

# See Us, Hear Us 1.0

## MENTAL HEALTH IMPACT OF COVID-19 ON CHILDREN AND YOUTH IN SASKATCHEWAN: PARENT/CAREGIVER AND CHILD PERSPECTIVES

Muhajarine, N., Hinz T., Ramamoorthy, S., Adeyinka, D., Pisolkar, V., Damodharan, S., Balbuena, L., McCutcheon, J., Dena, I., Green, K.L., Kallio, N. Mental health impact of COVID-19 on children and youth in Saskatchewan: parent/caregiver and child perspectives. Research Brief 2. See Us, Hear Us 1.0. Saskatoon, Saskatchewan: Saskatchewan Population Health and Evaluation Research Unit (SPHERU). June 6, 2022.



# 1. INTRODUCTION

## Context

The COVID-19 pandemic and public health response to it have posed substantial challenges to people globally, escalating risk factors for mental health issues. Among those greatly affected are children and adolescents, due to shifts from in-person to remote learning,<sup>[1]</sup> cancellations of extracurricular activities,<sup>[2]</sup> restrictions on seeing friends in person,<sup>[3]</sup> impacts of increased parental stress in the face of financial insecurity,<sup>[4]</sup> and more.

Subsequently, the [See Us, Hear Us](#) project comprehensively investigated several aspects of mental health challenges and need for services in children and youth using a sample of child-caregiver dyads in the first year of the COVID-19 pandemic in Saskatchewan, Canada. Preliminary results from these studies indicated that 10% and 9% of children and youth experienced moderate-high severity of anxiety and depression respectively while 24% demonstrated emotional dysregulation. Further, 58% indicated the pandemic had more negative than positive changes in life and 38% indicated their overall mental health worsened since the pandemic. Complete results and further details on the previous studies from the project can be found [here](#).

Often parents and caregivers act as proxies for children in surveys, especially when kids are not capable or competent enough to complete the survey by themselves, but children and their parents/caregivers may have different perspectives<sup>[5]</sup>. The current study aimed to examine correspondence between parent/caregiver and their child in the assessment of change in **child's** overall mental health and need for help in the first year of the COVID-19 pandemic in Saskatchewan. Further, the study explored factors associated with agreement/disagreement between caregiver/parent's and child's reporting of change in **child's** overall mental health and **child's** help seeking behaviour.

“the children and parents/caregivers  
may have different perspectives”

## We aimed to answer the following:

- ▶ What are the perspectives of the child respondent and their parent/caregiver regarding change in child's overall mental health and need for mental health help since the COVID-19 pandemic?
- ▶ To what extent do the parent/caregiver and child agree about change in child's overall mental health and need for mental health help?
- ▶ What factors are associated with the agreement between the child's and their parent/caregiver's reporting of change in the child's overall mental health and need for help?

1. Asanov, I., Flores, F., McKenzie, D., Mensmann, M., & Schulte, M. (2021). Remote-learning, time-use, and mental health of Ecuadorian high-school students during the COVID-19 quarantine. *World development*, 138, 105225. <https://doi.org/10.1016/j.worlddev.2020.105225>
2. Jackson, S. B., Stevenson, K. T., Larson, L. R., Peterson, M. N., & Seekamp, E. (2021). Outdoor Activity Participation Improves Adolescents' Mental Health and Well-Being during the COVID-19 Pandemic. *International journal of environmental research and public health*, 18(5), 2506. <https://doi.org/10.3390/ijerph18052506>
3. Shah, S., Kaul, A., Shah, R., & Maddipoti, S. (2021). Impact of Coronavirus Disease 2019 Pandemic and Lockdown on Mental Health Symptoms in Children. *Indian pediatrics*, 58(1), 75–76
4. Gazmararian, J., Weingart, R., Campbell, K., Cronin, T., & Ashta, J. (2021). Impact of COVID-19 Pandemic on the Mental Health of Students From 2 Semi-Rural High Schools in Georgia. *The Journal of school health*, 91(5), 356–369. <https://doi.org/10.1111/josh.13007>
5. Andrews, V. C., Garrison, C. Z., Jackson, K. L., Addy, C. L., & McKEOWN, R. E. (1993). Mother-adolescent agreement on the symptoms and diagnoses of adolescent depression and conduct disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 32(4), 731-738.

## 2. SUMMARY OF FINDINGS

- + More children who had pre-existing mental health issues reported worsening mental health since the beginning of the COVID-19 pandemic; they were more likely to need mental health help, as reported by both parents and children themselves.
- + More children whose parents' employment status changed indicated worsening and fluctuating mental health change since the pandemic and need for help than children whose parents had no change in employment.
- + Compared to children who had in-person instruction only, online or mixed-mode learners had worsening or fluctuating mental health and were more likely to need mental health help.
- + A large proportion of children who experienced tense or conflictual situations at home indicated worsening mental health change and need for mental health help.
- + A higher proportion of children who reported three or more hours of screen time per day or scored highly on emotional dysregulation (as reported by parents) had worsening mental health compared to those with less screen time or no emotional issues.
- + Child's mental health status before the COVID-19 pandemic influenced their change in mental health since the beginning of the pandemic. Children whose parents reported comparatively poorer mental health before the pandemic indicated worsening mental health since pandemic and a need for help.

