ALL OUR FAMILIES STUDY

12-14 YEAR YOUTH DESCRIPTIVE REPORT

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ACKNOWLEDGEMENTS

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TECHNICAL SUMMARY

HISTORY OF THE ALL OUR FAMILIES STUDY

The All Our Families (AOF) study began as the All Our Babies (AOB) study in 2008. It is a prospective cohort study of approximately 3,200 mothers and their children in Calgary, Alberta. AOF was initially designed to examine maternal and infant outcomes during the perinatal period and to identify current barriers and facilitators to accessing health care services. Those who agreed to participate were asked to complete three surveys: the first during the second trimester (<25 weeks gestation), the second during the third trimester (34-36 weeks gestation), and the third at four months postpartum. Participants were also asked to provide consent to the research team to access their obstetrical and birth records (McDonald et al., 2013; Tough et al., 2017).

Compared with parents with young children in Calgary, Alberta and the broader Canadian context during a similar timeframe, the sociodemographic attributes of AOF participants at enrollment resembled the population of urban families who had children at the time in terms of age and education (Tough et al., 2017). However, a higher percentage of participants within the AOF cohort reported annual household earnings exceeding $60,000 (82%), in contrast to their counterparts in Calgary (65%), Alberta (61%), and the nationwide figure (56%) at the start of the study. Additionally, the proportion of AOF participants who were married (83%) was elevated when compared with parenting females in Calgary (73%), Alberta (70%), and across Canada (60%).

Subsequent follow-up surveys were developed and administered to consenting and eligible participants to examine child development and parenting outcomes at 1, 2, 3, 5, and 8 years postnatally. Development of the next study follow-up survey began in August 2018 but was delayed due to the COVID-19 pandemic. Data collection for three maternal and youth COVID-19 Impact Surveys occurred between May 2020 and January 2022. Survey design for the 12–14-year follow-up resumed in early 2023 and was completed by Spring of 2023. Data collection occurred at the beginning of 2023, concluding in July of 2023 with a 65% response rate to the maternal survey. Mothers were also asked to consent having their youth participate in a youth survey, and among those who consented, 93% of youth completed the questionnaire. Additional information and previous reports can be found at the AOF website: https://ucalgary.ca/allourfamilies.

This report presents a summary of the data collected independently from the youth in the study when they were 12-14 years of age. Descriptive statistics are provided for youth demographics, community and peer connections, household dynamics, lifestyle, well-being, and development. Bivariate analyses were conducted to assess the relationships between youth outcomes and various demographics and social stressors.

OBJECTIVES

The objectives of this report were as follows:

1) To describe the AOF youth cohort with respect to demographics, relationships, mental and physical health, health service usage, and behaviour and development at 12-14 years of age.
2) To examine bivariate associations between sample sociodemographic variables and maternal health or youth outcomes.

METHODS

DATA COLLECTION

Between May 2008 and May 2011, a cohort of 3,387 pregnant individuals, ranging in age from 19 to 47, were recruited from a pool of eligible participants (n=4,003) in Calgary, Canada. To qualify for the study, participants needed to be under 25 weeks pregnant at the time they joined, at least 18 years of age, receiving prenatal care within Calgary, Canada, and were capable of filling out questionnaires in English (McDonald et al., 2013; Tough et al., 2017). Current AOF participants were eligible for this follow-up study if they (1) agreed to additional research, (2) were currently active in the study, and (3) had an email address on file. All AOF surveys have been circulated to content experts, subspecialists, and clinical experts and pilot tested prior to distribution. Starting January 16th, 2023, the study also invited the children of participants to participate in the 12–14-year follow-up through a personalized online link to University of Alberta's REDCap survey platform. Mothers were sent email reminders and received phone calls from study research assistants to complete the questionnaire and were regularly reminded to provide consent for their child to participate in the youth survey. Participants received between $15-25 gift cards for completing the survey, as well as an opportunity to win an Apple iPad if they completed early. After 24.5 weeks of active data collection, the 12–14-year surveys closed on July 7th, 2023.

Of the 1423 youth who were consented by their caregiver to participate in the study, 1317 provided responses (response = 93%).

Data were exported from REDCap on July 7th, 2023, into IBM SPSS, where data cleaning, management, and coding began shortly afterwards by the research team.

ANALYSIS

Data management and statistical analyses were performed using IBM SPSS. Descriptive statistics were calculated for all quantitative variables collected. Categorical variables are presented as proportions, and continuous variables are presented as sample means with standard deviation, minimum, and maximum values. Bivariate associations between

categorical variables were conducted using Chi-square crosstabulations. Associations between categorical and continuous variables were conducted using t-tests. Continuous variable associations were conducted as correlations with Pearson's correlation coefficient. Statistical significance for all relevant analyses was set at $p<0.05$.

ETHICS APPROVAL

This original study was approved by the Child Health Research Office and the Conjoint Health Research Ethics Board of the Cumming School of Medicine, University of Calgary (Ethics ID 20821 and 22821). Participants provided consent at the time of recruitment to participate in the initial study and to be contacted for additional future research (REB13-0868).

HIGHLIGHTED RESULTS

- 1317 youth participated in the 12 – 14-year follow-up survey (response of 93%).

Demographics

- The average age was 12.8 years. At the time of the survey, most were attending grade 6 (26.0%), grade 7 (38.6%), or grade 8 (30.0%).

School

- Most youth reported that they were performing either at, slightly above, or significantly above grade level in Language Arts (89.2%), Mathematics (89.5%), Science (94.5%), and Social Studies (93.5%). However, 37.8% reported poor school social climate, 33.4% reported being bullied within the past year, and 42.0% reported a low sense of belonging in school.
- Nearly 20% of youths had a Special Education code as identified by Alberta Education. Mothers reported that these youth required support for a wide range of abilities. Among those who had a Special Education code, learning disabilities were most frequently reported (49.5%) followed by emotional/behaviour disability (26.9%), gifted/talented (23.6%), or those who had a physical or medical disability (9.1%).
- Approximately 44% of youth felt a low connectedness with adults at school and 48.5% of youth felt a low sense of peer belonging.

Lifestyle

- Over three-quarters (77.9%) of youth owned smartphones and reported spending up to 2 hours (38.8%) or 4 hours (36.0%) per weekday using electronic devices for entertainment. Youth reported more recreational screen time on the weekends with 2-4 hours (35.9%) and 4-6 hours (27.5%) being the most-reported durations. Increased frequency of social media use was associated with at-risk or clinical levels of anxiety symptoms, however, there was no association between social media use and youth depression

- 73.7% of youth reported following the current Canadian guidelines for sleeping 8 or more hours per night for children aged 14-17 years old. Despite the widespread use of digital devices, 89.5% of youth reported never being disturbed by them during sleep.
- Most youth (83.1%) reported meeting the Canadian 24-Hour Movement Guidelines for physical activity by engaging in moderate-to-vigorous activity for 60 minutes at least 3 days a week. When considering overall health, most youth self-rated their health as excellent (30.3%), very good (46.4%), or good (8.7%)

Mental Health

- Between 40% and 50% of youth reported not feeling connected to adults in their home, school or community. Almost 50% of youth reported low levels of intimacy with peers, and low sense of peer belonging.
- Of the over 33% of youth who experienced bullying in the past year, it most often took the form of verbal or relational bullying.
- 12.3% of mothers identified their youth as at-risk for symptoms of depression. However, a quarter of youth (25.1%) self-reported depression symptoms. A similar pattern was reported for anxiety with 12.6% reported by mothers while 29.4% of youth self-reported anxiety symptoms. This indicated that youth self-reported a higher prevalence of mental health issues than as reported by their mothers; thus, their parent may be unaware of their anxiety or depression symptoms.
- Overall, 28.8% of youth had experienced a mental health concern. The majority (91.0%) received support for these issues through either professional (e.g., family doctor, psychologist, psychiatrist) or non-professional (e.g., family members, friends, teacher) supports.
- Self-reported symptoms of depression (35%) and anxiety (38%) were higher among those assigned female at birth compared to male (16.1% and 23.5%, respectively).
- Household income was not related to youth mental health, including anxiety and depression symptoms, or flourishing scores.

DESCRIPTIVE STATISTICS

DEMOGRAPHICS

Demographic data were updated through the 12–14-year questionnaires. At this time, most youth had mothers who were married or partnered (90.9%). The majority (62.2%) were living in a household with an income of $125,000 or greater. The average age among youth in this cohort was 12.8 (SE 0.02) years. The most common youth self-reported ethnicity was White/Caucasian (76.6%) and most identified as heterosexual (62.9%). Furthermore, 52.3% of youth reported to be assigned male at birth while 47.7% were assigned female at birth (Table 1).

TABLE 1: YOUTH DEMOGRAPHICS, ETHNICITY, GENDER IDENTITY, AND SEXUAL ORIENTATION

Characteristic	N (%)
Relationship to AOF youth	
Mother	1467 (99.9)
Other caregiver	**
Mother Relationship status	
Has a spouse/partner	1346 (90.9)
Does not have a spouse/ partner	135 (9.1)
Total household income (before taxes and deductions)	
$79,999 or less	201 (13.9)
$80,000-$99,999	137 (9.5)
$100,000-$124,999	208 (14.4)
$125,000-$174,999	330 (22.8)
$175,000 or more	572 (39.4)
Youth ethnicity	
White/Caucasian	984 (76.6)
East Asian	71 (5.5)
South Asian	42 (3.3)
Southeast Asian	30 (2.3)
Middle Eastern	21 (1.7)
Latin American	19 (1.5)
Indigenous (First Nations, Inuk/Inuit, Métis)	18 (1.4)
Black / African North American	18 (1.4)
Other ethnicity	81 (6.3)
Youth gender identity	
Man	646 (50.4)
Woman	556 (43.4)
Prefers not to answer	29 (2.3)
Gender-fluid	17 (1.3)
Non-binary	15 (1.2)
Trans man	7 (0.5)
Does not identify with any of the options	8 (0.6)
Trans woman	**
Two-spirit	**
Youth sex assigned at birth	
Male	660 (52.3)
Female	602 (47.7)
Youth sexual orientation	
Heterosexual	788 (62.9)
Prefers not to answer	199 (15.9)
Asexual	81 (6.5)
Bisexual	73 (5.8)
Does not identify with any of the options	56 (4.5)
Pansexual	24 (1.9)
Lesbian	18 (1.4)

Queer	8 (0.6)
Gay	6 (0.5)

** denotes data suppression due to small cell sizes.

YOUTH IN SCHOOL

Most youth were attending grades 6 through 8 (middle school). The majority, (63.9%) were in public schools while 18.3% were attending catholic school and 7.5% were attending a private school. Only 3.5% of youth in the sample reported being homeschooled. Overall, academic performance was high among the AOF youth cohort. In academic performance across subjects like Language Arts, Mathematics, Science, and Social Studies, most youth reported themselves to be at or slightly above grade level. Almost 94% of youth (93.9%) participated in school-based sexual education (Table 2).

Special education codes, as identified by Alberta Education, were assigned to 19.6% of youth. Among those with a special education code, learning disabilities were the most prevalent (49.5%). This encapsulated several disorders that affect attaining, organizing, retaining, or understanding verbal and/or nonverbal information. Emotional/behavioural disabilities included youth who exhibited behaviours that interfered with their own learning and safety or that of others. Among AOF youth with a special education code, 26.9% reported an emotional/behavioural disability and 23.6% were gifted or talented. Giftedness is defined as exceptional potential across a range of abilities in one or more areas. Physical/medical disabilities were also prevalent (9.1%) among youths with special education codes (Table 3).

TABLE 2: YOUTH IN SCHOOL

Category	Response	N (%)
Please indicate which type of school your youth currently attends		
	Public school	940 (63.9)
	Catholic school (publicly funded)	269 (18.3)
	Private school	111 (7.5)
	Charter school	96 (6.5)
	Not in school	**
	Taught at home	40 (2.7)
	Other	14 (1.0)
Homeschooled		
	Yes	46 (3.5)
	No	1267 (96.5)
What grade is your youth currently in?		
	5 or lower	**
	6	354 (26.0)
	7	526 (38.6)
	8	409 (30.0)
	9	70 (5.1)
	10	**

Category	Response	N (%)
Language Arts		
	Significantly above grade level	250 (17.8)
	Slightly above grade level	483 (34.4)
	At grade level	522 (37.0)
	Slightly below grade level	116 (8.3)
	Significantly below grade level	35 (2.5)
Mathematics		
	Significantly above grade level	341 (24.3)
	Slightly above grade level	486 (34.6)
	At grade level	430 (30.6)
	Slightly below grade level	117 (8.3)
	Significantly below grade level	29 (2.2)
Science		
	Significantly above grade level	268 (19.1)
	Slightly above grade level	525 (37.4)
	At grade level	533 (38.0)
	Slightly below grade level	57 (4.1)
	Significantly below grade level	20 (1.4)
Social Studies		
	Significantly above grade level	205 (14.6)
	Slightly above grade level	486 (34.7)
	At grade level	621 (44.2)
	Slightly below grade level	68 (4.9)
	Significantly below grade level	22 (1.6)
Has your youth participated in school-based sexual education classes?		
	Yes	1315 (93.9)
	No	85 (6.1)

** denotes data suppression due to small cell sizes.

TABLE 3: YOUTH SPECIAL EDUCATION CODES AS IDENTIFIED BY ALBERTA EDUCATION

Category	Response	N (%)
Does your youth have a Special Education code as identified by Alberta Education?		
	Yes	275 (19.6)
	No	1024 (72.9)
	Unsure	105 (7.5)
Learning Disability	Selected	136 (49.5)
Emotional/Behaviour Disability	Selected	74 (26.9)
Gifted and Talented	Selected	65 (23.6)
Physical or Medical Disability	Selected	25 (9.1)

Category	Response	N (%)
Communication Disability/Disorder	Selected	14 (5.1)
Severe Emotional/Behaviour Disability	Selected	11 (4.0)
Intellectual Disability (Mild)	Selected	11 (4.0)
Intellectual Disability (Moderate)	Selected	9 (3.3)
Multiple Disability	Selected	9 (3.3)
Unknown	Selected	8 (2.9)
Moderate Language Delay	Selected	6 (2.2)
Hearing Disability	Selected	**
Intellectual Disability (Severe)	Selected	**
Visual Disability	Selected	**
Severe Multiple Disability	Selected	**
Severe Physical or Medical Disability	Selected	**
Deafness	Selected	**
Blindness	Selected	**
Severe Language Delay	Selected	**
In regard to the above, is your youth receiving Modifications or Accommodations?		
	Yes	237 (86.8)
	No	27 (9.9)
	Unsure	9 (3.3)

** denotes data suppression due to small cell sizes.

IN THE HOUSEHOLD

People and Pets in the Home

When AOF mothers were asked about their living arrangements, the majority of respondents indicated that most youth lived in a two-parent family with both biological parents (84.5%) (Table 4). Fewer lived in a two-parent family with one biological and one non-biological parent (4.1%), a single-parent family (9.4%), or other arrangements (2.0%). For the 15.4% of youth not living in a two biological parent home, most (68.1%) reported that youth lived with their AOF mother more than 60% of the time in the 12 months prior to survey completion. Meanwhile, few (3.1%) indicated that youth lived with their mothers less than 40% of the time or not at all.

When considering the number of people in the household, most youth lived with two adults in the home (79.0%). Many households contained two youth aged 10-17 (58.2%), indicating that over half of AOF youth lived with another youth such as a sibling. For households with children aged 5-9, 41.3% had one child in this age group, though nearly half of the households did not have any children in this age range (49.4%). Similarly, most households did not have any children under 5 years old (91.3%) (Table 4).

The presence of household pets was common, with 71.3% of the sample having pets (Table 5). Dogs were the most common pet with 59.6% of pet owners. Most pet-owning respondents had only one pet (46.0%).

