

Back to School

The Effects of School re-opening on Families' Health, Emotional Well-being,
Government Support, and Economic Situation

Dahlgard, Jens Olav ; Fazekas, Zoltán

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Back to School*

The effects of school re-opening on families' health, emotional well-being, government support, and economic situation

Jens Olav Dahlgaard

Zoltán Fazekas

06-05-2020

Summary

On April 15, the gradual re-opening of Danish society began. In this report, we present results from the first wave of a survey collected for parents with children in the 4th to the 7th grade in the week that schools re-opened for children up until the 5th grade (N = 1,303). Some of these parents experienced that all of their children began school again, that none of their children began school again, or that some of their children began school again, but not others. Our findings based on between-family analysis indicate that:

1. Overall, there are very minor differences in health outcomes, well-being, political support, and economic well-being between parents who had children in the 4th or 5th and those with children in the 6th or 7th grades. We find no evidence for important short-term positive or negative differences associated with the stepwise re-opening of Danish schools.
2. We find that, on average, parents (independent of the grades in which they have children) report low to moderate levels of stress (around 0.2 on a scale from 0 to 1), express overwhelming support for how the PM and health authorities perform (0.78 to 0.82 on scales from 0 to 1), report no major economic gains or losses during this period (around 0.5 on a scale from 0 to 1), have been able to carry out work at reasonably high rates (around 81% rate), and are fairly unconcerned about COVID-19 related implications for their jobs (0.84 on a scale from 0 to 1).
3. However, on average, there are small, but significant differences between fathers and mothers where mothers experience more stress and report stronger support for the PM and the Health Authorities, although we cannot necessarily attribute these differences to the school lockdowns or re-openings. We find no systematic evidence that these gender differences are more or less pronounced conditional on the children's grade and return to school.
4. Finally, children are perceived to be doing well (0.75 to 0.8 on scales from 0 to 1) and there are no systematic differences between those who could return to school and those who could not.

*Department of International Economics, Government & Business, Copenhagen Business School. We are grateful for financial support from the Department of International Economics, Government & Business and the Inequality Platform. Contact: jod.egb@cbs.dk; zf.egb@cbs.dk.

Sammenfatning

Den 15. april startede den gradvise genåbning af det danske samfund. I denne rapport præsenterer vi resultaterne fra den første runde af en spørgeskemaundersøgelse foretaget blandt forældre med børn i 4. til 7. klasse. Data er indsamlet for 1,303 forældre i den uge skolerne genåbnede for elever indtil 5. klasse. Nogle af disse forældre oplevede, at alle deres børn skulle starte i skole igen, nogle oplevede, at ingen af deres børn skulle starte igen, og nogle oplevede, at nogle af deres børn skulle starte igen. Vores resultater er baseret på sammenligninger imellem familier, og de indikerer følgende:

1. Overordnet er der meget små forskelle i COVID-19 mistanke, velbefindende, politisk opbakning og økonomisk velbefindende imellem forældre med børn i 4. eller 5. klasse og forældre med børn i 6. eller 7. klasse. Vi finder intet belæg for væsentlige, kortsigtede, positive eller negative forskelle relateret til den gradvise genåbning af skoler.
2. I gennemsnit rapporterer forældre, upåagtet hvilket klassetrin de har børn i, lavt til moderat stressniveau (omkring 0,2 på en skala fra 0 til 1), udviser overvældende opbakning til statsministeren og sundhedsmyndighederne (0,78 til 0,82 på skalaer fra 0 til 1), rapporterer ikke om markante økonomiske tab eller gevinster under nedlukningen (omkring 0,5 på en skala fra 0 til 1), giver udtryk for, at de i høj grad har været i stand til at udføre deres job (omkring 81%) og er relativt ubekymrede for deres fremtidige jobsituation (0,84 på en skala fra 0 til 1).
3. Der er små, men statistisk signifikante forskelle imellem fædre og mødre, hvor mødre oplever mere stress og udviser stærkere opbakning til statsministeren og sundhedsmyndighederne, om end vi ikke nødvendigvis kan tilskrive disse forskelle til enten skolelukninger eller genåbninger. Vi finder ingen systematisk evidens for, at kønsforskellene er hverken mere eller mindre udtalte afhængigt, om børnene kan vende tilbage til skolen eller ej.
4. Endelig vurderer forældrene, at deres børn trives på forskellige dimensioner (0,78 til 0,8 på skalaer fra 0 til 1), og der er ingen systematiske forskelle mellem de børn, der stod til at vende tilbage til skolen, og de børn, der ikke gjorde.

Context

On April 15, the gradual re-opening of Danish society began. Over a few days, schools partially re-opened after having been closed for an entire month. However, this was only a partial re-opening and only children up until the 5th grade were allowed to return to school. Children in the 6th grade and above were to remain at home and receive distance schooling, largely using online platforms.

In this report, we present results from the first wave of a survey collected for parents with children in the 4th to the 7th grade in the week that schools re-opened. Some of these parents experienced that all of their children began school again, that none of their children began school again, or that some of their children began school again, but not others. In this ongoing project, we re-interview the same parents a number of times. This creates a unique opportunity to study how re-opening schools affects families' health, emotional well-being, support for government, and economic situation.

We report here results pertaining COVID-19 related health outcomes, parental and child stress and well-being, parental political attitudes, and the economic impact on the families. As future data collection concludes, the report will be extended and updated.

Data

The survey was fielded by Voxmeter from Wednesday 15 April to Wednesday 22 April, the first week that schools re-opened. In the survey, respondents were initially scanned for whether they had any children in the 4th to 7th grade. The survey was run using a mix of Voxmeter's web-based panel and other respondents contacted and surveyed by phone. A total of 1,303 parents participated in the survey, and one parent per household completed the survey.

In the screening question, respondents were asked how many children in the household were in each grade from the 4th to the 7th grade. After the screening question, we asked respondents to provide the year and month of birth for each of the children living in their household. We removed 12 respondents who reported having 4 or more children in the same grade in the household. We removed another 12 respondents who reported being 27 years of age or younger, as we deemed it unlikely that they would be parents of the school children in their household. This leaves us with a total of 1,279 respondents.