Children and parents had “fair” agreement in reporting of change in child’s overall mental health and need for mental health help since the COVID-19 pandemic

Agreement was **more** likely between child and parent reporting of change in child's mental health or need for help for:

- **children who had classes online at home;**
- **those who had “fair” or “poor” mental health before the COVID-19 pandemic;**
- **those who were “more”, or “less”, active during the pandemic compared to before; and**
- **those who had an immigrant parent.**

Agreement was **less** likely between child and parent reporting of change in child's mental health or need for help for:

- **children who had “good” mental health before the COVID-19 pandemic;**
- **those who are members of a minority group and had lower family income;**
- **those who scored high for emotional dysregulation; and**
- **those who had reported 8 or fewer hrs of sleep.**



## 3. METHODOLOGY

### Study sample

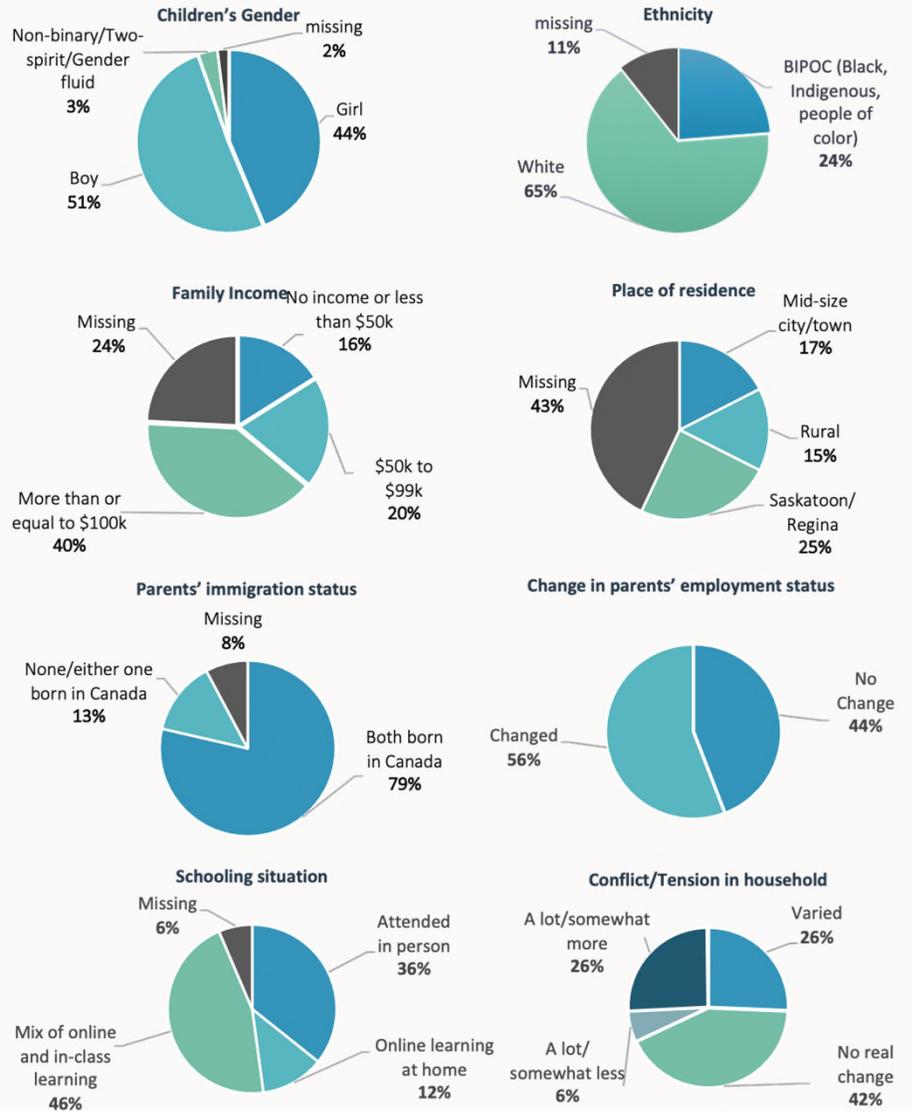
The current study builds on data from [See Us, Hear Us 1.0](#) (SUHU 1.0). The main study collected data from 510 children and youth (8-18) and their parent/caregiver<sup>[1]</sup> dyads via an online survey conducted between March 19 and July 27, 2021. The sample was weighted by age, gender, and location of residence within Saskatchewan using the 2016 Canadian Census data to ensure that the samples are representative of the study population.

### Data Analysis

Descriptive analyses with frequencies and proportions were conducted to examine characteristics of the study population. The degree of association between independent factors (i.e., sociodemographic, behavioural factors, changes/experiences related to the pandemic etc.) and outcome of interest (i.e., change in child's overall mental health and need for help reported by parents and children<sup>[1]</sup>) were examined using Pearson's chi-square test and Fisher's exact test, as appropriate. The level of agreement between child and parent regarding changes in child's overall mental health and need for help was assessed using Cohen's kappa statistic<sup>[2]</sup>. Further, binary logistic regression models were fitted to determine factors associated with the outcomes. Results included statistically significant variables with P-value <0.05 and presented as odds ratios with 95% confidence intervals. All estimates were weighted to the targeted Saskatchewan population.

