



## PROGRAM EVALUATION FULL REPORT

# Impact of BOKS on Children's Physical Activity and Wellbeing During the COVID-19 Pandemic

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# Table of Contents

**4** Executive Summary

---

**12** Findings

---

**5** Program Evaluation Report

---

**24** Recommendations

---

**6** Introduction

---

**27** Conclusion

---

**7** Methodology

**29** Appendix



# Executive Summary

The COVID-19 pandemic has brought widespread disruption to schools, cancelled youth sports and has been the root cause of restriction to many outdoor leisure activities. As a result, the social and cognitive wellbeing and physical activity levels of children have been significantly impacted. Throughout this challenging time, Build Our Kids' Success (BOKS) program sites have served as a safe and social environment for schools to provide children with structured opportunity for physical activity. Moving forward, BOKS wants to ensure its programming is responsive to participant feedback, including from children, their parents/guardians, as well from those responsible for administering the program.

Since the beginning of the COVID-19 pandemic (March 2020), several amendments to the original BOKS program evaluation study design and timeline were made, in order to accommodate for the closure of the education system and adjustment to remote operation, as well to comply with University restrictions for non-urgent research. Accordingly, changes to the original research objectives were also made. As a result, the objectives of this (re)designed study were to 1) examine the impact the pandemic has had on children's physical activity levels, 2) evaluate the effect the BOKS program had on children's physical, cognitive and social health, and 3) understand some of the challenges that BOKS program leaders have experienced with implementation of the BOKS program during the pandemic.



# Program Evaluation Report

**2020-21** *Research conducted by Dalhousie University*

COVID-19 has caused widespread disruption to schools, youth sports and many leisure activities. As a result, children's overall wellbeing and physical activity levels have been significantly impacted. During this challenging time, the Build Our Kids' Success (BOKS) program has provided many children a safe environment to participate in physical activity. This report provides an insight into the impact of the pandemic has had on children's social, cognitive and physical health, and how BOKS has helped children cope with the many restrictions in place.



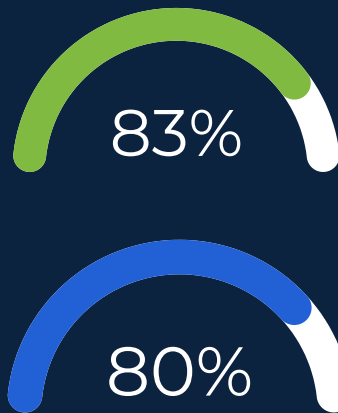
For some children, BOKS may have been their only source of regular physical activity during the pandemic.

## PARENTS/GUARDIANS

## BOKS TRAINERS

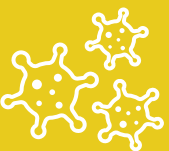
After 2-months of BOKS participation:

- Decrease in children's psychological stress and sleep disturbance.
- Improvements in peer relationships, cognitive function and life satisfaction.
- Noticeable changes in children's mood, behaviour and ability to resolve conflict.



of BOKS trainers believe that BOKS had at least some impact on children's mental health, with 12.6% believing it had a great impact during the pandemic.

of BOKS trainers believe that BOKS had at least some impact on children's physical health, with 11% believing it had a great impact during the pandemic.