TABLE 4: FAMILY STATUS AND LIVING ARRANGEMENTS

	N (%)
Two parent family (both biological parents)	1246 (84.5)
Two parent family (one biological parent, one non-biological parent)	60 (4.1)
Single parent family	138 (9.4)
Other	29 (2.0)
If not in a two biological parent home: In the past 12 months, what percentage of the time did your child live with their AOF mother?	
None or Less than 40% (If not in a two biological parent home)	7 (3.1)
Between 40% and 60% (If not in a two biological parent home)	65 (28.8)
More than 60% (If not in a two biological parent home)	154 (68.1)
Number of adults in household	
1 adult	143 (9.7)
2 adults	1160 (79.0)
3 adults	113 (7.7)
4 adults	43 (2.9)
5 or more adults	9 (0.7)
Number of youth in household	
1 youth aged 10-17	453 (30.8)
2 youths aged 10-17	856 (58.2)
3 youths aged 10-17	135 (9.2)
4 or more youths aged 10-17	26 (1.8)
Number of children aged 5-9 in household	
0 children aged 5-9	468 (49.4)
1 child aged 5-9	391 (41.3)
2 children aged 5-9	78 (8.2)
3 or more children aged 5-9	10 (1.1)
Number of children under 5 in household	
0 children under 5	629 (91.3)
1 child under 5	48 (7.0)
2 or more children under 5	12 (1.7)

TABLE 5: HOUSEHOLD PETS

		N (%)
Do you have any household pets?	Yes	1050 (71.3)
	No	423 (28.7)
If has pets: total number of household pets	1	483 (46.0)
	2	274 (26.1)
	Other	293 (27.9)
How many: Dogs?	0	175 (19.4)
	1	536 (59.6)
	2	158 (17.6)
	3 or more	31 (3.4)
How many: Cats?	0	268 (38.7)
	1	231 (33.3)
	2	150 (21.6)
	3 or more	44 (6.4)
How many: Birds?	0	460 (90.5)
	1	18 (3.5)
	2	15 (3.0)
	3 or more	15 (3.0)
How many: Reptiles?	0	446 (83.9)
	1	72 (13.6)
	2	9 (1.7)
	3 or more	4 (0.8)
How many: Rodents? (e.g., hamster)	0	425 (77.9)
	1	81 (14.9)
	2	27 (5.0)
	3 or more	12 (2.2)
Any additional household pets?	Yes	147 (9.6)
	No	1382 (90.4)

EMOTIONAL WELL-BEING, BEHAVIOUR & DEVELOPMENT

Maternal and Self-reported Youth Behaviour

The Behavior Assessment System for Children (BASC-3) evaluates positive and negative personality traits, thoughts, attitudes, and feelings to provide insight into the youth's thoughts and feelings (Appendix A). Summary statistics for BASC-3 T-scores using anxiety, depression, attention, and hyperactivity clinical subscales are presented in Tables 6 and 7. Subscale scores exhibit noteworthy differences between maternal reports and youth self-reports. Overall, mothers reported lower levels of at-risk and clinically significant scores for their youth in comparison to youth self-reports.

When mothers reported on their youth's behavior and well-being, 13.3% of youth were identified to be either at-risk or clinically significant for hyperactivity, 12.6% for anxiety, 12.3% for depression, and 18.6% for attention problems (Table 6). In some cases, individual youth may be experiencing symptoms of hyperactivity, anxiety, depression, and attention problems (mothers selected "all that apply").

Rates of at-risk and clinically significant categories were approximately 10% higher for youth self-reports in comparison to maternal reports. Youth self-reported either at-risk or clinically significant scores for hyperactivity (22.8%), anxiety (29.4%), depression (30.3%), and attention problems (25.9%). This suggests that a greater percentage of youth scored either at-risk or clinically significant for hyperactivity, anxiety, depression, and attention problems than when mothers reported on their youth.

Youth self-reported data was used to generate composite BASC-3 scores, with 16.0% falling within the at-risk and 9.9% falling in the clinically significant categories for inattention/hyperactivity (Table 7).

TABLE 6: MATERNAL-REPORTED YOUTH BASC-3 T-SCORES

Categories	Low (31-40) N (%)	Average (41-59) N (%)	At-risk (60-69) N (%)	Clinically significant (70+) N (%)
Hyperactivity	165 (11.3)	1103 (75.4)	140 (9.6)	54 (3.7)
Anxiety	274 (18.8)	1003 (68.6)	125 (8.6)	59 (4.0)
Depression	99 (6.8)	1183 (80.9)	119 (8.1)	61 (4.2)
Attention Problems	185 (12.7)	1005 (68.7)	230 (15.7)	42 (2.9)

TABLE 7: YOUTH SELF-REPORTED BASC-3 T-SCORES

Categories	Low (31-40) N (%)	Average (41-59) N (%)	At-risk (60-69) N (%)	Clinically significant (70+) N (%)
Hyperactivity	278 (21.5)	721 (55.7)	196 (15.1)	99 (7.7)
Anxiety	263 (20.3)	651 (50.3)	181 (14.0)	199 (15.4)
Depression	N/A	969 (74.9)	133 (10.3)	191 (14.8)
Attention Problems	261 (20.2)	641 (49.5)	200 (15.5)	192 (14.8)
Inattention Hyperactivity Composite	285 (22.0)	674 (52.1)	207 (16.0)	128 (9.9)

Mental Health Service Use

Maternal reports of youth mental health services suggested that 71.2% of youth had never experienced a mental health concern (Table 8). Among the 28.8% who reported mental health concerns, a substantial majority (91.0%) reported receiving support for these issues from non-professionals and/or professionals. One fifth (23.3%) of youth reported that they sought professional help for mental health concerns in the previous six months. Of these, 30.9% visited a doctor's office and 2.0% visited an emergency department. Meanwhile, 16.4% saw a

psychiatrist, psychologist, social worker, school counselor, or other types of counsellors. Youth also reported relying on family members (59.2%) and psychologists (71.7%) as primary mental health support providers. Other sources of mental health support such as coaches (4.2%) and faith community members (4.5%) were less frequently utilized. Nearly one-fifth (18.1%) of youth felt they needed professional help for mental health concerns but did not seek it.

Satisfaction with received support for youth was high, with 90.6% of AOF mothers expressing satisfaction (Table 8). Among youth who sought help, perceived helpfulness reported by youth who sought professional mental health support varied: 12.8% found the professional support "extremely helpful" and 31.9% found it "very helpful". Meanwhile, 31.9% found it "somewhat helpful", 12.8% found it "a little bit" helpful, and 10.6% reported feeling they did not help at all. Specifically, of those who received professional support from a psychiatrist or mental health professional, 38.7% of youth reported the received help was "very" or "extremely" helpful and 31.6% reporting feeling the support was "somewhat" helpful. Conversely, 18.7% only found this help "a little bit" helpful, while 11.0% reported feeling they were not helpful at all. Overall, this indicates that the majority of youth found professional services such as physicians, psychiatrists, and mental health professionals at least somewhat helpful when receiving mental health support.

TABLE 8: MATERNAL-REPORTED YOUTH MENTAL HEALTH SERVICES USE

Question		Yes N (%)	No N (%)
Has your youth ever had a mental health concern?		421 (28.8)	1040 (71.2)
If youth had a mental health concern: has your youth received support for a mental health concern?		382 (91.0)	38 (9.0)
If so, By whom?	Family members	226 (59.2)	156 (40.8)
	Friends	85 (22.3)	297 (77.7)
	Coach	16 (4.2)	366 (95.8)
	Faith community	17 (4.5)	365 (95.5)
	Teacher	94 (24.6)	288 (75.4)
	School counsellor	115 (30.1)	267 (69.9)
	Not for profit organization (e.g., Big Brothers, Big Sisters)	11 (2.9)	371 (97.1)
	Allied health professional	35 (9.2)	347 (90.8)
	Family doctor	170 (44.5)	212 (55.5)
	Psychologist	274 (71.7)	108 (28.3)
	Psychiatrist	49 (12.8)	333 (87.2)
	Other	33 (8.6)	349 (91.4)
If youth received support for a mental health concern: were you satisfied with the support received?		346 (90.6)	36 (9.4)

TABLE 9: MENTAL HEALTH SERVICE SEEKING

Question	Response	N (%)
In the past six months, did you see or talk to anyone about any concerns you may have had about your mental health?	Yes No	299 (23.3) 986 (76.7)
(Saw/Talked about mental health concerns).. was it at a doctor's office (e.g., your family doctor or a walk-in clinic)?	Yes No	92 (30.9) 206 (69.1)
(Saw/Talked about mental health concerns).. was it at an emergency department at the hospital?	Yes No	6 (2.0) 289 (98.0)
If talked to anyone: To what extent do you feel that the responses of the people at these places were helpful for your mental health concerns?	Extremely helpful Very helpful Somewhat helpful A little bit helpful Not helpful	12 (12.8) 30 (31.9) 30 (31.9) 12 (12.8) 10 (10.6)
In the past six months, have you seen a psychiatrist, a psychologist, a social worker, a school counselor, or some other type of counsellor because of concerns about your mental health?	Yes No	211 (16.4) 1072 (83.6)
If saw a psychiatrist or other: To what extent do you feel that the responses of these people to your mental health concerns were helpful?	Extremely helpful Very Helpful Somewhat helpful A little bit helpful Not helpful	17 (8.1) 64 (30.6) 66 (31.6) 39 (18.7) 23 (11.0)
In the past six months, was there ever a time when you felt you might need professional help for mental health concerns but you did not seek help?	Yes No	232 (18.1) 1050 (81.9)

TABLE 10: NON-PROFESSIONAL MENTAL HEALTH RESOURCES

Source of Mental Health Support	N (%)
Parent or other family member	549 (42.6)
Friend or partner	368 (28.6)
Teacher or other adult at school	159 (12.3)
An adult in my community	49 (3.8)
Someone else	42 (3.3)
Someone on the Internet	41 (3.2)
Someone on a phone helping or crisis hotline	17 (1.3)
Faith-based leader	8 (0.6)
Alternative medicine practitioner	7 (0.5)
None	579 (45.0)

Well-being and Middle Years Development

The Middle Years Development Instrument (MDI) assessed various dimensions of well-being among the youth cohort (Appendix A). Based on the MDI scoring metrics, tertiles were used as cut-offs for high, medium, and low scores for optimism, happiness, self-regulation, responsible decision-making, and perseverance subscales.

For optimism, 37.9% of youth respondents were categorized as low, 26.0% as medium, and 36.1% as highly optimistic. This indicated that the majority of youth scored either medium or high for optimism, meaning that most felt hopeful and confident about the future. Happiness showed a similar trend with 35.9% of youth respondents falling into the low happiness category, 30.1% into the medium category, and 34.0% into the high happiness category.

Self-regulation is defined as the ability to adapt behaviour, thoughts, or emotions in the context of the environment to meet a particular goal. When youth self-reported their scores for self-regulation, 40.7% scored low, 22.8% medium, and 36.5% high.

Responsible decision-making is identified through the ability to make choices that benefit one's own interest while remaining respectful to others. For responsible decision-making, 35.9% scored low, 18.6% medium, and 45.5% high. This indicates that most of the youth have higher ability in this area.

Lastly, perseverance refers to the effort to achieve one's goals, even when facing challenges and setbacks. Among youth, the perseverance subscale showed 33.5% of respondents with low perseverance, 25.7% with medium, and 40.8% with high perseverance (Table 11).

TABLE 11: MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI)

Variable	Low N (%)	Medium N (%)	High N (%)
Optimism (3 items)	484 (37.9)	332 (26.0)	461 (36.1)
Happiness (5 items)	455 (35.9)	382 (30.1)	431 (34.0)
Self-Regulation (6 items)	516 (40.7)	288 (22.8)	463 (36.5)
Responsible Decision-Making (3 items)	458 (35.9)	237 (18.6)	581 (45.5)
Perseverance (5 items)	426 (33.5)	326 (25.7)	519 (40.8)

Flourishing and Languishing

Flourishing helps identify and describe youth well-being. It is defined by healthy growth, psychological and social functioning, and positive attitude. Flourishing among youth indicates they are showing curiosity and interest and are connected to the world around them. Languishing identifies the opposite of flourishing among youth and indicates worsened well-being.

Using Ryff's Psychological Well-Being Scale (Appendix A), flourishing scores for youth were captured and ranged from 0 to 10 with average flourishing scores of 7.50 (SD 1.70). This flourishing score was based on a mean score of six items regarding self-acceptance, purpose in life, positive relations with others, personal growth, environmental mastery, and autonomy.

Most of the sample (70.1%) reported moderate to high levels of flourishing, scoring 7 or more on the Ryff Scale. Among these, most youth (48.0%) scored between 7-8. A smaller proportion (22.1%) reported high flourishing, categorized as scoring 9 or more on the Ryff Scale.

Six items were averaged to produce these flourishing scores and were coded on a scale from 0 ("Do not Agree") to 10 ("Totally Agree") (Table 13). Youth generally viewed themselves positively across various aspects of their lives. The statement "I like being the way I am" had a mean score of 7.75 (SD = 2.23), indicating a high level of self-acceptance. The statement "I am good at managing my daily responsibilities" had a slightly lower mean score of 6.89 (SD = 2.07), suggesting that most youth feel competent in their daily tasks. The perception of friendliness from others, "People are generally friendly towards me," also received a high mean score of 7.72 (SD = 1.97). Similarly, the sense of autonomy, as reflected in "I have enough choice about how I spend my time," had a high mean score of 7.74 (SD = 2.08). Regarding personal growth, the item "I feel that I am learning a lot at the moment" had a mean score of 7.19 (SD = 2.41), indicating that a majority feel they are gaining knowledge and skills. Lastly, optimism about the future was also positive, with the statement "I feel positive about my future" scoring a mean of 7.70 (SD = 2.35) (Table 10).

TABLE 12: FLOURISHING ACCORDING TO RYFF SCALE

	N (%)
Low flourishing (scored ≤ 6)	381 (29.9)
Medium flourishing (scored 7-8)	612 (48.0)
High flourishing, scored ≥ 9	282 (22.1)
Total	1275 (100)

TABLE 13: FLOURISHING MEASURE ITEMS

	Minimum	Maximum	Mean	SD
I like being the way I am.	0	10	7.75	2.23
I am good at managing my daily responsibilities.	0	10	6.89	2.07
People are generally friendly towards me.	0	10	7.72	1.97
I have enough choice about how I spend my time.	0	10	7.74	2.08
I feel that I am learning a lot at the moment.	0	10	7.19	2.41
I feel positive about my future.	0	10	7.70	2.35

Discrimination

While the majority of youth did not report experiencing discrimination (79.4%), one in five (20.6%) indicated that they had. When asked if this affected them, over half said the experience affected them "somewhat" (44.9%), "a lot" (17.9%), or "not at all" (37.3%) (Table 14).

TABLE 14: DISCRIMINATION EXPERIENCES

Question	Response	N (%)
In the past year, have you experienced discrimination?	Yes	264 (20.6)
	No	1020 (79.4)
If yes, how much did this affect you?	Not at all	98 (37.3)
	Somewhat	118 (44.8)
	A lot	47 (17.9)

Eco-anxiety

Eco-anxiety, also known as climate anxiety, is an emotional response to climate change and environmental issues. The experience of youth eco-anxiety was assessed using the Hogg Eco Anxiety Scale (Appendix A). This 13-item scale was designed to measure anxiety related to ecological crises, environmental conditions, and respondents' personal impact on the environment. Scores range from 0.0-7.0 and youth reported a mean of 2.78 (SD 2.03). This indicates that youth are experiencing low eco-anxiety (Table 15). Among youth, 1 in 10 (10.2%) reported being either extremely or very worried about climate change while 22.5% reported being only moderately worried.

TABLE 15: ECO-ANXIETY

Hogg Eco-Anxiety Scale Total Score	
N	750
Minimum	0.00
Maximum	7.00
Mean	2.78
Std. Deviation	2.03

Behavioural Activation and Impulse Sensation Seeking

Reward responsiveness has been posited as an adaptive trait involved in promoting resilience (Taubitz et al., 2015). It is indicative of the degree that an individual experiences positive responses to rewards, which can impact drive and motivation (Taubitz et al., 2015). The Behavioral Activation Scale, Reward Responsiveness Subscale (BAS-RR) was employed to measure youth's ability to experience pleasure in the anticipation or presence of a reward (Appendix A). This scale ranges from 5-20 with higher scores indicative of greater reward responsiveness. Youth reported an average score of 17.54 (SD 2.15), indicating relatively high reward responsiveness among youth (Table 16).