### Study Population

Figure 1: Characteristics of children, parents, and families (weighted percentage)



Most children (46%) reported a mix of both online and in-person schooling while 36% attended school in-person. 26% of the parent/caregiver respondents indicated the conflict or tension at home increased since the pandemic began. A detailed description of the study sample can be found [here](#).

1. Throughout this brief, the term "children" represents both children and youth/adolescents (i.e., children aged 8-18 years) while "parents" represents both parents and caregivers. In the study sample, caregivers other than parents (e.g., grandparent, foster parent) who responded constituted less than 10%.
2. Cohen J. A coefficient of agreement for nominal scales. *Educational and psychological measurement*. 1960 Apr;20(1):37-46.
3. Only statistically significant results (p-value <0.05) are presented under each section of this Research Brief.

# 4. CHILD'S ASSESSMENT OF CHANGE IN OVERALL MENTAL HEALTH SINCE THE COVID-19 PANDEMIC

Figures 2 to 5: Independent association between child's assessment of change in overall mental health and other factors

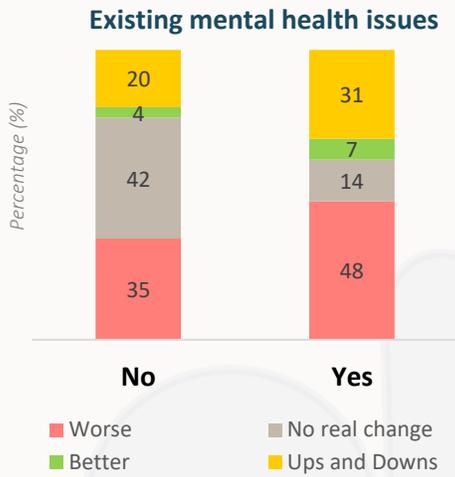


Fig:2

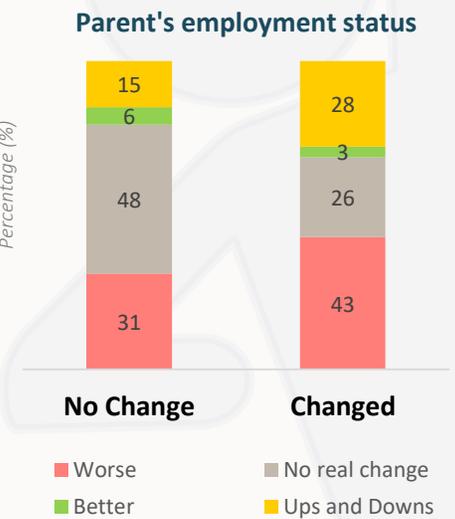


Fig:3

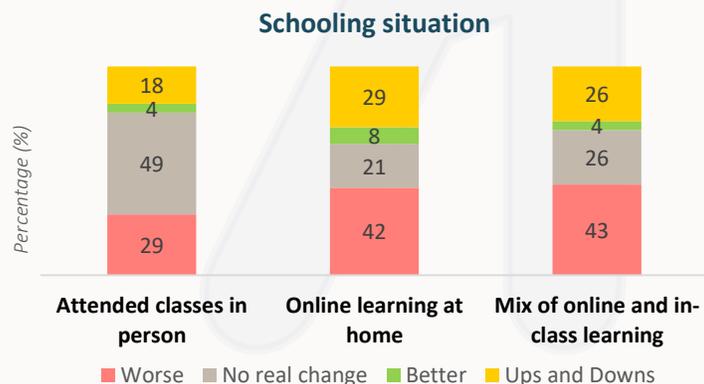


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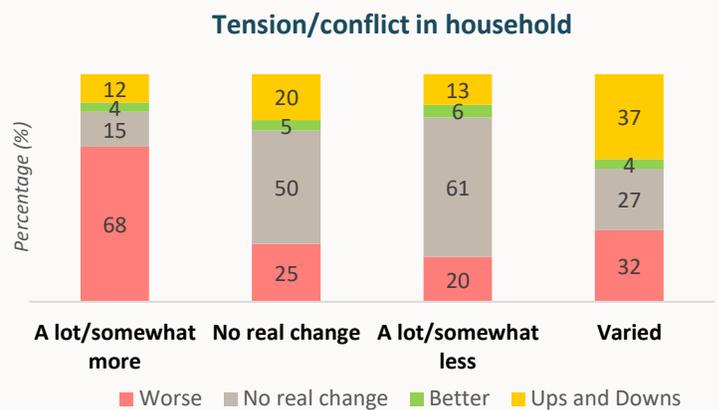


Fig:5

Factors such as *pre-existing mental health issues, change in parent's employment status, schooling situation of the child, and tension/conflict in household* were independently associated with **child's reporting** of change in overall mental health since the COVID-19 pandemic in first year.