1

Global pandemic



31

Nova Scotia schools participated in BOKS programming



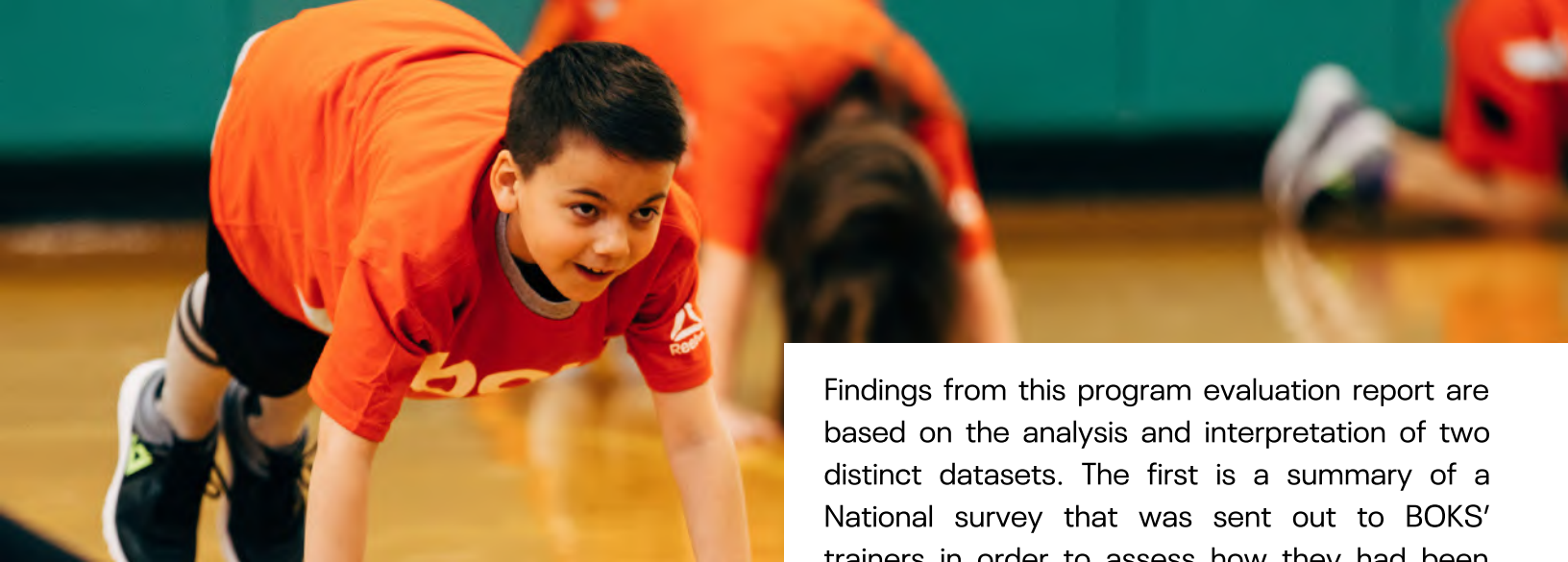
70

Average total number of minutes/week of BOKS programming in Nova Scotia during the pandemic



612

Children in Nova Scotia participated in BOKS programming



# Introduction

It is widely known that most Canadian children are not achieving their daily 60 minutes of recommended physical activity. In order to help move them closer to this target, the Public Health Agency of Canada and Reebok have joined forces with a school-based physical activity program called Build Our Kids' Success (BOKS).

*The BOKS program consists of a variety of free, fun and engaging resources to meet the needs of Canadian kids from early childhood through high school, to get active and develop a lifelong commitment to health and fitness.*

BOKS program resources include full length lesson plans (25-45 minutes), short movement Bursts (1-10 minutes), and movement-based games, activities and resources, designed for either school or at-home use.

Findings from this program evaluation report are based on the analysis and interpretation of two distinct datasets. The first is a summary of a National survey that was sent out to BOKS' trainers in order to assess how they had been impacted by the pandemic, and what resources would best help them with a return to school/BOKS programming. The survey was also used to explore how the pandemic had affected the trainers' emotional and mental wellbeing and their perceptions of its impact on children's wellbeing and physical activity. The second dataset is specific to BOKS program implementation in the Halifax Regional Centre for Education (HRCE), a regional school district in Nova Scotia (NS), Canada. It consists of individual interviews with children, their parents/guardians, and BOKS trainers/program leaders who were responsible for administering the BOKS program as part of a before and after school program. Interview questions captured participants' experiences and perceptions of the BOKS program during the pandemic.

Finally, to build upon the future success of the BOKS program, a set of recommendations based on findings from both datasets have been prepared. This program evaluation report provides an insight into the impact the pandemic has had on children's overall wellbeing, and how BOKS programming has helped children (and their parents/guardians) cope with the many restrictions concerning physical activity and leisure activities that have been put in place as a result.

# Methodology

## National Trainer Survey

Baseline data collection for the National survey was collected over 16 days (July 15-30, 2020). The survey was available in English and French and was sent via email to all currently active BOKS trainers. This included both volunteer trainers connected to a BOKS program site, as well as parents who had signed up for BOKS at home during the pandemic. This resulted in 8,605 emails sent out to BOKS contacts across Canada.

The survey was comprised of 23 questions, nine of which were questions from the 36-item Short Form Health Survey (SF-36) and 14 unique questions. The SF-36 is a set of generic coherent and easily administered quality of life measures which are public documents and therefore readily available to use. This mix of questions allowed our research team to compare trainers' health and wellbeing to normative data, and with follow-up survey responses.

Further, it allowed for probing into the specific needs and concerns that trainers were currently facing entering a new school year during the global pandemic.

The 14 additional survey questions explored how trainers were coping through the pandemic, their opinions of how physically active the children were during the pandemic, the barriers to physical activity present during the pandemic, and what resources were most needed to make a successful return to school/BOKS programming in the fall.



### Types of questions (BOKS Trainer survey):

**Questions explored BOKS trainers' health and wellbeing.**

**Compared needs and concerns BOKS trainers were facing entering a new school year during the global pandemic.**

# Methodology

## National Trainer Survey

The survey used both multiple choice and open-ended questions in order to best understand what was needed by the trainers to best encourage a return to physical activity in the upcoming school year. Because the global pandemic affected each province and territory differently, analysis was done by both the province/territory and region (urban, suburban, and rural) in order to delineate differences in experience between the regions.

Questions also sought to identify the gender and the school role of the respondent (teacher, physical education teacher, parent, etc.) in order to see if these factors played a role in how the trainers were coping physically and mentally, and to determine if their needs in a return to school scenario were being met. Follow-up data collection for the National survey was collected over 18 days (November 6-24, 2020). Emails were once again sent to all active trainers across Canada.

### Timeframe (BOKS Trainer survey):

**Baseline: July 15-30, 2020**

**Follow-up: November 6-24, 2020**



# Methodology

## BOKS Programming Outcomes

BOKS program data collection for the Nova Scotia-specific sites was based on 31 participating schools within the Halifax Regional Centre for Education (HRCE). The BOKS program was administered through the EXCEL before and after school program. EXCEL had been an early adopter of BOKS and has been using the programming for the past five years. This enabled data collection from properly trained BOKS trainers without having to give in-person coaching.

Through recruitment of participants from the EXCEL program at HRCE we had aimed to have 150 child participants in the BOKS program. This number was determined by assessment of the current literature on physical activity interventions, which have a broad range of small (20) to large (thousands) participant numbers, as well as through discussions with EXCEL leaders as to the number of potential participants enrolled in the EXCEL program. Due to restrictions with the province's Regional Centres for Education, baseline measures with children were unattainable.