The Impulsive Sensation Seeking Scale (ISSS-Short) measures traits that influence how individuals respond to potential rewards and risks in their environment (Appendix A). This scale ranges from 0 to 1. Among youth in the sample, the mean score was 0.57 with a standard deviation of 0.29, suggesting a moderate level of impulsive sensation seeking behaviour.

TABLE 16: BEHAVIOURAL ACTIVATION AND IMPULSE SENSATION SEEKING

Behavioral Activation Scale – Reward Responsiveness Subscale	
Minimum	0.00
Maximum	20.00
Mean (SD)	17.54 (2.15)
N	1273
Impulsive Sensation Seeking Scale	
Minimum	0.00
Maximum	1.00
Mean (SD)	0.57 (0.29)
N	1274

Social Media and Video Gaming Addiction

Descriptive statistics for the Social Media Addiction Questionnaire (SMAQ) and the Video Game Addiction Questionnaire (VGAQ) revealed insights into risk of addiction among youth (Appendix A). Scores for both instruments range from 0 to 24 and were based on 6 items. Higher scores indicated greater social media or video game addiction, respectively. Scores for both instruments were dichotomised at 1 SD above the mean to identify youth at risk (Table 17).

The average SMAQ score was 5.01 (SD 5.04), indicating a low level of risk for social media addiction and variance in responses. About 1 in 5 youth (18.6%) scored at-risk (10 or more) for social media addiction. The mean VGAQ score was slightly lower at 4.79 (SD 4.94), indicating a lower level of risk overall for video game addiction among youth. A slightly greater percentage (21.2%) of youth scored at-risk of video game addiction.

TABLE 17: YOUTH SOCIAL MEDIA AND VIDEO GAME ADDICTION

	N	Minimum	Maximum	Mean (SD)
Social Media Addiction Questionnaire (SMAQ)	1272	0.00	24.00	5.01 (5.04)
Video Game Addiction Questionnaire (VGAQ)	1271	0.00	24.00	4.79 (4.94)
				N (%)
Social Media Addiction Questionnaire (SMAQ)				
At risk for addiction (scored 10 or more)				237 (18.6)
Not at risk (scored less than 10)				1035 (81.4)
Video Game Addiction Questionnaire (VGAQ)				
At risk for addiction (scored 9 or more)				269 (21.2)
Not at risk (scored less than 9)				1002 (78.8)

Digital Device and Web Use

Over three-quarters (77.9%) of youth reported owning a smartphone and the mean age for getting a smartphone was 10.45 years old (Table 18). When asked about electronic device usage for entertainment on a typical weekday, responses indicated highest frequencies

between 0 and 2 hours per day (38.8%) and between 2 and 4 hours (36.0%). Among youth, one in ten (11.1%) reported spending more than 6 hours per day on their smartphone on a typical weekday. For weekends, electronic device usage was higher among youth with most using their electronic device between 2 and 4 hours per day (35.9%), followed by between 4 and 6 hours (27.5%). One in five (18.9%) reported spending more than 6 hours and 17.7% reported spending between 0 and 2 hours on their smartphone on a typical weekend day.

On a typical weekend day, youth reported spending an average of approximately 1 - 2 hours playing single-player video games, and about 2 hours on multiplayer video games on devices such as computers, consoles, or phones (Table 19). More than one-third of youth (38.4%) reported playing mature-rated video games either “once in a while”, “regularly”, or “all the time”. Meanwhile, the majority of youth (61.6%) reported never playing mature-rated video games.

Texting, messaging, or engaging on social media daily was reported by 86.3% of youth respondents. A daily habit of watching or streaming movies and shows was also common (44.7%) (Table 20). Furthermore, 40.5% play video games or use apps daily and 35.5% do so at least once a week. Daily video chatting was less prevalent with 20.7% reporting that they never video chat on a typical day and 18.8% doing less than once a month. Multitasking with multiple forms of media was common, with 14.9% doing so “most of the time” and 26.5% doing so some of the time. 23.3% of youth reported never using more than one type of media at a time.

Youth indicated that they preferred to use their electronic devices by themselves. When alone, youths reported watching or streaming movies/shows (31.7% “almost always”) and playing video games or using apps (27.0% “almost always”) by themselves. However, a considerable number were engaged in chatting with others online or while gaming (29.5% “most of the time”, and 24.3% “once in a while”) while others (21.1%) never chatted with others online or while gaming.

Youth reported they “sometimes” (46.8%), “often” (9.2%), or “almost always” (3.2%) wished their parent or caregiver would spend less time on their own devices (Table 21). Others reported never (40.8%) wishing their parent or caregiver would spend less time on their devices. Among friends, 5-10% of youth were “almost always” or “often” frustrated by or wished their friends would spend less time on their devices. Meanwhile, 45-50% reported never (51.4%) feeling frustrated by their friend’s device usage.

Internet and social media sites have played a significant role in mental health awareness and connectivity as access to social media is increasingly frequent. When asked if they thought they may be experiencing symptoms of a mental health disorder, 52.4% strongly disagreed, 18.5% somewhat disagreed, 20.2% somewhat agreed, and 8.9% strongly agreed. Youth reported whether they found digital media as a way to find information about mental health disorders. Among youth, 17.4% strongly agreed they could find information about mental health disorders through the internet and social media sites while others (37.5%) somewhat agreed and 28.9% strongly disagreed (Table 22).

Moreover, youth reported whether social media allowed them to connect with others who had mental health disorders. Over half, (59.9%) indicated that they strongly disagree that digital

media allowed them to connect with others who have mental health disorders while 18.5% somewhat disagreed. Only 6.3% of youth strongly agreed that digital media allowed them to connect with others who have mental health disorders (Table 22). Overall, this indicated that youth did not feel that social media allowed them to connect with others who have mental health disorders.

TABLE 18: SMARTPHONE AND ELECTRONIC DEVICE USE

	Minimum	Maximum	Mean (SD)	N
How old were you when you got your first smartphone?	1	14	10.45 (1.77)	1290
Thinking about a typical weekday in the past two weeks, how much time did you spend using electronic devices for fun?	0	7	3.37 (1.87)	1290
Thinking about a typical weekend day in the past two weeks, how much time did you spend using electronic devices for fun?	0	7	4.37 (1.84)	1290
				N (%)
Weekday screen time				
0-2 hours				500 (38.8)
>2-4 hours				464 (36.0)
>4- 6 hours				182 (14.1)
> 6 hours				143 (11.1)
Weekend screen time				
0-2 hours				228 (17.7)
>2-4 hours				464 (35.9)
> 4- 6 hours				354 (27.5)
> 6 hours				244 (18.9)
Do you have a smartphone?				
Yes				999 (77.9)
No				284 (22.1)

TABLE 19: MEDIA CONSUMPTION

Single-players Video Games	
N	1270
Minimum (Hours)	0
Maximum (Hours)	16
Mean (SD)	1.55
Std. Deviation	1.88
Multiplayers Video Games	
N	1271
Minimum (Hours)	0
Maximum (Hours)	24
Mean	1.92
Std. Deviation	2.31

TABLE 20: DIGITAL ACTIVITIES

Activity	Frequency Range	N (%)
Watch or stream movies/shows	Never	19 (1.5)
	Less than once a month	54 (4.2)
	At least once a month	101 (7.9)
	At least once a week	536 (41.7)
	Everyday	575 (44.7)
Send texts/messages or look at/post on social media	Never	176 (13.7)
	Less than once a month	49 (3.8)
	At least once a month	56 (4.4)
	At least once a week	239 (18.6)
	Everyday	766 (59.5)
Play video games or apps	Never	80 (6.2)
	Less than once a month	113 (8.8)
	At least once a month	128 (10.0)
	At least once a week	444 (34.5)
	Everyday	521 (40.5)
Video chat	Never	259 (20.1)
	Less than once a month	242 (18.8)
	At least once a month	251 (19.5)
	At least once a week	335 (25.9)
	Everyday	203 (15.7)
Alone when watching/streaming movies/shows	Never	76 (6.0)
	Almost never	217 (17.2)
	Sometimes	508 (40.2)

Activity	Frequency Range	N (%)
	Almost always	401 (31.7)
	Always	62 (4.9)
Alone when playing video games/apps	Never	99 (8.2)
	Almost never	288 (23.9)
	Sometimes	414 (34.3)
	Almost always	325 (27.0)
	Always	79 (6.6)
Chatting while online/gaming	Never	272 (21.1)
	Once in a while	313 (24.3)
	Some of the time	324 (25.1)
	Most of the time	380 (29.5)
Using more than one type of media at a time	Never	304 (23.6)
	Once in a while	451 (35.0)
	Some of the time	341 (26.5)
	Most of the time	192 (14.9)
How often do you play mature-rated video games	Never	791 (61.6)
	Once in a while	338 (26.3)
	Regularly	108 (8.4)
	All of the time	48 (3.7)

TABLE 21: DEVICE USE FRUSTRATION

Statement	Never N (%)	Sometimes N (%)	Often N (%)	Almost always N (%)
I wish my parent or caregiver would spend less time on devices	525 (40.8)	602 (46.8)	118 (9.2)	41 (3.2)
I get frustrated with my parent or caregiver for being on devices	672 (52.2)	438 (34.0)	131 (10.2)	46 (3.6)
I wish my friends would spend less time on devices	587 (45.6)	478 (37.1)	141 (10.9)	82 (6.4)
I get frustrated with my friends for being on devices	660 (51.4)	431 (33.6)	117 (9.1)	76 (5.9)

TABLE 22: DIGITAL MEDIA FOR MENTAL HEALTH RESOURCES

Impact	Strongly disagree N (%)	Somewhat disagree N (%)	Somewhat agree N (%)	Strongly agree N (%)
Found information about mental health disorders	371 (28.9)	208 (16.2)	481 (37.5)	224 (17.4)
Thought I might be experiencing symptoms of a mental health disorder	673 (52.4)	238 (18.5)	259 (20.2)	115 (8.9)
Connected with others who have mental health disorders	767 (59.8)	237 (18.5)	197 (15.4)	81 (6.3)

PHYSICAL HEALTH AND HEALTH SERVICES ACCESS

Sleep

Current Canadian guidelines recommend 8-10 hours of sleep per night for children aged 14-17 years old. Nearly three-quarters (73.7%) of youth reported meeting these guidelines through sleeping 8 hours or more per night on average (Table 23). Meanwhile, 19.3% of youth slept between 7 (8.7%) and 7 and a half hours (10.6%). Only 7.1% of youth slept less than 7 hours on average.

Youth were asked how often their digital devices disturbed their sleep, including whether they were woken up by their device during the night. Most (89.5%) youth reported "never" being woken up by their digital device in the previous two weeks while sleeping. Only 0.9% of youth reported that their digital device interfered with their sleep every night (Table 24). This indicated that most youth were not disturbed by their digital device at night.

Difficulty with sleep, including issues falling asleep or staying asleep throughout the night, was assessed in youth using the PROMIS Pediatric Sleep Disturbance scale (Appendix A). T-scores ranged from 38.8 to 79.1 with higher scores indicative of higher sleep disturbance. A mean score of 53.55 (SD 8.82) was found, reflecting a moderate level of sleep disturbance among participating youth when asked about their previous week (Table 25) (Appendix A).

Youth reported a range of responses in sleep disturbances, with the majority not experiencing significant difficulties falling or staying asleep. 22.5% of youth reported they "never" had difficulties falling asleep while 33.6% experienced this "sometimes". A smaller percentage "always" (11.2%) or "almost always" (5.6%) had difficulty falling asleep. The majority of youth were "always" (42.5%) or "almost always" (38.2%) able to sleep through the night. Meanwhile, 12.5% of youth reported only "sometimes" being able to and others reported "never" (2.3%) or "almost never" (4.5%) being able to sleep through the night without waking. Further, most youth reported "never" (42.4%) or "almost never" (29.2%) experienced general sleep problems. However, almost one fifth (18.7%) experienced general issues "sometimes", while a small percentage of youth experienced these issues "always" (3.3%) or "almost always" (6.4%). Over one half reported "never" (33.8%) or "almost never" (28.2%) having trouble sleeping while one-quarter (25.3%) reported "sometimes", 4.5% "always" (4.5%) and 8.2% "almost always" had trouble sleeping. Overall, this indicates that most of the youth did not experience significant sleep disturbances in being able to fall or stay asleep throughout the night.

TABLE 23: SLEEP DURATION

In the past two weeks, about how long do you sleep on a typical night?	N (%)
Less than 7 hours	90 (7.1)
7 hours	111 (8.7)
7 and a half hours	136 (10.6)
8 hours	248 (19.3)
8 and a half hours	234 (18.2)
9 hours	228 (17.8)
9 and a half hours	143 (11.1)
10 hours or more	93 (7.2)
Total	1283 (100)

TABLE 24: DIGITAL DEVICE SLEEP DISTURBANCE

Thinking about your sleep habits in the past two weeks, how often are you woken up by your digital device during the night?	N (%)
Never	1140 (89.5)
Some nights	122 (9.6)
Every night	12 (0.9)
Total	1274 (100.0)

TABLE 25: PROMIS PEDIATRIC SLEEP DISTURBANCE SCALE

Question	Never N (%)	Almost never N (%)	Sometimes N (%)	Almost always N (%)	Always N (%)
In the past 7 days I had difficulty falling asleep.	289 (22.5)	347 (27.1)	431 (33.6)	143 (11.2)	72 (5.6)
In the past 7 days I slept through the night.	29 (2.3)	58 (4.5)	160 (12.5)	489 (38.2)	545 (42.5)
In the past 7 days I had a problem with my sleep.	541 (42.4)	373 (29.2)	239 (18.7)	82 (6.4)	42 (3.3)
In the past 7 days I had trouble sleeping.	432 (33.8)	360 (28.2)	322 (25.3)	104 (8.2)	57 (4.5)
	N	**Minimum**	**Maximum**	**Mean**	**SD**
PROMIS Pediatric Sleep Disturbance Score	1267	38.8	79.1	53.55	8.82

Physical Activity

At the time of survey development, the Canadian 24-Hour Movement Guidelines for physical activity recommended youth to engage in moderate-to-vigorous activity for 60 minutes at least 3 days a week (Appendix A). Over three quarters of youth (83.1%) reported meeting these guidelines for physical activity. When youth self-reported their physical activity, the majority engaged in physical activity at least 5 days of the week. Specifically, 21.9% reported engaging in physical activity every day of the week, 11.7% reported engaging for 6 days each

week, and 22.8% for 5 days a week. Only 4.4% of youth reported not engaging in physical activity during the week. This demonstrates that most youth had an active lifestyle and met Canadian guidelines (Table 26).

TABLE 26: PHYSICAL ACTIVITY PARTICIPATION

	N (%)
Days per week of physical activity	
0 days	56 (4.4)
1 day	60 (4.7)
2 days	101 (7.9)
3 days	159 (12.4)
4 days	182 (14.2)
5 days	294 (22.8)
6 days	150 (11.7)
7 days	282 (21.9)
Total Respondents	1284 (100.0)
Meets Canadian 24- Hour Movement Guidelines	
Does not meet guidelines	217 (16.9)
Meets guidelines	1067 (83.1)
Total Respondents	1284 (100.0)

Aches and Pains

Over the previous month prior to survey completion, 34.7% of youth reported experiencing aches and/or pain 2 to 3 times (34.7%). Over 22% experienced pain almost every day or daily (18.1%, 4.4%). Over 40% of youth reported experiencing no pain, or less than once during the month (19.1%, 23.7%)) (Table 27). Aches and pains were most often felt in muscles and joints (47.7%), head (41.3%), legs (40.1%), and stomach (34.2%).

Overall, most youth reported that pain did not interfere in their ability to sleep, walk, or pay attention (Table 28). Less than 15% of youth reported they had experienced any trouble sleeping, paying attention, or walking due to pain.

On a scale from 0 (no pain) to 10 (worst pain possible), the severity of pain reported by youth was most often rated as 3 (22.8%) or 4 (16.3%) (Table 29). Chronic pain, lasting at least three consecutive months, was reported by 44.2% of youth. (Table 30).