- Children who had been diagnosed with mental health related issues, including Attention Deficit Hyperactivity Disorder (ADHD), anxiety, depression, and eating disorders, indicated significantly higher proportion of worse (48% vs 35%) and fluctuation (31% vs. 20%) in mental health since the pandemic. Fig.2
- Significantly higher proportion of children whose parents' employment changed—became unemployed/had reduced working hours/worked from home/had increased hours at work—indicated their mental health became worse (43% vs. 31%) or fluctuated (28% vs. 15%). Fig.3
- Significantly higher proportion of children who had online or mix of both online and in-class schooling indicated experiencing worse mental health change (42% and 43% vs. 29%), fluctuation (29% and 26% vs. 18%), and lower proportion of no change in mental health since the pandemic (21% and 26% vs. 49%). Fig.4
- Significantly larger proportion of children (68% vs. 25%, 20%, & 32%) who had a lot/somewhat more conflict or tense situation at home indicated that their mental health worsened since the pandemic. Fig.5

1. Variables such as pre-existing mental health issues, parent's employment change and conflict in household were obtained from parents' responses while child's schooling situation was obtained from children as well as parents (for kids aged 8-11 yrs).

# 5. PARENT'S ASSESSMENT OF CHANGE IN CHILD'S OVERALL MENTAL HEALTH SINCE THE COVID-19 PANDEMIC

Figures 6 to 8: Independent association between parent's assessment of change in child's overall mental health and other factors

Factors such as child's overall mental health before the COVID-19 pandemic, presence of emotional dysregulation since the pandemic, and child's screen time were found to be independently associated with parent's reporting of child's change in overall mental health since COVID-19 pandemic in first year.

- Significantly higher proportion of children who had 3 or more hours of screen time per day were reported, by their parents, to have worsened overall mental health since the pandemic began (37% vs. 26%). Fig.6
- Significantly larger proportion of children who presented emotional dysregulation<sup>[1]</sup>, compared to those who did not, had worsened overall mental health (64% vs. 23%) and fluctuating mental health (26% vs. 17%) since the pandemic began. Fig.7

- Significantly higher proportion of children whose parents reported that they (the children) had poorer mental health before the COVID-19 pandemic had worsened or fluctuating mental health during the pandemic, in a dose-response manner, compared to children whose pre-pandemic mental health was rated as excellent or very good. Fig.8

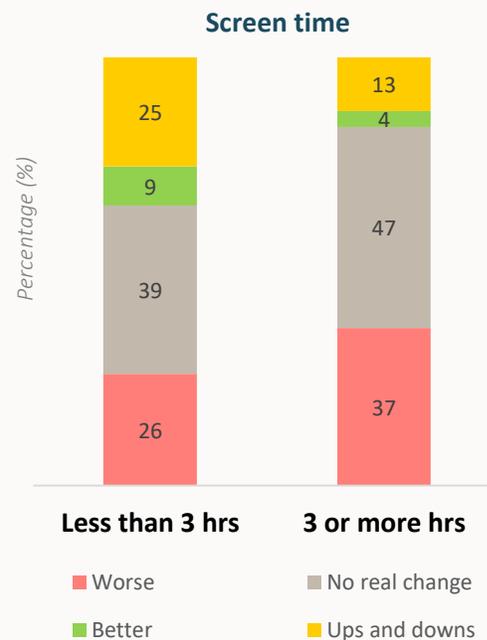


Fig:6

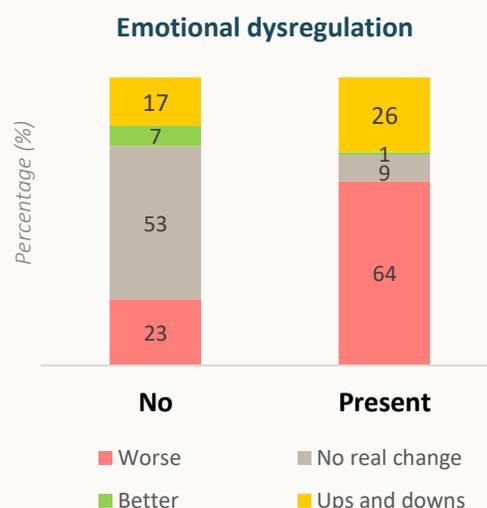


Fig:7

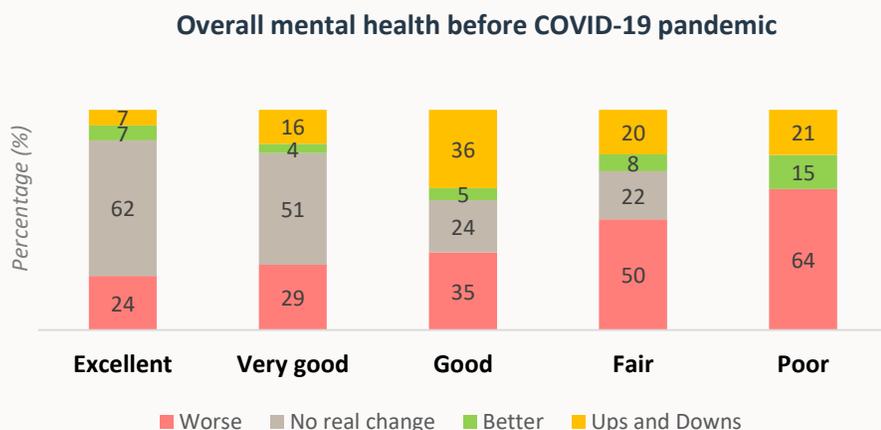


Fig:8

1. Emotional dysregulation measured using the Clinical Evaluation of Emotional Regulation-9 (CEER9) tool. Pylpov, J., Quinn, D., Duncan, D., & Balbuena, L. (2020). A Measure of Emotional Regulation and Irritability in Children and Adolescents: The Clinical Evaluation of Emotional Regulation-9. *Journal of Attention Disorders*, 24(14), 2002-2011  
 2. Variables such as emotional dysregulation and overall mental health before COVID-19 were sourced from parents; screen time was obtained from children's responses.