As a secondary data collection method, the National Institutes of Health's Patient-Reported Outcomes Measurement Information System (NIH-PROMIS) standardized Parent Proxy surveys were used, with baseline data collection occurring in October 2020 and follow-up survey taking place in December 2020.

Child-completed NIH-PROMIS surveys, Physical Literacy Assessment for Youth-self assessment (PLAYself), Physical Activity Questionnaire (PAQ-C), and the Physical Activity Enjoyment Scale (PACES), were able to be collected at the completion of the BOKS programming (December 2020). These questions asked about children's mental health, cognitive function, family and peer relationships, positive feelings, sleep, stress, and physical activity.



### Types of questions (Halifax/HRCE evaluation):

**Questions asked about children's mental health, cognitive function, family and peer relationships, positive feelings, sleep, stress, and physical activity.**

**Child-completed surveys asked about children's mental health, cognitive function, family and peer relationships, positive feelings, sleep, stress and physical activity.**

# Methodology

## BOKS Programming Outcomes

Other methods of data collection consisted of in-depth individual interviews with children in Grades 4-6, their parents/guardians, and EXCEL program leaders responsible for administering the BOKS program. In-depth semi-structured individual interviews occurred between December 9, 2020 and February 5, 2021.

Interview questions asked about level of enjoyment of the BOKS program, noticeable changes in mood, behaviour and/or confidence after participating in the BOKS program, positive and negative thoughts/experiences in the BOKS program, general enjoyment of physical activities, changes in sleep following physical activity, changes/challenges in activity due to the pandemic, changes in mood and behaviour due to the pandemic, the transition back to school and activities after the pandemic.

### Timeframe (Halifax/HRCE evaluation):

**NIH-PROMIS parent proxy survey; baseline: October 2020; follow-up: December 2020**

**Child-completed surveys NIH-PROMIS, PLAYself, PAQ-C, PACES: December 2020**

**Child, parent, trainer Interviews: December 9, 2020 – February 5, 2021**



# Methodology

## BOKS Programming Outcomes

### Spotlight on children

*Due to the pandemic, it was important to explore changes in children's mental, physical and social wellbeing.*

In order to comply with Dalhousie University's adopted COVID-19 public health research guidelines, interviews were facilitated online via Zoom. Interviews were approximately 30-60 minutes in duration. Interviews were audio and video-recorded and saved locally onto the researcher's computer, which were then transferred to a secure Dalhousie server, and later transcribed. Once transcribed, all recordings of the interviews were deleted.

EXCEL/BOKS program leaders also completed an online survey, probing on their perceived positive as well as negative aspects of BOKS, what recommendations trainers felt were warranted, and if they noticed any change in children's mental, social/emotional or physical wellbeing during the course of the BOKS programming.



# Findings

## Demographics

### National Trainer Survey

Of the 8,605 emails sent, 359 BOKS trainers responded to the July 2020 survey, while 104 responded to the November 2020 survey. Trainers from all provinces and territories responded to the July survey, while the November survey had respondents from all but Newfoundland and Prince Edward Island. Respondents were mainly from high population centers for both the July and November surveys – see Table 1.

	Large urban population centre	Medium urban population centre	Small urban population centre	Rural
July 2020	35%	24%	27%	14%
November 2020	29%	32%	26%	13%

Table 1. Regional distribution of respondents

### HRCE/NS BOKS Programming

Participants in the HRCE/NS study were male and female children in Grades 4-6 participating in the EXCEL before and after school program, their parents/guardians, and the EXCEL leaders/BOKS trainers of 31 participating schools. See Table 2 for a summary of data sources via participant surveys and individual interviews.

	Survey		Interviews
	Baseline	Follow-up	
Children	-	11	7
Parents/Guardians	159	75	5
Program Leaders	-	12	3

Table 2. Summary of HRCE/NS BOKS participant data sources



# Findings

## National Trainer Survey Results

### *BOKS Trainers' Mental/Emotional Health During the Pandemic*

Nationally, BOKS trainers have experienced decreased energy and worsening mental health from July 2020 to November 2020. Both self-reported energy/fatigue and mental health scores from July and November, for both women and men, are well below national averages from before the COVID-19 pandemic, as shown in Figure 1 and Figure 2, respectively.

### *Children's Physical Activity During the Pandemic and Impact of BOKS Program*

When asked whether children were receiving adequate levels of physical activity during the pandemic, 59% of BOKS trainers in November 2020 believed they were not. This was surprisingly down from July 2020 survey results, where 73% of BOKS trainers believed children were not getting enough physical activity. This decrease, or increase in physical activity, may in part have been due to schools in Nova Scotia being back in session, which resumed with in-person classes in September 2020. This assumption warrants further analysis, as it may provide critical insight into the importance of schools ensuring equitable access to physical activity for all.

