COVID-19 Stress, Emotional Intelligence, and Child Anxiety and Depression Outcomes

Gwendolyn Adams-Sadiqi

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School of Counselling and Spirituality

Saint Paul University

Ottawa, Ontario, Canada

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Abstract

Objective. Due to the unprecedented nature of COVID-19, more studies are needed to examine how parents and children are impacted by the pandemic, and more specifically the role of parental Emotional Intelligence in the link between COVID-19 stressors and child mental health outcomes. As a first step to examining this question, this study investigated the relationships between COVID-19 stressors, parental Emotional Intelligence (EI), and child anxiety and depression outcomes. **Methods.** In this cross-sectional study, 50 parents (mean age = 41.98 years; 88% mothers and 12% fathers) of children between the ages of 8-11 years old (mean age = 9.46 years; 36% girls and 74% boys) participated. Participants completed online questionnaires assessing COVID-19 stress, parental Emotional Intelligence, and child anxiety and depression symptoms. Multiple regressions examined the associations between these variables. **Results.** No significant results were found between general parental COVID-19 stress and overall child anxiety and depression symptoms. However, general parental COVID-19 stress was marginally significantly related to child anxiety. In particular, the COVID-19 stress of xenophobia was significantly related to child social phobia, separation anxiety, generalized anxiety, and obsessions and compulsions. As well, the COVID-19 stress of compulsions was significantly related to child obsessions and compulsions. Furthermore, the COVID-19 stress of socio-economic concerns was significantly associated with child social phobia. As well, the parental Emotional Intelligence domain of utilization of emotions was related to the COVID-19 subscale of traumatic stress. Results point to differential associations between specific domains of COVID-19 stress and child mental health outcomes. Knowledge of these specific associations gives insight into areas to prioritize for mental health clinicians in assessment and intervention.

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Introduction

COVID-19

Understanding the impacts of COVID-19 on mental health is a key aspect of understanding what families may be experiencing during this time. However, it is necessary to explore COVID-19 broadly first. COVID-19 is a novel virus that was identified in late 2019 and quickly escalated to become a global pandemic, which continues to impact people on a global scale (Usher et al., 2020). Usher and colleagues (2020) illustrate the ways in which the pandemic has impacted mental health, particularly in the increased anxiety and fear about becoming infected with the virus, as well as heightened levels of hypervigilance, depressive symptoms, confusion, uncertainty, panic, as well as increased incidence of hate crimes. In response to COVID-19, governments have implemented different safety strategies including quarantines, stay-at-home orders, travel bans, and other restrictions to minimize the spread of the infection (Amsalem et al., 2021).

Canadian public health officials at both the provincial and federal levels have established rules and regulations for the public to follow to help reduce the spread of COVID-19 (Detsky & Bogoch, 2020). For instance, in March of 2020, Canada closed its land border to America, limited international flight, and prohibited any foreigners from entering the country (Detsky & Bogoch, 2020). In June of 2020, Canadian health officials recommended masks to the general public as an appropriate option for those who wished to protect themselves from the virus (Detsky & Bogoch, 2020). By July, mask-wearing was made mandatory in public spaces in Ontario, Quebec, Alberta, and Nova Scotia (Detsky & Bogoch, 2020). In December 2020, Canada began to administer COVID-19 vaccinations (Detsky & Bogochm, 2021), and by February 2021, it was announced by the Canadian government that all international travellers

would need to receive a COVID-19 test and complete a 14-day quarantine upon re-entering Canada (Detsky & Bogochm, 2021). In Canada, COVID-19 has led to extended periods of stay-at-home mandates, closures to non-essential businesses, and in-person school closures, leading to transitions for employees to work from home and for students to engage in virtual learning (Detsky & Bogoch, 2020; Public Health Agency of Canada, 2021; United Nations, 2020). The unprecedented emergence of COVID-19 has led to a number of significant public health measures designed to protect the safety of our community.

Pandemic-Related Stress

Historically, during previous viral outbreaks such as Severe Acute Respiratory Syndrome (SARS) in 2003 and the Ebola virus in 2014, there had been increases in self-reported negative mental states (e.g., anxiety, depression, stress) (Bah et al., 2020; Maunder, 2009). For example, one study examining the impact of SARS on mental health found that in a sample of 90 individuals in Hong Kong who were infected and survived, 25.6% had Post-Traumatic Stress Disorder (PTSD) and 30 months after infection, 15.6% had depressive disorders (Maunder, 2009). Additionally, 40.7% of health care workers examined in this study were at risk of PTSD (Maunder, 2009). Another study examining the impact of the Ebola virus on stress and mental health in Northern Sierra Leone found that rates of depression and PTSD were higher among survivors of the Ebola virus than among those who were not infected with the virus from the same region (Bah et al., 2020). Studies also show that there may be indirect effects of viral outbreaks on mental health. For instance, in the United States, engagement with media related to the Ebola virus was associated with psychological distress and impairment (Thompson et el., 2017). Overall, direct and indirect exposure to a new and dangerous pathogen contributes to increased stress and mental health challenges in the population (Maunder, 2009).

COVID-19 Stress

Given that viral outbreaks have an impact on mental health and stress levels, several studies have examined COVID-19-related stress in general. Sources of COVID-19 related stress include travel restrictions, lockdowns, fear/anxiety of being infected by COVID-19 or others getting COVID-19, working from home, and having difficulty with childcare. Considerable research on the impacts of COVID-19 has found that stress has increased among the general population during the pandemic compared to before the pandemic. For example, Shevlin et al. (2020) examined anxiety, depression, traumatic stress, and COVID-19-related stress during the pandemic in the United Kingdom. Two thousand and twenty-five participants responded to an online survey in March 2020. Findings from this cross-sectional study showed that participants experienced increased stress during the pandemic compared to other studies before the pandemic, although overall COVID-19 impacts as reported by participants appeared moderate. Similarly, a meta-analysis by Cooke et al. (2020) examining 14 studies of COVID-19 stress and coping found that approximately one out of four adults (23.1%) experienced significant stress due to COVID-19. Furthermore, a meta-analysis of 16 articles examining depression, anxiety, and stress during COVID-19 found that stress levels were higher during the COVID-19 pandemic, compared to before the pandemic (Lakhan, et al., 2020). Indeed, findings showed that the prevalence rates across the 16 articles indicated the rate of depression at 20%, anxiety at 35%, and stress at 53%. It is clear that COVID-19 is linked to negative outcomes in the general population.

Several studies of COVID-19 stress have also found associations between COVID-19 stress levels and specific types of psychological distress. For instance, Lakhan et al. (2020) found associations between COVID-19 stress and depression, anxiety, and other forms of

psychological distress. Daly et al. (2021) found in Canada that COVID-19 stress during quarantine were associated with higher levels of anxiety, depression, post-traumatic stress, self-harm, suicidal ideation, fear, and worry. In particular, specific quarantine conditions appeared to be related to certain outcomes, such that individuals who quarantined themselves due to COVID-19 symptoms or having had close contact with a confirmed case were more likely to have suicidal thoughts and engage in self-harm compared to those who quarantined for other reasons (e.g., those who quarantined due to travel). These studies indicate that COVID-19 stress is associated with psychological distress, and quarantine due to having COVID-19 or the risk of having COVID-19 may be particularly associated with certain psychological outcomes.

Turning towards factors that increase an individual's risk for experiencing higher COVID-19-related stress, a study of 53,524 participants from 26 countries between March and April 2020 using online surveys found that compared to older individuals, younger individuals reporter higher levels of stress (Kowal et al., 2020). Also, women were more likely to experience higher levels of stress compared to men. In addition, individuals with lower levels of education were found to have higher stress compared to those with higher levels of education. Further, individuals living in countries with more severe COVID-19 cases were found to have higher stress than those living in countries with less severe cases. As well, individuals who identified as single were more likely to experience higher stress than those who were not. Finally, staying at home with children was found to be linked to perceived stress, with the stress increasing with more children in the home. Overall, COVID-19 has been found to be associated with increased stress levels, with related psychological challenges, and families are one of the populations at risk for experiencing increased COVID-19 stress. It is therefore important to understand in more detail the impacts of COVID-19 on families.

Families during COVID-19

COVID-19 has impacted many aspects of daily life. Families are an at-risk population, given the many changes as a result of COVID-19, such as lockdowns, temporary school closures, and parents working from home (Government of Canada, 2020). The following sections review research on parent mental health and COVID-19, child mental health and COVID-19, parenting behaviour and COVID-19, and the parent-child relationship in context of COVID-19. The research conducted thus far aids in better understanding the experiences of families during this challenging time.

Parent Mental Health and COVID-19

Parents and caregivers are experiencing significant hardships during COVID-19. For instance, Gregus et al. (2021) examined the ways in which families in the United States are impacted by pandemic-related changes and the demographic factors associated with such impacts. Five hundred and ninety-five parents completed an online survey in May 2020, and results found that parents reported both negative and positive impacts related to the COVID-19 pandemic. Negative impacts included having a child at home, cancelled celebrations for the family, and increased screen time. Positive impacts included increased appreciation for things usually taken for granted, and more quality time with family and friends. More negative impacts had been reported by parents of colour, parents of children in elementary school, and parents with lower income. These results combined with similar research showing that many families have experienced crisis-related hardships (e.g., Gassman-Pines et al., 2020) indicate that COVID-19 has led to significant disruptions in family life (American Psychological Association, 2020).

Consistent with increased COVID-19-related hardships such as job and income loss, caregiving burden, and household illness, parents are experiencing increased challenges with mood and stress in context of COVID-19. Indeed, a study in the United States examined the responses of forty-five participants from a 14-day daily survey about parent and child psychological wellbeing during COVID-19, and compared it to a 30-day daily survey from before COVID (Gassman-Pines et al., 2020). Results showed that daily negative moods reported from parents increased significantly since the start of the pandemic. Specifically, before COVID-19 restrictions, parents reported negative mood some of the time on 30% of the days and all day for 7% of days, whereas parents reported significant increases in negative mood after the restrictions. Indeed, after restrictions, they endorsed negative mood some of the time on 33% of days, and negative mood all day for 9% of days. As well, an online cross-sectional study in India investigated stress experienced by parents during the COVID-19 lockdown from April to May 2020 (Sahithya, et al., 2021). Findings indicated that 63% of participants reported moderate perceived stress and 4% reported high perceived stress since the lockdown, while 37% reported feeling more stressed as a parent after the lockdown and 8% reported needing to talk to a counsellor/psychologist. As well, a study by Achterberg et al. (2021) found that parents reported a significant increase in negative feelings during the pandemic compared to before the pandemic. Finally, a study in Italy of 854 parents of children between the ages of 2 - 14 years found that parents who reported more difficulties during quarantine also reported having more stress (Spinelli, et. al., 2020). Overall, these results indicate that COVID-19 has had consequences on general parental mood and stress levels.

Broadly looking at well-being and how COVID-19 has impacted families is a mixed-methods study that was conducted to explore the impact of COVID-19 on families using written

reports by parents (Chu et al., 2021). This study involved an online survey and written reports completed by 56 parents and 43 children during April and May 2020, for the purpose of exploring themes of positive and negative parenting during COVID-19. This study had no restrictions on participant geographic location, but the majority (85.7%) of participants were from the United States. Results showed more themes of negative psychosocial impacts than positive impacts, as reported by both parents and children. Specifically, recurring themes reported by parents included concerns about COVID-19 impacting their child, concerns for others' health, finding the practice of balancing parenting stressful (i.e., helping with child homework, working from home). This study again indicates a decreased general well-being in parents during COVID-19.

