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"Early COVID" Changes in Parenting, Education, and Work on Parental Stress: A Gendered Comparison of Canadian Parents

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Honors Thesis

"EARLY COVID" CHANGES IN PARENTING, EDUCATION, AND WORK ON

PARENTAL STRESS: A GENDERED COMPARISON OF CANADIAN PARENTS

by
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Submitted to Brigham Young University in partial fulfillment
of graduation requirements for University Honors

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ABSTRACT

"EARLY COVID" CHANGES IN PARENTING, EDUCATION, AND WORK ON
PARENTAL STRESS: A GENDERED COMPARISON OF CANADIAN PARENTS

Holly Harris

Sociology Department

Bachelor of Science

In May 2020, data were collected through survey as the COVID-19 pandemic was
unfolding and still in its "early" months. The sample N=1,208 is of Canadian parents in a
residential romantic relationship, who live with a residential child under the age of eighteen
years old, who have access to the internet, and speak English or French. I examine how
disruptions to child's education/daycare, work, and parental childcare activities predicted
parental stress through regression models. Findings indicate that fathers and mothers stress since
the onset of COVID-19 were the same and that gender was not a moderator to parental stress. A
nonlinear finding shows that changes in parental childcare activities during the pandemic
compared to before the pandemic caused increased parental stress.

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To my endless champion and mother, Desda Harris; my constant thought partner, careful editor, and present companion, Ace; and my many mentors in the Department of Sociology and School of Family Life: Without you, I would not be the scholar I am, nor would I have the capacity to become who you've shown me I can be. I give deepest acknowledgement to each of you. This thesis – as a culminating and representative experience of my Bachelor's studies – would not be finished without you.

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INTRODUCTION

The early months of 2020 ran a course of unprecedented change rippling throughout the world as the coronavirus pandemic (COVID-19) raged, leaving practically no community untouched. As of July 19, 2022, the global community has suffered 561 million confirmed coronavirus cases, and 6.37 million deaths (World Health Organization b). Canada shares a portion: 3.98 million confirmed cases and 42,148 deaths (World Health Organization a). As March 2020 unfolded, many institutions – including but surely not limited to businesses, governments, schools, daycares, and healthcare services – were forced to pivot policies and practices quickly.

On March 13, 2020, the province of Quebec suspended education and daycare activities except for childcare of essential workers (such as healthcare workers, first responders, grocery store/food service workers, postal/delivery service workers, etc.); similarly on that date, the province of Ontario was putting forth efforts to staff childcare facilities. Alberta also engaged in efforts to open 15,000 childcare spaces for essential workers on March 22, 2020. On March 14, 2020, the Government of Canada federally issued a travel advisory which was escalated to a travel ban within two days. In British Columbia (BC), a state of emergency was declared on March 18, 2020, banning gatherings of 50 or more people and requiring social distancing – causing, for example, non-essential work closures; two weeks later fines were announced for businesses and individuals who did not abide. On March 20, 2020, in Saskatchewan, primary and secondary, public and private schools were suspended. On April 1, 2020, Zoom licenses were secured for all K-12 public schools in BC. Even through January and February 2022, Canadian provinces of Nunavut and Prince Edward Island were still closing schools for weeks at a time (McCarthy Tétrault). These examples are used to demonstrate similar practices and guidelines

that were set in place throughout Canada and the world; they are examples of how paid labor, education, and childcare were affected. The resulting changes due to COVID-19, in many ways, trickled down to be borne by the family. The COVID-19 pandemic swiftly wreaked havoc on the scene of daily life and became a social ecological stressor on the family.

A social ecological stressor is an external factor borne by the whole family. How a family responds is ultimately varied: for example, some families have one individual who takes on the majority of the stress, reducing it for others; spouses may take turns dealing with large issues as they arise, or the resulting tasks may be split equally between parents or "equitably" among all family members, including children (Milkie 2009). Necessary questions arise surrounding parenthood, roles in the family, and coping mechanisms as families face externally applied pressures caused by the pandemic: Who will take care of the needs of the family? How do perceived roles and role strain impact family members as they cope with and negotiate changing responsibilities? How does the phenomenon of a pandemic with ubiquitous global consequences across all institutions affect emotional well-being?

This study examines the experiences of parents in heterosexual-presenting relationships during the early months of the pandemic. Specifically, I center the study on parents' well-being as measured by parental stress. I analyze how their stress is impacted by changes in the institutions of the family, work, and education/external childcare. These foci led us to four hypotheses. Hypothesis 1: I predict that there is a direct relationship between the increase in childcare activities a parent performed since the pandemic and parental stress. Hypothesis 2: I predict that there is an inverse relationship between the hours a child spends in education/external childcare and parental stress. Hypothesis 3: I predict there is a direct relationship between the amount of paid labor a parent performs and their parental stress.

Hypothesis 4: I predict that gender will moderate each of these relationships, insomuch that mothers will experience parental stress at a higher rate than fathers due to the changes in these institutions.

BACKGROUND

At the crux of society, it is essential to study the family's response to inevitable yet unexpected disasters. As parents are the leaders of families, it is imperative to assess their well-being. The hierarchical structure of the family – by tenure if not by associated power (Milkie 2009) – includes many moving parts, from children to parents to grandparents and beyond; these parts "bind each other to the well-being of the whole unit" (Milkie 2009), implying that the well-being of parents can have a multi-generational impact on the family as a whole. Births have been found to increase "time stress" for parents that continues for years after the child is born, especially for mothers; children also add a minor financial stress on parents (Buddelmeyer, Hamermesh, and Wooden 2018). Yet despite the added stress associated with having children, individuals are happier by being parents than by not having children (Musick, Meyer, and Flood 2016; Connelly and Kimmel 2015). While children may cause stress on the family unit, they also bring happiness, thus the part affects the whole. Parental happiness and parental stress are not mutually exclusive, yet understanding these different parts of the unit gives us a more holistic view of the family, of parenthood, and of family adaptations can impact parental stress. A social ecological stressor such as the COVID-19 pandemic is sure to have impacted the unit and its members – the question is how. Specifically, I look at their parental stress – statements of stress that reflect parent-specific stressors – as predicted by changes in the parental childcare, paid labor, and education/external childcare; I control for symptoms of depression as I study parent-specific stress.

Pre-COVID Gendered Dynamics in the Home

The family seems to be a large ship that turns slowly. Compared to the 1980s, parents are performing more childcare activities, such as participating in teaching the child and playing with them (McDonnell, Luke, and Short 2019). Especially in fatherhood, changes and expectations appear to be on the rise with more involved fathers (Diaz 2014); however, studies of a Canadian newspaper indicate that while changes in fathering that have taken place in the last forty years, there still appears to be a large gender gap in the home with mothers as primary caretakers of children and with fathers as secondary to mothers (Wall and Arnold 2007). The overwhelming consensus seems to be that while fathers are doing more than they used to, mothers are still doing more than fathers.

The Institution of the Family: Parents' Socialization, Identities, and Role Strain

In a family stress process model, roles are crucial to understanding the way the system of the family operates (Milkie 2009). Mothers, fathers, and children, for example, might take on stress placed on the whole unit differently due to their perceived roles. Mothers may view themselves as caretakers and nurturers. When women see themselves as such, they may be more integrated into participating in the family stress process with more emotional capital invested in it (Milkie 2009). This may lead to higher coping in women than men: coping is defined as behaviors that individuals actively participate in of their own accord in order to avoid feeling stress and the fallout thereof (Milkie 2009). Further, some mothers are gatekeepers, blocking their husband from doing certain childcare tasks (Gaunt 2008). Thus, in situations where responsibilities are re-negotiated in the home, such as during the COVID-19 pandemic, individuals in families may lean more heavily on perceived and cultural expectations of their role in the home. Due to this precedent, I anticipate seeing increased maternal gatekeeping and

involvement in the family stress process due to COVID. Specifically, because mothers are more involvement in the family stress process, they may be likely to cope more for themselves and the rest of the family by doing more unpaid labor, especially when it comes to parental childcare activities. For this reason, I predict in my fourth hypothesis that gender will be a moderator to parental stress.