**Energy/Fatigue of BOKS Trainers Over Time**

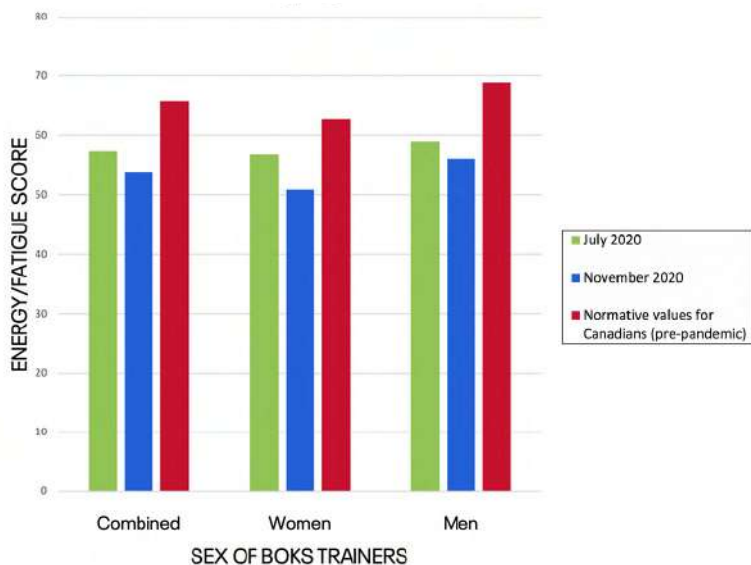


Figure 1. Energy/fatigue of BOKS trainers (by sex) between July 2020 and November 2020. Higher scores indicate greater energy/lower fatigue.

**Mental Health of BOKS Trainers Over Time**

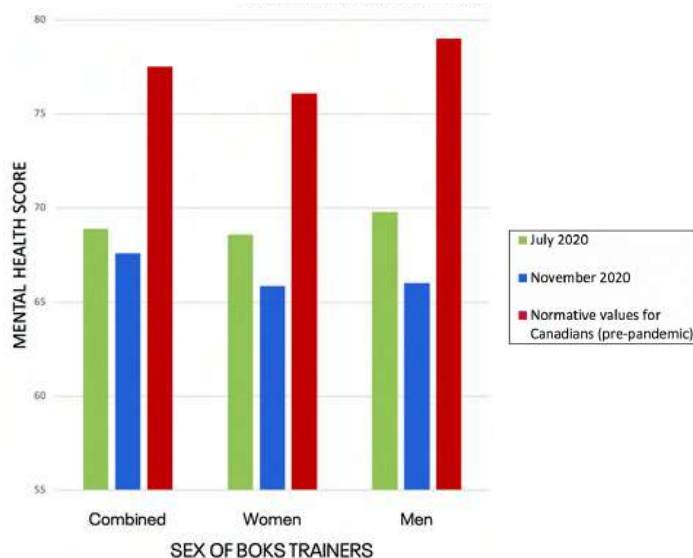


Figure 2. Mental health of BOKS trainers (by sex) between July 2020 and November 2020. Higher scores indicate better mental health.

# Findings

## National Trainer Survey Results

When asked about the mental health of children, 83% of BOKS trainers believed that BOKS programming had at least some impact on children's mental health during the pandemic, while 12.6% believed that BOKS had a real impact on children's mental health during the pandemic.

In order to help increase the effectiveness of the BOKS program, trainers identified the need for more socially distanced lesson plans and more BOKS Burst activities, as both were labelled as important resources needed from BOKS Canada. In addition, BOKS trainers noted the need for lesson plans for older children and outdoor winter activities.

In July 2020, 59% of trainers believed there was not equitable access to physical activity resources during the pandemic, this value changed to 39% in the November 2020 survey. Changes in their responses to why they believed there was not equitable access are shown in Figure 3.

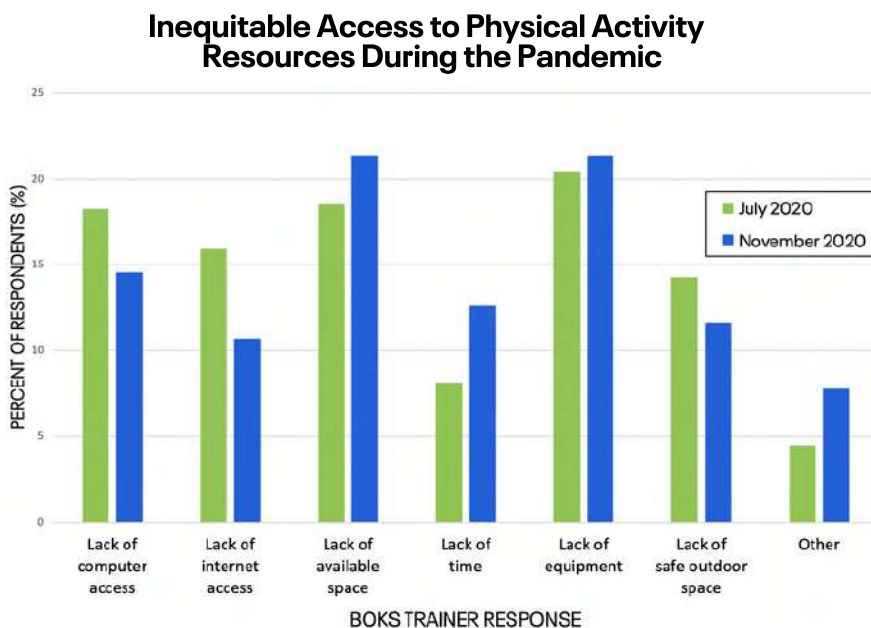
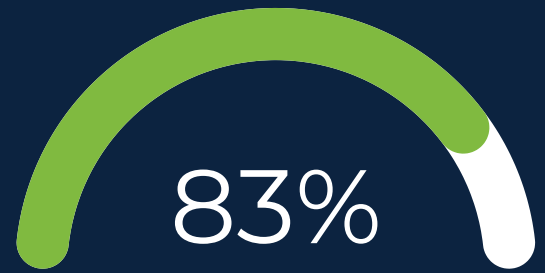


Figure 3. Inequitable access to physical activity resources during the pandemic



of BOKS trainers believe that BOKS had at least some impact on children's mental health, with 12.6% believing it had a great impact during the pandemic.