Focusing on the specific mental health outcomes of anxiety and depressive symptoms in parents during COVID-19 is another way to understand how family mental health is being impacted. Vescovi et al. (2021) conducted a systematic review of the impacts of COVID-19 on parents, and discovered that parents (including pregnant women) have significantly higher anxiety and depressive symptoms than non-parents prior to COVID-19. These individuals experienced challenges regarding healthcare services during pregnancy, home-schooling, and lack of social support during the pandemic compared to pre-COVID-19 (Vescovi et al, 2021). Additionally, Canadian pregnant women reported experiencing a 56.6% elevation in anxiety compared to before the pandemic (Vescovi et al, 2021). Similar results have been found in another study. For instance, a study of 405 parents in the United States in April 2020 during the beginning of COVID-19 found higher levels of parental depression, anxiety and stress (Lee et al., 2021). Indeed, 40.0% of parents met criteria for major depression and 39.9% of parents met criteria for anxiety. Parents with moderate or servere anxiety also reported that their children

experienced higher anxiety, compared to parents who reported minimal or mild anxiety, underscoring the link between parent mental health and child mental health.

Although the bulk of research on pandemic impacts on parents have found negative outcomes, there are some mixed results. For instance, Gregus et al. (2021) had found positive impacts as well as negative impacts in the previously-mentioned study. Another study by Brom et al. (2020) addresses how parents are coping with their child's remote education during COVID-19. This online study in the Czech Republic analyzed the surveys from 9,810 parents of children in Grades 1-9 to examine how they are navigating their children's learning from home due to COVID-19. Findings showed that 91% of parents reported that they are more or less coping with with remote education from home. Results suggest that families are generally coping well with their child's schoolwork being done at home and find it useful for their children to be doing schoolwork at home. However, some parents reported experiencing difficulties, though not generally severe, such as a lack of devices for their children to use, lack of time, lack of expertise, struggles with motivating their child. Therefore, although much research has revealed hardships and psychological difficulties for parents during COVID-19, there is also evidence of beneficial impacts during COVID-19 as well as resilience on the part of parents in coping with pandemic-related changes.

The proportions of negative and positive impacts due to COVID-19 on parents are likely related to specific family factors, which may increase vulnerability to COVID-19-related disruptions (e.g., Gregus et al., 2021). Research also suggest that parent mental health during COVID-19 is affected by their children's developmental and mental health challenges. Indeed, Chafouleas and Iovino (2021) found that impacts of COVID-19 on parents vary based on child developmental difficulties. In this study based in the United States, 407 caregivers of children

with and without developmental disabilities completed questionnaires online regarding caregiver burden and psychological distress during COVID-19. Results showed higher levels of burden, depression, anxiety, and stress reported by caregivers of children with Autism Spectrum Disorder and Attention-Deficit/Hyperactivity Disorder, compared to parents of caregivers of typically-developing children. Parent psychological challenges are likely influenced by the extent of their children's challenges. Indeed, the relationship between parents' emotional well-being and children's emotional wellness has been well-explored within the general literature (Albanese et al., 2019; Deater-Deckard & Panneton, 2017; Jones et al., 2021). For instance, Albanese et al., (2019) performed a systemic review of 115 studies that analyze parental self-efficacy and child wellness. From this systemic review, it is found that parental self-efficacy was associated with the parent-child relationship, parental mental health, and child development. Also, Deater-Deckard & Panneton (2017) review the existing therapeutic approaches and research regarding parenting stress and child neurobiological, cognitive, affective, and behavioural functioning. Given the links between parent mental health and child mental health as well as the links between parenting behaviour and child mental health, this next section turns to parenting behaviour during the pandemic.

Parenting Behaviour and COVID-19

Given the importance of parenting behaviour on child outcomes, this section turns to existing research in this regard during COVID-19. A study in Switzerland measured parenting self-efficacy and quality of life for 53 new parents during the COVID-19 lockdown, comparing results to findings from before and after the lockdown (Xue et al., 2021). Study results indicated that parents experienced lower parenting self-efficacy during the lockdown compared to before or after the lockdown, suggesting a detrimental impact of COVID-19 on parental levels of self-

confidence in their parenting (Xue et al., 2021). A study in the United States on parenting practices during the pandemic involved 2,068 parennts who responded to a survey (Connell & Strambler, 2021). They found that COVID-19 stress was associated with higher parental neglect and harsh discipline. In addition, a study based in Singapore surveyed 258 parents online to help understand impacts of COVID-19 on parenting, and found that parents who felt more impacted by COVID-19 had higher parenting stress, compared to parents who were less impacted by COVID-19. These parents who experienced more parenting stress reported using more harsh parenting, such as spanking and yelling (Gerard et al., 2020). As well, Wiseman et al. (2021) conducted a longitudinal study with 87 parents showing that COVID-19-related fear at the prior time-point predicted controlling parenting at the second time-point of the study.

Similarly, Sahithya et al. (2021) examined correlates of parenting stress, and found that mothers of children with developmental disorders and with interpersonal struggles with their partner and children had higher parental stress, compared to other parents without such difficulties during COVID-19. A significant association was found between parental stress and challenges, such as yelling or screaming, spanking or slapping their child, preoccupation with worries, difficulty in focusing on parenting, and children spending excessive time on television or video games. In addition, a mixed-method study analyzed parenting during COVID-19 in April 2020 (Roos, 2021), and found that the presence of parental depression, unmet childcare needs, and relationship distress predicted riskier parenting behaviour and lower quality parenting. Further, the study by Eyimaya (2021) that found that a significant percentage of children were engaging in more screen time than before the pandemic also found that overreactive and inconsistent parenting practices were positively correlated with such screen

time. Therefore, research suggests increased negative parenting behaviours during COVID-19, such as harsh, overreactive, and inconsistent parenting.

Child maltreatment has been a serious concern during COVID-19. A study in the United States examined job loss and child treatment by parents during the pandemic (Lawson et al., 2020). Three hundred and forty-two parents of children between the ages of 4 to 10 years participated in this online study. Findings indicated that parental job loss during the pandemic was a significant risk factor for child mistreatment. Indeed, parents who lost their jobs during the pandemic, who were more depressed, and who had previously psychologically maltreated their children were more likely to do so during COVID-19, compared to parents who did not lose their job, who were less depressed, and who had not psychologically maltreated their children prior to the pandemic. Similar risk factors were found in this study to increase parental physical abuse of children. These results are consistent with those of Brown et al., (2020), who found among 183 parents with children under the age of 19 who lived in the United States that higher child abuse potential was associated with parents who needed financial assistance and who had high anxiety and depressive symptoms. In this study, parents who reported greater COVID-19 related stressors (e.g., restrictions, physical health challenges, child learning difficulties) and who reported higher levels of anxiety and depressive symptoms had higher parental stress. This research indicates that harsh, punitive, and negative parenting behaviours have increased, along with a higher risk for child abuse, due to COVID-19's disruptions on families.

Research on another area of parenting behaviour focuses on the extent of parental involvement during COVID-19, indicating that parenting stress during COVID-19 can also impact parents' level of positive involvement with their children. A study in Italy investigated parenting stress and its correlates during COVID-19 among parents of children between the ages

of 2 and 14 years of age (Spinelli et al., 2021). Results from this study showed that COVID-19 and related lockdowns increased parenting stress, especially among parents with high socioeconomic risk as parents have had to balance multiple areas of life (i.e., work, personal life, raising children without support). When examining correlates of parenting stress, this study's results indicated that parents who experienced more stress were typically less involved with their children's activities. Speaking to its importance, parenting involvement was found to have a protective role for families with high socioeconomic risk. This study highlights the importance of parental involvement as well as its susceptibility to parenting stress (Spinelli et al., 2021).

Underscoring the link between parental behaviours and child mental health during COVID-19, Cohodes et al. (2021) conducted an online cross-sectional study with 247 parents of children under 18 years of age, and found that parents who reported engaging in higher levels of emotional coaching of their children's negative emotions, who were able to discuss the pandemic with their child, and who maintained a more stable home routine had children with less COVID-19-related stress, compared to parents who were not able to engage in such activities. Indeed, this protective effect on child stress was not associated with those parents with higher parenting stress and anxious symptoms. Similarly, Romero (2020) found that parenting distress during the pandemic was linked to child negative outcomes, such a conduct problems. Overall, there are variations in parenting behaviour during COVID-19, with research to show that parents are more likely to engage in harsh, negative, and punitive parenting during the pandemic and less likely to engage in positive parenting, such as being engaged and involved in their children's lives. As parenting behaviours have shifted during COVID-19, it is helpful to understand how the parent-child relationship has changed during COVID-19 as well.

Parent-Child Relationships and COVID-19

Consistent with COVID-19's consequences on parent and child mental health and parenting behaviour, COVID-19 has also been found to be related to reduced closeness in the parent-child relationship. For instance, Cohodes et al. (2021) found that parents' pandemic-related stress can impact their child's stress and mental health, having a less protective effect on their children's anxiety. Similarly, the previously-mentioned study by Spinelli et al. (2021) highlights how parenting stress can impact parental involvement, which in turn is associated with child emotion regulation and the parent-child relationship (Spinelli et al., 2021). Gerard et al. (2020) has also found that the impact of COVID-19 on parents is associated with reduced closeness in the parent-child relationship.

Parent-child closeness seems to be related to a number of variables during COVID-19. For instance, the study by Gregus et al., (2021) found that inconsistent parental discipline was positively related to negative pandemic impacts and children's fear and impairment relating to COVID-19, whereas positive parenting was inversely related to negative pandemic impacts. As well, Russell (2020) conducted a study among 420 parents at the beginning of the pandemic in the United States, and found significant links between parents' caregiver burden, mental health, and perceptions of child stress, which also were significantly associated with parent-child conflicts and closeness. On a more positive note, Chu et al. (2021) found that some parents reported positive aspects of the parent-child relationship during COVID-19, such as gratitude for parent-child bonding and family relationships. All in all, given the above studies and the associated impacts of COVID-19 on parenting behaviour, the parent-child relationship is likely detrimentally associated with the pandemic. Given the significance of the parent-child

relationship for child mental health outcomes, this next section turns to a review of studies of child mental health during COVID-19.

Child Mental Health and COVID-19

Consistent with many studies of the impacts of COVID-19 on parents, studies suggest that children are also detrimentally impacted by the pandemic. Indeed, Lee et al. (2021) found that 34.7% of parents reported a change in their child's behaviour (e.g., being sad, lonely, and depressed) since the start of the pandemic. As well, supportive of the idea that parental stress is related to child mental health, positive associations were found in this study between parenting stress and child anxiety. Consistent with the study by Lee et al. (2021), a longitudinal study in the United Kingdom that examined childhood depression in 168 children before and during COVID-19-related lockdowns has shown a significant increase in depressive symptoms in children during lockdowns (Bignardi et al., 2020). Another study illustrates child-reported themes about COVID-19, such as wanting to go back to school, pandemic-related fears, and a desire for social connections (Chu et al., 2021). Overall, these studies found reduced well-being during COVID-19 for the children who participated.