TABLE 27: ACHES AND PAINS

Frequency	Response	N (%)	
Frequency of aches/pains in past month			
	Not at all	246 (19.1)	
	Once per month	305 (23.7)	
	2 to 3 times per month	446 (34.7)	
	Almost every day	233 (18.1)	
	Everyday	55 (4.4)	
	Response	**Selected N (%)**	**Unselected N (%)**
If experienced any aches and pain, where?			
	Muscles and joints	496 (47.7)	543 (52.3)
	Head	429 (41.3)	610 (58.7)
	Legs	417 (40.1)	622 (59.9)
	Stomach	355 (34.2)	684 (65.8)
	Chest	142 (13.7)	897 (86.3)
	Other	134 (12.9)	905 (87.1)

TABLE 28: PAIN IMPACTS

Activity / Impact	Never N (%)	Almost Never N (%)	Sometimes N (%)	Often N (%)	Almost Always N (%)
Trouble sleeping due to pain	507 (48.8)	230 (22.1)	200 (19.2)	81 (7.8)	21 (2.1)
Hard to pay attention due to pain	392 (37.7)	215 (20.7)	271 (26.1)	122 (11.8)	38 (3.7)
Hard to run due to pain	216 (20.9)	193 (18.6)	299 (28.9)	224 (21.6)	103 (10.0)
Hard to walk one block due to pain	471 (45.4)	246 (23.7)	195 (18.8)	85 (8.2)	41 (3.9)

TABLE 29: PAIN SEVERITY

When you have aches or pains, how much hurt do you usually have?	N (%)
0 No pain	10 (1.0)
1	27 (2.6)
2	103 (9.9)
3	236 (22.8)
4	227 (21.9)
5	169 (16.3)
6	138 (13.3)
7	86 (8.3)

When you have aches or pains, how much hurt do you usually have?	N (%)
8	30 (2.9)
9 or 10 Worst pain possible	10 (1.0)
Total	1036 (100.0)

TABLE 30: CHRONIC PAIN

Pain for more than 3 months?	N (%)
Yes	457 (44.2)
No	577 (55.8)
Total	1034 (100.0)

Headaches

Among youth, one quarter (25.3%) reported that they had experienced headache. Among those, almost half (49.1%) rated these as mildly painful, while 43.6% reported moderate pain. For 7.3% of youth, these headaches were severely painful (Table 31). The pain characteristics of headaches were predominantly pressure (60.7%) and throbbing (58.1%). The other types of headache pain, such as squeezing (27.4%), stabbing (14.3%), and sharp (17.3%) were less common. Most headaches occurred in both temples (44.3%) or the front of the head (42.6%). The less common locations for headache pain were behind the eyes (18.7%), or in the right (11.0%) or left (8.2%) temple (Table 32). Accompanying headache symptoms most commonly included sensitivity to light (38.6%) and sound (34.9%), nausea (28.8%), and vertigo (27.4%). A smaller percentage of youth experienced vomiting (7.3%) or reported other symptoms (19.2%) (Table 33). Over half (57.3%) reported that headaches affected their activity level, and 53.8% noted that physical activity exacerbated the headache (Table 34). Among the 387 youth that reported headaches, 62.8% experienced headaches for less than 2 hours, while 1 in 10 youth (11.6%) reported experiencing headaches for over 6 hours (Table 35).

TABLE 31: HEADACHE

Characteristic / Rating	Yes N (%)	No N (%)
Experience headaches	387 (25.3)	1142 (74.7)
Headache Rating: Mild	208 (49.1)	
Headache Rating: Moderate	185 (43.6)	
Headache Rating: Severe	31 (7.3)	
Pain Type: Throbbing	248 (58.1)	179 (41.9)
Pain Type: Squeezing	117 (27.4)	310 (72.6)
Pain Type: Stabbing	61 (14.3)	366 (85.7)
Pain Type: Pressure	259 (60.7)	168 (39.3)
Pain Type: Sharp	74 (17.3)	353 (82.7)
Pain Type: Other	37 (8.7)	390 (91.3)

TABLE 32: HEADACHE LOCATIONS

Location on the head	Selected N (%)	Unselected N (%)
Both temples/sides	189 (44.3)	238 (55.7)
Front	182 (42.6)	245 (57.4)
Top	95 (22.2)	332 (77.8)
All over	93 (21.8)	334 (78.2)
Around eyes	91 (21.3)	336 (78.7)
Back	90 (21.1)	337 (78.9)
Behind eyes	80 (18.7)	347 (81.3)
Right temple/side	47 (11.0)	380 (89.0)
Left temple/side	35 (8.2)	392 (91.8)
Other	20 (4.7)	407 (95.3)

TABLE 33: HEADACHE SYMPTOMS

Symptom	Selected N (%)	Unselected N (%)
Sensitivity to light	165 (38.6)	262 (61.4)
Sensitivity to sound	149 (34.9)	278 (65.1)
Nausea	123 (28.8)	304 (71.2)
Spinning sensation (vertigo)	117 (27.4)	310 (72.6)
Other	82 (19.2)	345 (80.8)
Vomiting	31 (7.3)	396 (92.7)

TABLE 34: HEADACHE IMPACTS

Impact / Effect	Yes N (%)	No N (%)
Change in activity level due to headache	244 (57.3)	182 (42.7)
Activity worsening headache	228 (53.8)	196 (46.2)

TABLE 35: HEADACHE LONGEVITY

Headache Longevity	N (%)
Under 2 hours	243 (62.8)
Between 2 and 4 hours	59 (15.2)
Between 4 and 6 hours	40 (10.4)
Over 6 hours	45 (11.6)

Pubertal Development

The Pubertal Development Scale (PDS) is a self-report measure of pubertal status that assesses changes based on physical characteristics in both male and female youth (Appendix A). Among youth, the mean score was 2.41 (SD = 0.74), with scores ranging from 1.00 to 4.00 (Table 36). This indicates that, on average, changes associated with puberty had begun, but were not complete among youth.

Regarding specific pubertal milestones, the majority reported that body hair development had at least definitely started (54.1%). A smaller proportion (15.7%) reported body hair growth seemed complete and 17.0% had not started. Most youth also indicated skin changes with 45.4% reporting they had definitely started and 31.1% had barely noticed skin changes (Table 37).

Among females, 3 in 4 noted breast growth was either complete (6.2%) or underway (69.1%). The majority of female youth reported that they had begun menstruating (63.0%), typically around age 11 (41.4%) or 12 (32.3%) (Table 38). This indicated that most female youth had begun pubertal development at the time of the survey. Contrastingly, male youth predominately reported either not yet or barely experiencing signs of puberty. Among male youth, the majority reported either not yet (41.4%) or barely started (29.8%) experiencing voice changes. Similarly, most male youth had not started (54.5%) or barely started (33.7%) growing facial hair (Table 39).

When considering the overall health of AOF youth, most rated their health as excellent (30.3%), very good (46.4%), or good (8.7%) (Table 40). Moreover, when youth were asked to perceive their growth in height, more than half reported definite, but not complete, growth in height (58.0%) (Table 41). Conversely, only 14.4% of youth reported that their growth has not yet begun to spurt.

TABLE 36: PUBERTAL DEVELOPMENT SCALE SCORES

Pubertal Development Scale (PDS)	
N	1230
Minimum	1
Maximum	4
Mean	2.41
Std. Deviation	0.74

TABLE 37: GENERAL PUBERTAL DEVELOPMENT

	Not Started N (%)	Barely Started N (%)	Definitely Started N (%)	Seems Completed N (%)
Body hair growth	218 (17.0)	370 (28.9)	492 (38.4)	201 (15.7)
Skin changes	230 (18.0)	401 (31.3)	581 (45.4)	68 (5.3)

TABLE 38: FEMALE PUBERTAL DEVELOPMENT

Question	Response	N (%)
Have your breasts begun to grow?	Not yet started	11 (1.8)
	Barely started	137 (22.9)
	Definitely started but not completed	413 (69.1)
	Seems completed	37 (6.2)
Have you begun to menstruate?	Yes	377 (63.0)
	No	221 (37.0)

Question	Response	N (%)
If yes, how old were you when you first got your period?	8-9 years old	8 (2.2)
	10 years old	41 (11.0)
	11 years old	155 (41.4)
	12 years old	121 (32.3)
	13-14 years old	49 (13.1)

TABLE 39: MALE PUBERTAL DEVELOPMENT

Question	Response	N (%)
Has your voice started to change?	Not yet started	270 (41.4)
	Barely started	194 (29.8)
	Definitely started but not completed	165 (25.3)
	Seems completed	23 (3.5)
Have you started to grow facial hair (beard or mustache)?	Not yet started	359 (54.5)
	Barely started	223 (33.8)
	Definitely started but not completed	73 (11.1)
	Seems completed	**

** denotes data suppression due to small cell sizes.

TABLE 40: YOUTH SELF-RATED HEALTH

Rating	N (%)
Excellent	388 (30.3)
Very Good	594 (46.4)
Good	240 (18.7)
Fair	48 (3.7)
Poor	11 (0.9)

TABLE 41: YOUTH PERCEIVED GROWTH

Would you say that your growth in height…	N (%)
Has not yet begun to spurt (spurt means more growth than usual)	184 (14.4)
Has barely started to spurt	232 (18.1)
Has definitely started to happen, but is not finished	743 (58.0)
Seems completed (you're about as tall as you're going to get)	121 (9.5)

IN THE COMMUNITY

Perceptions of School Social Climate and Belongingness

School climate is based on perceptions of the school environment, including teacher and peer interactions. School climate may affect the ability to pay attention and enjoy school and can impact motivation for learning. The Middle Years Development Instrument (MDI) (Appendix A)

was used to evaluate school experiences based on the perceived school climate and sense of belongingness in school, with scores categorized into tertiles (Table 42). School climate was assessed with three items and was rated as high (scores of 13 or more) by 34.5% of respondents, medium (scores 11-12) by 27.7%, and low (scores 10 or less) by 37.8% of youth.

School belonging is the level that children feel connected and valued in school, which can affect happiness and anxiety. In terms of school belonging, almost 39.1% of youth reported high levels of school belonging (scores 9 or more) and 42.0% reported low levels of school belonging (scores 7 or less). Approximately 1 in 5 youth (18.1%) reported school belonging at a medium level (scores 8) (Table 42).

The finding that approximately 40% of youth experienced low school climate and/or low school belonging indicates opportunities for improvement in this domain.

TABLE 42: YOUTH SCHOOL SOCIAL EXPERIENCES

Category	Tertile	N (%)
School Climate	Low (scores 10 or less)	469 (37.8)
	Medium (scores 11-12)	343 (27.7)
	High (scores 13 or more)	428 (34.5)
School Belonging	Low (scores 7 or less)	523 (42.0)
	Medium (scores 8)	225 (18.1)
	High (scores 9 or more)	496 (39.9)

Connectedness

Youth connectedness with adults at home, school, and the community, as well as peer belonging and friendship intimacy was evaluated. Friendship intimacy is defined as mutual loyalty, understanding, and trust within friendships. Descriptive statistics were generated to understand youth connectedness using the Middle Years Development Instrument (MDI) (Appendix A).

Connection to an adult in the home was split. Nearly half of AOF youth reported low connectedness (scores 11 or less; 50.3%), while the other half reported high connectedness to an adult at home (scores 12 or more; 49.7%). A similar split was observed upon examining connectedness with adults at school as 44.7% of youth indicated low connectedness (scores 9 or less), 12.9% indicated medium connectedness (scores 10; 12.9%), and 42.4% reported high connectedness (scores 11 or more). In terms of connectedness with adults in the neighbourhood or community, 39.4% of respondents reported a low level of connectedness (scores 8 or less), 22.4% reported medium connectedness (scores 9), and 38.2% experienced high connectedness (scores 10 or more) (Table 43). Overall, the data indicated varying levels of connectedness; however, between 40% and 50% of youth did not feel connected with adults in their home, school, and community.

For peer belonging, almost half of youth (48.5%) reported low connectedness (scores 9 or less), while 17.5% reported medium connectedness (scores 10), and 34.0% high connectedness (scores 11 or more). In the area of friendship intimacy, 39.9% of respondents indicated low connectedness (scores 10 or less), 15.8% indicated medium connectedness (scores 11), and

44.3% reported high connectedness (scores 12 or more) (Table 43). Overall, these findings suggested varying feelings of connectedness to their peers and friends with a large proportion (39.9% to 48.5%) reporting low connectedness.

Results indicated a split among AOF youth who felt connected with the peers and adults in their lives. A large number of youth reported low connectedness, friendship intimacy, and/or peer belonging. Experiencing low connectedness has the potential to impact flourishing and mental well-being in youth.

TABLE 43: YOUTH CONNECTEDNESS

MDI Connectedness Category	Low Connectedness N (%)	Medium Connectedness N (%)	High Connectedness N (%)
Adults at Home	654 (50.3)	-	646 (49.7)
Adults at School	559 (44.7)	162 (12.9)	530 (42.4)
Adults in the Neighbourhood/ Community	514 (39.4)	291 (22.4)	497 (38.2)
Peer Belonging	627 (48.5)	227 (17.5)	440 (34.0)
Friendship Intimacy	515 (39.9)	204 (15.8)	572 (44.3)

Peer Importance

Peer importance is indicative of youth cognitions regarding the importance of peer status. The Peer Importance Scale measured the importance adolescents placed on being accepted by their peers (Appendix A). Participants responded to five statements on the importance of peer evaluations using a 5-point Likert scale. The total score range for the scale could vary from a minimum of 5 to a maximum of 25 (Table 44). The mean score obtained by participants was 13.61 (SD = 4.27), indicating that the average importance placed on peers falls just above the midpoint of the potential score range. This indicated that, on average, youth placed a moderate level of importance to acceptance by peers.

TABLE 44: PEER IMPORTANCE

Peer Importance Scale Score	
N	1292
Minimum	5
Maximum	25
Mean	13.61
Std. Deviation	4.27

Bullying

Most youth (66.6%) reported not being bullied in the previous year, while 33.4% reported some occurrence of bullying. Of these, 1 in 10 youth (11.2%) indicated being bullied many times. Among those who reported being bullied, verbal bullying was the most common (82.4%), followed by relational (47.1%), physical (24.5%), and cyberbullying (16.2%) (Table 45).

The vast majority of youth (90.5%) reported not bullying someone in the past year. A small proportion admitted to bullying someone once (6.4%), twice (1.7%), or many times (1.4%). Youth who reported having bullied others engaged most commonly in verbal (74.8%) or relational bullying (24.4%). Others reported physical bullying (15.4%), or cyber bullying (12.2%).

TABLE 45: YOUTH BULLYING

	N (%)
Been bullied	
No	864 (66.6)
Yes, once	184 (14.2)
Yes, twice	104 (8.0)
Yes, many times	145 (11.2)
If yes, type of bullying experienced (select all)	
Cyber	70 (16.2)
Physical	106 (24.5)
Verbal	357 (82.4)
Relational	204 (47.1)
	N (%)
Bullied others	
No	1176 (90.5)
Yes, once	83 (6.4)
Yes, twice	22 (1.7)
Yes, many times	18 (1.4)
If yes, type of bullying done to others (select all)	
Cyber	15 (12.2)
Physical	19 (15.4)
Verbal	92 (74.8)
Relational	30 (24.4)

BIVARIATE ANALYSES

Household Income and Mental Health

The relationship between household income and youth mental health was examined through bivariate analyses. Cross-tabulations were generated to examine the association between total income levels and the BASC-3 youth self-reported scale T scores for anxiety and depression symptoms as well as flourishing scores. For both mental health subscales, categories were dichotomized to “low to average scores” and “at-risk or clinically significant scores”. As above, income levels were recoded into two categories: below and above $125,000.

Preliminary significance testing indicated that the difference in anxiety levels between the two income groups was not statistically significant ($p = 0.933$). Similarly, despite slight variation,

the chi-square test results indicated that differences in depression levels were not statistically significant (p = 0.242) (Table 46). Results from cross-tabulations between household income and youth flourishing showed no statistically significant association (p = 0.201) (Table 46). Overall, the results indicate that household income did not significantly impact youth mental health, including their anxiety and depression symptoms, or flourishing scores.