When it comes to fathers and the way that they negotiate family stress processes, it is important to look at where they may have learned what their role in the family is. Intergenerational transfers of fathering roles show that men whose fathers were harsh and men whose fathers were warm show the highest levels of warmth to their own children (Diaz 2014). In this nonlinear finding, men whose fathers were ambivalent are the least warm to their own children (Diaz 2014). What is more, men reported highest levels of stress if their fathers exhibited below average warmth (Diaz 2014). Thus, there may be an intergenerational learning element to how men cope with their own family stress processes, based on how their fathers coped – again, the multi-generational parts affect the whole unit of a family. Fathers may also experience a cultural expectation placed on them to be providers. Combining the prescribed roles of father as provider and mother as nurturer most likely accounts for mothers doing more to "pick up the slack" when fathers are stressed at work than fathers do to "pick up the slack" when mothers are stressed at work (Milkie 2009). While continuing to see an upward mobility of warmth among fathers is something that is hoped for (Diaz 2014), the intergenerational impacts may go along with the slow turn of the family ship. While some progress has been made in refining and re-defining prescribed gender roles, high levels of stress may cause individuals to revert to processing that stress based on the examples of the role models they had in their parents and the cultural expectations set by society. As negotiations needed to be made around providing

for the family, perhaps aiding children in at-home learning, and balancing working from home with other responsibilities such as caring for children throughout the workday, perceived roles may impact paternal and maternal stress differently during the pandemic.

Paid Labor, Unpaid Labor, and Parents' Affect

When it comes to the outcomes of parenting and family dynamics, the gender divide speaks loudly. Childcare is more stressful for mothers (Roeters and Gracia 2016; McDonnell et al. 2019), and they carry more guilt and anxiety around caregiving (Wall and Arnold 2007). Mothers are less happy (Musick et al. 2016) and experience less enjoyment from childcare than their male counterparts (Connelly and Kimmel 2015; McDonnell et al. 2019). Fathers, on the other hand, are more happy, less tired, and less stressed overall compared to mothers (McDonnell et al. 2019). For fathers, childcare is more meaningful (Roeters and Gracia 2016) and they experience more enjoyment in childcare than mothers (McDonnell et al. 2019). Fathers also experience less stress when their spouse is present (Roeters and Gracia 2016), and they have more time with children accompanied by their partner than mothers do (Offer 2014; Musick et al. 2016; Craig 2006). In sum, fathers experience more positive affect and mothers experience more negative affect regarding childcare. Suggested reasons for the affect divide between mothers and fathers include differences in expected role, work, leisure time, the time of day in which parents participate in childcare, and the kinds of childcare activities the parents engage in.

Gendered Divide in Unpaid Labor: The When and What of Parental Childcare Activities

Mothers spend more time doing childcare (Craig 2006; Connelly and Kimmel 2015; McDonnell et al. 2019), especially due to the vast difference in passive childcare tasks – tasks that are not interactive with the child – that mothers outperform fathers in (Offer 2014). Mothers do more managerial and administrative childcare tasks (Wall and Arnold 2007; Craig 2006;

McDonnell et al. 2019), more routine tasks including physical care for the child (Musick et al. 2016; Connelly and Kimmel 2015), and less childcare with their partner present (Offer 2014; Musick et al. 2016; Craig 2006). Fathers participate in more interactive childcare, such as play and recreation; they also experience more childcare activities with their partner present (Musick et al. 2016; McDonnell et al. 2019).

Leisure and mealtimes show positive affect results in parents (Offer 2014). Participating in leisure time – with or without kids – seems to lead to positive outcomes for parents (Offer 2014; Musick et al. 2016), and fathers have reportedly more leisure time than mothers (Musick et al. 2016). Mothers multitask their leisure with child supervision more than fathers yet still experience these times of leisure with improved affect, perhaps due to not feeling guilty about taking time away from children while also having some leisure (Craig 2006). The gender divide seen in positive affect may in part be due to leisure. As the pandemic shifted general time use, leisure time may have also been affected which may implicate possible explanations for family stress process management and predictors of stress.

These differences in labor have been shown to account for differences in levels of stress. For example, routine childcare that mothers participate in more than fathers (Musick et al. 2016; Connelly and Kimmel 2015) increases parental stress (Offer 2014). Mothers who work full-time and whose partners work full-time still experience more total time engaged in childcare activities and spend more time alone with kids than their partners (Craig 2006). In contrast, fathers who spend more time doing childcare with their partner present show a decrease in stress (Roeters and Gracia 2016). Interactive childcare, which fathers participate in more, also predicts less stress (Roeters and Gracia 2016). More concisely, mothers participate in more activities and more stressful activities while fathers participate in less activities and less stressful activities,

such as play, recreation, leisure, etc. Fathers also spend more time with kids on weekends and evenings (McDonnell et al. 2019). Simply put, fathers' parenting activities are less stressful (McDonnell et al. 2019).

Even more compelling, McDonnell et al. found that the difference in happiness between parents is fully accounted for by the difference in their childcare activities performed, and the difference in stress is partially accounted for by the type of childcare activities that parents are engaged in (McDonnell et al. 2019). This gendered divide in the literature informs my hypotheses that shifts in parental childcare activities may predict parental stress and that gender will moderate that relationship.

Gendered Divide in Paid Labor

The gender divide holds true for paid labor. When both parents are employed, engaging in paid labor increases mothers' stress whereas engaging in paid labor decreases fathers' stress (Roeters and Gracia 2016). This phenomenon may be due to the role strain that mother's feel as the partner that carries the weight of finding balance for the family when both parents are working (Wall and Arnold 2007; Shafer et al. 2020). For fathers, working is a societal expectation, while for mothers, working is often portrayed as a choice rather than expectation (Wall and Arnold 2007). This expectation decreases autonomy for fathers and increases guilt and responsibility for mothers. As shifts in work, education, and childcare collided, causing families to be at home more due to the pandemic, I anticipate seeing gender moderate the parental experience of changes in these institutions.

As the institution of paid labor changed drastically during COVID-19, many people began to work from home. During the pandemic, 31.4% of participants were working from home exclusively, and 42.8% were working from home at least once a week or more. The changes in

the institution of paid labor are likely to have a trickle-down effect that impact the family and its members. It is anticipated that changes in paid labor and working from home will have influenced parental stress because stress is reportedly lower at work than at home (Damaske et al. 2014). However, with nearly 43% of the sample working from home at least once a week during the pandemic, the decrease in stress that individuals experience when they go to work may not take place when they work from home. There may be greater demands in the home due to more people being in the home for more of the day which may cause more stress. These are key elements that families have had to include – whether spoken or unspoken – in their family stress process negotiations. I anticipate that much of the extra weight caused by the pandemic fell onto mothers, the caretakers, who are typically responsible for balancing home and career, and the ones more emotionally engaged in the stress family process.