For the purposes of this initial report, we focus on between-family comparisons around the return-to-school cut-offs. Before that, we also present gender differences on all outcomes, as we deem these informative for the ongoing discussion on the differential pressures the COVID-19 lockdown generates. Relying on a number of figures, we report here differences between families that have one or more children in 4th or 5th grade, but no children in the 6th or 7th grade, and vice-versa. They can have younger or older children. Overall, we have 538 families with at least one child in the 4th or 5th grade (but no children in 6th or 7th), and 562 families with at least one child in 6th or 7th grade (but no children in the 4th or 5th grade). In the Appendix, we include various linear regression models where we also include an indicator variable for the 179 parents who have a child in both the 4th or 5th grade and the 6th and 7th grade.

Outcomes of interest and measurement

Health outcome

We track the health implications through the proportion of families that experience an increasing number of COVID-19 symptoms. The children in the 4th and 5th grade will be in touch with more people, potentially exposing themselves more to virus symptoms and, in general, their parents can spend more hours at work or outside the home among other people.

To measure household health outcomes, we asked *Which of the following statements best describes your families' situation?* Respondents could mark any number of the first three options below, or the last option:

- At least one person in my household has been tested positive for coronavirus.
- At least one person in my household has been tested negative for coronavirus.
- At least one person in my household has shown symptoms that could be coronavirus, but has not been tested for the virus.
- No-one in my household has shown symptoms of coronavirus.

Emotional well-being

Children

We study the effect of social isolation of emotional well-being. Some children have been allowed to return to school and their friends, while slightly older children remained socially isolated from their peers at home. By tracking parents' reports of their children's well-being, we get important insights about the psychological effects of social isolation.

We asked the parents to assess three items from the seven-item *Short Warwick-Edinburgh Mental Well-being Scale* on behalf of their children (Stewart-Brown et al. 2009). For the oldest child, we asked: *Of the children in your household who are in the 4th to 7th grade, please think of the oldest one. How well would you say that each of the following statements have applied to him or her over the latest week:*

- He or she has been feeling relaxed
- He or she has been dealing with problems well
- He or she has been able to make up his or her own mind about things

Respondents answered on a scale ranging from '1 = at no time' to '5 = all the time'. For the second-oldest child, we changed *oldest* to *second-oldest* and so forth. We asked them to assess the well-being of all the children in the 4th to 7th grade in the household, so we also have children who are (step-)siblings with children in the 4th to 7th grade.

Parents

Along the same lines, parents should be less stressed when they do not have to support their children being schooled from home. Balancing parenting and work from home is a hard task, so we track their level of stress if their child(ren) returned to school.

To measure parents' stress, we used three items from the seven-item short-form DASS (Depression Anxiety Stress Scales) stress scale (Henry and Crawford 2005). The question wording was: *Please read each statement. How much did each statement apply to you over the past week? There are no right or wrong answers:*

- I found it hard to wind down
- I felt I was rather touchy
- I was intolerant of anything that kept me from getting on with what I was doing

Respondents answered on a scale ranging from '1 = Did not apply to me at all' to '4 = Applied to me very much, or most of the time'.

Government support

We track the support for the government and the handling of the crisis from the health authorities. Current support of the government and the policy it has implemented is very high.¹ However, it is unclear whether the same logic or mechanisms regarding support for restrictive measures should apply to the stages of gradual re-opening of the society. While most restrictions applied uniformly to most families, the lift of the ban hits families differently; it makes it likely that the support will change at a different pace (Rosset, Giger, and Bernauer 2017). Learning how citizens respond to sanctions that apply specifically to themselves will be important in shaping crisis management and communication of various measures.

The Danish Prime Minister, Mette Frederiksen, has been the political face on the response to the coronavirus. She has headed the most important press briefings and announcements. Therefore, we measured support for her as a proxy for general government support. Specifically, we asked: *Overall, how do you think that Mette Frederiksen is doing as PM?*

The Danish Health Authorities (Sundhedsstyrelsen) and Statens Serum Institut (SSI) have been the administrative face of the response to the coronavirus and their handling of the situation has been subject of much debate. To measure support for the administrative response, we asked *Overall, how do you think that the health authorities represented by The Danish Health Authorities and Statens Serum Institut are handling the COVID-19 pandemic?*

On both items, respondents could reply from '1 = Very bad' to '5 = Very good'.

Economic impact

Finally, we track the (perceived) economic impact on the families. Parents should have an easier time caring for their job when their child(ren) is at school. As some parents will have all their children back in school, but others only some or none, we can leverage this information to identify the effect of school lockdowns for different families. Learning how school lockdowns affect families' economic situation will be important for learning about the long-term effect of the current sanctions and their potential to contribute to economic inequality.

We included three items to measure economic impact on the household, individual ability to do one's job, and concerns with future employment. First we asked *How has the Corona crisis affected your household's economic situation?*, where respondents could answer on a scale ranging from '0 = substantially worsened' to '10 = substantially improved'. Second, we asked *Compared to a regular work week before the Coronavirus, what percent of your work obligations would you say that you will be able to meet this week?* Respondents could write in a number between 0 and 100. A few

¹<https://www.altinget.dk/artikel/ny-maaling-taarnhoej-opbakning-til-mette-frederiksen>

respondents wrote in a number between zero and one. We interpreted these numbers as proportions and rescaled them to percent. Finally, we asked *Considering your current working conditions, how concerned are you with your employment situation in the coming months?* Here respondents could answer from '1 = Not concerned at all' '4 = Very concerned'.

Heterogeneity and additional considerations

There may be a gendered component to both the economic impact and effect on well-being. Mothers remain the primary caregivers in the average family (Bonke, Christensen, and Fonden 2018). When their children are at home, they require more attention, which could disproportionately affect mothers, leaving them less time to fulfill their work obligations. On the one hand, there is already some evidence to suggest that Danish women's mental well-being is more affected by the COVID-19 crisis than that of Danish men (Sønderskov et al. 2020). On the other hand, more men have lost their job during the crisis, which could both lead to stress and economic anxiety.² In this first step, we focus on baseline differences between men and women on a number of outcomes. We emphasize that we cannot necessarily attribute any gender difference to the COVID-19 crisis, but these comparisons will return in the following rounds as well.

Analysis

Gender differences

We begin by describing general gender differences in our parental outcomes. We look at stress, government support, and economic well-being, because these are outcomes that apply to the adults. We have a large sample of parents who have all been affected by the school lockdowns and learning about their levels of stress, economic anxiety, and government support has a descriptive relevance.