TABLE 46: HOUSEHOLD INCOME AND MENTAL HEALTH PROPORTIONS

	Household Income $0- $124,999		$125,000 or more		Total		p-value
	N	%	N	%	N	%	
BASC-3 Anxiety T-scores							
Low to average anxiety	314	69.8	555	69.5	869	69.6	0.933
At-risk or clinically significant anxiety	136	30.2	243	30.5	379	30.4	
Total	450	100.0	798	100.0	1248	100.0	
BASC-3 Depression T-scores							
Low to average depression	346	76.9	589	73.9	935	75.0	0.242
At-risk or clinically significant depression	104	23.1	208	26.1	312	25.0	
Total	450	100.0	797	100.0	1247	100.0	
Flourishing Proportions							
Low to medium (scores 8 or less)	340	75.7	616	78.9	956	77.7	0.201
High flourishing (scores 9 or more)	109	24.3	165	21.1	274	22.3	
Total	449	100.0	781	100.0	1230	100.0	

Sex Assigned at Birth and Mental Health

The relationship between sex assigned at birth and youth mental health symptoms, including anxiety and depression symptoms, was evaluated using bivariate analysis. Cross-tabulations between sex assigned at birth and mental health outcomes showed significant sex differences in levels of anxiety and depression symptoms. Notably, 38.0% of females were classified as "at-risk or clinically significant" for anxiety symptoms, compared to 23.5% of males ($p < 0.001$; Table 47). In terms of depression symptoms, findings identified 35.0% of females as "at-risk or clinically significant" for depression symptoms, compared to 16.1% of males ($p < 0.001$; Table 47). Overall, this relationship indicates that more female youth were at-risk or clinically significant for anxiety and depression symptoms in comparison to their male counterparts.

TABLE 47: SEX ASSIGNED AT BIRTH AND MENTAL HEALTH PROPORTIONS

	Sex assigned at birth				Total		p-value
	Female		Male				
	N	%	N	%	N	%	
BASC-3 Anxiety T-scores							
Low to average anxiety	373	62.0	505	76.5	878	69.6	<0.001
At-risk or clinically significant anxiety	229	38.0	155	23.5	384	30.4	
Total	602	100.0	660	100.0	1262	100.0	
BASC-3 Depression T-scores							
Low to average depression	391	65.0	553	83.9	944	74.9	<0.001
At-risk or clinically significant depression	211	35.0	106	16.1	317	25.1	
Total	602	100.0	659	100.0	1261	100.0	

Bullying and Flourishing

The relationship between bullying and youth flourishing, as a measure of well-being, was analyzed through cross-tabulations. This analysis revealed a statistically significant association between experiences of bullying and levels of flourishing. Notably, 86.8% of individuals who reported being bullied fell into the low to medium flourishing category, compared to 73.4% of those who had not experienced bullying ($p < 0.001$; Table 47). Therefore, there was a relationship between experiencing bullying and flourishing. Youth who reported being bullied reported a greater prevalence of low to medium flourishing measures.

TABLE 47: BEING BULLIED AND FLOURISHING PROPORTIONS

	Being bullied				Total		p-value
	No		Yes				
Youth flourishing scores	N	%	N	%	N	%	
Low to medium flourishing (scores 8 or less)	623	73.4	368	86.8	991	77.8	<0.001
High flourishing (scores 9 or more)	226	26.6	56	13.2	282	22.2	
Total	849	100.0	424	100.0	1273	100.0	

Daily Social Media Consumption and Mental Health

Associations between the frequency of social media use and mental health outcomes, specifically anxiety and depression symptoms, were evaluated among youth. Self-reported social media usage was dichotomised into "less than once per day" and "once per day or more," and was correlated with “low to average” and “at-risk or clinically significant” levels of anxiety and depression symptom T-scores from the BASC-3.

For anxiety symptoms, 33.4% of youth who used social media more frequently fell into the at-risk or clinically significant anxiety category, compared to 27.8% of those who used social

media less than once per day (p = 0.030). These findings were reflective of a statistically significant association between social media usage frequency and anxiety levels. This may suggest a relationship between frequent use of social media and at-risk or clinically significant levels of anxiety symptoms among youth. Conversely, cross-tabulations revealed that there were no statistically significant associations between the frequency of social media use and youth depression levels, (p = 0.189) (Table 48).

TABLE 48: SOCIAL MEDIA FREQUENCY AND MENTAL HEALTH PROPORTIONS

	Social media use frequency				Total		p-value
	Less than once per day		Once per day or more				
	N	%	N	%	N	%	
BASC-3 Anxiety T-scores							
Low to average anxiety	512	72.2	383	66.6	895	69.7	0.030
At-risk or clinically significant anxiety	197	27.8	192	33.4	389	30.3	
Total	709	100.0	575	100.0	1284	100.0	
BASC-3 Depression T-scores							
Low to average depression	541	76.4	421	73.2	962	75.0	0.189
At-risk or clinically significant depression	167	23.6	154	26.8	321	25.0	
Total	708	100.0	575	100.0	1283	100.0	

MATERNAL-YOUTH ASSOCIATIONS

Flourishing

Maternal and youth flourishing were compared to determine whether there was an association between maternal flourishing and youth flourishing. Categorical dichotomisation of both maternal and youth flourishing scores and significance testing for a relationship between the two revealed no significant association between maternal and youth flourishing (p = 0.908). (Table 49).

TABLE 49: MATERNAL AND YOUTH FLOURISHING PROPORTIONS

	Maternal Flourishing				Total		p-value
	Low flourishing		High flourishing				
Youth Flourishing	N	%	N	%	N	%	
Low flourishing (Scores below 7)	156	77.6	811	78.0	967	77.9	0.908
High and medium flourishing (Scores of 7 and above)	45	22.4	229	22.0	274	22.1	
Total	201	100.0	1040	100.0	1241	100.0	

Mental Health

The relationship between maternal mental health and youth mental health was evaluated using cross-tabulations. Associations between maternal anxiety (SSAI-SF) and depression (CES-D) symptom scores and youth anxiety and depression (BASC-3) symptom scores were examined. There was no statistically significant association between youth anxiety levels and maternal anxiety levels (p = 0.786) (Table 50). For depression, no statistical significance was observed between youth depression levels and maternal depression levels (p= 0.232) (Table 51). Overall, this indicated no significant relationship between maternal and youth mental health scores.

TABLE 50: MATERNAL AND YOUTH ANXIETY PROPORTIONS

BASC-3 Anxiety T-scores	Maternal anxiety scores (SSAI) Lower symptoms N	%	Higher symptoms N	%	Total N	%	p-value
Low to average anxiety	646	69.3	223	70.1	869	69.5	0.786
At-risk or clinically significant anxiety	286	30.7	95	29.9	381	30.5	
Total	932	100.0	318	100.0	1250	100.0	

TABLE 51: MATERNAL AND YOUTH'S DEPRESSION PROPORTIONS

Youth Depression T-scores (BASC-3)	Maternal depression scores (CES-D) Lower symptoms N	%	Higher symptoms N	%	Total N	%	p-value
Low to average depression	652	76.3	284	73.2	936	75.4	0.232
At-risk or clinically significant depression	202	23.7	104	26.8	306	24.6	
Total	854	100.0	388	100.0	1242	100.0	

Chronic Pain

Finally, cross-tabulations between maternal chronic pain and youth chronic pain found no significant association between these experiences (p = 0.180) (Table 52).

TABLE 52: MATERNAL AND YOUTH CHRONIC PAIN REPORTING PROPORTIONS

Youth chronic pain	Maternal chronic pain No N	%	Yes N	%	Total N	%	p-value
No	230	58.5	339	54.2	569	55.9	0.180
Yes	163	41.5	286	45.8	449	44.1	
Total	393	100.0	625	100.0	1018	100.0	

HIGHLIGHTED RESULTS

- 1317 youth participated in the 12 – 14-year follow-up survey (response of 93%).

Demographics

- The average age was 12.8 years. At the time of the survey, most were attending grade 6 (26.0%), grade 7 (38.6%), or grade 8 (30.0%).

School

- Most youth reported that they were performing either at, slightly above, or significantly above grade level in Language Arts (89.2%), Mathematics (89.5%), Science (94.5%), and Social Studies (93.5%). However, 37.8% reported poor school social climate, 33.4% reported being bullied within the past year, and 42.0% reported a low sense of belonging in school.
- Nearly 20% of youths had a Special Education code as identified by Alberta Education. Mothers reported that these youth required support for a wide range of abilities. Among those who had a Special Education code, learning disabilities were most frequently reported (49.5%) followed by emotional/behaviour disability (26.9%), gifted/talented (23.6%), or those who had a physical or medical disability (9.1%).
- Approximately 44% of youth felt a low connectedness with adults at school and 48.5% of youth felt a low sense of peer belonging.

Lifestyle

- Over three-quarters (77.9%) of youth owned smartphones and reported spending up to 2 hours (38.8%) or 4 hours (36.0%) per weekday using electronic devices for entertainment. Youth reported more recreational screen time on the weekends with 2-4 hours (35.9%) and 4-6 hours (27.5%) being the most-reported durations. Increased frequency of social media use was associated with at-risk or clinical levels of anxiety symptoms, however, there was no association between social media use and youth depression
- 73.7% of youth reported following the current Canadian guidelines for sleeping 8 or more hours per night for children aged 14-17 years old. Despite the widespread use of digital devices, 89.5% of youth reported never being disturbed by them during sleep.
- Most youth (83.1%) reported meeting the Canadian 24-Hour Movement Guidelines for physical activity by engaging in moderate-to-vigorous activity for 60 minutes at least 3 days a week. When considering overall health, most youth self-rated their health as excellent (30.3%), very good (46.4%), or good (8.7%)

Mental Health

- Between 40% and 50% of youth reported not feeling connected to adults in their home, school or community. Almost 50% of youth reported low levels of intimacy with peers, and low sense of peer belonging.
- Of the over 33% of youth who experienced bullying in the past year, it most often took the form of verbal or relational bullying.

- 12.3% of mothers identified their youth as at-risk for symptoms of depression. However, a quarter of youth (25.1%) self-reported depression symptoms. A similar pattern was reported for anxiety with 12.6% reported by mothers while 29.4% of youth self-reported anxiety symptoms. This indicated that youth self-reported a higher prevalence of mental health issues than as reported by their mothers; thus, their parent may be unaware of their anxiety or depression symptoms.
- Overall, 28.8% of youth had experienced a mental health concern. The majority (91.0%) received support for these issues through either professional (e.g., family doctor, psychologist, psychiatrist) or non-professional (e.g., family members, friends, teacher) supports.
- Self-reported symptoms of depression (35%) and anxiety (38%) were higher among those assigned female at birth compared to male (16.1% and 23.5%, respectively).
- Household income was not related to youth mental health, including anxiety and depression symptoms, or flourishing scores.

CONCLUSION

Through the 12–14-year follow-up questionnaires, youth reported data on their relationships, physical and mental well-being, screen time use, and school experiences. Potential relationships between sex assigned at birth, social media use, and mental health were identified. Reports from youth in the AOF cohort suggest that resources are needed for mental health, flourishing, and connectedness. The next wave of questionnaires will aim to examine youth at age 15-17 years. At this time, mental health, social media, benevolent life experiences, and post-secondary decisions will be further investigated.

REFERENCES CITED

McDonald, S. W., Lyon, A. W., Benzies, K. M., McNeil, D. A., Lye, S. J., Dolan, S. M., Pennell, C. E., Bocking, A. D., & Tough, S. C. (2013). The All Our Babies pregnancy cohort: Design, methods, and participant characteristics. *BMC Pregnancy and Childbirth*, *13*(1), S2. https://doi.org/10.1186/1471-2393-13-S1-S2

Taubitz, L. E., Pedersen, W. S., & Larson, C. L. (2015). BAS Reward Responsiveness: A unique predictor of positive psychological functioning. *Personality and Individual Differences*, *80*, 107–112. https://doi.org/10.1016/j.paid.2015.02.029

Tough, S. C., McDonald, S. W., Collisson, B. A., Graham, S. A., Kehler, H., Kingston, D., & Benzies, K. (2017). Cohort Profile: The All Our Babies pregnancy cohort (AOB). *International Journal of Epidemiology*, *46*(5), 1389–1390k. https://doi.org/10.1093/ije/dyw363

APPENDIX A: YOUTH SURVEY QUESTIONS, STANDARDIZED SCALES, AND SCORING

ASSENT FORM
Concept: participant assent
Description: This self-developed question intends to assess the assent of the youth participants.
References

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI) - CONNECTEDNESS TO ADULTS
Concept: connectedness with adults in the home, in school, and in the community
Description: The MDI is an inclusive measure that assesses many risk, resilience, flourishing, and languishing domains over five areas of development. These questions were adapted from the "Connectedness" area of the MDI, and specifically focus on connectedness to adults in the home, school, and community. The MDI was used in AOF's COVID-19 questionnaires. Continuing to use the MDI also allows us to have a consistent measure throughout COVID-19 and at the recovery phase. The MDI has been used with tweens/teens and is validated for use up to age 14. The scale has been shown to have good internal consistency (Cronbach's $\alpha \geq 0.7$).
Scoring Information: We recoded the responses as follows. High corresponds to high perceived connectedness, medium corresponds to medium perceived connectedness, and low corresponds to low perceived connectedness. AOF summed responses and used tertiles as cut-offs for high, medium, and low to provide a good relative understanding of the sample distribution; MDI cut-offs were likely to be significantly uneven (i.e., less numbers in the low category)
References

1) MDI Technical Guide (April 2020). http://www.discovermdi.ca/wp-content/uploads/2020/04/MDI-Technical_Guide-v1-202004.pdf
2) Schonert-Reichl, K.A., Guhn, M., Gadermann, A.M., Hymel, S., Sweiss, L., & Hertzman, C. (2013). Development and validation of the Middle Years Development Instrument (MDI): Assessing children's well-being and assets across multiple contexts. *Social Indicators Research*, *114*, 345-369. https://doi.org/10.1007/s11205-012-0149-y
3) Gregory, T., Engelhardt, D., Lewkowicz, A., Luddy, S., Guhn, M., Gadermann, A., . . . Brinkman, S. (2019). Validity of the Middle Years Development Instrument for Population Monitoring of Student Wellbeing in Australian School Children. *Child Indicators Research, 12*(3), 873-899.

SCHOOL BACKGROUND
Concept: Participant schooling
Description: This self-developed question is intended to collect the school background information of the youth participants.
References

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

CHILD'S SCHOOL LIFE: BACKGROUND INFORMATION

Concept: School, school district, grade

Description: These self-developed questions are intended to collect the school background information of the respondents' AOF child.

References:

1) All Our Families Study Team. Internal Development. Personal Communication. 2022.

NLSCY SCHOOL PERFORMANCE QUESTIONS

Concept: School performance

Description: NLSCY asked 4 questions to address children's school performance in Cycle 8. Response options were on a 5-point Likert Scale ranging from "Very well" to "Very poorly." AOF kept the 5-point Likert Scale but modified the response options to "Significantly above grade level," "Slightly above grade level," "At grade level," "Slightly below grade level," and "Significantly below grade level." Additionally, AOF changed the subject categories from "reading," "Reading and other language arts (spelling, grammar, composition)," "Mathematics," "Written work such as composition," "Science," and "overall" to: "Language Arts (stories, poems, vocabulary)," "Mathematics," "Science," and "Social Studies." A list of questions was used in the 8-year survey and was slightly modified to align with curriculum language.

Scoring Information: No scoring information was provided; this is not a scale. Higher values indicate lower performance.

References:

1) National Longitudinal Survey of Children and Youth. Cycle 8 Survey Instruments 2008/2009 Book 1 Contact, Household and Exit, Parent, Child and Youth Components. Statistics Canada.
2) All Our Families Study Team. Internal Development. Personal Communication. 2022.

SEXUAL EDUCATION CLASSES

Concept: Sexual education participation

Description: This self-developed question is intended to collect information regarding participation in school-based sexual education classes. The question was recommended by sexual health stakeholders who are keen to understand teen exposure to sexual health curriculum (based on parent permission).

References:

1) All Our Families Study Team. Internal Development. Personal Communication. 2022.

CHILD SCHOOL LIFE: SPECIAL EDUCATION CODES

Concept: School, program, special education codes

Description: These self-developed questions are intended to collect information regarding any special education the mothers of the youth may be involved in and any accommodations. This question was repeated from the 8-year survey, with the addition of code 47 (severe language delay).

References:

1) All Our Families Study Team. Internal Development. Personal Communication. 2022.