Education and External Childcare:

Often, for parents to work, they need to secure childcare. If parents work regularly scheduled hours and their child is school-aged, this is not as much of a concern or burden; however, before the pandemic, low-wage service workers in the U.S. – who may be essential workers – often found it challenging to use a childcare center, as they were not willing to accommodate for the parent's schedule (Layzer and Goodson 2006). This led to parents using family child care, in which a relative or friend would care for the child in their own home (Layzer and Goodson 2006). As most childcare centers and schools were shut down in Canada, parents may have felt an increase in parental stress in determining how to best care for their child and their own well-being during an unprecedented time. This stress may be compounded by parents' employment. Some provinces put forth effort to provide childcare for essential workers (McCarthy Tétrault), which may have served to mitigate some stress for those able to secure

placement in those care facilities; yet, it may have caused more stress considering the risks – known and unknown – of COVID-19. In the U.S., parents reported increased stress due to childcare constraints (Lee et al. 2020), and similar findings are anticipated in this Canadian sample.

Changes in Education: Parents as Participants in Their Child's Education

The usual frame around parent involvement in their child's education is that parent involvement leads to positive child learning outcomes (Van Voorhis et al. 2013), yet parents' role seemed to have a different tune than being helpful; instead, in the U.S. and Italy, parents reported that the demands of helping to monitor and facilitate distanced education for their children was a stressor (Adams et al. 2021; Lee et al. 2020; Moscardino et al. 2021). A third of parents in a U.S. sample stated that their children's behavior changed when they had to switch to online learning (Lee et al. 2020) which may be contributing to increased parental stress. Online learning that was often used during the pandemic meant an increase in screen time for students. Problems with children's emotional regulation have been associated with higher levels of parental stress, yet an increase in media use did not lead to increased problems in children's emotional regulation (McDaniel and Radesky 2020). More screen time may also have an effect on parental stress, as the experiences of children effect the family system of stress processing, coping, and negotiating.

The turbulent nature of the COVID-19 pandemic has caused vast shifts in institutions. These shifts will impact how the family negotiates roles and responsibilities as they handle the social ecological stressor of the pandemic. I anticipate finding trends in predicting parental stress due to shifts in the main institutions for parents and children – their home, their work, and their school/daycare. Understanding the way that COVID-19 affected individuals and families is of

the utmost importance and will further develop understandings of family stress processes, how institutions interact, and how to better equip individuals and families to understand and handle stressors in the future, especially at such a large scale.

METHODS

As the pandemic is ongoing, I consider the study to be of "early COVID" based on the snapshot of data collection captured during middle to late May 2020. The data I used were collected by a Qualtrics surveyed administered in Canada; measures were taken to ensure generalizability. Such efforts include a quota for the sample to be evenly split among men (50.4%) and women (49.6%) and cross-checking the proportion of different racial backgrounds in the sample with that of the Canadian population at large.

Participants were asked a series of preliminary questions to ensure they met the inclusion criteria, including: 18 years and older, reside in Canada, in a residential romantic relationship, have a residential biological child below the age of eighteen, speak English or French, and have access to the internet. Requiring access to the internet may preclude important members of the Canadian population living in rural spaces; this is a limitation of the study, and I recommend further studies to examine the rural-based experiences of Canadians during the COVID-19 pandemic that may not be reflected in this sample.

This sample was originally 1,241 individuals who completed the survey. I used multiple imputations to account for large amounts of missing data; any other cases of missing data that were too small for imputations were dropped. I also dropped one case due to a participant identifying as non-binary; further explanation to follow. The final sample includes 1,208 individuals.

Measures

For some of the following variables, participants are asked questions as it relates to "their child." Whenever this is the case, the child to which the survey is referring is always the participant's youngest residential child. Questions regarding the age of their child, their child's education, creating content for their child, monitoring their child, etc. are all questions consistently asked about the same child.

Dependent Variable: Parental Stress

Parental stress was created by totaling the sum of participants' responses to five questions regarding parent-specific stress statements: "As a parent, I often feel I cannot handle things well," "I find myself giving up more of my life to meet my children's needs than I expected," "I feel trapped by my responsibilities as a parent," "I feel I am not able to do the things I like since having children," and "I enjoy being a parent." Answers were coded 0-3 for the following response options, respectively: never, rarely, sometimes, often. The question regarding enjoying being a parent was reverse coded. These questions were asked specifically regarding how participants experienced parental stress since the onset of the coronavirus outbreak. I totaled participants' scores for all of the stress questions and then standardized the variable for final analysis. In summary, this stress variable measures parent-specific stresses as participants experienced them after the COVID-19 outbreak, insomuch that the higher their score, the more parent-specific stress a participant experienced; this variable is standardized.

Key Independent Variable: Family

In the models, each institution has a key predictor, all centered on frequency. For the institution of the family, the key predictor is the change in frequency of the participant performing childcare activities during the pandemic compared to before the pandemic. When participants were asked questions regarding their parental childcare activities – activities that the

participant specifically did to care for their child – they were instructed to answer questions regarding their youngest residential child. Parents of children seven years old and older answered nine parental activity questions; parents of children age less than seven years old only answered eight questions. These parental childcare activity questions were based on how the participant's time in performing childcare activities had changed since the COVID-19 outbreak. Note: the interpretation of "the COVID-19 outbreak" is open for interpretation because different cities and provinces may have experienced outbreaks and/or lockdowns during different times, yet the discrepancy is only days (McCarthy Tétrault).

If the participant's youngest child's age was less than 7 years old, they were asked about the following parental childcare activities: physical care of child (e.g., bathing, feeding, dressing, helping child use bathroom), talking to/listening to child, looking after child, putting child to bed, reading to child, playing with child, organizing/planning for child (e.g., scheduling doctor appointments, planning play dates, organizing activities), enforcing rules/punishing child. If the participant's youngest child's age was 7 years old or older, the participant was asked about the following parental childcare activities: talking to/listening to child, monitoring child's whereabouts, attending child's events, reading with child, playing with child, organizing/planning for child (e.g., scheduling doctor appointments, planning play dates, organizing activities), enforcing rules/punishing, picking up/dropping off child, helping child with homework.

Answers to parental childcare activity change questions were offered on a five-point scale: I am doing much less, I am doing somewhat less, no change, I am doing somewhat more, I am doing much more. These options were coded 0-4, respectively. When analyzing this data, a score greater than 2 means that compared to themselves, the parent was doing more after the

pandemic than before; whereas, if a score is less than 2, then the parent was doing less than they were before the pandemic. I summed the value of the participant's answers. Because parents of older children had a potential sum of 36 points and parents of younger children had a potential sum of 32 points, I standardized the variables and then combined the standardized variables into a singular childcare variable, regardless of the age of the participant's youngest child. This variable, therefore, is a standardized comprehensive parental childcare activity variable, measuring the change in parental childcare activities performed by each participant since the onset of COVID-19.

Key Independent Variable: Education / External Childcare

The key predictor for education/external childcare looked at the frequency of the participant's child attending school, participating in education-related activities, and attending external childcare. Due to the range of child ages in the sample, defining external childcare required combining the institution of education and a child's time at school or performing school-based activities with variables regarding daycare-like services, such as nannies, center-based daycare, home-based daycare, and relatives watching the child. Essentially, the external childcare variable estimates the change in hours that the child was out of the house since the pandemic started compared to before. I calculated the difference between hours spent in daycare since the pandemic and before the pandemic, with children who were not in daycare being coded as zero, or no change in hours spent in daycare. I followed the same practice for school: I found the difference between hours spent on school, including classroom instruction, studying, and homework, by subtracting hours spent before the pandemic from hours spent since the pandemic. Then, I combined these together into a comprehensive variable that assesses both the changes in

hours in daycare and in school. Finally, I standardized the variable to prepare for further analyses.