In the first four panels of Figure 1, we display means by gender of our three stress items as well as for our stress scale, which we construct as a simple average of the outcomes (Cronbach's $\alpha = 0.63$). We rescaled all items to range from 0 to 1 with '0' being *Did not apply to me at all* and 1 being *Applied to me very much, or most of the time* (higher values reflecting more stress). We find systematic but small differences. In the Appendix we use linear regression (OLS) to compare differences in means. For the combined stress score it is 0.048 with a 95% confidence interval (CI) of [0.024; 0.071]. All item differences also suggest that mothers are, on average, more stressed than fathers. We further find that mothers are more approving and supporting of both the PM with a difference of 0.087 (95% CI [0.063; 0.112]) and the Health authorities with a difference of 0.038 (95% CI [0.015; 0.062]). We also rescaled these items, such that 0 indicates *very bad* and 1 indicates *very good*. We emphasize that as we only have a cross-section of the parents, we cannot say if the differences for either stress or government support are caused by the lockdowns or prospect of re-openings or if they reflect pre-existing differences.

The final quantities of interest are related to the potential economic consequences and perceived economics well-being. Recall, in these questions we made explicit reference to the COVID-19 pandemic, thus these results come after a month of lockdown period and potential family and work related adjustments. We also rescaled each of these measures to range from 0 to 1, and we reversed the scale for job outlook such that higher values imply a more optimistic outlook. In terms of economic impact, we find the differences to be less pronounced and with more uncertainty, and also varying across

²<https://finans.dk/erhverv/ECE12059457/i-risikozonen-for-arbejdsloeshed-under-corona-dansk-mand-3049-aar-lavtuddannet-og-ansat-indenfor-et-3ffag/?ctxref=ext>

different measures. While both economic well-being and the safety of jobs are evaluated more positive by mothers (although, yet again, it is noisy comparison with difference of 0.015 and 0.020 with 95% CIs of [0.001; 0.029] and [-0.010; 0.049]), we also see that they report slightly worse capacity to carry out work currently (-0.029 with a 95% CI of [-0.064; 0.006]). Although we specifically relate these questions to the COVID-19 pandemic, we cannot know with certainty if the mothers would also be more optimistic about their economic outlook while feeling less able to fulfill work obligations had we not had a pandemic. However, there is nothing in our data to suggest that after a month of a national lockdown of school mothers are substantially more concerned than fathers about their household economy and job outlook or vice versa.

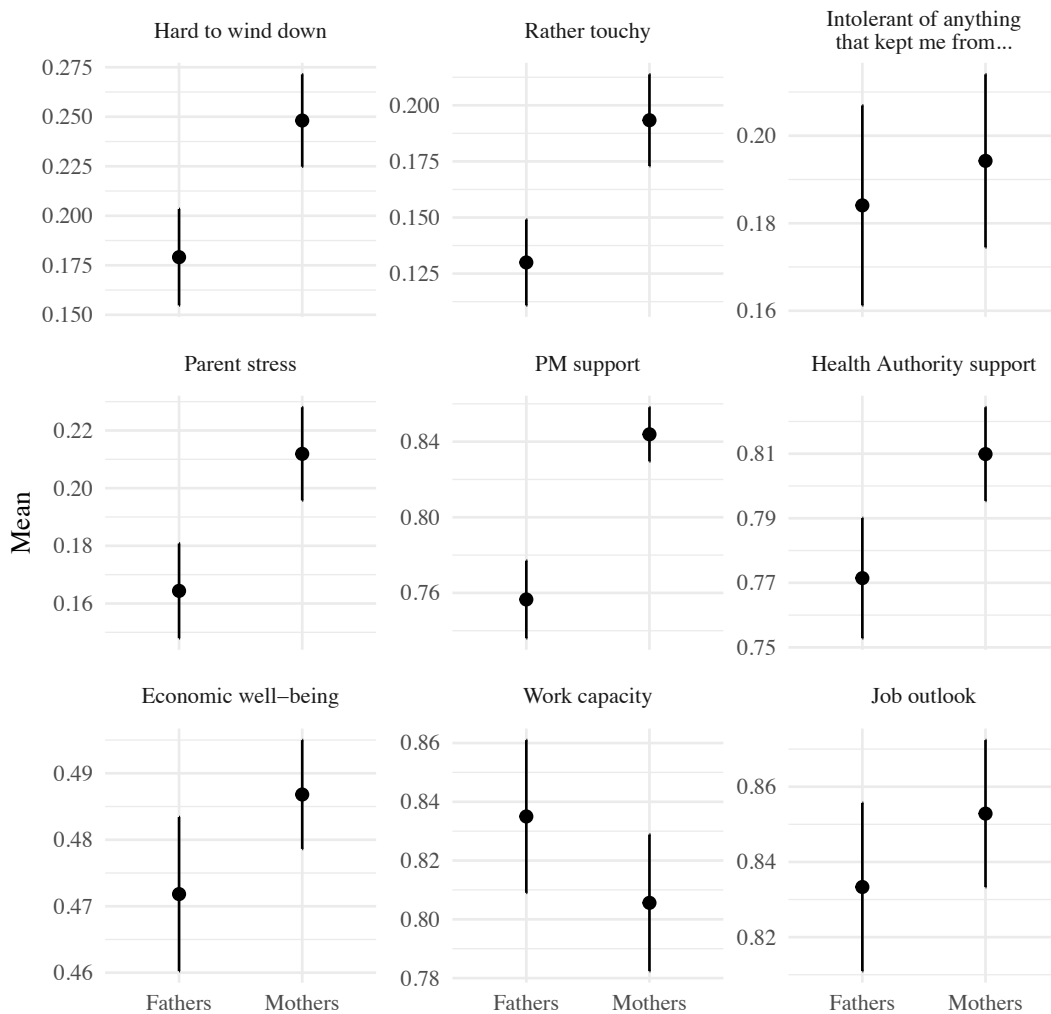


Figure 1: Overall gender differences. Please note varying y-axis used for easier comprehension. We reversed the coding for Job outlook so that higher values represent less concern, to be in line with the general direction of positive economic outlook coding.

Descriptive statistics for parents

Before we compare parents whose children were sent back to school and parents whose children were not on our outcomes of interest, we compare them on a number of background covariates to establish if they are fairly similar. The covariates are age, sex, education, household income, and region. For education, we code everyone who self-reported a bachelor's degree or higher as '1'. Household income is based on self-reported income in brackets and we rescale the income to be in the middle of the bracket. The top-bracket is open to the right, so here we assign the minimum value.