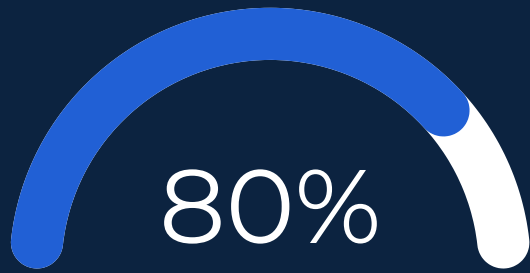
Reasons why trainers believed there was no inequitable access to physical activity resources during the pandemic:

1 - Lack of available space

2 - Lack of equipment

3 - Lack of computer access

(November 2020 Trainers' responses)



**80%**  
of BOKS trainers believe that BOKS had at least some impact on children's physical health, with 11% believing it had a great impact during the pandemic.

Challenges faced by children/families trying to remain physically active during the pandemic:

**1 - Lack of playmates**

**2 - Lack of motivation**

**3 - Lack of available space**

(November 2020 Trainers' responses)

# Findings

## National Trainer Survey Results

The most common cited reasons for why BOKS trainers believed children were not receiving enough physical activity during the pandemic include the need to stay indoors, increased time on electronics, and restricted use of gymnasiums in school due to the pandemic.

In battling this decrease in activity, 80% of trainers believe that BOKS has had at least some impact on children's physical health, while 11% believed it had a great impact. Trainers also believe families are facing challenges to remaining physically active, with the most common being lack of space, lack of playmates and lack of motivation (see Figure 4).

**Challenges Faced by Children/Families Trying to Remain Physically Active During the Pandemic**

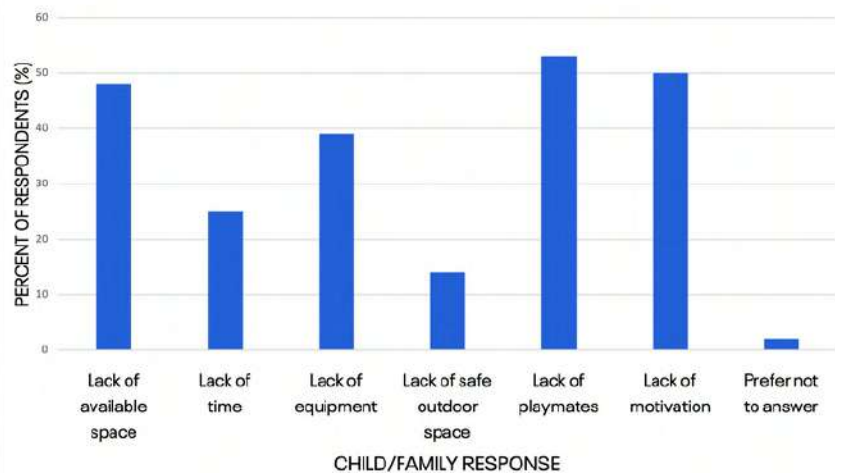


Figure 4. Reported challenges faced by children/families trying to remain physically active during the pandemic.

*"BOKS is like the Rolls Royce of tools in our toolbox to help get these kids moving."* - BOKS program leader

# Findings

## National Trainer Survey Results

Trainers were asked to provide any additional comments to expand our understanding of their experience of BOKS/physical activity during the COVID-19 pandemic. The common theme among the comments indicated that trainers are really enjoying and using BOKS resources and BOKS Bursts. Some trainers see the need for more age range appropriate (very young = Grades K-2, and older = Grades 6+) activities, and some trainers have asked for more winter specific activities. Some of the comments are below:



”

**BOKS has been a life-saver for me. The monthly calendars, YouTube videos, lesson plans, and Bursts have been my 'go to' with distance learning. Thank you!**

”

**BOKS resources have been so valuable to my programming this school year. We are currently in the middle of the Bootcamp and my older children are commenting on the differences in their strength.**

”

**In school, Bursts are done in all of my HPE classes. Lunch hour BOKS sessions began first week of October and is going well. Kids can't get enough of it. Please keep the monthly fitness calendars coming. We love them!**

”

**Having the BOKS Bursts have been a great help with getting the children up and moving while in class, especially since their recess and movement breaks have been modified. As we navigate through these new teaching methods, sometimes time becomes a factor. The videos have been great for the children (and teachers) to see the movements in action and to follow along.**



# Findings

## HRCE/NS BOKS Programming

### *NIH-PROMIS Parent Proxy Survey*

The NIH-PROMIS Parent Proxy surveys were used in lieu of child surveys due to restrictions placed around research in schools in Nova Scotia during the pandemic. These surveys have been shown to be valid and reliable.

*The NIH-PROMIS Parent Proxy survey involved asking parents/guardians questions about their perceptions on nine health domains concerning their child. These included their child's mental, physical and social health (global health), total volume and intensity of physical activity over the last seven days (PA), cognitive function relevant to attention and memory (cognitive), positive affect relevant to mood and demeanour (affect), peer relationships with other children (peers), life satisfaction and general happiness (life), feelings of psychological stress (stress), sleep disturbance (sleep), and quality of relationships with family (family).*

The NIH-PROMIS scores are presented as adjusted t-scores (a statistical measurement that accounts for dependencies among variables), with a standard mean of 50 for all measures. All measures taken in October 2020 were near the standard score of 50, with the exceptions of psychological stress and sleep disturbance being the highest with values of 56.5 and 55.6, respectively.