Interestingly, a study in Spain involving 1,049 participants found that children did not show behavioural changes, aside from hyperactivity. Indeed, hyperactivity in children appeared to increase during the lockdown compared to before the lockdown, with children between the ages of 3 and 6 years having the highest increase, and children between the ages of 10 and 12 years showing the lowest increase (Romero, 2020). Taken together, these studies indicate that children are experiencing declines in their overall well-being and mental health during COVID-19, although there are mixed results with regard to behavioural changes.

It may be that the level of COVID-19-related stress perceived by parents plays a role in child outcomes. Consistent with this idea, a longitudinal study by Achterberg et al. (2021) focusing on the well-being of 151 children and 106 parents during the COVID-19 lockdown found that perceived stress by parents was related to negative child outcomes. Indeed, high perceived stress for parents and children before the lockdown was related to more stress during the lockdown. As well, a longitudinal study with 314 parents found that parental stress had positive associations with child internalizing and externalizing symptoms (Jones et al., 2021). Moreover, Whittle et al. (2020) found within parents of children between the ages of 5 to 17 years in Western countries at the start of the COVID-19 pandemic that parents with greater stress, anxiety, and depression had children with higher externalizing and internalizing symptoms. In this study, single parent status families were found to also have a higher association between parental depressive symptoms and increased child conduct problems, compared to dual-parent families.

Additional results from Spinelli et al. (2020) indicate that parents' and children's emotional well-being is linked to how difficult quarantine due to COVID-19 is perceived by parents. There seem to be greater decreases in child mental well-being with more pandemic-related hardships experienced (Gassman-Pines, et al., 2020). Again, Whittle et al. (2020) found that families with lower income may have higher stress levels and child trauma symptoms during COVID-19. All in all, these studies show that during COVID-19, children have had negative mental health outcomes. Given the above research, child mental health outcomes are important to study during the pandemic, and in context of the impact of parents on child outcomes, this next section turns to parental emotional intelligence.

Emotional Intelligence

Emotional Intelligence (EI) became largely established off of the work of Gardner and his notion that emotional intelligence is one of eight intelligences (Gardner, 1983). Since then, different conceptualizations and scales to measure EI have been developed. There is a notable divide within the literature of EI, which involves the distinction between trait EI and ability EI (Petrides, 2011). Trait EI is viewed as an aspect of one's personality and can be assessed using self-report, whereas ability EI is commonly understood as a category within intelligence and is assessed using tests that are comparable to traditional performance-based intelligence tests (Petrides, et al., 2007). In addition to trait EI and ability EI, there is mixed EI. Mixed EI is a combination of both trait and ability EI, including trait, personality, competency, and social skills, commonly measured through self-report (O'Connor, et al., 2019). It is also understood that EI can fluctuate over time and that EI can improve if worked on, indicating that EI is not a fixed intelligence (Zeidner, et al., 2002). A widely accepted scale to measure trait EI is the Schutte Emotional Intelligence Scale (SEIS; Schutte et al., 1998). This scale measures a person's current EI, which is anticipated to be able to fluctuate over time.

Research before COVID-19 shows that higher EI is associated with reduced stress. In a study by Slaski and Cartwright (2003), participants were in either a control group (n = 49) or a test group (n = 52). They were measured for stress and other measures, once at the beginning of the study and then four weeks later. The test group attended an EI training program once every week for the four weeks, whereas the control group did not attend the EI program. While the mean stress score for the test group decreased, the mean stress score of the control group increased. Not only can stress be reduced with EI, but some research suggests that there is a bi-directional effect between EI and stress. A study analyzing stress, emotional intelligence,

cognitive intelligence, and cytokines found that there were significant negative correlations between stress and components of EI (Jung, et al., 2019). Indeed, high levels of stress were associated with low EI. As mentioned above, parents' stress is associated with negative children's outcomes (Burgdorf, et al., 2019). There is a gap regarding the role of the parent's EI in the relationship between parental stress and child outcomes during COVID-19.

COVID-19 Stress and Emotional Intelligence

Currently, no studies examine the particular associations between COVID-19 stress levels and EI. However, a few studies have examined EI levels during COVID-19 without specifically measuring COVID-19 stress. A longitudinal study in Poland examined a sample of 130 participants and analyzed trait EI during the first week of the COVID-19-related lockdown (Moroń & Biolik-Moroń, 2021). They found that trait EI was positively correlated with positive affect outcomes (e.g., relaxation, happiness) and negatively correlated with negative affect outcomes (e.g., anger, disgust, sadness). Results suggest that higher levels of EI are associated with more positive and less negative affect. Another study examined 683 faculty members' perceptions of their EI during COVID-19 (Baba, 2020). Baba (2020) used an adapted version of the Emotional Intelligence Scale (EIS: Hyde et al., 2002) to measure EI, and found that faculty members' perceptions of their EI were above average. They discussed these results in the context of the importance of EI during a crisis. These two studies examine EI and suggest the positive effects of EI, but they do not specifically examine EI among parents.

A study prior to the pandemic examined maternal EI in relation to children’s anxiety. Aminabadi et al. (2012) examined 117 children and their mothers, and found that maternal EI was not significantly correlated with their children’s anxiety and anger. However, there was a negative correlation between maternal EI and children’s generalized anxiety in particular,

although maternal EI was not specifically associated with child social anxiety, obsessive-compulsive disorder, physical injury fears, and separation anxiety (Aminabadi, et al., 2012). Another study prior to the pandemic examined perceived EI by both parents and youth (Sánchez-Núñez, et al., 2020). This study analyzed data from 170 adolescents and young adults. Results indicated that maternal emotional attention perceived by youth was associated with their mental health. Additional literature supports a link between parental emotional intelligence and parenting behaviour, specifically maternal emotional intelligence and an authoritative parenting style (Aminabadi et al., 2012). Other literature supports a link between parenting and child EI on the other hand. Indeed, from a study reviewing the literature on parenting and children's EI, higher EI in children has been found to be associated with parental responsiveness, parental positive demandingness, and parental emotion coaching. In contrast, lower EI in children has been found to be associated with negative parental demandingness (Alegre, 2021). These results are consistent with other literature on parenting and EI (Argyriou et al., 2016; Wischerth et al., 2016; Yadav et al., 2021). Overall, the bulk of the research suggests an association between parent EI and child mental health.

Although no studies examine the assocations between COVID-19 stress, parental EI, and child outcomes, given the research reviewed above regarding the associations between stress and EI, EI and parenting behaviour, as well as COVID-19 stress and child outcomes, it is likely that COVID-19 stress is related to parental EI, which in turn is related to child mental health. There are no studies of associations between COVID-19 stress, parental EI, and child mental health during the pandemic. Studying these links will address a gap in the literature to further develop our understanding of how COVID-19 may be impacting families. It is the hope of this thesis that

through this insight, programming for families can be enhanced to support them during the pandemic.

Current Study

This study aimed to examine the associations between COVID-19-related stress, parental EI, and child anxiety and depression symptoms. It was predicted that higher COVID-19-related stress would be related to lower parental EI and that both higher COVID-19 stress and lower parental EI would be associated with higher child anxiety and depression symptoms. Exploratory analyses were also conducted to explore the correlations between specific COVID-19 stressors, parental EI, and child outcomes. This study addresss a gap in the literature regarding the associations between COVID-19-related stress, parental EI, and child anxiety and depression symptoms, and represents a first step towards establishing the potential impacts of COVID-19 stressors on parental EI and child anxiety and depression. As well, understanding how specific domains of COVID-19-related stress relate to parental EI and child mental health outcomes will aid in determining areas of focus for parental and child mental health support.

Methods

Fifty participants were recruited in this study. Participants needed to be parents and legal guardians of elementary school-aged children between the ages of 8 and 11 years. Parent participants needed to be currently residing with their children in Ottawa, Ontario, and surrounding areas, needed to be able to read and comprehend English in order to complete the study questionnaires, and needed to have provided consent to participate in this study. Exclusion criteria for study participants were the following: individuals who did not have children between the ages of 8 and 11 years, were not the child's legal guardian, who had difficulty reading and

understanding English, and families who did not live in Ottawa and surrounding areas. There was an exception to this last criteria: one parent who participated in this study lived in Ontario but outside of Ottawa and surrounding areas. Recruitment began after ethics approval had been granted for this study, by the thesis student. Parent participants were recruited through notices on social media, word of mouth, and in the community. Participants were also recruited from a lab registry based on previous participants who had indicated that they would like to hear about future lab studies. Interested participants emailed the Attention, Behaviour, and Cognitions (ABC) Lab at Saint Paul University, and were asked by the thesis student to provide their phone number and indicate a time that they are available for a phone screening. The thesis student called the interested participants and asked screening questions to determine whether the participant was eligible for the study. The student also reviewed the informed consent form and answered any questions that the participants had. If determined eligible for the study, the student emailed the participant links to the online consent form and study questionnaires. Questionnaires were hosted on an online survey platform (Limesurvey) and all ethical procedures were followed. Participant identifying information was kept separate from questionnaire responses. Grant funding from Saint Paul University was obtained to pay for participant honourariums. After study participation, a $10 online gift card honorarium was emailed to participants by the thesis student, as a token of appreciation for their time.

Measures

COVID Stress Scale (CSS)

The CSS is a scale that measures five aspects of COVID-19-related stress: (1) fear of danger and contamination, (2) socioeconomic consequences of COVID-19, (3) xenophobia, (4) traumatic stress, and (5) compulsive checking regarding COVID-19 (Taylor, et al., 2020). The

CSS consists of 36 items that are rated on a 5-point scale, 0 representing *not at all* and 4 representing *extremely.* The goal of this scale is to better understand distress linked to COVID-19. This scale has been used with a Canadian sample and demonstrates adequate convergent and discriminant validity (Taylor, et al., 2020). This scale also demonstrates high reliability, as the internal consistency for individual subscales has been found to be greater than .80 (Taylor et al., 2020).

Schutte Emotional Intelligence Scale (SEIS)

The SEIS is a 33-item scale with a Likert response format (Schutte et al., 1998; Jonker & Vosloo, 2008). This scale measures emotional intelligence centred around emotional regulation, understanding emotions, expressing emotions, and the use of emotions in problem-solving (Salovery & Mayer, 1990; Schutte et al., 1998). There is room within the emotional intelligence model for emotional growth and development, thereby leaving room for possible decreases or fluctuations of EI (Jonker & Vosloo, 2008; Schutte et al., 1998). This scale has a stable test-retest reliability at 0.78, and Cronbach's alphas range from 0.87 and 0.90 (Schutte et al., 1998). This measure has evidence that supports its discriminant validity, convergent, and concurrent criterion-related validity (Ng et al., 2010 & Schutte et al., 1998).

Revised Child Anxiety and Depression Scale - Parent Version (RCADS-P)

Based on DSM criteria, the RCADS-P is a parent-rated questionnaire for anxiety and depression in children and adolescents (Chorpita et al., 2000). This scale has 47 items with six subscales: (1) Anxiety Disorder, (2) Social Phobia, (3) Generalized Personality Disorder (GAD), (4) Panic Disorder, (5) Obsessive-Compulsive Disorder, and (6) Major Depressive Disorder (Chorpita et al., 2000; Ebesutani 2010). Parents rate each of the 47 items based on how applicable the statement is to their child from 0-3: *never*, *sometimes*, *often*, and *always* (Chorpita,

et al., 2000). Overall, this scale has desirable psychometric properties, such as a high internal consistency at 0.95, and sufficient convergent and discriminant validity for both the anxiety and depression subscales (Ebesutani, 2010).