Key Independent Variable: Paid Labor

The key independent variable that represents the institution of paid labor is the change in time the participant spends working since the pandemic as compared to before the pandemic started. To find the change in work hours, I subtracted number of weekly hours worked since the pandemic from number of weekly hours worked before the pandemic. For those who were employed before the pandemic but not since, I accounted for that change in hours. I then coded the change in work hours from 0-2, respectively as working less hours, no change in hours worked, and worked more hours since the pandemic. A score of less than one means they participated in less work hours, a score of greater than one means they participated in more work hours.

Key Comparative Independent Variable: Respondent Gender

Participants were asked to mark their gender, with options of male, female, transgender male/transgender man, transgender female/transgender woman, genderqueer/gender non-conforming, other, or prefer not to say. One participant marked genderqueer/gender non-conforming. Unfortunately, because gender is a key variable in this study, I had to drop that individual case since the sample size for their gender would only be one; however, I recognize the importance of hearing the voices of and understanding the population of individuals who do not identify with the traditional binary cisgender experience. I hope to continue to hear from and study that population in the future. The final sample consisted of 609 men and 599 women.

Institution-Specific Control Variables

The institutions of work and education/external childcare both had institution-specific control variables; the institution of the family did not. For work, the institution-specific control variables include how often the participant worked from home since the pandemic and whether the participant held essential worker status. For education/external childcare, the institution-specific control variables are whether the participant's child participated in e-learning during the pandemic and whether the parent created additional educational content for their child.

First, I asked how often participants worked from home since the onset of the pandemic with scaled options, coded 0-5 respectively: never, less than once a month, 1-3 times per month, one a week, more than once a week, work from home exclusively. For individuals who were no longer employed since the pandemic or those who did not work before or after the pandemic, there responses were coded as 0, never work from home; even though they were mostly likely in the home they did not perform paid labor in the home. I recognize these estimates have limitations.

Second, I asked participants whether they were an essential worker. Essential workers during the pandemic were individuals who continued performing their paid labor in person, or who were "essential" to society by providing "essential" services. The occupations listed in the survey include healthcare worker, first responder, grocery store/food service worker, postal/delivery service worker. I coded these with a binary: 0 being non-essential, 1 being essential. Of the sample, 15.2% were essential workers.

Third, e-learning was a binary variable, coded 0-1, that indicated whether the participant's child participated in education using the internet during the pandemic (yes=1); I did not operationalize the definition of e-learning beyond that. Fourth, creating education was also a

binary variable, coded 0-1, and indicated whether the participant spent time finding, creating, or distributing additional learning materials to their child during the pandemic (yes=1).

General Control Variables

Other variables in the models include age of participant's youngest child, depressive symptoms experienced the week preceding survey completion, household income change, participant's age, participant's level of education, participant's race, number of children the participant has, and the participant's marital status. Race was coded into a binary, White and non-White. I do not further analyze race in this study because there is not space to expand upon differences in mothers' experiences, fathers' experiences, and varying experiences by race; however, I recognize the importance of analyzing lived experiences through a nuanced racialized lens and recommend it for further study. Income was coded from 0-2, respectively, as income decrease, no change in income, and income increase. Respondent's level of education was coded into less than high school, high school graduate, technical school/less than a bachelor's degree, bachelor's degree, degree above bachelor's. Marital status was coded as a binary with married or common-law married being coded as 0 and cohabiting being coded as 1.

The depression variable consisted of 10 questions asking about how much the participant experienced specific symptoms in the week preceding taking the survey. Symptoms include being unusually bothered, trouble staying mentally focused, feeling depressed, feeling that everything was an effort, feeling hopeful, feeling fearful, experiencing restless sleep, being happy, feeling lonely, and not being able to get going. Potential responses were based on frequency: rarely or never, some or little of the time, moderately or much of the time, and most or all the time. These responses were coded 0-3, respectively; the questions about being happy and feeling hopeful were reverse coded. I totaled the summation of these 10 questions for each

participant. I then standardized the variable for further analysis. In short, the depression variable is a summation of participants' responses to 10 questions, wherein the higher their overall score, the more depressive symptoms they experienced in the week preceding survey completion.

Analysis

First, I performed two-tail t-tests ($p<0.05$) to model descriptive statistics for each of the final variables used in my analysis as well as the sub-variables used to create the final set of variables, as seen in Table 1. I was particularly interested in understanding any differences present between which types of activities fathers and mothers are involved in, how their stress and depression may present, and whether there are significant differences between work, education/external childcare, and other control factors.

Next, I performed 13 regression models. For each institution I analyzed – family, work, and education/external childcare – to predict parental stress, I examined four models per institution in addition to one stand-alone model. The four models for each institution include three linear regression models and one nonlinear regression model. Regression models for each institution are as follows: changes in parental childcare are models 1-4, experiences in work are models 5-8, changes in education/external childcare are models 9-12. Model 13 is a summative model that includes all variables.

The first model of each institution (see Appendix A, Table 2, Models 1, 5, and 9) is a bivariate linear regression model, looking just at the key independent variable for each institution as a predictor of parental stress. Centered on frequency engaging in each institution, these key predictors include change in parental childcare activities, change in hours worked, and change in child's hours spent with an external institution and its related responsibilities (such as homework) since the onset of the pandemic.

The second model for each institution (see Appendix A, Table 2, Models 2, 6, and 10) is a linear regression model that examines a fuller picture of the institution, including institution-specific controls, the key comparative independent variable of gender, and general controls, as mentioned in the *Measures* section.

The third model for each institution (see Appendix A, Table 2, Models 3, 7, and 11) is a linear regression model that assesses whether gender, specifically being a mother, moderates the relationship between the key independent variable for each institution as listed above, and parental stress. These models also include institution-specific controls and the general controls, as mentioned in the *Measures* section.

The fourth model for each institution (see Appendix A, Table 2, Models 4, 8, and 12) is a nonlinear regression model that examines whether there are any curvilinear relationships based on the key independent variable for each institution as listed above. These models include institution-specific controls, the key comparative independent variable of gender, and general controls, as mentioned in the *Measures* section.

RESULTS

Descriptive Statistics

Dependent Variable: Parental Stress

I will first analyze gender differences for each variable and then analyze the results of the regression models. I performed two-tail t-tests to measure for significant differences between mothers' and fathers' experiences (see Appendix A, Table 1). There is no significant difference between the overall parental stress that mothers and fathers experienced. The lack of a significant difference is important, given that previous literature states that moms are typically more stressed than dads. The only category in which there is a significant difference in parental stress between

mothers and fathers is in the "I cannot handle things well" category: at a significance level of p<0.01, fathers experience this significantly less than mothers.

Key Independent Variable: Family

The change in parental childcare activities that parents performed since the onset of the pandemic compared to before the pandemic showed a handful of significant differences. First, questions regarding children less than seven years old showed that both moms and dad had done about the same if not slightly more of putting their kids to bed than before the pandemic, yet the change in fathers' participation was at a significantly higher rate than moms' change (p<0.05). Also in that child age range, moms stayed about the same in the amount of organizing and planning they did for their child, whereas dads did slightly more than they did before the pandemic, insomuch that the change in fathers' participation in organizing and planning for their child was significantly higher than the change in mothers' participation, at a significance level of p<0.01.

Next, I will look at the child age range of seven years and older. For this age range, moms and dads both listened and talked to their child slightly more than before the pandemic, but mothers' change was significantly higher than fathers', at a significance level of p<0.05. Both mothers and fathers attended less events for their child, such as sporting events or band concerts, yet mothers attended significantly less events than fathers (p<0.01). Similarly, moms did slightly less dropping children off and picking them up than before the pandemic while fathers did about the same to a little bit less; however, the change was significantly greater for moms than for dads (p<0.001). Additionally, moms did slightly less planning for their children and dads did about the same – the discrepancy between mothers and fathers change in planning for their child is significant at p<0.05.