YOUTH HEIGHT AND WEIGHT
Concept: Height, weight
Description: These self-developed questions are intended to record youth height and weight.
Scoring Information: No scoring information was provided. The questions required a text response.
References:

1) All Our Families Study Team. Internal Development. Personal Communication. 2022.

YOUTH MENTAL HEALTH CONCERNS
Concept: Mental health concerns, support for mental health
Description: These self-developed questions are intended to address youth mental health concerns, support for mental health, and satisfaction with support.
References:

1) All Our Families Study Team. Internal Development. Personal Communication. 2022.

BEHAVIOR ASSESSMENT SYSTEM FOR CHILDREN – THIRD EDITION, PARENT RATING SCALES-CHILD (PRS-A) – ANXIETY, ATTENTION PROBLEMS, DEPRESSION, HYPERACTIVITY: 12 YEARS OR OLDER
Concept: Behavior, anxiety, depression, attention, hyperactivity, greater than 12 years old
Description: There are 12 forms of the BASC-3 available to be assessed on individuals aged 2-25 years according to parent-, teacher-, and self-ratings. The Behaviour Assessment System for Children, Third Edition, Parent Rating Scales-Adolescent (PRS-A) Ages 12-21 is a behavioural assessment tool that measures behavior and self-perceptions of children and focuses on positive and adaptive behaviours, and negative and maladaptive behaviours. The BASC-3 has 4 composite scales, 14 clinical and adaptive scales, 6 content scales, 4 clinical index, and 5 executive functioning indices. Cronbach's alpha for the clinical scales in adolescents ranged from 0.86-0.93 in the general population. Cronbach's alpha for the composite scales in adolescents ranged from 0.95-0.97 in the general population. Cronbach's alpha for the adaptive scales in adolescents ranged from 0.82-0.90 in the general population. Cronbach's alpha for the content scales in adolescents ranged from 0.88-0.94 in the general population. The current survey utilized Anxiety (13 items), Depression (13 items), Attention (9 items), and Hyperactivity (8 items) clinical subscales. Clinical scales measure maladaptive behaviours. Higher scores on these scales represent negative or undesirable characteristics that cause impaired functioning in home, school, or peer relationships, or community contexts. Adaptive scales measure positive behaviours. Unlike on the clinical scales, high scores on the adaptive scales represent positive or desirable characteristics, and low scores represent possible problem areas.
Scoring Information: The following response format was used: N for Never, S for Sometimes, O for Often, or A for Almost Always.
All items were summed to produce a total raw score for each subscale, where higher scores indicated more problems. Raw scores, t-scores (Mean=50, SD=10), and percentiles can be used for interpretation.
Risk level for adaptive and clinical scales (Table 2.2 of manual, p.19):

Table 2.2 Scale and Composite Score Classification

Classification		
Adaptive scales	Clinical scales	*T*-score range
Very High	Clinically Significant	70 and above
High	At-Risk	60–69
Average	Average	41–59
At-Risk	Low	31–40
Clinically Significant	Very Low	30 and below

Missing Items: Note 3 or more items missing per subscale will invalidate that subscale.
Important Note: 4 subscales (Anxiety, Depression, Attention Problems, and Hyperactivity) were used to gather a broad range of behaviour while limiting the number of questionnaire items for youth. These subscales can be interpreted individually. Anxiety and Depression **cannot be combined to create a broader internalizing composite** due to missing subscales (e.g., Internalizing composite requires, anxiety, depression, social stress, atypicality). Attention Problems and hyperactivity can be combined to get the inattention/hyperactivity composite.
References:

1) Reynolds, CR, Kamphaus RW. *Behavior assessment system for children* (3rd ed.). Bloomington: NCS Person, Inc. 2015.

HOUSEHOLD DEMOGRAPHICS
Concept: Household members, pets
Description: These self-designed questions are intended to determine household member composition, and the number and types of pets in the household.
References:

1) All Our Families Study Team. Internal Development. Personal Communication. 2022.

CONCUSSIONS
Concept: Concussion
Description: The original set of questions were developed by the Sport Injury Prevention Research Centre at the University of Calgary for the iSPRINT Study (baseline questionnaire). These study-developed questions are intended to gauge child concussion incidence and development. AOF added the time reference of "in the last 5 years."
References:

1) Sport Injury Prevention Research Centre at the University of Calgary for the iSPRINT Study.
2) Emery CA, van den Berg C, Richmond SA, *et al* Implementing a junior high school-based programme to reduce sports injuries through neuromuscular training (iSPRINT): a cluster randomised controlled trial (RCT)*British Journal of Sports Medicine* 2020;54:913-919.

CHILD'S ACTIVITIES: GENERAL INJURY
Concept: Hospital, injury, treatment
Description: The original set of questions were developed by the Sport Injury Prevention Research Centre at the University of Calgary for the iSPRINT Study (baseline questionnaire).

These study-developed questions are intended to gauge youth physical activity, hospitalizations, and injury incidence. AOF added a time reference of "in the past 2 years."
Scoring Information: No scoring information was provided. In the original question developed by the Sport Injury Prevention Research Centre at the University of Calgary for the iSPRINT Study (baseline questionnaire), injury outcomes were categorised into all recorded injuries, lower extremity injuries, medically treated injuries, time loss injuries (>7 days missed from physical activity participation), and knee and ankle injuries.
References:

1) Sport Injury Prevention Research Centre at the University of Calgary for the iSPRINT Study.
2) Emery CA, van den Berg C, Richmond SA, *et al* Implementing a junior high school-based programme to reduce sports injuries through neuromuscular training (iSPRINT): a cluster randomised controlled trial (RCT)British Journal of Sports Medicine. 2020;54:913-919.

INVENTORY OF PARENT AND PEER ATTACHMENT - REVISED (IPPA-R) FOR CHILDREN - PARENTAL ATTACHMENT
Concept: Parent-child attachment, perceived parental security
Description: The original version of the IPPA was developed by Armsden and Greenberg (1987) to measure attachment in older adolescents. The revised Inventory of Parent and Peer Attachment (IPPA-R) was developed by Gullone and Robinson (2005) to assess perceptions of security in parent and peer relationships in youth aged between 9 and 15 years. These questions from the IPPA-R intend to assess the parental attachment of youth participants. Three parent subscales in the IPPA-R include: Trust (10 items), Communication (10 items), and Alienation (8 items). The Parent Attachment scale shows good reliability, with Cronbach's alphas ranging from 0.78-0.82.
Important Note: The original items were scored using a 5-point Likert scale (i.e., 1 = "Almost always or always true"; 5 = "almost never or never true"). The IPPA-R used the scoring to a 3-point Likert scale (i.e., 1 = "always true"; 3 = "never true").
Scoring Information: The IPPA-R was scored in accordance with directions provided by Armsden and Greenberg (1987). Each item is rated on a 3-point Likert scale. Sum the response values in each section/subscale. A total score for the IPPA-R Parent scales is calculated by obtaining a sum of the Trust and Communication subscales and then subtracting the Alienation subscale score. Make sure to reverse items 3, 5, 6, 10, 15, and **ALL Alienation** subscale items. Scores range between 15-52.
The original IPPA has three Parent and Peer subscales. Subscale scores are computed by summing the item responses. Responses to negatively worded items must be reverse-scored before calculations.

(Trust) + (Communication) - (Alienation) = Total Score

References:

1) Armsden, G.C., & Greenberg, M.T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. Journal of Youth and Adolescence, 16,427–454.
2) Gullone, & Robinson, K. (2005). The Inventory of Parent and Peer Attachment-Revised (IPPA-R) for children: a psychometric investigation. Clinical Psychology and Psychotherapy, 12(1), 67–79. https://doi.org/10.1002/cpp.433

MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI) - CONNECTEDNESS WITH PEERS
Concept: Connectedness with peers
Description: The MDI is an inclusive measure that assesses many risk, resilience, flourishing and languishing domains over five areas of development. These questions were adapted from the "Connectedness" area of the MDI, and focus on connectedness to peers, specifically peer belonging and friendship intimacy. The MDI has been used with tweens and teens and is validated for use up to age 14. The scale has been shown to have good internal consistency (Cronbach's $\alpha \geq 0.7$).
Important Note: The original item "When I am with other kids my age, I feel I belong" was adapted to "When I am with other kids my age, I feel like I belong".
Scoring Information: Recode the responses as follows. High corresponds to high perceived connectedness, medium corresponds to medium perceived connectedness, and low corresponds to low perceived connectedness. AOF summed responses and used tertiles as cut-offs for high, medium, and low categories to provide a good relative understanding of the sample distribution as MDI cut-offs were likely to be significantly uneven (i.e., less numbers in the low category)
References

1) MDI Technical Guide (April 2020). http://www.discovermdi.ca/wp-content/uploads/2020/04/MDI-Technical_Guide-v1-202004.pdf
2) Schonert-Reichl, K.A., Guhn, M., Gadermann, A.M., Hymel, S., Sweiss, L., & Hertzman, C. (2013). Development and validation of the Middle Years Development Instrument (MDI): Assessing children's well-being and assets across multiple contexts. *Social Indicators Research*, *114*, 345-369. https://doi.org/10.1007/s11205-012-0149-y
3) Gregory, T., Engelhardt, D., Lewkowicz, A., Luddy, S., Guhn, M., Gadermann, A., . . . Brinkman, S. (2019). Validity of the Middle Years Development Instrument for Population Monitoring of Student Wellbeing in Australian School Children. *Child Indicators Research, 12*(3), 873-899. doi:10.1007/s12187-018-9562-3.

PEER IMPORTANCE
Concept: Peer importance
Description: With the transition to adolescence, youth undergo a profound social reorientation, which involves changes at the neurobiological level that make them particularly attuned and responsive to their peers (Nelson et al., 2016). For example, prior work has revealed that, compared to children and adults, early adolescents are more likely to conform to their peers' behavior than to adults' behavior (Knoll et al., 2015).
Adolescents' cognitions regarding the importance of peer status can be assessed using an established self-report measure developed by Prinstein & Aikins (2004). Participants respond to five statements on the importance of peer evaluations (e.g., "It is important for me to be popular with kids my age") using a 5-point Likert-type scale (1 = *not at all true* to 5 = *very true*). The peer importance measure has shown high internal consistency (Cronbach's alpha=0.77).
Scoring Information: A summed total score is computed for all questions to create a single measure of peer importance. Scores range from 5-25. Higher scores indicate that adolescents placed high levels of importance on their acceptance by peers.
Important Note: The original items were scored using a 7-point Likert scale (i.e., 1 = "not at all true"; 7 = "very true"). The AOF team modified the scoring to a 5-point Likert scale (i.e., 1 = "not

at all true"; 5 = "very true"). The original item "It is important for me to be popular with kids of my age" was adapted to "It is important for me to be popular with the kids in my grade".

References

1) Prinstein, M. & Aikins, J. W. (2004). Cognitive moderators of the longitudinal association between peer rejection and adolescent depressive symptoms. Journal of Abnormal Child Psychology, 32(2), 147–158.
2) Nelson EE, Jarcho JM, Guyer AE. Social re-orientation and brain development: An expanded and updated view. Dev Cogn Neurosci. 2016;17:118-127. doi:10.1016/j.dcn.2015.12.008.
3) Knoll LJ, Magis-Weinberg L, Speekenbrink M, Blakemore SJ. Social influence on risk perception during adolescence. Psychol Sci. 2015;26(5):583-592. doi:10.1177/0956797615569578.

MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI) - BULLYING

Concept: Bullying

Description: The MDI is an inclusive measure that assesses many risk, resilience, flourishing, and languishing domains over five areas of development. These questions were adapted from the "School Experiences" dimension of the MDI, and focus on victimization and bullying in the school. The MDI was used in AOF's COVID-19 questionnaires. Continuing to use the MDI also allows us to have a consistent measure throughout COVID-19 and at the recovery phase. The MDI has been used with tweens and teens and is validated for use up to age 14. The scale has been shown to have good internal consistency ($\alpha \geq 0.7$).

The following questions (adapted from the MDI) were used to assess whether youth were bullied.

Important Note: The original item "This school year, how often have you been bullied by other students in the following ways?" was adapted to "In the last year, have you been bullied/have you bullied someone?". AOF agreed to remove "at school" so it is a broad bullying question. The AOF team also modified the responses from "Cyber", "Physical", "Social", "Verbal" to "Cyber", "Physical", "Verbal', "Relational," and added examples for each category.

Scoring Information: Scoring cannot be completed due to major modification from original question(s).

References

1) All Our Families Study Team. Internal Development. Personal Communication (2022).
2) Human Early Learning Partnership. MDI Technical Guide (April 2020). http://www.discovermdi.ca/wp-content/uploads/2020/04/MDI-Technical_Guide-v1-202004.pdf

BEHAVIOR ASSESSMENT SYSTEM FOR CHILDREN – THIRD EDITION, SELF-REPORT OF PERSONALITY – ADOLESCENT (SRP-A) – ANXIETY, ATTENTION PROBLEMS, DEPRESSION, HYPERACTIVITY; 12 – 21 YEARS

Concept: Behavior, anxiety, depression, attention, hyperactivity

Description: There are 12 forms of the BASC-3 available to be assessed on individuals aged 2-25 years according to parent-, teacher-, and self-ratings. The Behavior Assessment System for Adolescents – Third Edition, Self-Report of Personality – Adolescent (SRP-A) Aged 12-21 years is a self-report of positive and negative personality traits, thoughts, attitudes, and feelings that reflect insight into an adolescent's thoughts and feelings. The BASC-3-SRP-A yields 5 composite scales, 16 clinical and adaptive scales, 4 content scales, and 1 clinical

index. The current survey utilized the Anxiety (13 items), Depression (12 items), Attention (8 items), and Hyperactivity (8 items) clinical subscales.
Scoring Information: Two response formats are used: T for True or F for False; or N for Never, S for Sometimes, O for Often, or A for Almost Always.
Sum all items to produce a total raw score for each subscale, where higher scores indicate more problems. Raw scores, t-scores (Mean=50, SD=10), and percentiles can be used for interpretation.
AOF used SRP-C ages 8-11 tables from manual for scoring of the Youth questionnaire
Risk level for adaptive and clinical scales (Table 2.2 of manual, p.19):

Table 2.2 Scale and Composite Score Classification

Classification		*T*-score range
Adaptive scales	Clinical scales	
Very High	Clinically Significant	70 and above
High	At-Risk	60–69
Average	Average	41–59
At-Risk	Low	31–40
Clinically Significant	Very Low	30 and below

Missing Items:
Note 3 or more items missing per subscale will invalidate that subscale.
Important Note: 4 subscales (Anxiety, Depression, Attention Problems, and Hyperactivity) were used to gather a broad range of behaviour while limiting the number of questionnaire items for youth. These subscales can be interpreted individually. Anxiety and Depression **cannot be combined to create a broader internalizing composite** due to missing subscales (e.g., Internalizing composite requires, anxiety, depression, social stress, atypicality). Attention Problems and hyperactivity can be combined to get the inattention/hyperactivity composite.
References:

1) Reynolds, C.R., & Kamphaus, R.W. (2015). *Behavior assessment system for children* (3rd ed.). Bloomington: NCS Person, Inc.

MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI) – SCHOOL EXPERIENCES
Concept: School experiences, school climate, school belonging
Description: The MDI is an inclusive measure that assesses many risk, resilience, flourishing and languishing domains over five areas of development. These questions were adapted from the "School Experiences" area of the MDI. Questions 1-3 assess school climate and questions 5-6 assess school belonging. The MDI was used in AOF's COVID-19 questionnaires. Continuing to use the MDI also allows us to have a consistent measure throughout COVID-19 and at the recovery phase. The MDI has been used with tweens and teens and is validated for use up to age 14. The scale has been shown to have good internal consistency ($\alpha \geq 0.7$).
School climate is the overall tone of the school environment, including the way teachers and students interact and how students treat each other. Children's comfort in their learning environment affects their motivation, enjoyment of school, ability to pay attention in class and academic achievement. An optimal school environment is one that values student participation, provides time for self-reflection, encourages peer collaboration, and enables students to make decisions about classroom rules and activities. **School belonging** is the

degree to which children feel connected and valued at their school. Children who feel a sense of belonging at school also report greater happiness and decreased anxiety. Children who experience belonging at school have been found to perceive others more favourably and consider the thoughts and feelings of others more often.