Demographics Questionnaire

Participants also responded to demographic questions from a demographics questionnaire. Participants self-reported on questions about parent age, child age, number of children in the home, marital status, parental education, child and parent ethnicity, parental employment, and total family income.

Data Analysis

Bivariate correlations and regression analyses were conducted to analyze the data. Correlation analyses investigated the particular domains of COVID-19 stressors in relation to parental EI and child anxiety and depression outcomes. Regression analyses were used to determine whether COVID-19 stress as a whole was associated with total parental EI and total child anxiety and depression symptoms. To answer the hypothesis of this study, five separate regression analyses were conducted: (1) COVID-19 stress predicting parental EI, (2) COVID-19 stress predicting child anxiety, (3) COVID-19 stress predicting child depression, (4) parental EI predicting child anxiety, and (5) parental EI predicting child depression. The expectation was that the results would align with the study's hypothesis, meaning that participants who had higher COVID-19 stress would have lower parental EI, and that both higher COVID-19 stress and lower parental EI would be associated with higher child anxiety and depression symptoms. No directional hypotheses were made regarding the specific correlations between domains of COVID-19 stressors and parental EI and child anxiety and depression outcomes given the exploratory nature of these analyses.

Results

Sample Characteristics/Descriptive Statistics

Out of the fifty parent participants, 88% identified as mothers, 12% identified as fathers, the parental mean age was 41.98 years (*SD* = 4.70) and the age range of parents was 31-51 years. As for the children, 36% were identified as girls by their parents and 64% were identified as boys by their parents, with a mean age of 9.46 years (*SD* = 1.05). Children in this study were between grades 2 – 7. Demographic information showed that twenty-four participants (48%) reported having one other child, eleven participants (22%) reported having two other children, three participants (6%) reported having three other children, two participants (4%) reported having four other children, one participant (2%) reported having five other children, and nine participants (18%) reported not having any other children outside of the child they were responding about in this study. The parent participants identified their child's ethnicity as the following: twenty-five participants (50%) identified their child as Canadian, seven participants (14%) identified their child as European-Canadian, seven participants (14%) identified their child as Caucasian, five participants (10%) identified their child as having a mixed ethnicity, two participants (4%) identified their child as European, one participant (2%) identified their child as Asian-Canadian, one participant (2%) identified their child as Jewish, one participant (2%) identified their child as Arab/Middle Eastern, and one participant (2%) did not identify the ethnicity of their child.

Out of the fifty participants, forty-two (84%) reported being married or common law, seven (14%) being divorced or separated, and one (2%) being single. The parent participants self-identified their ethnicity as the following: twenty-seven (54%) identified as Canadian, seven (14%) identified as Caucasian, five (10%) identified as European-Canadian, two (4%) identified as European, two (4%) identified as having a mixed ethnicity, one (2%) identified as Asian-

Canadian, one (2%) identified as Asian, one (2%) identified as African-Canadian, one (2%) identified as African, one (2%) identified as Jewish, one (2%) identified as Arab/Middle Eastern, and one participant (2%) did not identify an ethnicity. Participants indicated the following about their level of education: twenty-four (48%) reported being a standard University or College graduate, twenty-one (42%) reported having had graduate or professional training, four (8%) reported having partial College/University or special training, and one (2%) reported being a High School graduate. Sixteen participants (32%) reported not being employed during the time they completed the survey, and thirty-four participants (68%) reported being employed during the time they completed the survey. Three (6%) reported their yearly income to be between $20,000-$34,999, two (4%) reported their yearly income to be between $35,000-$49,999, eight (16%) reported their yearly income to be between $50,000-$74,999, eight (16%) reported their yearly income to be between $75,000-$99,999, fifteen (30%) reported their yearly income to be between $100,000-$149,999, four (8%) reported their yearly income to be between $150,000-$199,999, nine (18%) reported their yearly income to be $200,000 and higher, and one (2%) did not answer. Finally, all surveys were answered between July and November of 2021.

Main and Exploratory Analyses

See Table 1.0 for means and standard deviations of measures. Findings from the data indicate that in general, parental COVID-19 stress was not associated with parental EI, COVID-19 stress was not associated with child depression, and parental EI was not associated with child depression or anxiety. However, higher parental COVID-19 stress was marginally significantly associated with higher child anxiety, $\beta = .27$, $p = .055$. While examining specific domains, the parental COVID-19 stress of xenophobia was positively correlated with child social phobia, $r = .32$, $p < .05$, child separation anxiety, $r = .37$, $p < .05$, child generalized anxiety, $r = .28$, $p < .05$,

and child obsessions and compulsions, r = .39, p < .05. Additionally, parental COVID-19 stress related to compulsions was positively correlated with child obsessions and compulsions, r = .29, p < .05. Parental COVID-19 stress related to socio-economic concerns was positively correlated with child social phobia, r =.30, p < .05. Parental EI in general was not related to COVID-19 stress in general. However, the parental EI subscale of utilization of emotions was positively related to the COVID-19 stress subscale of traumatic stress, $r = .03$, $p < .05$. As well, there was a marginal association found between the parental EI subscale of managing others' emotions and the child mental health outcome subscale of separation anxiety, $r = .09$, $p = .055$. No associations were found between child age, parental age, parental level of education, household income, and child grade with parental COVID-19 stress, parental EI, child anxiety, and child depression in general. There was a marginally significant positive association between the number of other children the participant had and parental EI, $r = .27$, $p = .06$. Although it was not possible to meaningfully examine the associations between ethnicities and COVID-19 stress, parental EI, and child mental health due to the sample size of this study, this is an important area for future study.

Discussion

This thesis examined the overall associations between COVID-19 stress, parental EI, and child anxiety and depression. This study hypothesized that participants who have higher COVID-19 stress in general would have lower parental EI in general, that participants who have higher COVID-19 stress would also have higher child anxiety and depression outcomes, and that lower parental EI would be associated with higher child anxiety and depression symptoms in general. Directional hypotheses were not made for correlations within the specific domains of COVID-19

stress, parental EI, and child anxiety and depression outcomes. Overall, it was expected that those parents who experienced higher pandemic-related stress would report lower levels of EI, which would also be related to greater child psychological difficulties.

Results from this study did not support the hypothesis of associations between the constructs in general. Indeed, no significant associations were found between general COVID-19 stress, parental EI, and child anxiety or depression. However, a marginally significant association was found between COVID-19 stress in general and child anxiety overall. Turning to specific correlations within individual domains of COVID-19 stress, parental EI, and child outcomes, the COVID-19 stress of xenophobia was related to child anxiety, the COVID-19 stress of compulsions was related to child obsessions and compulsions, and the COVID-19 stress of socioeconomic concerns was related to child social anxiety. These findings suggest a stronger link between COVID-19 stress in general and child anxiety rather than depression, as well as the specific COVID-19 stressors of xenophobia, compulsions, and socioeconomic concerns as particularly relevant.

No associations between COVID-19 stress and parental EI in general

No significant associations were found between general COVID-19 stress and parental EI as a whole. These results may be due to a number of reasons. Firstly, it is possible that there may not be an association between COVID-19 stress and parental EI. Given no prior research examining COVID-19 stress in relation to parental EI, the two may not be related. It may be that parental EI is more stable and less susceptible to change due to pandemic stressors. For instance, research on the stability of EI outside of the COVID-19 context show that EI typically is moderately stable (Birks et al., 2009). In the Birks et al. (2009) study, they found that EI in health care students was moderately stable when examining test-retest scores. It is therefore

possible that EI was moderately stable enough in this study so as not to be susceptible to COVID-19 stressors. Another study suggests that EI becomes more stable as one's age increases, from a longitudinal studying analyzing trait emotional intelligence in children and adolescents (Keefer et al., 2013). Given that parents were 31 years of age and above in this study, it is possible that their EI abilities were more stable. It is also possible that COVID-19 stress may be more likely to impact the EI capacities that are considered to be more trait-based, such as empathy, emotion recognition in others, and recognition of emotions in the self (Gardner et al., 2014).

The findings of this study may also be present because COVID-19 stress was not high enough or significant enough to impact EI scores. Indeed, it is possible that a higher intensity of COVID-19 stress is necessary to have an influence on parental EI. Although the fact that COVID-19 stress was marginally associated with child anxiety suggests its salience in this study, the marginal nature of the significance value of this relationship also suggests that it is not salient enough in this study to be fully significant.

It is also possible that overall scores of the constructs measured may have obscured specific relationships between subdomains of each construct, perhaps diluting the results. It is possible for example for specific domains to be associated but in opposite directions, thereby cancelling each other out. Such a process would lead to nonsignificant findings despite significant findings within subdomains. In this study, the measure of COVID-19 stress covers a broad range of subcategories. Therefore, it could be that total COVID-19 stress is not associated with EI, as it is assessing a wide range of themes. Similarly, total EI may not be associated with child anxiety and depression outcomes as a whole, despite there being specific links between subdomains. As well, total COVID-19 stress may not be associated with total child anxiety and

depression outcoems, but specific COVID-19 stress subdomains may be linked to specific child anxiety and depression outcomes. This possible leads to the need for exploratory analyses of specific correlations within the general constructs of this study.

Furthermore, it is possible that COVID-19 stressors may be more directly affecting children rather than parents per se, thereby being associated with child anxiety and depression without being related to parental EI. Such a possibility would mean that parental EI may not play a role in mediating between COVID-19 stress and child outcomes, but instead there is a direct cononection between COVID-19 stress and child outcomes. Given the other parental mechanisms (e.g., parenting behaviours and parenting responsiveness) through which COVID-19 stress may operate, it is possible that children are affected by COVID-19 stress not through parental EI changes but rather changes in parenting. It is also possible that parental report of COVID-19 stressors is representative of the direct exposure of children to COVID-19 stress, which can then more directly impact their levels of anxiety and depression. The following section examines how total COVID-19 stress may be associated directly with child mental health outcomes.

COVID-19 stress marginally significantly associated with child anxiety

Parental COVID-19 stress as a whole was marginally significantly associated with child anxiety in general. This result aligns with the findings of Achterberg et al., (2021), Lee et al., (2021), and Spinelli et al., (2020), showing that the more stress parents had surrounding COVID-19, the more stress or anxiety the child experienced as well. Now, this could be happening for a number of reasons. It is possible that COVID-19 stress is related to higher levels of child anxiety outside of parental EI, and prior research would support this link. For example, a study showed that parents who reported higher levels of stress during COVID-19 were more likely to have

children who displayed anxiety symptoms (Orgilés et al., 2021). This link between parental COVID-19 stress and child anxiety would mean that the more COVID-19 stress the parent has, the more anxious the child is. One explanation is that the parental response to COVID-19 and stress levels toward it may be having an impact on their children. For instance, parents may be responding with changes in their parenting behaviours, which in turn then impacts the child. It is possible that parents who are stressed may be less available to their children for support and more likely to be engaged in negative parenting, which may also heighten child anxiety (Clayborne et al., 2020).