In Figure 2, we plot means and 95% confidence intervals for parents of children in the 4th or 5th grade and for parents in the 6th and 7th grade. There are no major differences except for age, where parents with children in higher grades are a little older. This is unsurprising as older children will on average have older parents.

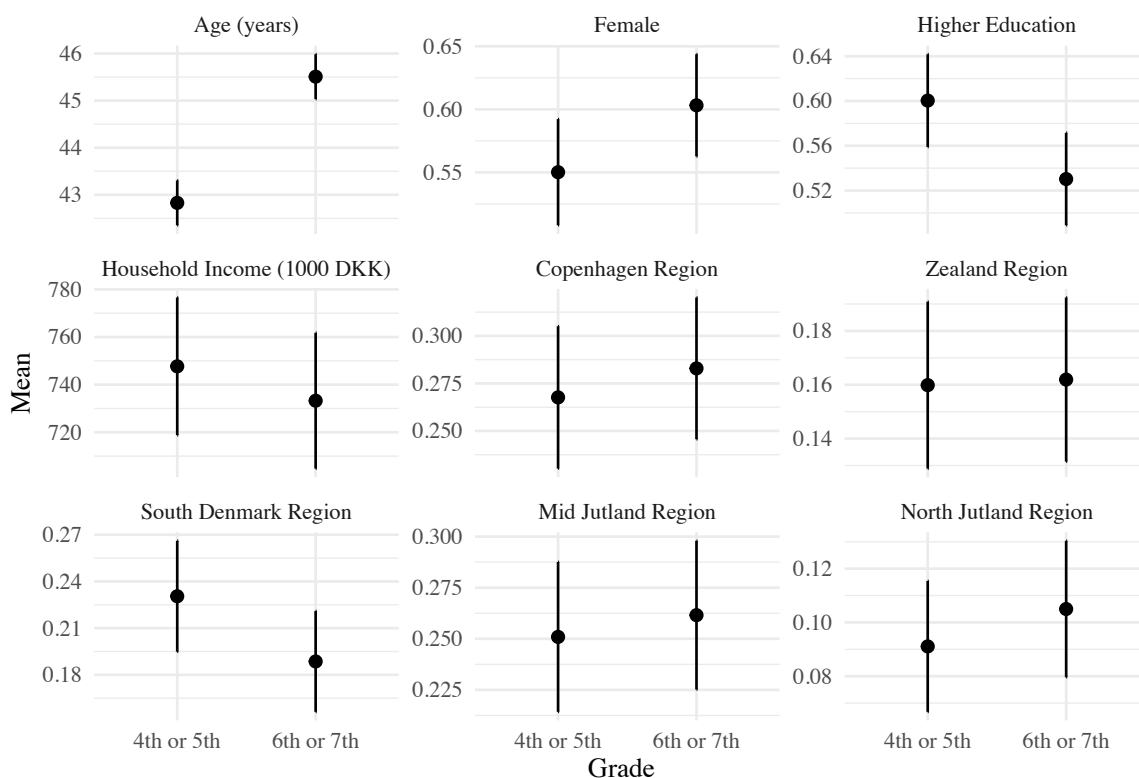


Figure 2: Descriptive statistics for parents. With the exception of age, no systematic differences on parent characteristics between those families that had child(ren) return to school and those that did not.

Health outcomes by children's grade

We now move to comparing outcomes between parents whose children were sent back to school and parents whose children were not. In Figure 3, we show differences in health outcomes. For the health outcome, we asked if any one in the household had been tested positive, had been tested negative, or had shown symptoms without having had a test. Unsurprisingly, given the potential prevalence in the full population of COVID-19 and the limited testing available at the time, positive tests are very rare (see Table 1). We thus report a recoded version in our grade comparison, where a positive test or showing symptoms is coded 1, other options are 0.

Table 1: Health outcomes

Response	%
Tested positive	0.5
Tested negative	6.0
Showed symptoms, but not tested	14.4
Showed no symptoms	79.7

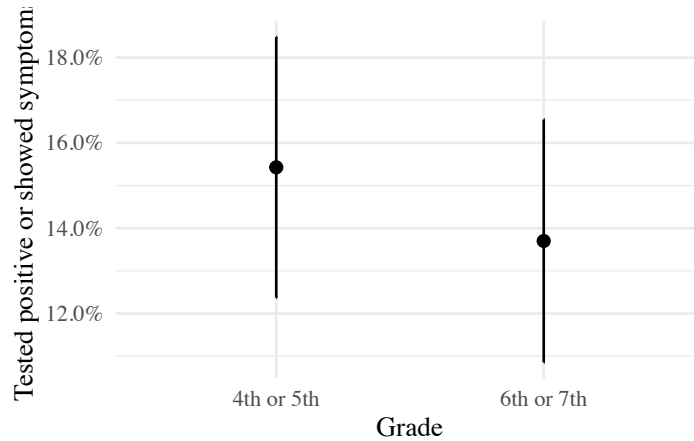


Figure 3: COVID-19 related health outcomes for household

While parents with kids going back to school report more symptoms or positive tests, this difference comes with a lot of uncertainty. In the appendix, we use linear regression (OLS) to show that the difference is 1.7 percentage points with 95% CI [-5.9%-point; 2.5%-point]. We also present results from a two-stage least squares model, where we instrument the share of children staying at home by having children in the 6th or 7th grade. We find that for going from zero to all of one's children staying at home, the share in the household with confirmed COVID-19 or symptoms, but no test is 2.9 percentage points lower. It is important to emphasize that the difference comes with a lot of statistical uncertainty. On top of that, the survey was fielded on the day that schools started reopening and ran for almost a week, so it is unlikely, but not impossible, that any difference in this round is due to children being back to school.

Parents' stress by children's grade

In Figure 4, we compare parents' outcomes on our three individual items from the stress scale and a stress index. In the appendix, we show both OLS and two-stage least squares models for all single items and the scale. The difference on the scale is 0.015 with a 95% CI of [-0.010; 0.040]. For the individual items, the differences are in inconsistent directions. In conclusion, we cannot say with certainty as that schools opened up, parents whose children went back to school were any less stressed. However, the measure is also retrospective, so any reduction in stress should only occur after the school re-opening. Accordingly, it will be interesting to track the parents over time.