# Findings

## HRCE/NS BOKS Programming

Over the course of two-months of BOKS interventions, the most notable changes involved psychological stress and sleep disturbance, both lowering to 54.4 and 53.2, respectively, indicating less stress and less sleep disturbance (see Figure 5). We also noted an increase in peer relationships (from 47.6 to 50), cognitive function (from 46.7 to 47.8) and life satisfaction (from 47.2 to 48.2). See appendix–Table 3 for a summary of the raw data from the NIH-PROMIS Parent Proxy survey results.

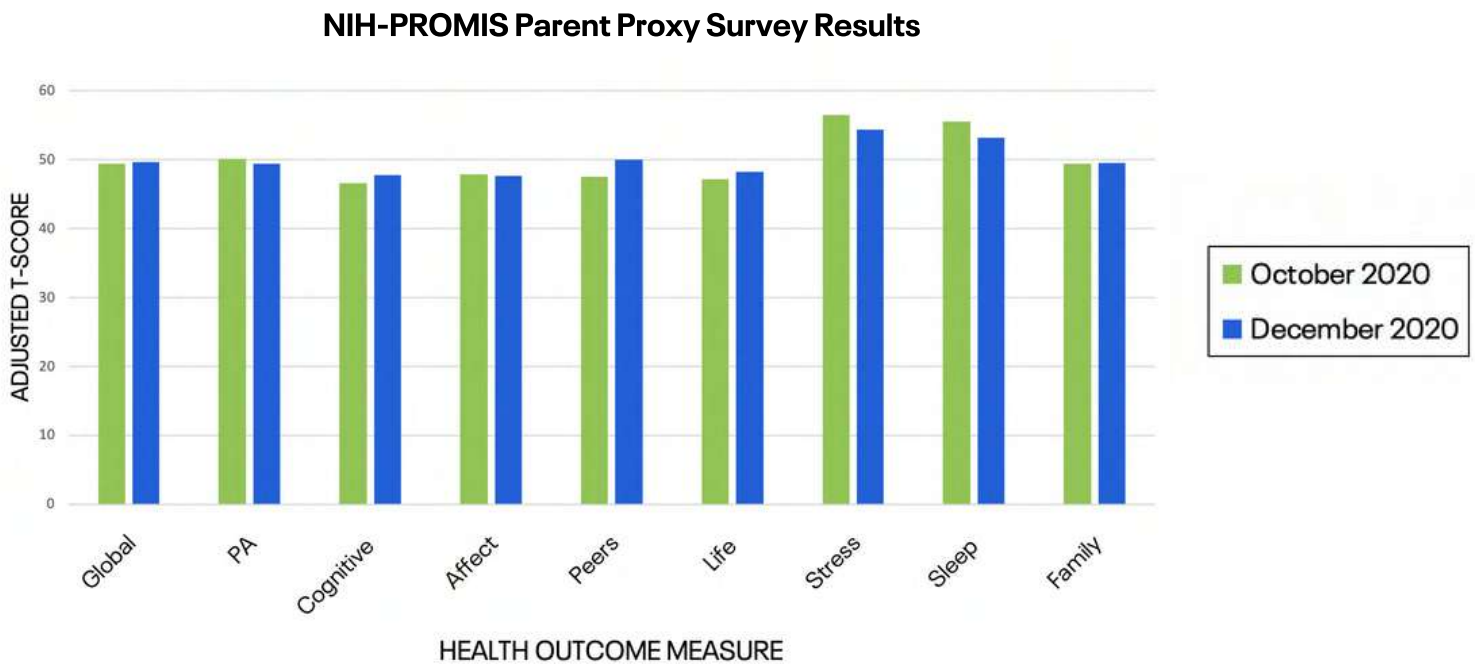


Figure 5. NIH-PROMIS Parent Proxy health outcome measures (adjusted t-scores) for October 2020 and December 2020. PA = Physical activity.

*“I love having high-quality programming available to my staff that ensures that our kids are getting their heart rates up for 20-30 minutes, three times each week.”* – BOKS program leader

# Findings

## HRCE/NS BOKS Programming

Interpretation of the data varies between outcome measures, as a change in the positive direction is an indication of improvement for some health domains, such as global, cognitive, peers, life and family. Conversely, a change in the negative direction is an indication of improvement for stress and sleep, but not PA or affect – see Figure 6.