## 6. HOW CLOSELY DO PARENT & CHILD AGREE ABOUT CHANGE IN CHILD'S OVERALL MENTAL HEALTH SINCE THE COVID-19 PANDEMIC?

Figure 9: (i) Percentage of children experiencing varied mental health changes since the pandemic as reported by children as well as their parents (ii) Total observed agreement (%) in responses

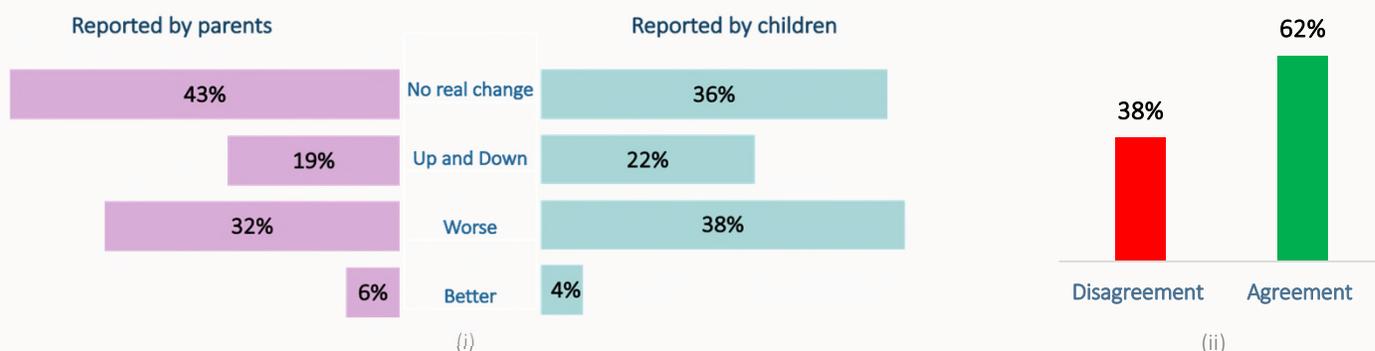
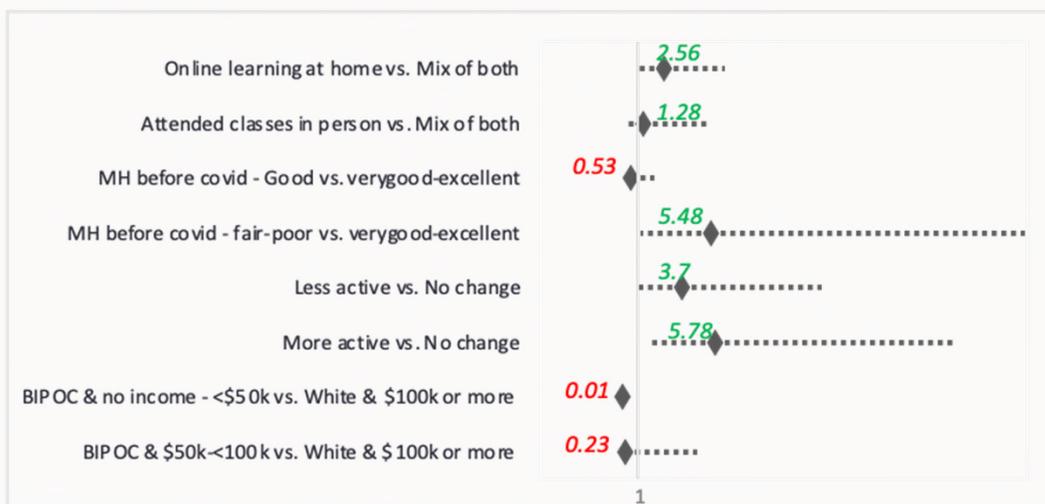


Fig. 9 (ii) indicates **62%** of parent and child had agreement regarding change in child's overall mental health since the COVID-19 pandemic. The Kappa statistic, a measure of strength of agreement, was 0.40, which according to Landis and Koch<sup>[1]</sup> indicates "fair" agreement between parents and children.

## 7. WHAT FACTORS ARE ASSOCIATED WITH AGREEMENT?

Figure 10: Factors that are significantly associated with agreement between parents' and children's responses regarding the change in child's overall mental health (adjusted odds ratio)



Children from minority groups (Black, Indigenous, People of Color) were less likely to have agreement between their report and parent's report about change in child's overall mental health. This is especially the case if family income was also lower, e.g. less than \$50K, or between \$50K and \$100K compared to children who were white with \$100k or more family income.