Interesting to note, as it pertains to the institution of education, is that there was not a statistically significant difference between the changes in mothers and fathers helping their children with homework, though both groups did do more during the pandemic than before the pandemic. Finally, in the comprehensive standardized variable that totaled the changes in parental childcare activities, there was not an overall significant difference between fathers' changes and mothers' changes in parental childcare activities.

Key Independent Variable: Education / External Childcare

There are no significant differences to note.

Key Independent Variable: Paid Labor

There are no significant differences to note.

Institution-Specific Control Variables

I looked at frequency of individuals working from home since the pandemic, and fathers worked from home more often overall than mothers ($p<0.001$). There are no other significant differences to note.

General Control Variables

The only demographic or general control to note is the participant's age: the mean age for fathers is 42.88 years old and 40.13 for mothers, which is significantly different at $p<0.001$.

Regression Models

The Institution of the Family: Models 1-4, 13

Hypothesis 1 was that there is a direct relationship between the change in parental childcare activities a parent performs and parental stress they experience. In each of the four childcare regression models, change in parental childcare activities was a significant predictor of parental stress, insomuch that the more childcare a parent performed since the onset of the

pandemic, the higher their stress. In the bivariate model (Model 1), the beta coefficient was 0.101 ($p<0.001$), meaning for every standard deviation of change in parental childcare activities, parental stress would increase 0.101 standard deviation. The beta coefficient then decreased to 0.056 in the second model with control variables added in, and the p-value shifted to $p<0.01$; Model 3 beta coefficient increased just slightly to 0.059 at significance level $p<0.05$, even when controlling for general control variables and assessing whether gender moderates the relationship between change in parental childcare activities and parental stress. In Model 13, the model that examines all variables as predictors for parental stress, change in parental childcare activities still resulted in a significant result, with a beta coefficient of 0.054 ($p<0.01$). Because change in parental childcare consistently predicted parental stress at statistically significant levels, I conclude that there is a direct relationship between change in parental childcare activities and parental stress, as predicted in Hypothesis 1. However, because the relationship between change in parental childcare activities and parental stress was not significantly moderated by the parent's gender, I reject Hypothesis 4 for this institution. Finally, Model 4 is especially interesting because it shows us that there is a nonlinear relationship between change in parental childcare activities and parental stress (see Appendix A, Figure 1), meaning that doing "much less" or "much more" childcare during the pandemic predicts an increase in parental stress.

The Institution of Education / External Childcare: Models 5-8, 13

Hypothesis 2 is that change in child's time spent engaged with an external childcare institution and its associated activities (such as homework) would have an inverse relationship with parental stress. Only in the Model 5 do I see a statistically significant result: the beta coefficient (0.126) is positive, so the relationship is a direct relationship rather than inverse ($p<0.001$). However, once controlling for whether the child participated in e-learning, whether

the parent provided additional educational resources, and other general control variables (Model 6), there was no longer a statistically significant relationship between change in hours spent engaged in external childcare and parental stress. The same held true for Model 13, when controlling for all other variables: there was no statistically significant relationship between change in external childcare engagement and parental stress. Further, gender did not moderate this relationship (Model 7); therefore, I continue to reject Hypothesis 4 for the institution of education and external childcare. Model 8 did not show a nonlinear relationship. For this reason, I reject Hypothesis 2 that change in hours engaged with an external childcare institution is not a predictor of parental stress.

The Institution of Paid Labor: Models 9-12, 13

None of the work variables – change in hours worked, essential worker status, work from home frequency – predicted parental stress (Models 9-12, 13). Gender did not moderate the relationship between change in hours worked and parental stress (Model 11); there was not a nonlinear finding of change in hours worked as a predictor of parental stress (Model 12). Therefore, I reject Hypothesis 3: there is no relationship between change in hours worked and parental stress. Further, as this is the final institution of analysis, I fully reject Hypothesis 4, that gender does not moderate any of the relationships between parental childcare, education/external childcare, or paid labor and parental stress.

General Control Variables

Consistently in each model that they appear in (Models 2, 3, 4, 6, 7, 8, 10, 11, 12, and 13), symptoms of depression and the age of the participant's child are predictors of parental stress. Depression has a consistent and direct relationship with parental stress, with a beta coefficient in the range of $0.357 – 0.472$ and stays at significance level $p<0.001$. For example, in

Model 8, for every standard deviation increase in an individual's depression score, their parental stress would increase 0.472 standard deviations. The age of the participant's child has an inverse relationship with parental stress, with a significance level varying between $p<0.01$ and $p<0.001$, depending on the model. The beta coefficient ranges between -0.029 and -0.021; for example, in Model 7, for every additional year older the participant's child is, their parental stress decreases by 0.029 standard deviations. Just as gender was not a moderator of parental stress, it also was not a predictor on its own of parental stress.

DISCUSSION

In this study, I looked at how the social ecological stressor of the COVID-19 pandemic affected the functions of many institutions – the institution of the family, the institution of education/external childcare, and the institution of paid labor – and how those changing functions affected the family, specifically parents. The outcome I looked at was parental stress as predicted by change in parental childcare activities, change in hours that the participant's child spent engaged with education/external childcare, and change in participant's hours worked. I have four main findings.

The Role of Parent's Gender

This study looked at how the unique phenomenon of a global pandemic influenced families and parents in Canada. Previous literature on the family and how it processes social ecological stressors implies that there is a myriad of ways that individuals cope and take on roles to support the changes and stresses brought upon the family by outside stressors (Milkie 2009). Mothers seem to take on the role of supporting the family more than fathers do when negotiations need to be made (Milkie 2009). While fatherhood scholarship shows fathers are doing more than they used to, there has still been a clear gender divide in parenting activities and

affect: moms do more total childcare, engage in more stressful childcare tasks and contexts, and experience more stress than fathers.

Differences in Mothers' and Fathers' Changes in Childcare Activities

The first finding looks at these gendered divides in childcare. Participants were asked to compare how frequently they participated in certain childcare activities during "Early COVID" compared to before the onset of the pandemic. There were a handful of significant differences between the changes that mothers and fathers noted, some more important than others. For example, mothers did about the same if not less administrative tasks, specifically, organizing and planning their child's schedule, attending the child's events, and driving their child to and from places. In each of these three activities, there was a significant difference between the mothers' changes and fathers' changes. Fathers reported doing slightly more planning and organizing for their child while mothers did less. With less places for their child to go, perhaps there was less work for the mother to do, yet interesting that fathers ended up doing slightly more. Again, there may not have been as many events to attend and places to chauffer kids to, but the decreases in mothers attending events and in mothers transporting children is significantly less than the fathers, who reported "no change" to "slight change" for these two activities. Fathers and mothers both indicated that they did slightly more childcare in putting kids to bed; however, fathers' changes were significantly greater than mothers' changes.

Fathers appear to have made increases in managerial and routine-based tasks that were significantly greater than mothers' increases. This does not necessarily mean that they were doing as much as or more than mothers, but it does mean that efforts were made to engage and participate more, in whatever fraction of the childcare that may have been. Perhaps the parental stress associated with managerial and routine tasks decreased for mothers with less events and

transportation schedules on her plate. Perhaps mothers also experienced less cognitive stretching and had more time, then, to engage in conversation with their child; it was reported that both mothers and fathers increased the amount that they listened to and spoke with their child, but mothers increase was significantly more than fathers. Even still, fathers were more engaged in stress-inducing childcare tasks and mothers were not as engaged. This may reflect the similar levels in stress experienced by moms and dads; statistically significant differences were not found between mothers' and fathers' total parental stress experienced.