An additional explanation could be that having parents who are stressed about COVID-19 may lead to more stressed parents and thereby more stressed households and disruptive family dynamics. This home chaos and stress may be what is having an impact on child anxiety (Raver et al., 2015). In addition, families of parents who are more stressed with COVID-19 may also have experienced in general higher impacts of COVID-19 (e.g., family member with COVID-19, unemployment), which limit the security and consistency of the home, an important contributor to child mental health (Glynn, et al, 2021). A further explanation is that children may be anxious about COVID-19 itself or COVID-19-related changes, such as school closures, parents working from home, mask requirements, or getting sick with COVID-19, irrespective of parenting behaviour and the family dynamic (Hawes et al., 2021).

There may also be a hereditary factor that may lead to parental stress and child stress to be related. For instance, McClure et al.'s (2001) study suggests that there may be a biological or genetic factor that is associated with anxiety, and that mothers with anxiety were at higher risk of their children having anxiety. Another way in which parental anxiety can be associated with child anxiety is through social learning. That is, the child may have observed that the parents had

more stress, and then led to an increase in the child's anxiety. One could understand this as an indication of a learned behaviour from the parent or due to exposure to parental stress.Taking a different approach, child anxiety may also influence overall parental stress, which would also explain this association, in context of research on the bidirectional and reciprocial influences between parent and child (Yirmiya et al., 2021).

Furthermore, given that COVID-19 stress and child anxiety were both parent-reported, it is possible that parents may have projected their own anxieties on their child or interpreted their child as more anxious than they actually are, representing a potential challenge in attunement with their children's experience due to the impact of stress on cognitive flexibility and perspective-taking (Arbel, et al., 2020, Koenig Kellas, et al., 2013, Plessow, et al., 2011). Other methodological confounds may be present as well. A potential issue could be that the participants were aware that the study was to analyze how COVID-19 is impacting the family. Such knowledge could mean that parents may have downplayed the COVID-19-related stress they are experiencing and the anxiety symptoms that their child is displaying due to a social desirability bias.

Moreover, the marginally significant association between COVID-19 stress and child anxiety combined with the medium effect size of the correlation also suggests that a larger sample size may lead to more significant findings. It is possible that with a larger sample size, the association between COVID-19 stress and child anxiety would be significant. As well, it is possible that examining the main outcomes of COVID-19 stress, parental EI, and child anxiety and depression in general may not be as reflective of the complexity of these associations in reality as examining specific domains of each variable in relation with each other. Specific

domains of COVID-19 stress may be more independent and less related to the overall construct of COVID-19 stress in general.

COVID-19 stress was not associated with child depression

Interestingly, the link between COVID-19 stress and child depression was not significant despite the marginally significant association between COVID-19 stress with child anxiety. Given that there is sparse existing research on COVID-19 stress in parents and child depression, the two constructs may not be associated. The lack of association may indicate a number of things. It could mean that parental COVID-19 stress may not play a role in impacting child depression. Such a finding would suggest that child depression is resilient towards parental COVID-19 stress or more stable. There is also the possibility that parents may have worked towards protecting or shielding their children from COVID-19-related situations or information that may cause the child to feel sad or depressed, and that more stress from COVID-19 experienced by the parent may mean less COVID-19 stress is absorbed by the child to the point of feeling depressed and sad about it. It also could be that the children in this study were resilient to depression in general due to other demographic and familial factors. As well, perhaps the children in thihs study may have enjoyed aspects of COVID-19 changes, such as enjoying school closures and learning from home or being able to spend more time with their family.

There could also have been aspects of the study's design that may have impacted this finding. For instance, there may be additional protective factors of child depression that were not accounted for in this study. As well, given the small geographical range for this study, participants and their children from Ottawa and the surrounding areas may not have had the same expected experience with COVID-19 stress and negative child mental health outcomes as samples from other studies (Connell & Strambler, 2021; Spinelli et al., 2020). There may also be

cultural differences, differences in COVID-19 regulations, and variations of supports available that may be more specific to Ottawa and surrounding areas, which would lead to differences in results compared with the literature.

COVID-19 stress of xenophobia related to child anxiety

Looking at the specific domains of COVID-19 stress, the parental COVID-19 stress of xenophobia correlated specifically with child social phobia, child separation anxiety, child generalized anxiety, and child obsessions and compulsions. These results of parental stress of xenophobia being related to child anxiety could be for a number of reasons. For instance, if the parent is displaying a dislike for people from other countries, it may make sense that their child may become fearful of others and outside social settings. The parent experiencing stress due to COVID-19-related xenophobia may also be associated with higher parental stress and thereby higher levels of child stress due to the reasons mentioned above. As well, if a child is displaying aspects of social phobia, it may increase the child's reliance on parents and thereby increase child separation anxiety. Turning to child generalized anxiety, child generalized anxiety may be due to the child feeling overall more anxious if their parent is experiencing xenophobia of others due to COVID-19. Child obsessions and compulsions may also be related to higher child anxiety in general given the associations between child general anxiety and specific anxiety subscales (Boileau, 2011; Langley et al., 2010). These specific associations are important to understand the results. However, it is essential to note that these results were exploratory and no directional hypotheses were made. Therefore, it is possible that these correlations are due to chance. In addition, these results may also have been affected by the use of parent-report for all measures as described above, which increases the possibility of subjective bias in response to questionnaires.

COVID-19 stress of compulsions related to child obsessions and compulsions

Interestingly, parental COVID-19 stress related to compulsions was correlated with child obsessions and compulsions. To speculate, this could indicate that the child may have observed and learnt this similar behaviour through their parents. Additionally, studies suggest that obsessions and compulsions may be linked with hereditary factors as well as learned from watching family members behaviours (Brakoulias, et al., 2018; Last et al., 1991) Last et al., (1991) highlights that obsessions and compulsions in children are prevalent if their first degree relative (i.e., parent or sibling) have OCD or obsessions or compulsions, supporting a genetic link. In the Barkoulias et al. (2018) study, results indicated that obsessions may be a learned behaviour in response to fear and can be reinforced by avoidance and compulsions. A similar explanation for this finding is that children may have been observing aspects of the parent's behaviour and mirroring it. For example, significant correlations have been found between parent and child behaviour regarding food, indicating that a link exists between the parent's actions and outlooks and the child's actions and outlooks (Scaglioni et al., 2008). Additionally, studies suggest that particular parenting styles (e.g., authoritarian and indulgent parenting styles) are associated with child obsessions and compulsions (Poornima et al., 2021; Timpano et al., 2010). This understanding that parenting style can play a role in impacting children’s obsessions and compulsions may be an indication of what may be occurring with the correlations between the COVID-19 stress of compulsions and child obsessions and compulsions, which may have further implications outside of the context of COVID-19 studies.

COVID-19 stress of socioeconomic concerns related to child social anxiety

Parental COVID-19 stress related to socio-economic concerns was correlated with child social phobia. It is possible that if parents were concerned about finances, they may not be going

out and socializing very often. As well, if the child's exposure to socialization or being out of their house has decreased due to financial reasons (i.e., not going to the mall or restaurants), this may contribute to the child outcome of social phobia. (Karlsen et al., 2014) Indeed, Karlsen et al. (2014) has identified a strong link between social anxiety in children and low parental socioeconomic status. Another potential explanation for this correlation is that COVID-19-related measures included virtual schooling and many have experienced reduced job hours or temporary layoffs. Indeed, a study has indicated that lockdowns can lead to feelings of loneliness, and this loneliness has been associated with elevated social anxiety specifically with boys (Knopf, 2020). As a whole, during COVID-19, many have faced financial stress and financial concerns, associated with worsening mental health (Wilson et al., 2020). Consistent with the research indicating an association between parental stress during COVID-19 about finances and social anxiety symptoms increasing at least in boys, it is not unlikely that the COVID-19 stress of socioeconomic concerns would be related to child social anxiety.

Overall, the literature on specific domains of COVID-19 stress as linked to child mental health is sparse. These exploratory analyses help to address this gap in the literature. Understanding specific associations is an important step to determine the areas of COVID-19 stress that may be most important in terms of impacts on child mental health outcomes. Although these analyses are exploratory in nature and the possibility of chance findings cannot be discounted, it is the hope of this study that such analyses would help contribute to move the literature in this area towards understanding specific COVID-19 stressors rather than COVID-19 stressors as a whole on the part of parents and families.

No associations between parental EI in general, perception of emotions, managing own emotions, managing others' emotions, and COVID-19 stress in general

There were no associations found between parental EI in general as well as the parental EI subscales of perception of emotions, managing own emotions, and managing others' emotions with COVID-19 stress in general or its subscales. There is research that indicates that perceiving emotions is relativity stable and therefore, may not be impacted by stress, which can include COVID-19 stress (Herpertz et al., 2016). As well, literature on neurodevelopmental disorders and traumatic brain injury has studied the non-verbal recognition of emotion and suggests that it may be tied to cognitive ability and/or function, which may be relatively more stable across time and circumstances (von Salisch et al., 2013; Yim et al., 2013). Further, alexithymia, a condition that is characterized by difficulty in identifying and expressing one's emotions has been found to be relatively stable, which may be linked to emotional intelligence as the ability to perceive emotions and manage emotions requires the ability to identify emotions (Mikolajczak & Luminet, 2006). The research summarized above suggests that perception of emotions, which is necessary for managing one's and other's emotions, may be harder to change and perhaps less vulnerable to stressors. There may also be methodological reasons for this finding. For instance, these results may also be due to the participants in this study having a relatively high level of perception of emotion, $m = 3.90$, $SD = .41$. See Table 1.0 for means and standard deviations of other EI measures. Therefore, a larger sample size with a wider range in scores on perception of emotion may lead to different results. It may also be beneficial for future studies to focus on clinical or more specific populations to better understand the emotional intelligence among different groups of individuals. Overall, the parental EI subscales of perception of emotions,

managing own emotions, and managing others' emotions appear to be less salient in terms of being related to COVID-19 stress in this sample.

Parental EI of utilization of emotion related to COVID-19 stress of tramatic stress

There was a negative association between the parental EI of utilization of emotion and COVID-19 traumatic stress in particular, which can a number of things. The questions on the EI subscale of utilization of emotion focused on hopeful thoughts about emotions, and the questions on the COVID-19 stress subscale of traumatic stress focused on intrusive thoughts. Firstly, that a negative association was found makes sense given that as intrusive, stressful thoughts increase, hope about the positive use of emotions may decrease. The COVID-19 stress questionnaire asked about the past seven days while the parental EI measure focused on the present. It is possible that those who had experienced more traumatic stress in the previous days viewed themselves as less able to utilize emotions or were more likely to discount the positive role of emotions given the negative impact of the emotion of stress they had experienced. This result may also be linked to post-traumatic growth, as struggling to cope with traumatic stress can deter from post-traumatic growth (Matos et al., 2021). Indeed, research during COVID-19 has highlighted the importance of core beliefs, such as hope, during this stressful time (Vazquez et al., 2021). As well, it is possible that the relation between these constructs is in the opposite temporal direction, such that utilization of emotion is a protective factor for traumatic stress so that higher utilization of emotion leads to lower traumatic stress. It is also possible that a third factor is leading to the negative association between COVID-19 stress of traumatic stress and the parental EI of utilization of emotion. For instance, social support could decrease the likelihood of traumatic stress and increase the likelihood of utilization of emotion. As this study has a cross-sectional

design, it is not possible to infer causality, although these results suggest the importance of examining these factors in future longitudinal studies.