Change in NIH-PROMIS Parent Proxy Survey Results

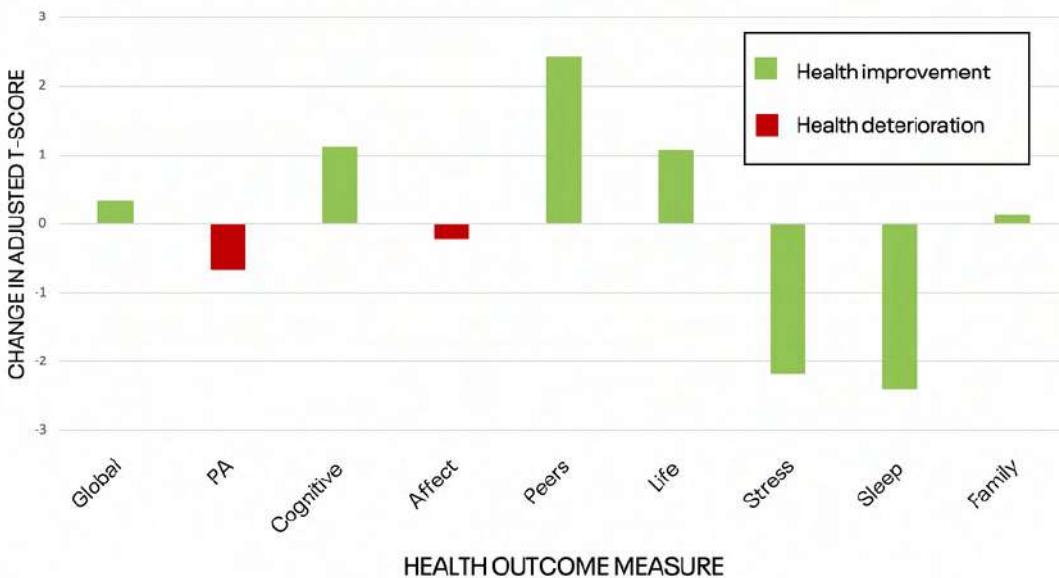


Figure 6. Change in NIH-PROMIS Parent Proxy adjusted t-scores from October 2020 to December 2020. Changes in health outcome measures that indicate an improvement in health (global, cognitive, peers, life, stress, sleep and family) are presented in green. Changes in health outcome measures that indicate a deterioration in health (PA and affect) are presented in red. PA = Physical activity.

*“I like that the BOKS program makes exercising fun for the kids.”*

– BOKS program leader



# Findings

## HRCE/NS BOKS Programming

### Child Surveys

Child participant data collected at the end of the BOKS programming (December 2020), provided an accurate representation of how children are currently coping with their mental, social, and physical health during this pandemic.

Unlike the NIH-PROMIS Parent Proxy t-scores, the NIH-PROMIS Child t-scores were well below the standard mean of 50 for family relationships (41.2) and cognitive function (45.6) – see Figure 7. Appendix-Table 4 provides a comparison of the raw data between NIH-PROMIS Parent Proxy and Child survey results for select constructs.

Children’s physical activity and physical literacy was measured via three different assessment tools including the PLAYself (measurement of self-perceived competence in physical literacy skills), PACES (measurement of enjoyment in physical activity), and the PAQ-C (child-specific 7-day recall questionnaire for physical activity).

The PLAYself assessment tool can yield a maximum score of 100 (indicating high self-perceived physical literacy). The PACES assessment tool does not have a standardized mean, but scores can range between 16-118 with higher scores showing greater enjoyment. The PAQ-C assessment tool has a score range between 1 (indicating low physical activity) and 5 (indicating high physical activity).

Based on results, the child participants indicate high to moderate self-perceived competence in physical literacy (PLAYself), moderate levels of engagement in physical activity (PAQ-C), and moderate enjoyment of physical activity (PACES) – see Figure 8.

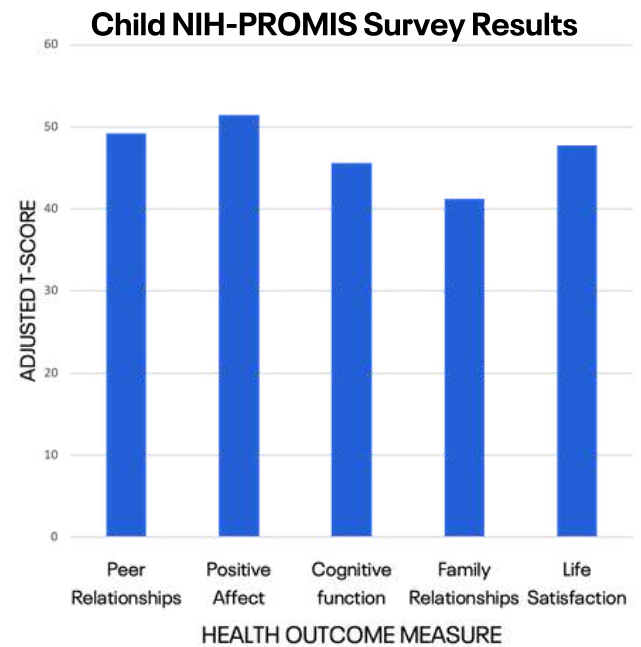


Figure 7. Child NIH-PROMIS survey results

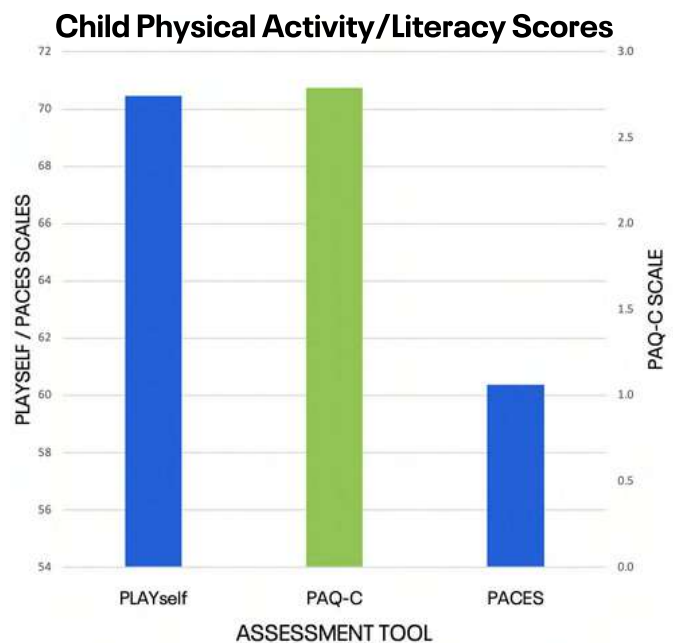


Figure 8. Child physical activity and physical literacy scores from the PLAYself, PAQ-C and PACES assessment tools.