Gender Is Not a Predictor nor Moderator of Parental Stress

Second, parent gender did not predict levels of parental stress, nor did it moderate the relationship between parental childcare activities and parental stress. Most surprisingly, I found no statistical significance in any of the models regarding gender: gender did not significantly predict parental stress, nor did gender moderate the relationship between any of the institutions' changes and parental stress. Thus, during "early COVID", fathers were just as stressed as mothers, and fathers' stress increased at the same rate as mothers' stress as they participated in more childcare activities.

Implications of this finding are robust. Following a Needs-Exposure hypothesis framework (Shafer et al. 2020), fathers may have been more exposed to childcare needs, especially managerial and routine childcare activities that are related to higher stress. They may have felt more of the pressure mothers feel in balancing home and career. Through the lens of the Time Bind hypothesis, where individuals are less stressed in the workplace than at home (Damaske et al. 2014), the similarity in stress levels may be because fathers simply spent more time at home and they no longer have the physical escape from childcare demands. Moving forward and out of the pandemic, social scientists should watch for the Stagnation/Regression

theory at play (Shafer et al. 2020) to see if fathers remain as stressed as mothers in post-pandemic parenting or regress back to being less stressed than mothers. Mothers may have also shared the load of coping more equitably while negotiating demands; mothers may have experienced more burnout due to the compact and intense nature of COVID-19 shutdowns that they did less gatekeeping or asked for more help from their partners; workplaces may have given more flexibility to care for children during the workday in order to aid parents as they transitioned to working from home.

Ideally, I recommend that fathers consider the shifts that took place in their parenting during COVID – for example, greater awareness of childcare needs, more responsibility for childcare management and at-home educational teaching rather than predominantly recreational childcare, and more pressure to find balance between work and family life – and integrating those into their post-COVID fathering. Mothers may also consider what coping strategies they used and any shifts that may have taken place to permit, instruct, communicate about responsibilities, or otherwise cope *with* fathers instead of *for* fathers.

Predictors of Stress

Changes in Parental Childcare Activities

Third, I found that the change in childcare activities that parents participated in between the onset of the pandemic and May 2020, was a statistically significant predictor of parental stress throughout all five regression models that included the parental childcare variable (see Appendix A, Table 2, Models 1-4, 13), insomuch that as change in childcare increases, parental stress increases. I also found a nonlinear relationship between change in parental childcare activities and parental stress: parents doing much more or much less childcare since the pandemic predicts an increase in parental stress (see Appendix A, Figure 1). This finding is

consistent with findings in the U.S.; together, these findings teach us that changes in childcare routine can be turbulent and significantly stress-inducing for parents (Adams et al. 2021). Though the interconnectedness of paid labor, education/external childcare, and parental childcare seemed as though they would play more of a role in influencing parent stress, it seems that the changes most drastic and stressful were the ones that were taking place in the home, aside from any work or school related closures.

Other General Predictors

Fourth, while parental stress may not have been impacted by other institutions, it was predicted significantly by depression symptoms in all ten regression models that the variable appeared in. In the mental health crisis of the current generations and mental healthcare professional shortage, creating and delivering accessible resources to help is vital. Protecting and prioritizing mental healthcare protects individuals and families. The final predictor of parental stress is the age of the participant's youngest residential child – the child about whom participants answered questions. Institutions of day care, child's education, and work should be mindful of families with young children and consider offering services such as community coping, parents of young children affinity groups, or childcare services. Government at all levels should consider budgets to subsidize these services for families.

Implications, Limitations & Recommendations

I recognize the limitations of this study, including having an early snapshot of the COVID-19 pandemic. Other studies may have multiple surveys to use to collect data from their participants throughout the ongoing pandemic. I also recognize the estimates of time spent in the models are estimates and not as exacting as they may be in other studies, especially in the creation of a variable that captures time spent engaged with the child's external institution. The

models estimated the interrelatedness of institutions, yet they were limited. The survey was also limited in the depth of understanding I could receive through it.

With fathers being as stressed as mothers during "early COVID", further research should also look at childcare later in the pandemic to evaluate whether there were shifts along gender lines in quantity and type of childcare performed by fathers and mothers and to assess more acutely what systems and processes were at play that led to fathers being as stressed as mothers. Further studies may investigate qualitatively about experiences during the pandemic. Specifically, future research could interview parents to more fully understand how paid labor, education, childcare, and family demands all were impacted and how the institutions could have worked together more collectively to help alleviate stressors. These interviews may also lead to compiling and evaluating healthy coping practices, how to build and maintain community, the psychosocial impact of isolating on mental health and therefore parental stress.

Education, daycare, and work policies should be mindful of the way social ecological stressors impact parents and families and the nuanced ways in which different families will need different resources and adjustments. Policy makers should keep in mind that having experienced COVID-19 gives them more empathy for social ecological stressors that families may be facing on an individual scale. Adjustments in policy due to COVID-19 may be refined and kept for long-term use when families face individual social ecological stressors or for when future local, national, or global social ecological stressors will inevitably present themselves again.

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APPENDIX A

Figure 1. Parents Doing "Much More" or "Much Less" Parental Childcare Activities During "Early COVID" Compared to Before the Pandemic are Predicted to Experience Higher Rates of Parental Stress. Canada Parenting COVID-19 Data, May 2020.

Table 1 (continued). Descriptives Statistics Using Two-Tailed T-Tests, Comparing Entire Sample, Mothers and Fathers. Canada Parenting COVID-19 Data, May 2020.

| Variable | Range | Combined | | |
		Percentage	Mean	SD	N
Dependent Variable					
Parental Stress					
Parental Stress					
I cannot handle things well	0-3		1.40	0.86	1,188
I give up more of my life to meet my child's needs	0-3		1.45	0.93	1,187
I feel trapped by parental responsibilities	0-3		1.27	0.97	1,187
I cannot do the things I like since having children	0-3		1.34	0.94	1,188
I enjoy being a parent (reverse coded)	0-3		0.47	0.71	1,182
Combined Parental Stress (Standardized)	-1.70 - 2.38		0.00	1.00	1,208
Independent Variables					
Change in Parental Childcare Activities					
Younger Childcare Activities (0-4)					
Physical care of child (e.g., bathing, feeding, etc.)	0-4		2.13	0.61	1,208
Talking to/listening to child	0-4		2.17	0.62	1,208
Looking after child	0-4		2.18	0.66	1,208
Putting child to bed	0-4		2.11	0.55	1,208
Reading to child	0-4		2.12	0.59	1,208
Playing with child	0-4		2.19	0.64	1,208
Organizing/planning for child (e.g., scheduling)	0-4		2.04	0.64	1,208
Enforcing rules/punishing child	0-4		2.12	0.57	1,208
Older Childcare Activities					
Talking to/listening to child	0-4		2.22	0.68	1,208
Monitoring child's whereabouts	0-4		2.05	0.68	1,208
Attending child's events	0-4		1.87	0.74	1,208
Reading with child	0-4		2.13	0.60	1,208

Table 1 (continued). Descriptives Statistics Using Two-Tailed T-Tests, Comparing Entire Sample, Mothers and Fathers. Canada Parenting COVID-19 Data, May 2020.