Parental EI of managing others' emotions related to child separation anxiety

There was a marginal positive association found between the parental EI subscale of managing others' emotions and the child subscale of separation anxiety. The association between managing others' emotions and child separation anxiety found in this study may also be due to a lack of support available to the child (e.g., not being able to see friends, engage in school, partake in extracurricular activities), and the parent stepping in to fill this role. Therefore, the child may have higher separation anxiety levels due to the pandemic, and the parent may have higher management of others' emotions due to responding to the child's higher anxiety. On the other hand, it could be that parents may be managing their child's emotions to the extent where the child becomes dependent on the parent. For example, if managing others' emotions includes one's child, the child may become reliant on the parent for reassurance and accommodation, which may contribute to separation anxiety in the child. Indeed, research suggests that parents who try to solve their children's problems or relieve them from discomfort to an excessive degree may impair the emotional development of the child (Odenweller et al., 2014).

It is also possible that a third variable is leading to higher child separation anxiety and parental management of other's emotions, such as the pandemic. For instance, the child may become very attached to their parent during COVID-19 and the pandemic may lead the parent to in general be more involved in managing others' emotions. This explanation is less likely given that COVID-19 stress was not related to the parental EI of managing others' emotions in this study. However, there may be underlying third factors that have not been accounted for in this study, such as the home environment, child independence, and the parent-child relationship.

It is also possible that the results were due to methodology. For instance, as this was a study based solely on parent-report, it could be that the parents may have projected their own concerns for their children separating from them, which could in turn be correlated with a higher need to manage the emotions of others. These subjective response biases may be driven by general increased concern and worries about how others are faring during this pandemic. As the majority of participants of this study were mothers, it could be that more mothers have taken on the role of managing family emotions during this pandemic. Indeed, prior research suggests that mothers are more likely to take on the role of managing emotions within the family (Robertson et al., 2019). Such a role can be heavy at any time but especially so during COVID-19. Lastly, as this is a marginally significant association, it could also be the case that this association was due to chance.

Demographic Factors associated with Main Variables

In analyses of demographic factors in this study, a marginally significant association was found between the number of other children of the participant and parental EI in general. No other associations between demographic factors and the main variables of parental COVID-19 stress and child outcomes in general were found. The association between number of other children and parental EI was positive such that participants who had more children reported higher levels of EI. This finding aligns with research that suggests that there may be a link between larger family size and higher EI (Morand, 1999). Again, given the cross-sectional design of this study, it is not possible to infer casual relationships, such as if higher parental EI is related to being able to have more children or if more children leads to greater development of EI. It is also possible that third factors account for this relationship, such as social support. It is

again possible that the relationship found is due to chance given that it was marginally significant.

Limitations

As previously discussed, this study has its limitations. The scope of this study was intentionally kept small to focus on parental COVID-19 stress, parental EI and the common child mental health outcomes of anxiety and depression. The scope of this study, sample size, and relatively short surveys mean that not every variable that could possibly be related to the main variable will be measured. It was important to keep the survey relatively short so as to reduce the potential burden on parents of participating in the study and maximize participant recruitment and retention during an unprecedented time. However, the limitations in scope precluded the measurement of additional information that is important to understand in these times, such as relevant mental health diagnosis (e.g., Anxiety Disorder, Major Depressive Disorder) for child and parent. The scope of this study also precluded measuring child-reported COVID-19 stress as well as child-reports of the parent-child relationship, parenting styles and behaviours, and child perceptions of parenting stress and home dynamics. Expanding the study would improve our understanding of the current experiences of both parents and children. Future studies would benefit from expanding the scope of the study to add additional variables, such as relevant mental health diagnosis for child and parent as well as child-report of relevant constructs, such as those mentioned above. Additionally, the sample size may be a reason for not finding the predicted results, as there may have been a restriction in power. However, it was important to keep the sample size feasible for the length and scope of a Master's thesis as well as the honouraria available for participants. Future studies of a higher sample size would be useful to better understand these links.

This study was called the COVID Stress Study and participants knew that the goal of the study was to understand the links between parent COVID-19 stress, emotional intelligence and child mental health. Therefore, there is the possibility that participants reported having higher EI, having less or more COVID-19 stress, or having more or less child mental health outcomes. There is the possibility that participant responses, consciously or unconsciously, may have been positively or negatively biased given their knowledge of the purpose of the study. Future studies would do well to explore how to reduce the possibility of response bias and at the same time maintain transparency. It might be helpful in the future to use a multi-method, multi-rater methodology, such as including child-reports and more objective measures (e.g., observational). Furthermore, given the scope of this study, it did not include a qualitative component. However, having a qualitative or written response section for participants may be another way to reduce response bias if participants are able to explore, deepen, or justify their survey responses.

In addition, the majority of participants in this study were mothers, limiting the extent to which the role of gender in relation to the research questions could be examined. Future studies with fathers would be important to expand our understanding of gender in relation to links between COVID-19 stress, emotional intelligence, and child mental health. Similarly, future studies with proportional numbers of parents of boys and girls would be important to this effect. As well, it would be important for future studies to examine these questions within samples with greater diversity, not only with respect to gender but also in terms of ethnicity, family structures, nationality, child and parent ages, sexual orientation, religion, socioeconomic status, and abilities. In addition, it is possible that parents who are not experiencing very high levels of COVID-19 stress may be more likely to participate in this study, and therefore represent a sample of families who might not have been as significantly affected by the pandemic as other

families. It is recommended that future studies include samples more likely to experience higher levels of COVID-19 stress, so as to respond to more pressing needs of individuals and increase the generalizability of these results. Furthermore, our sample involved participants who lived in and around Ottawa, Ontario, Canada, which also may impact the generalizability of the results given its unique position as the capital of Canada. Studies in the future could consider expanding locations, not only to improve generalizability also to understand the potential impacts of geographical location on results. Finally, this study used a cross-sectional methodology to assess associations between constructs, which precludes causal interpretations. Therefore, it is not possible to interpret from these results that COVID-19 stress causes an outcome. Future studies could consider using a longitudinal methodology to assess changes in associations between COVID-19 stress, parental EI, and child mental health over time.

Implications and Conclusion

This study examined pathways between COVID-19 stress, parental EI, and child mental health, which add to the existing literature on COVID-19 stress and child mental health among families as well as the literature on EI (Aminabadi et al., 2012; Baba, 2020). No significant associations between COVID-19 stress, parental EI, and child depression in general were found. However, a marginally significant association between COVID-19 stress and child anxiety was found. These findings suggest that child anxiety may be more pertinent to examine in understanding COVID-19 stress on children, as compared to depression. In addition, although no fully significant associations between the constructs in general were found, significant exploratory associations between particular COVID-19 stress domains and child anxiety existed. In addition, the parental EI of utilization of emotion was found to be marginally associated with

COVID-19 traumatic stress, and the parental EI of managing others' emotions was found to be marginally associated with child separation anxiety.

The pattern of results in this study suggests that it may be more important to understand COVID-19 stress by investigating correlations between specific sub-constructs rather than these constructs as a whole. For instance, exploratory outcomes suggest that COVID-19-related xenophobia, compulsions, and socioeconomic concerns may be especially important to understand. Similarly, specific parental EI domains may be more important to measure in relation to specific COVID-19 stresses and child anxiety.As well, the lack of exploratory associations between domains of COVID-19 stress and child depression point to the salience of child anxiety as an important mental health construct to attend to during this pandemic.

Prioritizing child anxiety as an at-risk mental health outcome, addressing COVID-19-related xenophobia, compulsions, and socioeconomic concerns on the part of the parent, and examining in more depth parental abilities to utilize emotions and manage the emotions of others allow for prioritizing areas of assessment and treatment in service of targeted clinical and public health interventions, given limited time and resources. Having interventions that work on developing child coping and resilience to symptoms of anxiety, increasing the parents' ability to cope with COVID-19 stress, and improving parental emotional intelligence capacities may optimize mental health and well-being. These results may also steer clinicians to being more aware that parents with higher levels of COVID-19-stress may have children at higher risk for anxiety symptoms, thereby leading to more time dedicated to assessing this area. Overall, this study addresses an existing gap in the literature and adds to our understanding of COVID-19 stress, parental EI, and child outcomes for anxiety and depression. This research represents a first step towards studies of the COVID-19 impact on children and families, with the ultimate goal of

informing mental health resources and support for families in response to COVID-19 stress. Our findings shed light on an at-risk population that needs to be supported during the COVID-19 pandemic. It is our hope that this research ultimately leads to a better understanding of the relevant areas in need of evaluation and intervention.

Table 1.0 *Means and standard deviations of variables*

Variable	*M*	*SD*
CSS in General	.60	.32
CSS Danger	1.18	.70
CSS Socioeconoomic Consequences	.28	.46
CSS Xenophobia	.37	.54
CSS Contamination	.76	.54
CSS Traumatic Stress	.42	.48
CSS Compulsive Checking	.55	.58
SEIS General	3.85	.39
SEIS Perception of Emotion	3.90	.41
SEIS Managing Others' Emotion	3.93	.42
SEIS Managing Own Emotion	3.73	.60
SEIS Utilization of Emotion	3.86	.52
RCADS Anxiety in General	1.64	.38
RCADS Social Phobia	2.07	.58
RCADS Panic Disorder	1.29	.29
RCADS Separation Anxiety	1.63	.56
RCADS Generalized Anxiety	1.85	.49
RCADS Obsessive-Compulsive	1.33	.35
RCADS Major Depression	1.54	.44

Note. CSS = COVID Stress Scale. SEIS = Schutte Emotional Intelligence Scale. RCADS = Revised Children's Anxiety and Depression Scale.

References

Abidin, R. (1995). The parenting stress index professional manual. *Psychological Assessment Resources.*

Achterberg, M., Dobbelaar, S., Boer, O., & Crone, E. (2021). Perceived stress as mediator for longitudinal effects of the COVID-19 lockdown on wellbeing of parents and children. *Scientific Reports, 11(1)*, 2971–2971.

Albanese, A., Russo, G., & Geller, P. (2019) The role of parental self-efficacy in parent and child well-being: A systematic review of associated outcomes. *Child: care, health & development 45(3)* 333–363. https://doi.org/10.1111/cch.12661

Alegre, A. (2021). Parenting styles and children's emotional intelligence: what do we know? *The Family Journal (Alexandria, Va.), 19(1)*, 56–62.

American Psychological Association (APA). (2020). Stress in the time of COVID-19, volume one. Retrieved from American Psychological Association: https://www.apa.org/news/press/releases/stress/2020/report

Aminabadi, N., Pourkazemi, M., Babapour, J., & Oskouei, S. (2012). The impact of maternal emotional intelligence and parenting style on child anxiety and behavior in the dental setting. *Medicina Oral, Patología Oral y Cirugía Bucal*, *17*(6), e1089–e1095. https://doi.org/10.4317/medoral.17839

Amsalem, D., Dixon, L., & Neria, Y. (2021). The coronavirus disease 2019 (COVID-19) outbreak and mental health: current risks and recommended actions. *JAMA Psychiatry, 8(1)*, 9-10.

Arbel, R., Margolin, G., O'Connor, S. G., Mason, T. B., Leventhal, A. M., & Dunton, G. F. (2020). The curvilinear effect of mothers' parenting stress and attunement on children's

internalizing symptoms: a six wave study of mother-youth dyads across the transition to adolescence. *Developmental Psychology, 56(7)*, 1316–1330.

Argyriou, E., Bakoyannis, G., & Tantaros, S. (2016). Parenting styles and trait emotional intelligence in adolescence. *Scandinavian Journal of Psychology, 57(1)*, 42–49.