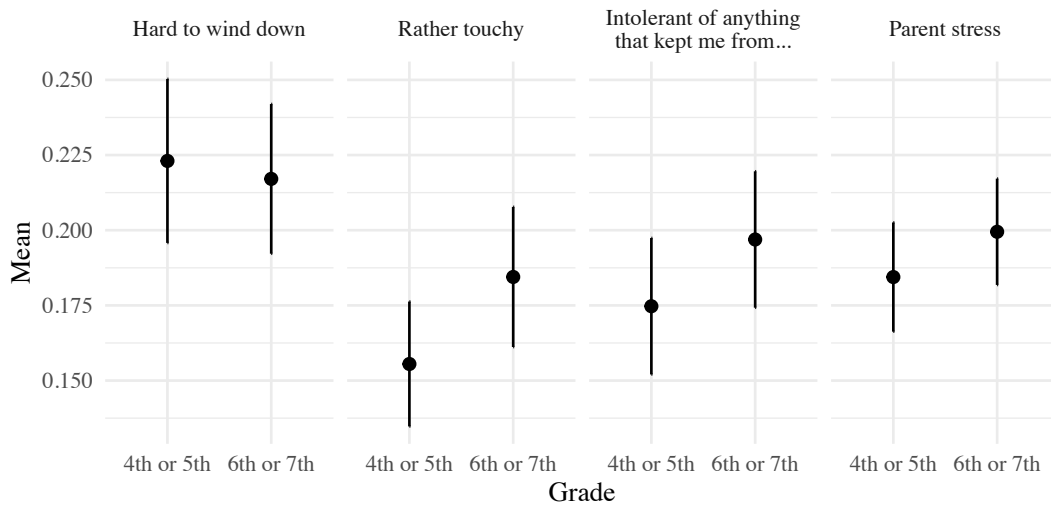


Figure 4: Parental stress (ranges from 0 [minimum] to 1 [maximum])

Children’s well-being by grade

Turning to child well-being, in Figure 5 we display results at the child level for each of these outcomes and an average over all items (unadjusted Cronbach’s $\alpha = 0.73$). We also rescaled these measures to be on a 0-1 scale where 0 is *at no time* and 1 is *all the time* (with higher values reflecting higher well-being). As above, we restrict the sample to parents who only had children in the 4th or 5th grade, but no children in the 6th or 7th grade and vice versa. Some of these parents have more than one child in their household in the relevant grade levels. For them we include evaluations of all relevant children.

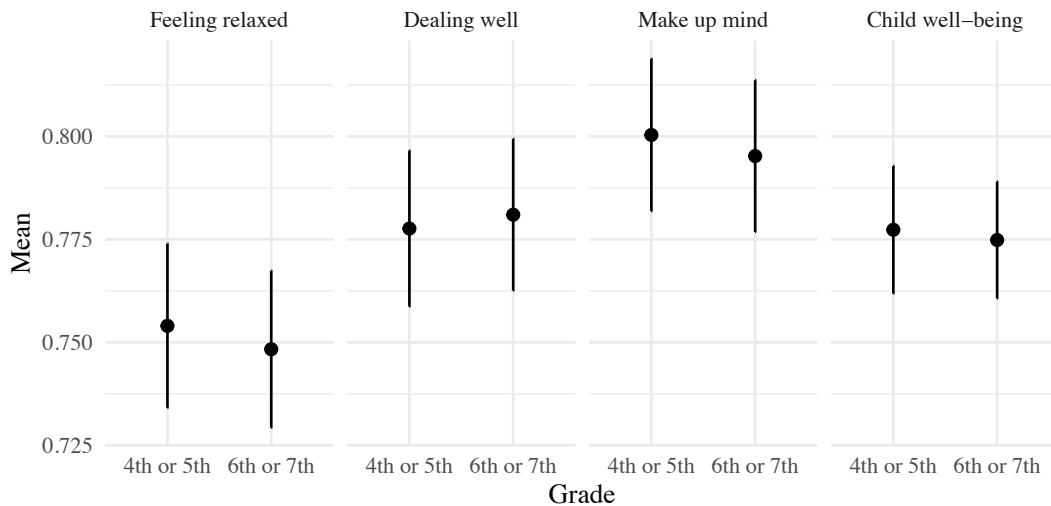


Figure 5: Child well-being (ranges from 0 [minimum] to 1 [maximum]). Please note that y-axis is truncated, i.e. does not cover the full range of the outcomes.

Generally, we see that parents rate their children quite high on these measures. Furthermore, there are no difference to speak of between children in 4th or 5th grade and children in the 6th or 7th grade. This is confirmed by the regression

models in the appendix. In these models, we cluster the standard errors for the children by the household and find absolute differences on individual items in the range of 0.003 to 0.006 and an average difference of 0.002. All of these differences are minuscule compared to their own uncertainty. We run a set of models where we include fixed effects for birth order, but this gives similar results.

Overall, we find it reassuring that the children are rated to be feeling so similar at this point. The measure is retrospective and the survey was fielded right after Easter, which is a holiday and also right after a period where children, irrespective of grade level, had been sent home from school for a little more than a month. In coming iterations, it will be interesting to see if the children who are allowed to go back to school will thrive more. We will also further extend our analysis to cover within-family differences.

Government support by children’s grade

In Figure 6, we present support for the Prime Minister and the Health authorities. For parents of children in the 4th or 5th grade, the average is 0.79, while it is 0.818 for parents with children in the 6th or 7th grade. The difference of 0.028 comes with some uncertainty, but the 95% CI of [0.002; 0.054] does not include zero. The parents of older children are also more supportive of the health authorities with an average of 0.80 compared to 0.78. The 95% CI for this difference is [-0.005; 0.045].

We can think of at least two reasons why parents of children in the higher grades are more supportive of the Prime Minister. One is that this is a pre-existing difference unrelated to the children going back to school. We do not have data on these parents prior to the lockdown and COVID-19 pandemic, so we cannot know this. However, in a model where we control for age, gender, and region, the difference persists. The other reason would be that parents whose children are to stay at home are happier with this decision than parents whose children are to go back to school. Although, many would think it a relief to have their children go back to school, there has also been some concern among parents that it would be safer for their children to stay at home and avoid potentially contracting COVID-19.³