Scoring Information: Recode the responses as follows. High corresponds to high perceived positive school experiences, medium corresponds to medium perceived positive school experiences, and low corresponds to low perceived positive school experiences. AOF summed responses and used tertiles as cut-offs for high, medium, and low to provide a good relative understanding of the sample distribution as MDI cut-offs were likely to be significantly uneven (i.e., less numbers in the low category).

References

1) Gregory, T., Engelhardt, D., Lewkowicz, A., Luddy, S., Guhn, M., Gadermann, A., . . . Brinkman, S. (2019). Validity of the Middle Years Development Instrument for Population Monitoring of Student Wellbeing in Australian School Children. *Child Indicators Research, 12*(3), 873-899.

SCREEN TIME & SOCIAL MEDIA – COMMON SENSE MEDIA: SCREEN TIME ON WEEKDAYS

Concept: Screen time duration

Description: This question was adapted from one item in the Common Sense Media report, *The Common Sense Census: Media Use by Tweens and Teens.* The survey questions were part of an ongoing study tracking social media use among American pre-adolescents and teenagers, aged 8- to 18-years. The original survey questions were developed by the study investigators.

Important Note: The question was adapted from the original item, "Thinking about yesterday, how much TIME did you spend doing each activity?" and responses included: "using a computer for homework", "using a tablet for homework", or "using a smartphone for homework". The adapted item and responses are provided below.

Additional notes on screen time:

- Canadian Pediatric Society and the US no longer adopt the 2-hour guidelines; however, the World Health Organization still has the 2-hour guidelines. (https://cps.ca/en/documents/position/digital-media)
- CPS recommends the 4 M's: manage screen use, encourage meaningful screen use, model healthy screen use, and monitor for signs of problematic screen use.

Scoring Information: No scoring information is provided. Higher values indicate greater time spent using electronic devices.

References:

1) Rideout, V., & Robb, M.B. (2018). *The Common Sense census: Media use by tweens and teens, 2019.* San Francisco, CA: Common Sense Media.
2) Canadian 24-Hour Movement Guidelines. The Gold Standard in Exercise Science and Personal Training. https://csepguidelines.ca/guidelines/children-youth/. 2021

COMMON SENSE MEDIA – SCREEN TIME ON THE WEEKEND

Concept: Screen time duration

Description: This question was adapted from one item in the Common Sense Media report, *The Common Sense Census: Media Use by Tweens and Teens.* The survey questions were part of an ongoing study tracking social media use among American pre-adolescents and teenagers, aged 8- to 18-years. The original survey questions were developed by the study investigators.

Important Note: The question was adapted from the original item, "Thinking about yesterday, how much TIME did you spend doing each activity?" and responses included: "using a computer for homework", "using a tablet for homework", or "using a smartphone for homework". The adapted item and responses are provided below.
Scoring Information: No scoring information is provided. Higher values indicate greater time spent using electronic devices.
References:

1) Rideout, V., & Robb, M.B. (2018). *The Common Sense census: Media use by tweens and teens, 2019.* San Francisco, CA: Common Sense Media.

COMMON SENSE MEDIA – SCREEN TYPE FREQUENCY
Concept: Screen types
Description: This question was adapted from the question, "How often do you do each of the following activities?" in the Common Sense Media report, *The Common Sense Census: Media Use by Tweens and Teens.* The survey questions were part of an ongoing study tracking social media use among American pre-adolescents and teenagers, aged 8- to 18-years. The original survey questions were developed by the study investigators.
Important Note: The items "watch tv" and "watch videos online" were combined to "watch or stream movies/videos on TV or online". The item "use social media" was adapted to "look at or post on social media". The items "play computer games", "play video games" and "play mobiles games" were combined to "play video games or apps either on a gaming system (e.g., XBox, Nintendo, Wii, Playstation) or on a phone, tablet, or computer". The item "video chat" was developed by the AOF team. Other items on the original question were excluded here.
Scoring Information: No scoring information is provided. Higher values indicate greater frequency of engagement in an activity.
References:

1) Rideout, V., & Robb, M.B. (2018). *The Common Sense census: Media use by tweens and teens, 2019.* San Francisco, CA: Common Sense Media.

COMMON SENSE MEDIA – SCREEN TIME AND CONNECTION
Concept: Social screen time
Description: These items were adapted from the question, "How often do you do each of the following activities?" in the Common Sense Media report, *The Common Sense Census: Media Use by Tweens and Teens.* The survey questions were part of an ongoing study tracking social media use among American pre-adolescents and teenagers, aged 8- to 18-years. The original survey questions were developed by the study investigators.
Important Note: This question was added as a follow-up to the original question posed in the Common Sense Media report and was self-developed by the AOF team. The items "watch tv" and "watch videos online" were combined to "watch or stream movies/videos on TV or online". The items "play computer games", "play video games" and "play mobiles games" were combined to "play video games or apps either on a gaming system (e.g., XBox, Nintendo, Wii, Playstation) or on a phone, tablet, or computer". Responses (never, almost never, sometimes, almost always, and always) were developed by the AOF team.
Scoring Information: No scoring information is provided. Higher values indicate more time spent alone while engaged in an activity.
References:

1) Rideout, V., & Robb, M.B. (2018). *The Common Sense census: Media use by tweens and teens, 2019.* San Francisco, CA: Common Sense Media.

COMMON SENSE MEDIA – MEDIA MULTITASKING
Concept: Media multitasking
Description: These items were adapted from the question, "When you do homework at home how often do you:" in the Common Sense Media report, *The Common Sense Census: Media Use by Tweens and Teens.* The survey questions were part of an ongoing study tracking social media use among American pre-adolescents and teenagers, aged 8- to 18-years. The original survey questions were developed by the study investigators.
Important Note: This question was added as a follow-up to the original question posed in the Common Sense Media report and was self-developed by the AOF team. This question was meant to determine media multitasking outside the context of homework, as indicated in the original study. Responses (never, once in a while, some of the time, and most of the time) were developed by the AOF team.
Scoring Information: No scoring information is provided. Higher values indicate more time spent chatting online and indicate more media multitasking.
References:

1) Rideout, V., & Robb, M.B. (2018). *The Common Sense census: Media use by tweens and teens, 2019.* San Francisco, CA: Common Sense Media.

SMARTPHONE POSSESSION
Concept: Smartphone possession
Description: This self-developed question intends to assess if participants have a smartphone.
References

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

SMARTPHONE POSSESSION AGE
Concept: Smartphone possession age
Description: This self-developed question intends to assess the age of participants when they received their first smartphone.
Scoring Information: No scoring information is provided. Numeric responses are between 0-15.
References

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

SMARTPHONE, SOCIAL MEDIA, AND VIDEO GAME ADDICTION
Concept: Smartphone, social media, and video game addiction
Description: This self-developed question intends to assess if participants are addicted to their smartphone, social media, and video games.
References

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

COMMON SENSE MEDIA- SCREEN TIME AND SOCIAL MEDIA - MENTAL HEALTH
Concept: Social media, mental health

Description: The following items were adapted from Common Sense Media and intend to assess the connection between social media use and the mental health of participants.
References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).
2) Rideout, V. (2012). *Social Media, Social Life: How Teens View Their Digital Lives*. San Francisco, CA: Common Sense.

COMMON SENSE MEDIA - TECHNOFERENCE
Concept: Technology interference
Description: According to Merriam-Webster (2022), "technoference refers to the interruptions in interpersonal communication caused by attention paid to personal technological devices". The following questions measure technoference with parents and peers. Two questions were adapted from one item in the Common Sense Media report, *Social media, social life.* The survey questions were part of an ongoing study tracking social media use among American teenagers, aged 13- to 17-years. The original survey questions were developed by the study investigators.
Important Note: The original items asked, "Do you agree or disagree with the following statement. I wish my parents would spend less time on their phones and other devices?" and "Do you agree or disagree with the following statement. I wish my friends would spend less time on their phones and other devices?". The items were adapted to four statements noted below. Responses changed from "Strongly agree" to "Strongly disagree" to "never", "sometimes", "often", and "almost always".
Scoring Information: No scoring information is provided. Higher values indicate greater technoference.
References:

1) Rideout, V., & Robb, M.B. (2018). *Social media, social life: Teens reveal their experiences.* San Francisco, CA: Common Sense Media.
2) Merriam-Webster. (2022). *Words We're Watching: 'Technoference'. https://www.merriam-webster.com/words-at-play/words-were-watching-technoference#:~:text=Technoference%20refers%20to%20the%20interruptions,or%20your%20boyfriend%20asked%20you.*

SOCIAL MEDIA ADDICTION QUESTIONNAIRE (SMAQ)
Concept: Social media use
Description: The following items from the ABCD study intend to assess problematic social media use among participants. The SMAQ is a 6-item questionnaire that was used in Year 2 of the ABCD study and modeled after the Bergen Facebook Addiction Scale (same with the VGAQ).
Scoring Information: ABCD original responses on the SMAQ were 1=Never to 6=Very Often (Never – Very Rarely – Rarely – Sometimes – Often – Very often). Investigators of AOF dropped the option of "Never". Scores were summed and the range is 0-24. Higher scores indicate greater social media use.
References:

1) Bagot KS, Tomko RL, Marshall AT, Hermann J, Cummins K, Ksinan A, Kakalis M, Breslin F, Lisdahl KM, Mason M, Redhead JN, Squeglia LM, Thompson WK, Wade T, Tapert SF, Fuemmeler BF, Baker FC. Youth screen use in the ABCD® study. Dev Cogn Neurosci.

2022 Sep 1;57:101150. doi: 10.1016/j.dcn.2022.101150. Epub ahead of print. PMID: 36084446; PMCID: PMC9465320.

VIDEO GAME ADDICTION QUESTIONNAIRE (VGAQ)
Concept: Video game use
Description: The following items from the ABCD study intend to assess problematic video game use among participants. The VGAQ is a 6-item questionnaire that was used in Year 2 of the ABCD study and modeled after the Bergen Facebook Addiction Scale.
Scoring Information: ABCD original responses on the SMAQ were 1=Never to 6=Very Often (Never – Very Rarely – Rarely – Sometimes – Often – Very often). Investigators of AOF dropped the option of "Never". Scores were summed and the range is 0-24. Higher scores indicate greater video game use.
References:

1) Bagot KS, Tomko RL, Marshall AT, Hermann J, Cummins K, Ksinan A, Kakalis M, Breslin F, Lisdahl KM, Mason M, Redhead JN, Squeglia LM, Thompson WK, Wade T, Tapert SF, Fuemmeler BF, Baker FC. Youth screen use in the ABCD® study. Dev Cogn Neurosci. 2022 Sep 1;57:101150. doi: 10.1016/j.dcn.2022.101150. Epub ahead of print. PMID: 36084446; PMCID: PMC9465320.

GENERAL VIDEO GAME USE
Concept: Video game use
Description: The following items from internally developed to assess video game use among participants.
Scoring Information: No scoring information is provided. Higher values indicate greater mature-rated video game use.
References:

1) All Our Families Study Team. Internal Development (Melanie Noel, Serena Orr, Katie Birnie). Personal Communication (2022).

ACHES AND PAINS
Concept: Youth, aches and pains, pain mediation
Description: This question was internally adapted by the AOF cohort to record the incidence, location, and severity of different aches and pains.
Scoring Information: No scoring information is provided for questions 1, 3, 4, or 5. For question 2, answers are recoded as 0 if nothing is selected. If selected, the coding is 1.
References:

1) All Our Families Study Team. Internal Development (Melanie Noel, Serena Orr, Katie Birnie). Personal Communication (2022).

ACHES AND PAINS - HEADACHES
Concept: Youth, aches and pains, headaches
Description: This question was internally adapted by the AOF cohort to record the incidence, location, and severity of headaches.
Scoring Information: No scoring information provided for questions 2A. For question 2B, answers are recoded as 0 if nothing is selected. If selected, the coding is 1. For question 2C, answers are recoded as 0 if nothing is selected. If selected, the coding is 1. For question 2D,

answers are recoded as 0 if nothing is selected. If selected, the coding is 1. No scoring information is provided for question 2G.

References:

1) All Our Families Study Team. Internal Development (Melanie Noel, Serena Orr, Katie Birnie). Personal Communication (2022).

MENTAL HEALTH AND HELP-SEEKING

Concept: Mental health; help-seeking

Description: These questions are adapted from the 2014 Ontario Child Health Study (OCHS) and intend to assess participant mental health and help-seeking. The age range of the study was 12-17. The original survey questions were developed by the study investigators.

Important Note: Questions 1-1B were developed by the AOF team. Question 2 was adapted by the AOF team to include specific examples of the places (i.e., doctor's office and/or emergency department) participants visited. Question 5 was from the original study.

References:

1) Ontario Child Health Study (OCHS). (2014). https://ontariochildhealthstudy.ca/ochs/
2) All Our Families Study Team. Internal Development. Personal Communication (2022).

PROFESSIONAL SOURCES OF HELP AND INFORMATION FOR MENTAL HEALTH CONCERNS

Concept: Professional sources of help; help-seeking

Description: These questions are from the 2014 Ontario Child Health Study (OCHS) and intend to assess participant mental health and help-seeking. The age range of the study was 12-17. The original survey questions were developed by the study investigators.

References:

1) Ontario Child Health Study (OCHS). (2014). https://ontariochildhealthstudy.ca/ochs/

NON-PROFESSIONAL SOURCES OF HELP AND INFORMATION FOR MENTAL HEALTH CONCERNS

Concept: Professional sources of help; help-seeking

Description: This question is from the 2014 Ontario Child Health Study (OCHS) and intends to assess participant mental health and help-seeking. The age range of the study was 12-17. The original survey question was developed by the study investigators.

Important Note: Answer choices from the original item were modified by the AOF team to include the options: "An adult in my community (e.g., a coach, an elder, after-school program staff)", "Someone else", and "None".

Scoring Information: Answers are recoded as 0 if nothing is selected. If selected, the coding is 1.

References:

1) Ontario Child Health Study (OCHS). (2014). https://ontariochildhealthstudy.ca/ochs/
2) All Our Families Study Team. Internal Development. Personal Communication (2022).

ASSIGNED SEX AT BIRTH

Concept: Assigned sex

Description: This self-developed question intends to assess the assigned sex at birth of participants.

References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

PUBERTAL DEVELOPMENT SCALE (PDS)
Concept: Physical development; breast growth; menstruation; voice change
Description: The Pubertal Development Scale (PDS) is a self-report measure of pubertal status developed by Petersen et al. (1988). The scale assesses continuous changes based on different physical characteristics, including body hair, skin change, growth spurt, facial hair (males only), voice change (males only), menarche (females only), and breast growth (females only). The following questions from the Scale intend to assess the growth in height, growth of body hair, and skin changes of both male and female participants. The Scale has good internal consistency (Cronbach's alpha = 0.77).
Important Note: The original response option "I don't know" was removed. The AOF team added clarifications to response options 3 and 4 for all the following questions (e.g., For Question 1, the options "is definitely underway" and "seems completed" were changed to "has definitely started to happen, but is not finished" and "seems completed (you're about as tall as you're going to get)".
Scoring Information: From Petersen *et al*.: "An overall pubertal development score was computed by summing across the five items to obtain a total score; the sum of the scores on the five indicators was divided by five to preserve the original (1-4) metric." Responses are coded on 4-point scales (1 = no development and 4 = completed development). For girls, a yes-no question about onset of menarche is weighted more heavily (1 = no and 4 = yes). For both genders, ratings are then averaged to create an overall score for physical maturation.
References:

1) The Pubertal Developmental Scale. Petersen AC, Crockett L, Richards M, Boxer A. A self-report measure of pubertal status: Reliability, validity, and initial norms. *Journal of Youth and Adolescence.* 1988;17(2):117-133.

HEIGHT AND WEIGHT
Concept: Physical development; height; weight
Description: These self-developed questions intend to assess the height and weight of participants.
Scoring Information: No scoring information is provided. Numeric input. Entry allowed in only 1 of 3 options.
References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

ONTARIO CHILD HEALTH STUDY, GENERAL HEALTH PERCEPTION
Concept: Physical development; general health
Description: This question is from the 2014 Ontario Child Health Study and intends to assess the general health of participants. The age range of the study was 12-17. The original survey question was developed by the study investigators.
Important Note: The original item "In general, would you say that your health is..." was adapted to "Would you say your health in general is...".
References:

1) Ontario Child Health Study (OCHS). (2014). https://ontariochildhealthstudy.ca/ochs/
2) All Our Families Study Team. Internal Development. Personal Communication (2022).