Baba, M. (2020). Navigating COVID-19 with emotional intelligence. *International Journal of Social Psychiatry, 66(8)*, 810–820.

Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI). *Psicothema*, *18 Suppl*, 13–25.

Bah, A. J., James, P. B., Bah, N., Sesay, A. B., & Kanu, L. S. (2020). Prevalence of anxiety, depression and post-traumatic stress disorder among Ebola survivors in northern Sierra Leone: a cross-sectional study. *BMC Public Health 20*.

Bignardi, G., Dalmaijer, E., Anwyl-Irvine, A., Smith, T., Siugzdaite, R., Uh, S., & Astle, D. (2020). Longitudinal increases in childhood depression symptoms during the COVID-19 lockdown. *Archives of Disease in Childhood*. https://doi.org/10.1136/archdischild-2020- 320372

Birks, Y., McKendree, J., & Watt, I. (2009). Emotional intelligence and perceived stress in healthcare students: a multi-institutional, multi-professional survey. *BMC Medical Education, 9(1).*

Boileau, B. (2011). A review of obsessive-compulsive disorder in children and adolescents. *Dialogues in Clinical Neuroscience, 13(4)*, 401–411.

Brakoulias, V., Perkes, I. E., & Tsalamanios, E. (2018). A call for prevention and early intervention in obsessive-compulsive disorder. *Early Intervention in Psychiatry, 12(4)*, 572–577.

Brom, C., Lukavský, J., Greger, D., Hannemann, T., Straková, J., & Švaříček, R. (2020). Mandatory home education during the COVID-19 lockdown in the Czech Republic: a rapid survey of 1st-9th graders' parents. *Frontiers in Education (Lausanne), 5*.

Brown, S. M., Doom, J. R., Lechuga-Peña, S., Watamura, S. E., & Koppels, T. (2020). Stress and parenting during the global COVID-19 pandemic. *Child Abuse & Neglect, 110*.

Burgdorf, V., Szabó, M., & Abbott, M. (2019). The effect of mindfulness interventions for parents on parenting stress and youth psychological outcomes: a systematic review and meta-analysis. *Frontiers in Psychology, 10*.

Chafouleas, S. M., & Iovino, E. A. (2021). Comparing the initial impact of COVID-19 on burden and psychological distress among family caregivers of children with and without developmental disabilities. *American Psychological Association, 36(5)*, 358–366.

Chorpita, B., Yim, L., Moffitt, C., Umemoto, L., & Francis, S. (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: a revised child anxiety and depression scale. *Behaviour Research and Therapy, 38(8)*, 835–855.

Chu, K., Schwartz, C., Towner, E., Kasparian, N. A., & Callaghan, B. (2021). Parenting under pressure: a mixed-methods investigation of the impact of COVID-19 on family life. *Journal of Affective Disorders Reports, 5*.

Clayborne, Z. M., Kingsbury, M., Sampasa-Kinyaga, H., Sikora, L., Lalande, K. M., & Colman, I. (2020). Parenting practices in childhood and depression, anxiety, and internalizing symptoms in adolescence: a systematic review. *Social Psychiatry and Psychiatric Epidemiology, 56(4)*, 619–638.

Cohodes, E. M., McCauley, S., & Gee, D. G. (2021). Parental buffering of stress in the time of COVID-19: family-level factors may moderate the association between pandemic-related

stress and youth symptomatology. *Research on Child and Adolescent Psychopathology, 49(7)*, 935–948.

Connell, C. M., & Strambler, M. J. (2021). Experiences with COVID-19 stressors and parents' use of neglectful, harsh, and positive parenting practices in the Northeastern United States. *Child Maltreatment, 26(3)*, 255–266.

Cooke, J., Eirich, R., Racine, N., & Madigan, S. (2020). Prevalence of posttraumatic and general psychological stress during COVID-19: a rapid review and meta-analysis. *Psychiatry Research, 292*.

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of Postnatal Depression Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 782–786.

Daly, Z., Slemon, A., Richardson, C. G., Salway, T., McAuliffe, C., Gadermann, A. M., Thomson, K. C., Hirani, H., & Jenkins, E. K. (2021). Associations between periods of COVID-19 quarantine and mental health in Canada. *Psychiatry Research, 295*.

Deater-Deckard, K., & Panneton, R. (2017). Unearthing the developmental and intergenerational dynamics of stress in parent and child functioning. In K. Deater-Deckard, & R. Panneton, *Parental Stress and Early Child Development : Adaptive and Maladaptive Outcomes* (pp. 1-11). Switzerland: Springer.

Detsky, A. S., & Bogochm, I. I. (2021). COVID-19 in Canada: experience and response to waves 2 and 3. *JAMA 326(12)*, 1145–1146.

Detsky, A., & Bogoch, I. I. (2020). COVID-19 in Canada: experience and response. *JAMA 324(8)*, 743–744.

Ebesutani, C. B., Nakamura, B., Chorpita, B., & Weisz, J. (2010). Psychometric analysis of the revised child anxiety and depression scale parent version in a clinical sample. *Journal of Abnormal Child Psychology, 38(2)*, 249–260.

Eyimaya, O., & Irmak, Y. (2021). Relationship Between Parenting Practices and Children's Screen Time During the COVID-19 Pandemic in Turkey. Journal of Pediatric Nursing, 56, 24–29. https://doi.org/10.1016/j.pedn.2020.10.002

Forbes, L., Lamar, M., Speciale, M., & Donovan, C. (2020). Mothers' and fathers' parenting attitudes during COVID-19. *Current Psychology, 41(1)*, 470–479.

Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology*, 572–583.

Gardner, H. (1983). *Frames of mind: the theory of multiple intelligences.* New York: Basic Books.

Gardner, K. J., Quinton, S., & Qualter, P. (2014). The role of trait and ability emotional intelligence in bulimic symptoms. *Eating behaviors*, *15*(2), 237-240.

Gassman-Pines, A., Ananat, O., & Fitz-Henley, J. (2020). COVID-19 and parent-child psychological well-being. *Pediatrics (Evanston), 146(4)*.

Gerard, C., Lanier, P., & Wong, P. Y. (2020). Mediating effects of parental stress on harsh parenting and parent-child relationship during coronavirus (COVID-19) pandemic in Singapore. *Journal of Family Violence*, 1-12.

Glynn, L. M., Davis, E. P., Luby, J. L., Baram, T. Z., & Sandman, C. A. (2021). A predictable home environment may protect child mental health during the COVID-19 pandemic. *Neurobiology of Stress, 14*.

Government of Canada. (2020). *COVID-19 resources for parents and children*. Retrieved from Canada.ca: https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19/resources-parents-children.html#a2

Gregus, S. J., Hernandez Rodriguez, J., Faith, M. A., & Failes, E. (2021). Parenting & children's psychological adjustment during the COVID-19 pandemic. *School Psychology Review*, 1-17.

Gómez-Fraguela, J., Domínguez-Álvarez, B., López-Romero, L., & Romero, E. (2020). Emotion regulation skills in children during the COVID-19 pandemic: Influences on specific parenting and child adjustment. *evista de Psicología Clínica Con Niños y Adolescentes, 7(3)*, 81–87.|

Hawes, M. T., Szenczy, A. K., Klein, D. N., Hajcak, G., & Nelson, B. D. (2021). Increases in depression and anxiety symptoms in adolescents and young adults during the COVID-19 pandemic. *Psychological Medicine*, 1-9.

Herpertz, S., Schütz, A., & Nezlek, J. (2016). Enhancing emotion perception, a fundamental component of emotional intelligence: Using multiple-group SEM to evaluate a training program. *Personality and Individual Differences, 95*, 11–19.

Hyde, A., Pethe, S., & Dhar, U. (2002). Manual for emotional intelligence scale. *Vedant Publications.*

Jones, J., Call, T. A., Wolford, S. N., & McWey, L. M. (2021). Parental stress and child outcomes: the mediating role of family conflict. *Journal of Child and Family Studies, 30(3)*, 746–756.

Jonker, C., & Vosloo, C. (2008). The psychometric properties of the Schutte emotional intelligence scale. *SA Journal of Industrial Psychology, 34(2)*, 21–30.

Jung, Y.-H., Shin, N. Y., Jang, J. H., Lee, W. J., Lee, D., Choi, Y., Choi, S.-H., & Kang, D.-H. (2019). Relationships among stress, emotional intelligence, cognitive intelligence, and cytokines. *Medicine (Baltimore), 98(18)*.

Karlsen, B. S., Clench-Aas, J., Roy, B. V., & K., R. R. (2014). Relationships between social anxiety and mental health problems in early adolescents from different socioeconomic groups: results from a cross-sectional health survey in Norway. *Journal of Psychological Abnormalities in Children*.

Keefer, K., Holden, R. R., & Parker, J. D. (2013). Longitudinal assessment of trait emotional intelligence: Measurement invariance and construct continuity from late childhood to adolescence. *Psychological Assessment, 25(4)*, 1255–1272.

Knopf, A. (2020). Prepare for increased depression, anxiety in youth due to COVID-19 lockdown. *he Brown University Child and Adolescent Psychopharmacology Update, 22(8)*, 1-4.

Koenig Kellas, J., Willer, E. K., & Trees, A. R. (2013). Communicated perspective-taking during stories of marital stress: spouses' perceptions of one another's perspective-taking behaviors. *The Southern Communication Journal, 78(4)*, 326–351.

Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., Koszałkowska, K., Karwowski, M., Najmussaqib, A., Pankowski, D., Lieberoth, A., & Ahmed, O (2020). Who is the most stressed during the COVID-19 pandemic? data from 26 countries and areas. *Applied Psychology: Health and Well-Being, 12(4)*, 946–966.

Lakhan, R., Agrawal, A., & Sharma, M. (2020). Prevalence of depression, anxiety, and stress during COVID-19 pandemic. *Journal of Neurosciences in Rural Practice, 11(4)*, 519–525.

Langley, A., Lewin, A. B., Bergman, R. L., Lee, J. C., & Piacentini, J. (2010). Correlates of comorbid anxiety and externalizing disorders in childhood obsessive compulsive disorder. *European Child & Adolescent Psychiatry, 19(8)*, 637–645.

Last, C. G., Hersen, M., Kazdin, A., Orvaschel, H., & Perrin, S. (1991). Anxiety disorders in children and their families. *Archives of General Psychiatry, 48(10)*, 928–934.

Lawson, M., Piel, M., & Simon, M. (2020). Child maltreatment during the COVID-19 pandemic: consequences of parental job loss on psychological and physical abuse towards children. *Child Abuse & Neglect, 110(2)*.

Lee, S., Ward, K., Chang, O., & Downing, K. (2021). Parenting activities and the transition to home-based education during the COVID-19 pandemic. *Children and Youth Services Review, 122*.

Ng, K.-M., Wang, C., Kim, D.-H., & Bodenhorn, N. (2010). Factor structure analysis of the Schutte Self-Report Emotional Entelligence Scale on international students. *Educational and Psychological Measurement, 70(4)*, 695–709.

Matos, M., McEwan, K., Kanovský, M., Halamová, J., Steindl, S. R., Ferreira, N., Linharelhos, M., Rijo, D., Asano, K., Vilas, S. P., Márquez, M. G., Gregório, S., Brito-Pons, G., Lucena-Santos, P., Oliveira, M. da S., Souza, E. L. de, Llobenes, L., Gumiy, N., Costa, M. I., … Gilbert, P. (2021). The role of social connection on the experience of COVID-19 related post-traumatic growth and stress. *PloS One, 16(12)*.