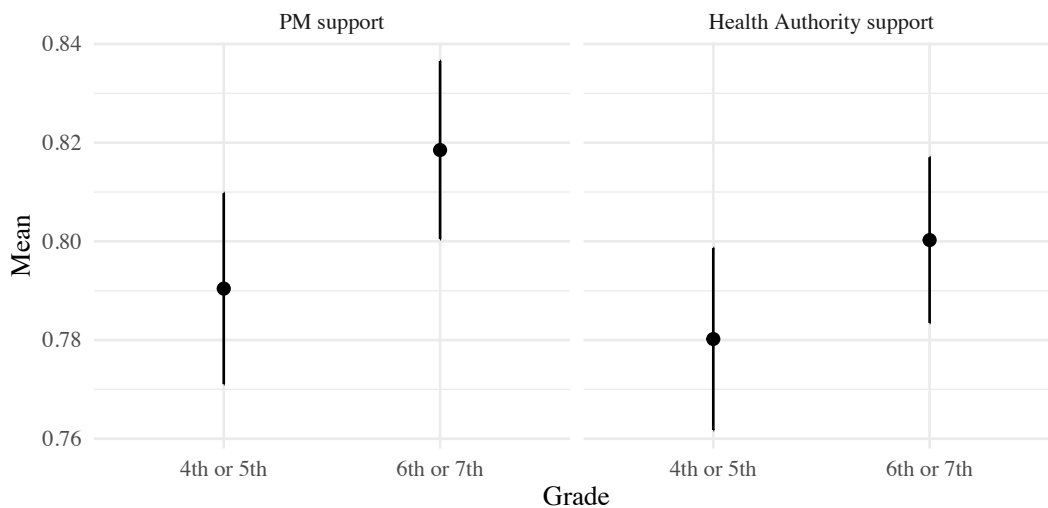


Figure 6: Support for PM and health authorities (ranges from 0 [minimum] to 1 [maximum])

³<https://www.berlingske.dk/politik/brostroem-boern-og-laerere-er-ikke-forsogskaniner>

Economic well-being by children's grade

As displayed in Figure 7, parents in the survey with children in the 6th or 7th grade are on average slightly more concerned about their economic situation across all three measures, but all measures comes with a high degree of uncertainty. The difference is largest at -0.012 for the economic outlook variable, but the 95% CI for difference brackets zero [-0.027; 0.003]. The difference for capacity to do one's job is virtually zero at -0.002 with 95% CIs of [-0.040; 0.035], while the difference for job outlook is -0.009 with a 95% CI of [-0.041; 0.022]. In the Appendix, we also show models that estimate the effect for share of children that remain affected by the school lockdowns. Overall, we see that as the schools re-opened there were no systematic differences between parents with children in the different grades in terms of their economic well-being.

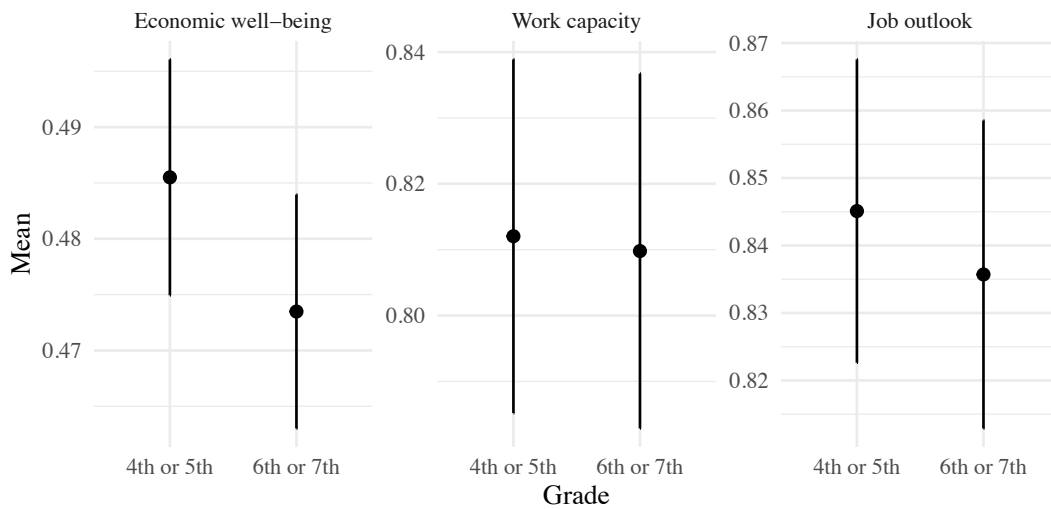


Figure 7: Economic well-being (ranges from 0 [minimum] to 1 [maximum]). Please note varying y-axis used for easier comprehension. We reversed the coding for Job outlook so that higher values represent less concern, to be in line with the general direction of positive economic outlook coding.

Between-gender differences by children's grade

Earlier in this report, we have summarized overall gender differences between mothers and fathers in relationship to our outcomes of interest. In this last section, we review differences between parents with children in the 6th or 7th grade and parents with children in the 4th or 5th grade by gender of the parent completing the survey. In Figure 8, we present these differences. We omit the child well-being as it applies to the child, and to simplify we only include the stress scale and exclude the individual items. In the appendix, we present regression models with multiplicative interaction terms.

Overall, we see that difference for parent stress, PM support, and support for the health authorities does not interact with gender. The differences between those with children in the 4th or 5th grade and those with children in the 6th or 7th grade are in the same direction and of similar magnitudes for fathers and mothers. The largest difference is for the health authority support where the interaction term is -0.022. But this is small compared to its standard error of 0.026. There is slightly more to suggest some interactions with gender for economic outcomes. While mothers economic well-being is virtually the same across grades, fathers with children in the 6th or 7th grade are slightly more pessimistic

than fathers of younger children. The interaction term is 0.033 with a 95% CI of [0.003; 0.064]. For the two other economic outcomes there are no significant interactions.