DIGITAL DEVICE
Concept: Physical activity
Description: This question was adapted from previous studies, which queried the extent to which children were adhering to Physical Activity guidelines for Canadian students: at least 60 minutes of moderate-to-vigorous physical activity per day.
Important Note: A prior study asked participants how many of the last 7 days were they physically active for at least 60 minutes each day. This question was adapted to include "exercise" and "play a sport" in addition to physical activity. The question "that made your heart rate go up" was added to encompass the guideline of moderate-to-vigorous activity. An example was added to the question.
Scoring Information: In the original study, students were categorized as meeting or not meeting the recommendation. Higher levels indicate greater number of days meeting physical activity recommendation of 60min/day.
References:

1) Lien, A., Sampasa-Kanyinga, H., Colman, I., Hamilton, H.A., & Chaput, J.P. (2020). Adherence to 24-hour movement guidelines and academic performance in adolescents. *Public Health*, *183*, 8-14.
2) Sampasa-Kanyinga, H., Colman, I., Hamilton, H.A., & Chaput, J.-P. (2019). Outdoor physical activity, compliance with the physical activity, screen time, and sleep duration recommendations, and excess weight among adolescents. *Obesity Science & Practice*, *6*(2), 196-206.
3) Nascimento-Ferreira MV, Collese TS, de Moraes AC, Rendo-Urteaga T, Moreno LA, Carvalho HB. (2016). Validity and reliability of sleep time questionnaires in children and adolescents: A systematic review and meta-analysis. Sleep Med Rev, 30, 85-96.
4) Scott JJ, Morgan PJ, Plotnikoff RC, Lubans DR. (2015). Reliability and validity of a single-item physical activity measure for adolescents. J Paediatr Child Health, 51(8), 787-93.

SLEEP DURATION
Concept: Sleep duration
Description: This self-developed question intends to assess the average sleep duration of participants.
Scoring Information: No scoring information is provided. Higher scores indicate greater sleep duration.
References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

COMMON SENSE MEDIA - SLEEP HABITS
Concept: Technological interference with sleep
Description: One question was adapted from one item in the Common Sense Media report, *Social media, social life.* The survey questions were part of an ongoing study tracking social media use among American teenagers, aged 13- to 17-years. The original survey questions were developed by the study investigators.
Important Note: The original item, "How often, if ever, are you woken up by your phone during the night (such as by a call, text, or notification)?" was adapted to "How often are you woken

up by your digital device during the night (such as a text or notification)?". Responses to the original question (every night, most nights, some nights, hardly ever, never) were adapted to: "every night", "some nights", or "never."
Scoring Information: No scoring information is provided. Higher values indicate greater sleep interference.
References:

1) Rideout, V., & Robb, M.B. (2018). *Social media, social life: Teens reveal their experiences.* San Francisco, CA: Common Sense Media.
2) Nascimento-Ferreira MV, Collese TS, de Moraes AC, Rendo-Urteaga T, Moreno LA, Carvalho HB. Validity and reliability of sleep time questionnaires in children and adolescents: A systematic review and meta-analysis. Sleep Med Rev. 2016 Dec;30:85-96. doi: 10.1016/j.smrv.2015.11.006. Epub 2015 Dec 6. PMID: 26921735.

PROMIS PEDIATRIC SLEEP DISTURBANCE SF4A (V1.0)
Concept: Sleep disturbance
Description: The following items are from the PROMIS Pediatric Sleep Disturbance SF4 developed by Forrest *et al*. (2018). They intend to assess sleep disruptions among participants. The short form has marginal reliability, a = 0.88.
Scoring Information: Recode all items from 0-4 to 1-5. Reverse code item 2. Sum scores to create a total score. To find the total raw score for a short form with all questions answered, sum the values of the response to each question. Scores range from 4-20. All questions must be answered to produce a valid score using the scoring tables. Refer to the PROMIS Sleep Scoring Manual for T-scores for each participant to translate raw scores to T scores. Higher T-scores indicate greater disturbances in sleep.
References:

1) Forrest, C. B., Meltzer, L. J., Marcus, C. L., de la Motte, A., Kratchman, A., Buysse, D. J., ... & Bevans, K. B. (2018). Development and validation of the PROMIS Pediatric Sleep Disturbance and Sleep-Related Impairment item banks. *Sleep*, *41*(6), zsy054.
2) PROMIS measures website: https://www.healthmeasures.net/index.php?option=com_instruments&task=Search.pagination&Itemid=992

CLIMATE ANXIETY OR ECO-ANXIETY
Concept: Eco-anxiety
Description: Hickman *et al*. (2021) used non-standardized measures (Hogg Eco-Anxiety Scale) to investigate the experience of climate anxiety and how people think and feel about government responses. There is no specific diagnosis of 'eco-anxiety', but it is generally becoming recognised as a description of our emotional response to the threat posed by the climate and biodiversity crisis rather than through 'weather related' events. The survey domains were: 1. Climate-related worry (level of worry about climate change). 2. Climate-related functional impact (feelings about climate change negatively affecting functioning). 3. Climate-related emotions (presence of 14 positive and negative key emotions about climate change). 4. Climate-related thoughts (presence of seven key negative thoughts about climate change). 5. Experience of being ignored or dismissed when talking about climate change. 6. Beliefs about government response to climate change (presence of nine positive and negative key beliefs). 7. Emotional impact of government response to climate change (presence and

intensity of feelings related to reassurance and betrayal). The AOF team adapted select items from domains 1 and 2.
Scoring Information: For question 5, higher values indicate greater ecoanxiety. For question 6, sum items to create eco-anxiety score between 0-7. Higher scores indicate more emotions about climate change.
References:

1) Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, E., Mayall, E., Wray, B., Mellor, C., & van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *Lancet Planetary Health*, *5*(12), e863-e873.

IMPULSIVE SENSATION SEEKING SCALE - (SHORT-FORM)
Concept: Sensation seeking
Description: To isolate sensation seeking, Steinberg *et al*. (2008) identified a subset of six items from the updated Impulsive Sensation Seeking Scale that most purely related to this construct ("I like to have new and exciting experiences and sensations, even if they are a little frightening," "I like doing things just for the thrill of it," "I sometimes like to do things that are a little frightening," "I'll try anything once," "I sometimes do 'crazy' things just for fun," and "I like wild and uninhibited parties"). These items were answered as either true or false, and were averaged to create a mean Sensation Seeking score. This subset of items has been shown to exhibit good internal consistency (α = 0.70; Steinberg *et al.*, 2008). In the study sample from Wilmer and Chein (2016), the internal consistency was similarly good (α =0.73).
Scoring Information: These items were answered as either true (coded 1) or false (coded 0), and item scores were averaged to create a mean Sensation Seeking score.
References:

1) Steinberg, L., Albert, D., Cauffman, E., Banich, M., Graham, S., & Woolard, J. (2008). Age differences in sensation seeking and impulsivity as indexed by behavior and self-report: Evidence for a dual systems model. *Developmental Psychology, 44*(6), 1764–1778.
2) Wilmer, H.H., Chein, J.M. Mobile technology habits: patterns of association among device usage, intertemporal preference, impulse control, and reward sensitivity. *Psychon Bull Rev* **23**, 1607–1614 (2016). https://doi.org/10.3758/s13423-016-1011-z
3) Zuckerman, M., Kuhlman, D. M., Joireman, J., Teta, P., & Kraft, M. (1993). A comparison of three structural models for personality: The Big Three, the Big Five, and the Alternative Five. *Journal of Personality and Social Psychology, 65*(4), 757–768.]
4) https://www.fepts.udl.cat/export/sites/Fepts/ca/.galleries/noticies/lc_6.pdf

BEHAVIORAL ACTIVATION SCALE, REWARD RESPONSIVENESS SUBSCALE (BAS-RR)
Concept: Reward responsiveness
Description: The BAS scale is a measure of approach behaviours, which include reward, non-punishing and arousal (Carver & White, 1994). The BAS is composed of three subscales, of which only one was used in YQ9. The BAS Reward Responsiveness subscale measures the sensitivity to pleasant reinforcers in the environment. This subscale has been shown to have good internal consistency (α = 0.73; Carver & White, 1994). Reward Responsiveness can be defined as one's ability to experience pleasure in the anticipation and presence of reward-related stimuli.

Scoring Information: Reverse code all items and calculate the sum. Scores will range between 5-20. Higher scores indicate greater reward responsiveness.

References:

1) Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology, 67,* 319–333.

MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI) - SELF-REGULATION, RESPONSIBLE DECISION-MAKING, AND PERSEVERANCE

Concept: Self-regulation; responsible decision-making; perseverance

Description: The MDI is an inclusive measure that assesses many risk, resilience, flourishing and languishing domains over five areas of development. These questions were adapted from the "Self-regulation", "Responsible decision-making", and "Perseverance" areas of the MDI, and specifically focus on these aspects. The MDI was used in AOF's COVID-19 questionnaires. Continuing to use the MDI allows us to have a consistent measure throughout COVID-19 and at the recovery phase. In the survey, items 1-6 measure self-regulation, items 7-9 measure decision-making, and items 10-14 measure perseverance. The MDI has been used with tweens and teens and is validated for use up to age 14. The scale has been shown to have good internal consistency ($\alpha \geq 0.7$).

Self-regulation refers to a person's ability to adapt their behaviour, thoughts or emotions in the context of their environment to meet a particular goal. **Responsible decision-making** involves the ability to make personal choices that benefit one's own interests while also being respectful toward others. This includes being able make realistic appraisals about the consequences of one's actions. **Perseverance** refers to the persistent effort to achieve one's goals, even in the face of setbacks. For adolescents, it has been associated with higher motivation, particularly in the context of school achievement.

Scoring Information: Recode the responses as follows. High corresponds to high perceived connectedness, medium corresponds to medium perceived connectedness, and low corresponds to low perceived connectedness. AOF summed responses and used tertiles as cut-offs for high, medium, and low to provide a good relative understanding of the sample distribution as MDI cut-offs were likely to be significantly uneven (i.e., less numbers in the low category)

References:

1) MDI Technical Guide (April 2020). http://www.discovermdi.ca/wp-content/uploads/2020/04/MDI-Technical_Guide-v1-202004.pdf.
2) Gregory, T., Engelhardt, D., Lewkowicz, A., Luddy, S., Guhn, M., Gadermann, A., . . . Brinkman, S. (2019). Validity of the Middle Years Development Instrument for Population Monitoring of Student Wellbeing in Australian School Children. *Child Indicators Research, 12*(3), 873-899.

FLOURISHING

Concept: Well-being

Description: The flourishing score was based on 6 close-ended survey items. Each item was aligned with a dimension of Ryff's Psychological (eudaimonic) Well-Being Scale: self-acceptance ("I like being the way I am"), environmental mastery ("I am good at managing my daily responsibilities"), positive relations with others ("People are generally friendly towards me"), autonomy ("I have enough choice about how I spend my time"), personal growth ("I feel

that I am learning a lot at the moment"), and purpose in life ("I feel positive about my future"). On an 11-point Likert-type scale, anchored at 0 ("not at all agree") and 10 ("totally agree"), adolescents were asked to indicate their level of agreement with each item. From Whitaker *et al*, the internal consistency (Cronbach's α) of the flourishing score items was 0.84.
Scoring Information: Flourishing was based on a mean score of six items that asked about self-acceptance, purpose in life, positive relations with others, personal growth, environmental mastery and autonomy. Those with complete data on at least 5 items were included in the analysis, and we calculated a mean flourishing score (range 0–10) from the available items. Higher scores indicated higher prevalence of flourishing. Whitaker *et al*. used a binary measure for flourishing where scores >8 suggested flourishing.
References:

1) Robert C. Whitaker, Tracy Dearth-Wesley, Allison N. Herman, Anne-Sophie N. van Wingerden, Delaine W. Winn; Family Connection and Flourishing Among Adolescents in 26 Countries. Pediatrics June 2022; 149 (6): e2021055263. 10.1542/peds.2021-055263
2) Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*, 1069–1081.

MIDDLE YEARS DEVELOPMENT INSTRUMENT (MDI) - HAPPINESS AND OPTIMISM
Concept: Happiness; optimism; well-being
Description: The MDI is an inclusive measure that assesses many risk, resilience, flourishing, and languishing domains over five areas of development. These questions were adapted from the "Happiness" and "Optimism" areas of the MDI, and focus on these aspects. The MDI was used in AOF's COVID-19 questionnaires. Continuing to use the MDI allows us to have a consistent measure throughout COVID-19 and at the recovery phase. Items a-c measure optimism and items d-h measure happiness. The MDI has been used with tweens and teens and is validated for use up to age 14. The scale has been shown to have good internal consistency ($\alpha \geq 0.7$).
Happiness, or subjective well-being, refers to how content or satisfied youth are with their lives. Happiness serves a greater advantage than just feeling good: youth with a positive, friendly attitude are more likely to attract positive attention from peers and adults, thus broadening and strengthening their social resources. Experiencing happiness also strengthens youth's coping resources when negative experiences occur. **Optimism** refers to the mindset of having positive expectations for the future. Optimism predicts a range of long-term benefits including greater success in school and work, less likelihood of depression and anxiety, greater satisfaction in relationships, better physical health and longer life. It is also a strong predictor of resiliency for youth facing adversity.
Scoring Information: Recode the responses as follows. High corresponds to high perceived happiness/optimism, medium corresponds to medium perceived happiness/optimism, and low corresponds to low perceived happiness/optimism. AOF summed responses and used tertiles as cut-offs for high, medium, and low to provide a good relative understanding of the sample distribution as MDI cut-offs were likely to be significantly uneven (i.e., less numbers in the low category).
References:

1) MDI Technical Guide (April 2020). http://www.discovermdi.ca/wp-content/uploads/2020/04/MDI-Technical_Guide-v1-202004.pdf

GENDER IDENTITY
Concept: Self-identity
Description: These self-developed questions intend to assess whether participants have discussed their gender identity and sexual orientation in the home and/or with their friends. April Elliot, an Adolescent Medicine expert and Paediatrician, confirmed we should use the multidimensional measure for sex and gender identity.
References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).
2) Bauer, G. R., Braimoh, J., Scheim, A. I., & Dharma, C. (2017). Transgender-inclusive measures of sex/gender for population surveys: Mixed-methods evaluation and recommendations. PloS one, 12(5).

SEXUAL ORIENTATION
Concept: Sexual orientation
Description: This question intends to assess the sexual orientation of participants. It was adapted from items provided by Hilary Mutch, LGBTQ2S+ Community Development Coordinator, at the Centre For Sexuality in Calgary, AB.
References:

1) Hilary Mutch, LGBTQ2S+ Community Development Coordinator, at the Centre For Sexuality.

ETHNICITY
Concept: Ethnicity
Description: This question is adapted from the "Guidance on the Use of Standards for Race-Based and Indigenous Identity Data Collection and Health Reporting in Canada" by the Canadian Institute for Health Information (2022) and intends to record the ethnicity of participants.
Important Note: The original item "another race category" was adapted to "another category". The AOF team did not include the original response option "Don't Know/Prefer not to answer".
References:

1) Canadian Institute for Health Information. (2022). Guidance on the Use of Standards for Race-Based and Indigenous Identity Data Collection and Health Reporting in Canada. https://www.cihi.ca/sites/defauldigit/files/document/guidance-and-standards-for-race-based-and-indigenous-identity-data-en.pdf

DISCRIMINATION
Concept: Discrimination
Description: This self-developed question intends to assess if participants have experienced discrimination in the previous year at survey completion.
References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

RESPONSE VALIDITY
Concept: Validity
Description: This self-developed item assessed for the validity of participant responses on the survey.

Scoring Information: Lower scores indicate less validity in responses. Researchers may consider the following responses as not valid:

- 1 = Not at all true
- 2 = A little true

Researchers may consider the following responses as valid:

- 3 = Pretty much true
- 4 = Very much true

References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).

SURVEY EXPERIENCE

Concept: Survey experience

Description: This self-developed item assessed for any additional qualitative information of respondents on the survey.

References:

1) All Our Families Study Team. Internal Development. Personal Communication (2022).