Variable	Range	Percentage	Combined Mean	SD	N
Playing with child	0-4		2.21	0.65	1,208
Organizing/planning for child (e.g., scheduling)	0-4		1.96	0.72	1,208
Enforcing rules/punishing child	0-4		2.10	0.57	1,208
Picking up/dropping off child	0-4		1.91	0.73	1,208
Helping child with homework	0-4		2.22	0.77	1,208
Combined Childcare Activities (Standardized)	-4.75 - 3.91		0.01	1.39	1,208
Education/External Childcare Variables					
Change in External Childcare Hours (Standardized)	-5.95 - 3.73		0.00	1.00	1,208
Create Additional Educational Materials	0-1				1,208
Did Not Create		71.1			
Created		28.9			
E-learning Participation	0-1				
Did Not Participate		48.2			
Participated		51.8			
Work Variables					
Change in Work Hours Since Pandemic	0-2				1,208
Less Hours		45.1			
No Change		46.4			
More Hours		8.4			
Work From Home Since Pandemic					1,208
Non-exclusively		68.6			
Exclusively		31.4			
Essential Worker Status	0-1				1,208
Non-essential		84.8			
Essential		15.2			

Table 1 (continued). Descriptives Statistics Using Two-Tailed T-Tests, Comparing Entire Sample, Mothers and Fathers. Canada Parenting COVID-19 Data, May 2020.

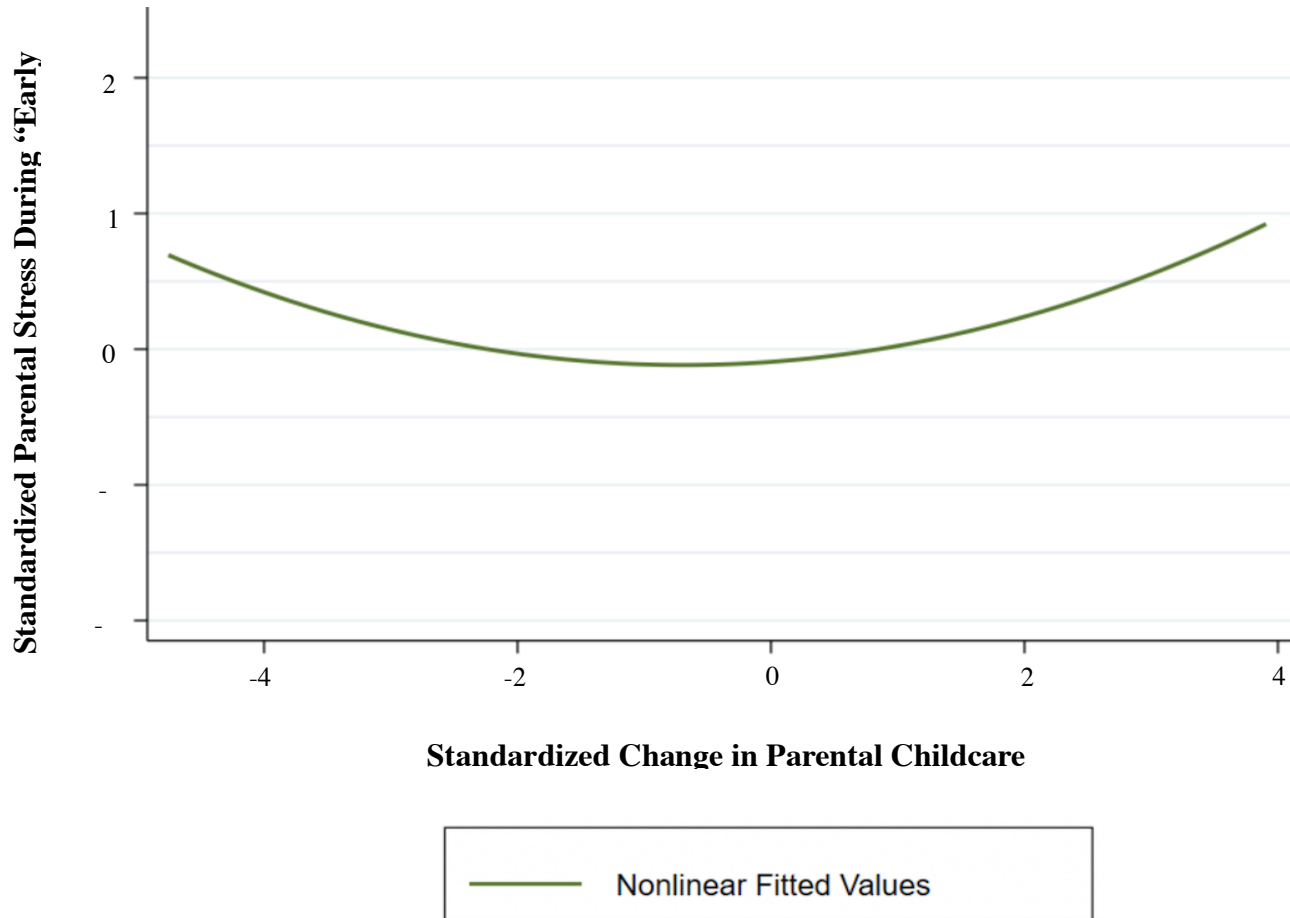| Variable	Range	Percentage	Combined Mean	SD	N
Control Variables					
Age of Youngest Child	1-18		8.23	5.15	1,208
Depression Symptoms (Total, Unstandardized)	0-29		9.98	5.90	1,208
Depression Symptoms (Total, Standardized)	-1.69 - 3.22		0.00	1.00	1,208
Change in Income Since Pandemic	-7.25 - 6.5		0.39	1.63	1,208
Age	18-72		41.51	8.71	1,208
Level of Education	0-4				1,208
Less than HS		0.8			
High School Grad		11.4			
Tech/Some College		35.0			
Bachelor's degree		17.9			
Degree above Bach		34.9			
Race	0-1				1,208
White		66.3			
Non-White		33.7			
Number of Children	0-4		1.56	0.73	1,208
Relationship Status	0-1				1,208
Married		95.8			
Cohabiting		4.2			

Table 1 (continued). Descriptives Statistics Using Two-Tailed T-Tests, Comparing Entire Sample, Mothers and Fathers. Canada Parenting COVID-19 Data, May 2020.

Variable	Range	Father				Mother			
		Percentage	Mean	SD	N	Percentage	Mean	SD	N
Dependent Variable									
Parental Stress									
Parental Stress									
I cannot handle things well	0-3		1.33**	0.86	601		1.48	0.86	587
I give up more of my life to meet my child's needs	0-3		1.41	0.91	601		1.50	0.95	586
I feel trapped by parental responsibilities	0-3		1.22	0.97	601		1.32	0.97	586
I cannot do the things I like since having children	0-3		1.34	0.96	601		1.35	0.92	587
I enjoy being a parent (reverse coded)	0-3		.47	0.71	597		.46	0.71	585
Combined Parental Stress †			-0.03	0.98	609		0.04	1.00	599
Independent Variables									
Change in Parental Childcare Activities									
Younger Childcare Activities									
Physical care of child (e.g., bathing, feeding, etc.)	0-4		2.16	0.63	609		2.11	0.60	599
Talking to/listening to child	0-4		2.18	0.60	609		2.16	0.64	599
Looking after child	0-4		2.20	0.63	609		2.16	0.68	599
Putting child to bed	0-4		2.14*	0.56	609		2.07	0.53	599
Reading to child	0-4		2.13	0.57	609		2.11	0.62	599
Playing with child	0-4		2.21	0.62	609		2.18	0.65	599
Organizing/planning for child (e.g., scheduling)	0-4		2.09**	0.59	609		1.99	0.68	599
Enforcing rules/punishing child	0-4		2.13	0.58	609		2.11	0.55	599
Older Childcare Activities									
Talking to/listening to child	0-4		2.18*	0.62	609		2.26	0.74	599
Monitoring child's whereabouts	0-4		2.06	0.59	609		2.03	0.76	599
Attending child's events	0-4		1.94**	0.72	609		1.81	0.76	599
Reading with child	0-4		2.14	0.57	609		2.13	0.63	599

Table 1 (continued). Descriptives Statistics Using Two-Tailed T-Tests, Comparing Entire Sample, Mothers and Fathers. Canada Parenting COVID-19 Data, May 2020.