- ▶ Children who attended school **only remotely** from home or **only in-person** were almost 2.6 and 1.3 times **more likely**, respectively, to have agreement between child and parent reporting regarding change in child's overall mental health compared to children who had a mix of both in-person and online schooling.
- ▶ Children whose parents reported "good" compared to "very good-excellent" mental health before COVID-19 had 47% **lower odds** of correspondence with parents' ratings regarding their change in mental health since the pandemic, while those who reported "fair-poor" had 5.5 times **higher odds** of agreement with parents.
- ▶ Children who reported their **physical activity** either **increased or decreased**, since the beginning of the pandemic, compared to those who said there was no change, were 3.7 to 5.8 times **more likely**, respectively, to have their responses and parents' responses agree about change in child's overall mental health.

1. Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174.

2. Change in physical activity variable was sourced from children and ethnicity and family income variables were obtained from parents

# 8. CHILD'S ASSESSMENT OF NEED FOR HELP SINCE THE COVID-19 PANDEMIC (YEAR ONE)

Figures 11 to 15: Independent association between child's assessment of need for mental health help and other factors

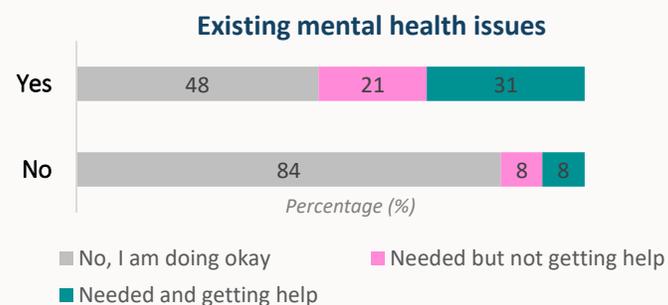


Fig: 11

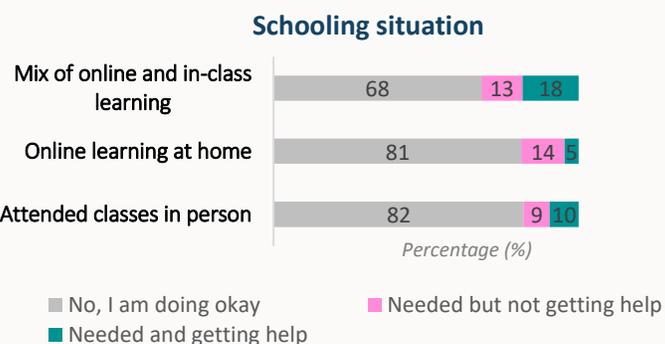


Fig: 12

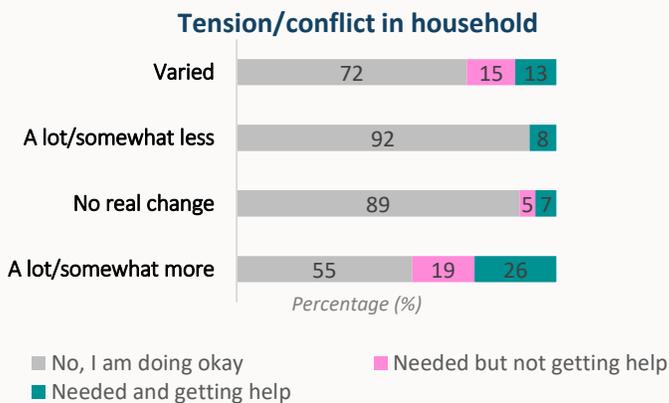


Fig: 13

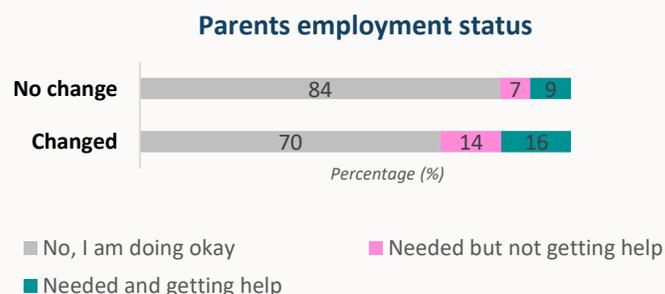


Fig: 14

Factors such as pre-existing mental health related issues, type of schooling during the pandemic, tension/conflict in household, parent employment status, and overall mental health pre-pandemic were independently associated with child's reporting of need for mental health help.

- Children with **pre-existing mental health related issues** indicated significantly higher proportion of **needing help but not getting it** (21% vs. 8%) or **getting the help they need** (31% vs. 8%).
- Significantly more children who had a **mix of online and in-person class** compared to those who had in-person or online classes only reported **needing help** (31% vs. 19%).
- Significantly more children who said there were **a lot more or somewhat more and varying tense or conflict situations** at home indicated **needing help** compared to a lot/somewhat less or no change (45% & 28% vs. 8% & 12% respectively).
- Children whose parents had a **change** in their **employment status** indicated a significantly higher proportion of need for mental health help (30% vs. 16%).
- Significantly more children who reported **good to poor mental health before COVID-19** indicated **needing help** (39% to 79%). Majority of children who had **poor** mental health before COVID-19 indicated they were **getting the help** they need (72%); the 31% who said **fair** or 21% who said **good** mental health indicated **not getting the help they need**.