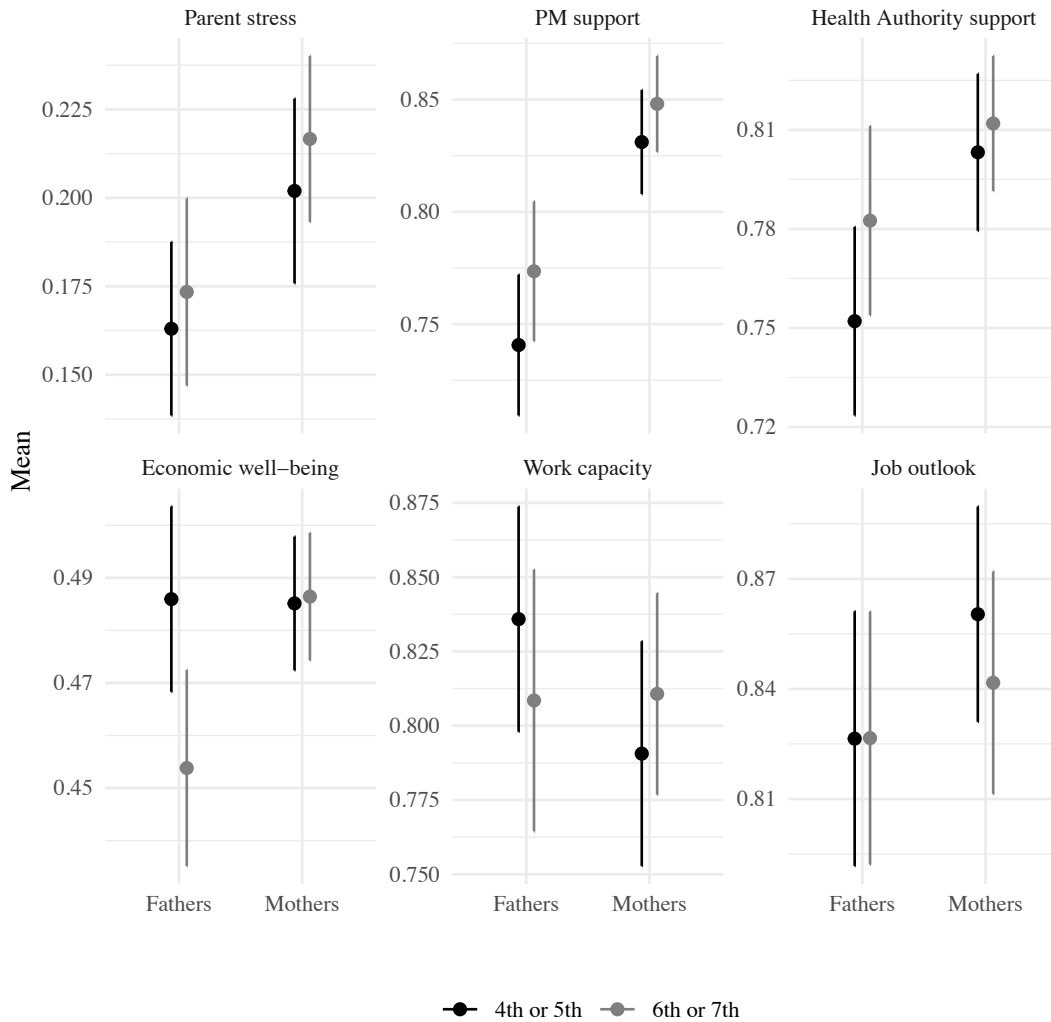


Figure 8: Gender differences. Please note varying y-axis used for easier comprehension. We reversed the coding for Job outlook so that higher values represent less concern, to be in line with the general direction of positive economic outlook.

Future steps and limitations

We presented results regarding a vast array of parent and child level outcomes in the midst of the COVID-19 crisis and the step-by-step re-opening of the Danish society. While health, psychological, and economic well-being are always central for better understanding how citizens are doing, this has been especially important under the exigent circumstances generated by COVID-19 related lockdown. The lockdown and also the stepwise re-opening will likely carry long-term effects for many citizens, thus it is imperative to assess as many different outcomes as possible, in order to inform and update public policy.

While data regarding the societal effects of the COVID-19 pandemic and subsequent research are in urgent need, we regard it even more important in this setting to also highlight the limitations of our presentation of the first wave of our survey. First and foremost, this is an initial round of data collection, timed at the re-opening of many schools for children below a particular grade threshold. This means that we can, at best, speak to short term and likely small differences in many outcomes. Furthermore, the re-opening was timed directly after Easter, a likely non-representative period in many families' lives.

Second, and related, we lack measures for the same sample from the lockdown period, or prior to that period, which creates difficulties in confidently assigning many direct effects explicitly to the re-opening. Furthermore, we have decided to first present results of between-family comparisons, as these allow us to work with appropriate sample sizes and well-defined comparisons. However, extending our analysis with considerations of within-family effects and differences is most definitely part of the next steps.

Third, our analysis does not (yet) speak to potential differences regarding households with single parents and variation associated with how different occupations or jobs presented different requirements and opportunities during and after the lockdown. Finally, we are assuming that parents took the opportunity to send their eligible children back to school, however we have never ascertained this through a dedicated survey question.

With these caveats in mind, we presented a set of important results, indicating no major differences in parental and child outcomes between those families that had 4th or 5th grade kids and those with children in the 6th and 7th grades.⁴ There are no fast-paced gains or losses in any of our main outcomes of interest, thus the gradual re-opening seems to be an appropriate label.

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⁴We have checked a more strict comparison (5th and 6th grades only), with the same steps, and our results are unchanged. Thus, the small differences are not due to grouping 4th and 5th respectively 6th and 7th grade children together.

Appendix for: Back to School

The effects of school re-opening on families' health, emotional well-being, government support,
and economic situation

Jens Olav Dahlgaard

Zoltán Fazekas

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Regression models

Here we present regression models to support the figures in the report.

Gender differences

The first set of models are for gender differences. For each row in the table we present the coefficient and standard error for the difference between women and men based on a bivariate linear regression model where we regress the outcome of interest on an indicator variable for women. The entries in the table show how much higher/lower women score on the outcome of interest compared to men.

Table 1: Model estimates for gender differences. Standard errors in parentheses. Female coded as 1.

	Female	Std. error	N
Hard to wind down	0.069	(0.018)	1279
Rather touchy	0.063	(0.015)	1279
Intolerant of anything that kept me from . . .	0.01	(0.015)	1279
Parent stress	0.048	(0.012)	1279
PM support	0.087	(0.012)	1279
Health Authority support	0.038	(0.012)	1279
Economic well-being	0.015	(0.007)	1279
Work capacity	-0.029	(0.018)	1105
Job outlook	0.02	(0.015)	1279

Health outcomes

In Table 2, we present regression models for our health outcome. In the report, we only include parents with children either in the 4th or 5th grade or in the 6th or 7th grade, while we omit those with children in both the 4th or 5th grade and the 6th or 7th grade. Here we include all parents and run a regression for the health outcome on an indicator for having *only* a children in the 6th or 7th grade and an indicator for having *both* a child in the 4th or 5th grade *and* a child in the 6th or 7th grade. The omitted category is the parents with a child in *only* the 4th or 5th grade, so our estimates are comparisons with this group, and the intercept shows the share reporting either a positive or suspected COVID-19 case. We present point estimates and standard errors. Because we have indicators for each category, the estimate on *6th or 7th grade* is the difference in proportions from the figure in the report, and the standard error is the standard error for the difference.