Variable	Range	Father				Mother			
		Percentage	Mean	SD	N	Percentage	Mean	SD	N
Playing with child	0-4		2.22	0.64	609		2.30	0.67	599
Organizing/planning for child (e.g., scheduling)	0-4		2.01*	0.64	609		1.91	0.72	599
Enforcing rules/punishing child	0-4		2.12	0.53	609		2.09	0.61	599
Picking up/dropping off child	0-4		1.98***	0.70	609		1.84	0.76	599
Helping child with homework	0-4		2.18	0.70	609		2.26	0.82	599
Combined Childcare Activities †	-4.75 - 3.91		0.09	1.34	609		-0.07	1.44	599
Education/External Childcare Variables									
Change in External Childcare Hours †	-5.95 - 3.73		0.04	1.00	609		-0.04	1.01	599
Create Additional Educational Materials	0-1								
Did Not Create		50.6				49.4			
Created		49.9				50.1			
E-learning Participation	0-1								
Did Not Participate		49.1				50.9			
Participated		51.6				48.4			
Work Variables									
Change in Work Hours Since Pandemic	0-2		0.63	0.66			0.66	0.61	
Less Hours		53.6				46.4			
No Change		46.2				53.8			
More Hours		56.7				43.3			
Work From Home Since Pandemic			2.49***	2.27			1.78	2.30	
Non-exclusively		48.3				51.7			
Exclusively		55.1				44.9			
Essential Worker Status	0-1								
Non-essential		49.8				50.2			
Essential		53.8				46.2			

Table 1 (continued). Descriptives Statistics Using Two-Tailed T-Tests, Comparing Entire Sample, Mothers and Fathers. Canada Parenting COVID-19 Data, May 2020.

Variable	Range	Father				Mother			
		Percentage	Mean	SD	N	Percentage	Mean	SD	N
Control Variables									
Age of Youngest Child	1-18		8.49	5.09	609		7.96	5.20	599
Depression Symptoms (Total, Unstandardized)	0-29		9.92	6.01	609		10.04	5.81	599
Depression Symptoms (Total, Standardized) †	-1.69 - 3.22		-0.01	1.02	609		0.01	0.98	599
Change in Income Since Pandemic	-7.25 - 6.50		0.37	1.69	609		0.41	1.56	599
Age	18-72		42.88***	8.92	609		40.13	8.30	599
Level of Education	0-4								
Less than HS		40.0				60.0			
High School Grad		42.7				57.3			
Tech Degree/Some College		49.2				50.8			
Bachelor's Degree		54.6				45.4			
Degree above Bachelor's		52.2				47.8			
Race	0-1								
White		52.2				47.8			
Non-White		46.9				53.1			
Number of Children	0-4		1.54	0.74	609		1.58	0.72	599
Relationship Status	0-1								
Married		50.1				49.9			
Cohabiting		56.9				43.1			

*Note: Significance is based on two-tail t-tests and denoted by *p<0.05, **p<0.01, ***p<0.001. † denotes standardized variables.*

Table 2. Regression Coefficients of Parental Stress by Parental Childcare Activities, Changes in External Childcare, Changes in Work, Sociodemographic Control Variables, and Other Contextual Control Variables. Canada Parenting COVID-19 Data, May 2020.

Variable	Change in Parental Childcare Activities				Change in Education/External Childcare			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Change in Parental Childcare Activities†	0.101***	0.056**	0.059*	0.044*	-	-	-	-
Change in Hours in External Childcare†	-	-	-	-	0.126***	0.039	0.053	0.015
Participating in E-Learning	-	-	-	-	-	0.090	0.090	0.086
Creating Additional Educational Content	-	-	-	-	-	0.048	0.048	0.053
Change in Work Hours	-	-	-	-	-	-	-	-
Work From Home Since Pandemic	-	-	-	-	-	-	-	-
Essential Worker Status	-	-	-	-	-	-	-	-
Parental Childcare† x Female	-	-	-0.006	-	-	-	-	-
Parental Childcare† x Parental Childcare	-	-	-	0.019*	-	-	-	-
External Childcare† x Female	-	-	-	-	-	-	-0.029	-
External Childcare† x External Childcare	-	-	-	-	-	-	-	-0.023
Work Hours† x Female	-	-	-	-	-	-	-	-
Work Hours† x Work Hours	-	-	-	-	-	-	-	-
Female	-	0.08	0.082	0.076	-	0.074	0.073	0.072
Age of Youngest Child	-	-0.021**	-0.021**	-0.021**	-	-0.028***	-0.029***	-0.028***
Depression Symptoms†	-	0.465***	0.465***	0.452***	-	0.470***	0.469***	0.472***
Monthly Household Income (by Thousands)	-	0.015	0.015	0.016	-	0.015	0.015	0.015
Age	-	0.004	0.004	0.005	-	0.004	0.004	0.004
Level of Education	-	0.031	0.031	0.029	-	0.028	0.028	0.030
Race	-	0.011	0.011	0.007	-	0.013	0.014	0.019
Number of Children	-	0.034	0.034	0.034	-	0.023	0.023	0.037
Cohabiting	-	0.035	0.033	0.030	-	0.043	0.045	0.057
Constant	0.001	-0.188	-0.190	-0.232	0.002	-0.164	-0.162	-0.142
N	1,208	1,208	1,208	1,208	1,208	1,208	1,208	1,208

Table 2 (continued). Regression Coefficients of Parental Stress by Parental Childcare Activities, Changes in External Childcare, Changes in Work, Sociodemographic Control Variables, and Other Contextual Control Variables. Canada Parenting COVID-19 Data, May 2020.

Variable	Change in Parent's Paid Labor				All Vars.
	Model 9	Model 10	Model 11	Model 12	Model 13
Change in Parental Childcare Activities†	-	-	-	-	0.054**
Change in Hours in External Childcare†	-	-	-	-	0.034
Participating in E-Learning	-	-	-	-	0.091
Creating Additional Educational Content	-	-	-	-	0.036
Change in Work Hours	0.010	-0.007	-0.036	-0.045	0.004
Work From Home Since Pandemic	-	0.003	0.004	0.003	0.000
Essential Worker Status	-	-0.020	-0.021	-0.023	-0.015
Parental Childcare† x Female	-	-	-	-	-
Parental Childcare† x Parental Childcare	-	-	-	-	-
External Childcare† x Female	-	-	-	-	-
External Childcare† x External Childcare	-	-	-	-	-
Work Hours† x Female	-	-	0.062	-	-
Work Hours† x Work Hours	-	-	-	-0.024	-
Female	-	0.079	0.074	0.074	0.083
Age of Youngest Child	-	-0.024***	-0.023**	-0.024***	-0.026**
Depression Symptoms†	-	0.472***	0.357***	0.471***	0.465***
Monthly Household Income (by Thousands)	-	0.016	0.016	0.016	-0.007
Age	-	0.004	0.004	0.004	0.004
Level of Education	-	0.026	0.024	0.025	0.031
Race	-	0.016	0.016	0.016	0.008
Number of Children	-	0.029	0.031	0.030	0.028
Cohabiting	-	0.048	0.046	0.047	0.032
Constant	0.004	-0.143	-0.127	-0.142	-0.198
N	1,208	1,208	1, 208	1, 208	1, 208

*Note: Significance is based on regression models and denoted by *p<0.05, **p<0.01, ***p<0.001. † denotes standardized variables.*