Maunder, G. R. (2009). Was SARS a mental health catastrophe? *Genreal hospital psychiatry, 31(4)*, 316–317.

McClure, E. B., Brennan, P. A., Hammen, C., & Le Brocque, R. M. (2001). Parental anxiety disorders, child anxiety disorders, and the perceived parent–child relationship in an Australian high-risk sample. *Journal of Abnormal Child Psychology, 29(1)*, 1-10.

Mikolajczak, M., & Luminet, O. (2006). Is alexithymia affected by situational stress or is it a stable trait related to emotion regulation? *Personality and Individual Differences, 40(7)*, 1399–1408.

Morand, D. A. (1999). Family size and intelligence revisited: the role of emotional intelligence. *Psychological Reports, 84(2)*, 643–649.

Moroń, M., & Biolik-Moroń, M. (2021). Trait emotional intelligence and emotional experiences during the COVID-19 pandemic outbreak in Poland: A daily diary study. *Personality and Individual Differences, 168*.

Odenweller, K. G., Booth-Butterfield, M., & Weber, K. (2014). Investigating helicopter parenting, family environments, and relational outcomes for millennials. *Communication Studies, 65(4)*, 407–425.

O'Connor, P., Hill, A., Kaya, M., & Martin, B. (2019). The measurement of emotional intelligence: a critical review of the literature and recommendations for researchers and practitioners. *Frontiers in Psychology, 10*.

Orgilés, M., Espada, J. P., Delvecchio, E., Francisco, R., Mazzeschi, C., Pedro, M., & Morales, A. (2021). Anxiety and depressive symptoms in children and adolescents during COVID-19 pandemic: a transcultural approach. *Psicothema, 33(1)*, 125–130.

Petrides, K. (2011). Chapter 25: Ability and trait emotional intelligence. In T. Chamorro-Premuzic, S. Von Stumm, & A. Furnham, *he Wiley-Blackwell handbook of individual differences* (pp. 656-678). Chichester, England: Wiley-Blackwell.

Petrides, K., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *The British Journal of Psychology, 98(2)*, 273–289.

Plessow, F., Fischer, R., Kirschbaum, C., & Goschke, T. (2011). Inflexibly focused under stress: acute psychosocial stress increases shielding of action goals at the expense of reduced cognitive flexibility with increasing time lag to the stressor. *Journal of Cognitive Neuroscience, 23(11)*, 3218–3227.

Poornima, C., Sudhir, P. M., Pratyusha, P., & Jacob, P. (2021). Parenting styles and their correlates in adolescents diagnosed with obsessive compulsive disorder. *Journal of Indian Association for Child and Adolescent Mental Health, 17(2)*, 102–121.

Public Health Agency of Canada. (2015). *Mood and anxiety disorders in Canada.* Retrieved from Public Health Agency of Canada: https://www.canada.ca/en/public-health/services/publications/diseases-conditions/mood- anxiety-disorders-canada.html.

Public Health Agency of Canada. (2021). *Community-based measures to mitigate the spread of coronavirus disease (COVID-19) in Canada.* Retrieved from Public Health Agency of Canada:https://www.canada.ca/en/public-health/services/diseases/2019-novel-coro-navirus-infection/health-professionals/public-health-measures-mitigate-covid-19.html.

Raver, C. C., Blair, C., & Garrett-Peters, P. (2015). Poverty, household chaos, and interparental aggression predict children's ability to recognize and modulate negative emotions. *Development and Psychopathology, 27(3)*, 695–708.

Robertson, L. G., Anderson, T. L., Hall, M. E., & Kim, C. L. (2019). Mothers and mental labor: a phenomenological focus group study of family-related thinking work. *Psychology of Women Quarterly, 43(2)*, 184–200.

Romero, E., López-Romero, L., Domínguez-Álvarez, B., Villar, P., & Gómez-Fraguela, J. A. (2020). Testing the Effects of COVID-19 Confinement in Spanish Children: The Role of Parents' Distress, Emotional Problems and Specific Parenting. *International Journal of Environmental Research and Public Health, 17(*19), https://doi.org/10.3390/ijerph17196975

RoosL., Salisbury, M., Penner-Goeke, L., Cameron, E. E., Protudjer, J. L. P., Giuliano, R., Afifi, T.O., & Reynolds, K. (2021). Supporting families to protect child health: Parenting quality and household needs during the COVID-19 pandemic. *PLOS One, 16*(5), e0251720–e0251720. https://doi.org/10.1371/journal.pone.0251720

Russell, Hutchison, M., Tambling, R., Tomkunas, A. J., & Horton, A. L. (2020). Initial Challenges of Caregiving During COVID-19: Caregiver Burden, Mental Health, and the Parent–Child Relationship. *Child Psychiatry and Human Development*, 51(5), 671–682. https://doi.org/10.1007/s10578-020-01037-x

Sahithya, B., Rithvik, K., & Roopesh, N. (2021). Perceived Stress, Parental Stress, and Parenting During COVID-19 Lockdown: A Preliminary Study. *Journal of Indian Association for Child and Adolescent Mental Health, 16(4)*, 44-63.

Salovery, P., & Mayer, J. (1990). Emotional intelligence. *Imagination, Cognition and Personality, 9(3)*, 185–211.

Sánchez-Núñez, M., García-Rubio, N., Fernández-Berrocal, P., & Latorre, J. (2020). Emotional Intelligence and Mental Health in the Family: The Influence of Emotional Intelligence Perceived by Parents and Children. *International Journal of Environmental Research and Public Health*, *17*(17). https://doi.org/10.3390/ijerph17176255

Scaglioni, S., Salvioni, M., & Galimberti, C. (2008). Influence of parental attitudes in the development of children eating behaviour. *British Journal of Nutrition, 99(S1)*, 22-25.

Schutte, N., Malouff, J., Hall, L., Haggerty, D., Cooper, J., Golden, C., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences, 25(2)*, 167–177.

Shin, L. M., & Liberzon, I. (2010). The neurocircuitry of fear, stress, and anxiety disorders. *Neuropsychopharmacology (New York, N.Y.), 35(1)*, 169–191.

Shevlin, M., McBride, O., Murphy, J., Miller, J. G., Hartman, T. K., Levita, L., Mason, L., Martinez, A. P., McKay, R., Stocks, T. V., Bennett, K. M, Hyland, P, Karatzias, T., & Bentall, R. P. (2020). Anxiety, depression, traumatic stress and COVID-19-related anxiety in the UK general population during the COVID-19 pandemic. *BJPsych Open, 6(6)*.

Slaski, M., & Cartwright, S. (2003). Emotional intelligence training and its implications for stress, health and performance. *Stress and Health, 19(4)*, 233–239.

Spinelli, M., Lionetti, F., Pastore, M., & Fasolo, M. (2020). Parents' stress and children's psychological problems in families facing the COVID-19 outbreak in Italy. *Frontiers in Psychology, 11*.

Taylor, S., Landry, C., Paluszek, M., Fergus, T., McKay, D., & Asmundson, G. (2020). Development and initial validation of the COVID Stress Scales. *Journal of Anxiety Disorders, 72(4)*.

Thompson, R. R., Garfin, D. R., Holman, E. A., & Silver, R. C. (2017). Distress, worry, and functioning following a global health crisis: A national study of Americans' responses to Ebola. *SAGE journals, 5(3)*, 513-521.

Timpano, K. R., Keough, M. E., Mahaffey, B., Schmidt, N. B., & Abramowitz, J. (2010). Parenting and obsessive compulsive symptoms: implications of authoritarian parenting. *Journal of Cognitive Psychotherapy: An International Quarterly, 24(3)*, 151-164.

United Nations. (2020). *Policy brief: Education during COVID-19 and beyond.* Retrieved from United Nations: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf.

Usher, K., Durkin, J., & Bhullar, N. (2020). The COVID-19 pandemic and mental health impacts. *International Journal of Mental Health Nursing, 29(3)*, 315–318.

Vazquez, C., Valiente, C., García, F. E., Contreras, A., Peinado, V., Trucharte, A., & Bentall, R. P. (2021). Post-traumatic growth and stress-related responses during the COVID-19 pandemic in a national representative sample: the role of positive core beliefs about the world and others. *Journal of Happiness Studies, 22(7)*, 2915–2935.

Vescovi, G., Riter, H. da S., Azevedo, E. C., Pedrotti, B. G., & Frizzo, G. B. (2021). Parenting, mental health, and Covid-19: A rapid systematic review. *Psicologia (São Paulo, Brazil)*, *23*(1). https://doi.org/10.5935/1980-6906/ePTPC1913554

von Salisch, M., Haenel, M., & Freund, P. A. (2013). Emotion understanding and cognitive abilities in young children. *Learning and Individual Differences, 26*, 15–19.

Ware, J., Kosinski, M., & Keller, S. (1996). A 12-Item Short-Form Health Survey Construction of Scales and Preliminary Tests of Reliability and Validity. *Medical Care, 34(3)*, 220-233.

Whittle, S., Bray, K., Lin, S., & Schwartz, O. (2020). Parenting and child and adolescent mental health during the COVID-19 pandemic. *Mental Health Weekly Digest*

Wilson, J. M., Lee, J., Fitzgerald, H. N., Oosterhoff, B., Sevi, B., & Shook, N. J. (2020). Job insecurity and financial concern during the COVID-19 pandemic are associated with worse mental health. *Journal of Occupational and Environmental Medicine, 62(9*, 686–691.

Wischerth, G. A., Mulvaney, M. K., Brackett, M. A., & Perkins, D. (2016). The adverse influence of permissive parenting on personal growth and the mediating role of emotional intelligence. *The Journal of Genetic Psychology, 177(5)*, 185–189.

Wissemann, K., Mathes, B., & Meyer, A. S. (2021). COVID-related fear maintains controlling parenting behaviors during the pandemic. *Cognitive Behaviour Therapy, 50(4)*, 305-319.

Wolf, J., Freisthler, B., & Chadwick, C. (2021). Stress, alcohol use, and punitive parenting during the COVID-19 pandemic. *Child Abuse and Neglect, 117*.

Xue, A., & et, a. (2021). New Parents Experienced Lower Parenting Self-Efficacy during the COVID-19 Pandemic Lockdown. *Children 8(2)*.

Yadav, P., Shukla, P., Padhi, D., & Chaudhury, S. (2021). A correlational study between perceived parenting style, psychological well-being, and emotional intelligence among adolescents. *Industrial Psychiatry Journal, 30(3)*, 108–114.

Yim, J., Babbage, D. R., Zupan, B., Neumann, D., & Willer, B. (2013). The relationship between facial affect recognition and cognitive functioning after traumatic brain injury. *Brain Injury, 27(10)*, 1155-1161.

Yirmiya, K., Motsan, S., Kanat-Maymon, Y., & Feldman, R. (2021). From mothers to children and back: Bidirectional processes in the cross-generational transmission of anxiety from early childhood to early adolescence. *Depression and Anxiety, 38(12)*, 1298–1312.

Zeidner, M., Roberts, R., & Matthews, G. (2002). Can emotional intelligence be schooled? a critical review. *Educational Psychologist, 37(4)*, 215–231.