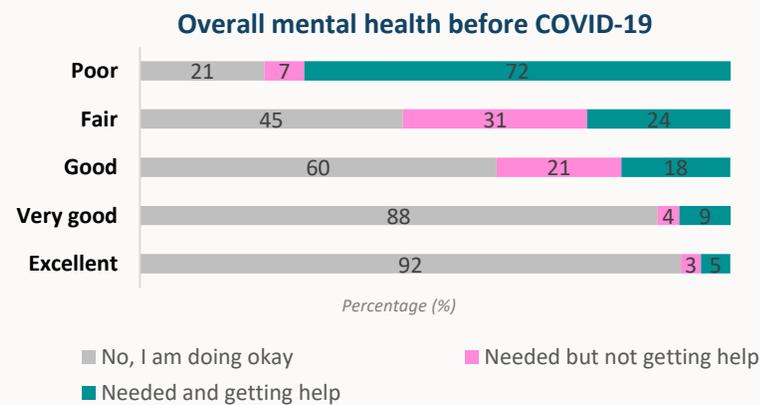


Fig: 15

# 9. PARENT'S ASSESSMENT OF CHILD'S NEED FOR HELP SINCE THE COVID-19 PANDEMIC (YEAR ONE)

Figures 16 to 19: Independent association between parent's assessment of child's need for mental health help and other factors

Factors such as *child's gender, presence of emotional dysregulation, pre-existing mental health related issues, and overall mental health before the pandemic* were independently associated with parent's reporting of child's need for mental health help.

- o Significantly higher proportion of **girls** compared to boys (17% vs. 8%) were reported by their parents to be **needing help**.
- o Significantly more children who scored highly on **emotional dysregulation** since the pandemic were reported by their parents to **need help** (23% vs. 10%).
- o Significantly more children who had been diagnosed with **mental health related issues** were reported by their parents as **needing help** (38% vs. 6%).

- o Significantly more parents who had children with **good, fair, or poor mental health before the pandemic** indicated their children **needed mental health help** (23%, 37%, and 35% vs. 2% & 4%, respectively).