The reduced form models, which we use in the paper, will tend to produce conservative estimates of the effect on parents, because we assume that only children in the 4th to 7th grade have an impact. In that sense, our results are lower bounds of the true effects. To give an estimate on the relative impact of all children in the household, we also include a two-stage least squares model, where we instrument the share of children that are going back to school or daycare. Most parents also have children outside the relevant grades in their household. They are also affected by the lockdown and

some of them by the gradual re-opening. We use the simplifying assumption that all children below the 5th grade either go back to school or daycare, while all children in the 6th grade or above up until age 18 do not go back to school, high school, or other secondary education. Based on this assumption, we estimate the share of children in a household going back to school and regress this share on our two indicators in the first stage to estimate the share of children returning to school ($F = 940.8$). In the second step, we regress the health outcome on the predicted share from the first round.

Table 2: Model estimates for household health outcome by children's grade. Standard errors in parentheses.

	COVID	
6th or 7th grade	-0.017 (0.021)	
4th or 5th and 6th and 7th	0.013 (0.031)	
Share of children home		-0.029 (0.033)
Intercept	0.154 (0.015)	0.165 (0.02)
N	1279	1271
Model	OLS	2SLS

Parents' stress

In Table 3, we present models for the individual stress outcomes and the stress scale. For each outcome we run the same set of models as in Table 2, only switching the outcome variable.

Table 3: Model estimates for parents' stress by children's grade. Standard errors in parentheses.

	Wind down	Touchy	Intolerant	Stress scale				
6th or 7th grade	-0.006 (0.019)	0.029 (0.016)	0.022 (0.016)	0.015 (0.013)				
4th or 5th and 6th and 7th	-0.009 (0.027)	-0.01 (0.023)	0.039 (0.024)	0.007 (0.018)				
Share of children home	-0.009 (0.029)	0.045 (0.024)	0.035 (0.025)	0.024 (0.02)				
Intercept	0.223 (0.013)	0.225 (0.018)	0.156 (0.011)	0.144 (0.015)	0.175 (0.012)	0.171 (0.016)	0.184 (0.009)	0.18 (0.012)
N	1279	1271	1279	1271	1279	1271	1279	1271
Model	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS

Government support

In Table 4, we present models for support for the Prime Minister and the Health authorities. For each outcome we run the same set of models as in Table 2, only switching the outcome variable.

Table 4: Model estimates for government by children's grade support.
Standard errors in parentheses.

	PM		Health auth	
6th or 7th grade	0.028		0.02	
	(0.013)		(0.013)	
4th or 5th and 6th and 7th	0.032		0.034	
	(0.019)		(0.018)	
Share of children home		0.039		0.028
		(0.021)		(0.019)
Intercept	0.79	0.787	0.78	0.779
	(0.01)	(0.013)	(0.009)	(0.012)
N	1279	1271	1279	1271
Model	OLS	2SLS	OLS	2SLS

Economic well-being

In Table 5, we present models for support for the three economic well-being items. For each outcome we run the same set of models as in Table 2, only switching the outcome variable.

Table 5: Model estimates for economic well-being by children's grade support. Standard errors in parentheses.

	Econ WB		Capacity		Outlook	
6th or 7th grade	-0.012		-0.002		-0.009	
	(0.007)		(0.019)		(0.016)	
4th or 5th and 6th and 7th	0.002		0.054		0.026	
	(0.011)		(0.027)		(0.023)	
Share of children home		-0.019		-0.002		-0.018
		(0.011)		(0.03)		(0.025)
Intercept	0.486	0.491	0.812	0.82	0.845	0.855
	(0.005)	(0.007)	(0.014)	(0.018)	(0.012)	(0.015)
N	1279	1271	1105	1098	1279	1271
Model	OLS	2SLS	OLS	2SLS	OLS	2SLS

Children well-being

In Table 6, we present models for children’s well-being for each item as well as the full scale. For each item and the full scale, we run two models at the child level. We include only parents with children in either the 4th or 5th grade or in the 6th and 7th grade. We omit parents with children in the 4th or 5th grade *and* in the 6th and 7th grade. The omitted parents are interesting for a within-family comparison, but we leave that comparison for future rounds. Some parents have more than one child in the same grade bracket. Therefore, we reorganize the data frame to the child level including one observation per child. To account for the fact that multiple children are being rated by the same parent, we cluster the standard errors at the parent level. In the first model, we only compare children regardless of birth order. In the second model, we also include fixed effects for birth order among the children included in the model. For the purpose of assigning birth order, we ignore any other children that may be in the household outside of the grade brackets that we study.

Table 6: Model estimates for children’s well-being by grade. Standard errors in parentheses.

	Relaxed		Dealing		Make up		Child WB	
6th or 7th grade	-0.006	-0.006	0.003	0.004	-0.005	-0.004	-0.002	-0.002
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.011)	(0.011)
Intercept	0.754	0.754	0.778	0.779	0.8	0.802	0.777	0.778
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.008)	(0.008)
N	1158	1158	1158	1158	1158	1158	1158	1158
Order FEs	NO	YES	NO	YES	NO	YES	NO	YES

Grade by gender interactions

In Table 7, we run models for heterogeneous effects by gender. We omit parents with children both in the 4th and 5th grade *and* in the 6th and 7th grade. For each outcome, we simply regress the outcome of interest on an indicator for women, an indicator for having a child in the 6th or 7th grade, and the multiplicative term between them.

Table 7: Model estimates by parent gender and children's grade. Standard errors in parentheses.

	Stress	PM	Health auth	Econ WB	Capacity	Outlook
Female	0.039 (0.019)	0.09 (0.019)	0.051 (0.018)	-0.001 (0.011)	-0.045 (0.028)	0.034 (0.023)
6th or 7th grade	0.01 (0.02)	0.033 (0.02)	0.03 (0.019)	-0.032 (0.012)	-0.027 (0.029)	0 (0.025)
Female x grade	0.004 (0.026)	-0.016 (0.027)	-0.022 (0.026)	0.033 (0.015)	0.047 (0.039)	-0.019 (0.033)
Intercept	0.163 (0.014)	0.741 (0.014)	0.752 (0.013)	0.486 (0.008)	0.836 (0.02)	0.826 (0.017)
N	1100	1100	1100	1100	951	1100