. Conflicts before school closure were reported in retrospect. Thus, it is unclear what mothers would have reported when they were asked about conflicts during their help with schoolwork if they were asked in the period before school closure. However, asking for a retrospective report on conflict could also have been an advantage if response shift has occurred ([Howard, Ralph, Gulanick, Maxwell, & Gerber, 1979](#); [Nimon & Allen, 2007](#)). That is, mothers might view the amount of conflict during schoolwork before school closure differently after the conflicts that they have experienced during school closure. In

that case, the retrospective report on conflict seems more valid. However, we cannot be sure that response shift has occurred, and therefore our results can only be regarded as a first step in support of a causal interpretation of the relation between mothers' self-efficacy in teaching and conflict during schoolwork.

As a second limitation, it should be noted that this study primarily relied on mothers' perceptions of their self-efficacy in teaching, conflict during schoolwork and factors affecting these constructs, partly because the number of fathers who were willing to participate was too small. This was probably not due to the fact that fathers were not involved in the schoolwork of their children during school closure. According to the mothers, fathers assisted their children on average with schoolwork about two to three times a week. It therefore seems more likely that fathers are less willing to participate in this type of research (e.g., [Liu & Leighton, 2021](#); [Moè et al., 2020](#)) and are inclined to leave participation to their partner. However, as a consequence, it remains to be seen whether the findings on the key role of teaching self-efficacy are similar for fathers. The number of fathers willing to participate was too small to address this issue. But, such differences are conceivable. For example, in a related field, a meta-analysis by [Kim and Hill \(2015\)](#) showed that school-based involvement of mothers is more strongly related to children's school achievement than the involvement of fathers (see also [Tazouti & Jarlégan, 2019](#)). The focus on mothers' reports only might also have led to social desirability bias, as mothers were asked to share information about their socially valued roles. Notably, though, mothers' own experiences and self-knowledge are likely to be crucial sources of their own efficacy in teaching and thereby self-reports seem an adequate method of measuring mothers' beliefs and relationship experiences during schoolwork. Importantly, we would argue that the focus on mothers does not undermine the relevance of our findings. The mothers of the families involved in this study provided far more assistance with schoolwork than the fathers. Still, it would be useful for future research to triangulate the data, assessing not only mothers' perceptions, but also those of fathers, children, and/or teachers.

A third limitation pertains to our mother-reported measure of stress. Following the transactional model of stress and coping ([Lazarus & Folkman, 1984](#)), stress around schoolwork can be considered a dynamic construct that occurs during interactions between the mother and the child. As such, both mothers' and children's perceptions of stress around schoolwork might provide unique insights into this construct. In this study, however, we captured mothers' perceptions of stress around schoolwork only, as the participating kindergartners were too young to comprehend and answer relatively complex questions regarding stress. Nevertheless, to get a more comprehensive picture of stress around schoolwork, future studies could consider more elaborate measures of this construct, such as the Stress During Homework questionnaire (SDH; [Katz, Buzukashvili, & Feingold, 2012](#)), which not only includes mothers' perceptions of stress, but their children's viewpoints as well.

A final limitation is that the current study involved only children in kindergarten and in the early grades of elementary school. Evidently, young children are relatively dependent on the help of their parents. Accordingly, young children will often get instruction during various joint daily activities, such as joint book reading or numeracy related activities (e.g., [Kleemans et al., 2012](#)). As children grow older the active involvement of parents in learning, as well as support with schoolwork, will decrease and the extra help with schoolwork during school closure might be more impactful. Parents might also feel less self-efficacious because they are probably less familiar with subjects that older children have to learn in school. It is yet unclear how these differences affect the role of parents' teaching self-efficacy during help with schoolwork.

7.2. Practical implications

The present investigation is probably one of the first to shed empirical light on the ways in which parents' self-efficacy in teaching may affect the level of parent-child conflict in the context of

homeschooling. Given the limited body of research investigating parents' sense of efficacy in teaching, this study may provide several directions for educational research and practice. First, parents might be advised and supported to organize an orderly household. A well-organized household in which help with schoolwork is a part of the daily routine may foster parents' self-efficacy in general and also increase the effectiveness of their help.

Second, the present study's results suggest that *schools* may play a crucial role in ensuring that parents feel certain about their ability to support their child with schoolwork. Drawing on both social-cognitive theory and research on teachers' self-efficacy (e.g., Bandura, 1997; Morris et al., 2017; Zee & Koomen, 2016), schools could create particular conditions in which parents are likely to experience a sense of mastery and autonomy over their own teaching responsibilities. Examples are providing brief (simulated) instruction videos that include best practices, providing parents with specific tools to structure learning content, and setting clear teaching and learning goals for both parents and children (e.g., Dulay, Cheung, Reyes, & McBride, 2019; Morris et al., 2017). Schools can also create more *indirect* mastery experiences by offering parents (videotaped) role models or coaches that equip them with content knowledge and pedagogical strategies (Gunning & Mensah, 2011; Siwatu, 2011). Such mentors may be particularly relevant for parents' teaching efficacy when the tasks at hand are relatively new.

Another opportunity for schools to increase parents' self-efficacy in teaching is through positive feedback on *children's* behaviors and school-related activities. Homework can be considered an emotionally-charged activity (Pekrun et al., 2002) that may influence how much effort children will expend in their learning and whether they persist in difficult situations. Unfortunately, such negative emotional states have been shown to funnel down on parents' affective experiences and beliefs as well (Fulgini et al., 2002). Children's teachers may possibly break this negative cycle by providing high-quality affective support in the form of positive, behavior-focused feedback, allowing choice, following the child's lead, and providing comfort and assistance (Pianta et al., 2008).

8. Conclusion

To the best of our knowledge, this is the first study about the antecedents and consequences of parents' sense of efficacy in assisting their children with schoolwork. The study was conducted during the COVID-19 pandemic when schools were closed for many weeks in a row and parents had to provide more support than usual. Our findings show that parental self-efficacy in teaching explains increases in parent-child conflict during homeschooling, suggesting that parental self-efficacy plays a key role in maintaining low levels of parent-child conflict during this exceptional and stressful situation for parents and children. Parental teaching self-efficacy therefore seems a promising target for initiatives to support family well-being and children's academic development during school closures. It remains to be seen whether the results will generalize to more normal situations of parental help with schoolwork.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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