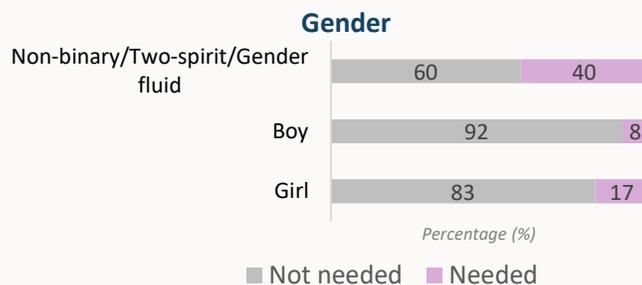


Fig: 16

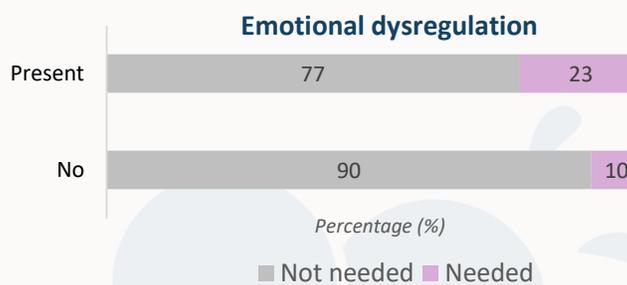


Fig: 17

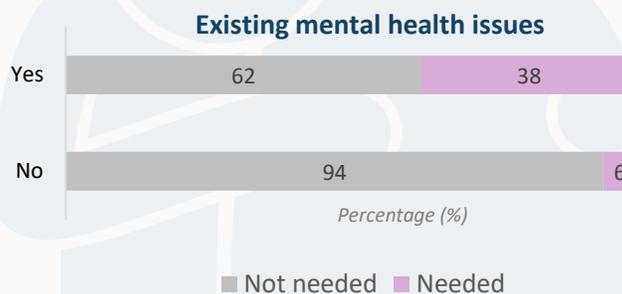


Fig: 18

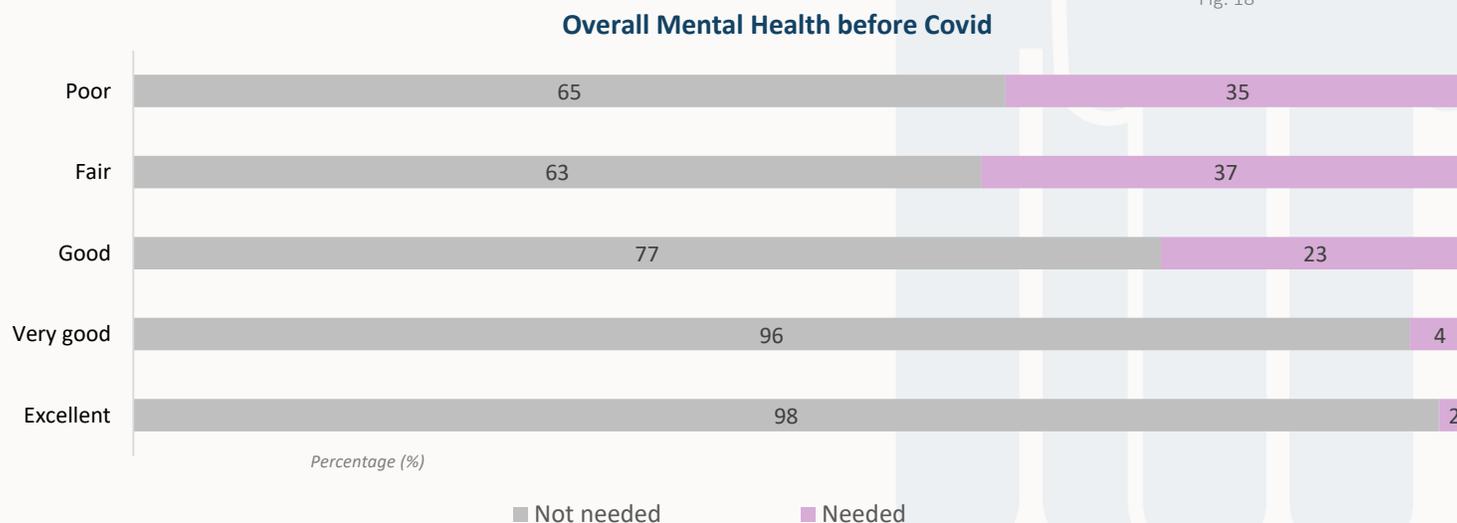


Fig: 19

## 10. HOW CLOSELY DO PARENTS & CHILDREN AGREE ABOUT CHILD'S NEED FOR MENTAL HEALTH HELP SINCE THE COVID-19 PANDEMIC?

Figure 20: (i) Percentage of children needing mental health help as reported by children as well as their parents (ii) Total observed agreement (%) in responses

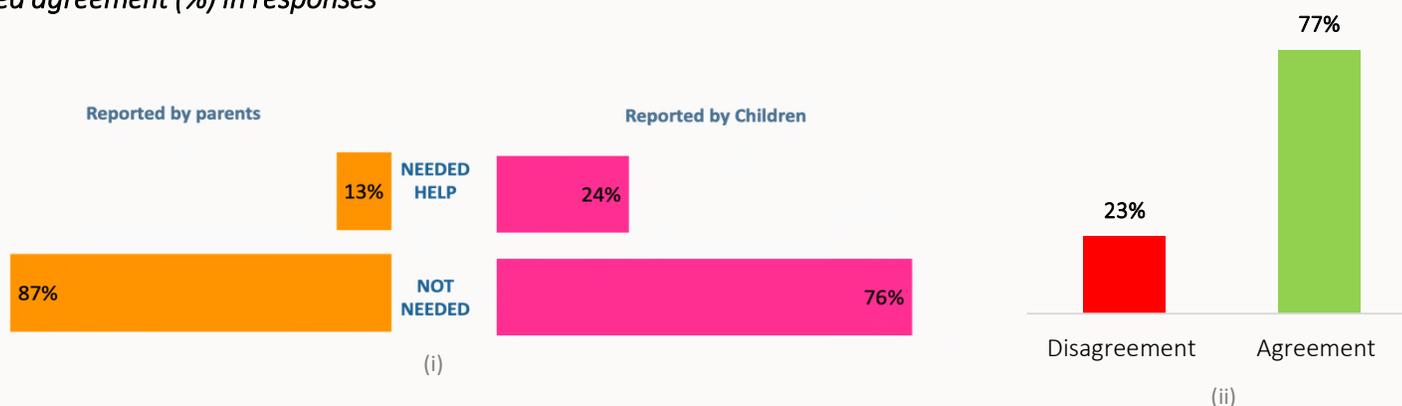


Fig. 20 (ii) indicates **77%** of parent and child reported agreement regarding child's need for mental health help since the pandemic began. The Kappa statistic, a measure of strength of agreement was 0.24, which according to Landis and Koch<sup>[1]</sup> indicates "fair" agreement between parents and children.

## 11. WHAT FACTORS ARE ASSOCIATED WITH AGREEMENT?

Figure 21: Factors that are significantly associated with agreement between parent and child's responses regarding child's need for mental health help (Adjusted odds ratio)



Children who showed **emotional dysregulation** were **75% less likely** to agree with their parents' responses regarding need for mental health help compared to those who didn't.

- ▶ Children who had **immigrant parents** were 3.4 times **more likely** to have agreement with parents about their need for help compared to those whose parents were born in Canada.
- ▶ Children who had **fair** or **poor** overall mental health before COVID-19, compared to those who had very good or excellent mental health, were 37% **less likely** to have agreement with parents about their need for help. Those who had **good** mental health before COVID-19 were 82% **less likely** to have agreement with parents' responses.
- ▶ Children who got **8 or less hours of sleep** were 54% **less likely** to have agreement with the parents' response regarding their need for help compared to those who got more hours of sleep.

1. Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174.

2. Child's hours of sleep variable was sourced from children's responses

## SUHU 1.0 RESEARCH TEAM

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