# Findings

## HRCE/NS BOKS Programming

*Semi-Structured Individual Interviews*

**There were five major themes identified from the individual interviews with children, parents/guardians and BOKS program leaders:**

### Theme 1

#### Children's Physical Activity Levels Impacted by the Pandemic

Throughout the 2020/2021 school year, BOKS had been a regular component of the EXCEL before and after school program in HRCE schools in Nova Scotia (NS). Several children indicated that their participation in community-based sports and/or leisure activities were either cancelled or unavailable due to restrictions put in place because of the pandemic. And for some children, BOKS may have been their only source of regular physical activity during the pandemic. Many of the parent/guardian respondents agreed that their child's physical activity levels have decreased since the beginning of the pandemic in comparison to pre-pandemic times. Some program leaders believe that the BOKS program has contributed to a large percentage of many children's total daily time spent being physically active.

”

There was lack of physical activity just for the fact that she couldn't go anywhere, parks were limited, soccer was cancelled, even her Guides... everything, everything was cancelled. So, there was no physical activity, short of going outback and running around there wasn't much.

– Parent/guardian of BOKS participant (Grade 4-6)

”

I guess we're just indoors a lot more, we're not out involved in many activities you know. We used to go skating, and now we're not really getting that extra physical activity. And we haven't been socializing with many friends or anything like that so it's a big impact.

– Parent/guardian of BOKS participant (Grade 4-6)

# Findings

## HRCE/NS BOKS Programming

### **BOKS Positively Impacts Children’s Physical Wellbeing**

Both parents/guardians and program leaders attribute children’s participation in BOKS with a positive impact on children’s overall wellbeing, with an emphasis on physical health. Some program leaders reported observed improvements in children’s capacity to perform physical work (e.g., exercising while wearing full outdoor winter gear), marked increases in muscular strength and endurance (e.g., number of push-ups performed) and enhanced willingness to participate in physical activity.

### **Theme 2**

### **Theme 3**

### **BOKS Participation Positively Impacts Children’s Cognitive/Emotional Health**

Most respondents either experienced first-hand (child) or observed (parents/guardians, BOKS program leaders) improvements to children’s mood and behaviour because of BOKS participation during the pandemic. Children reported increased energy levels and felt less tired as a result of BOKS, while some reported an enhanced ability to concentrate and focus after participating in a BOKS session. Parents/guardians observed improvements in children’s mood. One parent indicated that their child has been less likely to overreact, has been noticeably calmer lately, and is better handling conflict amongst peers.

”

**She’s definitely happier and more cooperative when she’s been active. She definitely needs that in her life. I need that in my life.**

– Parent/guardian of BOKS participant (Grade 4)

# Findings

## HRCE/NS BOKS Programming

### BOKS Provides an Added Confidence Boost

Despite not knowing much about the BOKS program, one parent was pleasantly surprised that BOKS has permitted her overtly shy child to participate in BOKS programming. One program leader observed noticeable improvements in children's confidence, in particular girls. Interestingly, one program leader reported that children were less motivated to participate in BOKS when administered in smaller groups of less than five children.

### Theme 4

### Theme 5

### BOKS Integrated Well with School-Based Activities

Several program leaders indicated how well the BOKS program has integrated with their school's existing programs. Program leaders commented on how "easy" the lessons plans are to use, in particular the Bursts sessions:

”

The BOKS Bursts are great too, when we need to get five or ten minutes to do something with the kids before we transition to our next programming component. The kids love it! We love it! As it has integrated really, really well.

– BOKS program leader

”

There's a segment at the end called BOKS Bits and it's a nutrition segment and we're laughing because we're starting to see everybody who can read, is reading labels now on their snacks and some of them are even starting to make different choices about the kinds of snacks they're bringing to school. So, it fits well, and it's been really positive!

– BOKS program leader

# Recommendations



To build on the future success of BOKS, the following recommendations have been made, based on major themes from the various data sources:

*It was widely reported by BOKS trainers/program leaders, parents/guardians and children, that BOKS participation provided an overall positive experience for many.*

01

## Opportunity to build on inclusivity of BOKS programming

Several program leaders suggested that some of the fitness-related content may be too advanced for younger children, whereas other trainers working with older children (grade 6) found some of the activities too simple. Based on collected feedback, there may be some added benefit to having fewer “structured exercises” and more game-oriented activities. One program leader suggested that the BOKS program could benefit from added exercise variations for children who may be limited physically. By ensuring BOKS program content options are suitable for all ages, abilities, and stage of development, would make BOKS programming inclusive and accessible for all children.

*“I would love a few more games that younger kids can play since we use BOKS for our entire program, not just the older groups.” – BOKS program leader*



# Recommendations

02

## Opportunity to expand on engagement with increased emphasis on fun and enjoyment

The BOKS program could benefit from additional games or activities that aimed to increase children's overall level of excitement. There were concerns that children were getting "bored" because of the monotonous nature of fitness-related activities. One program leader suggested the addition of music as it "would make it more fun".

*"We still need to grasp the excitement of children in design, to teach and enjoy."*

– BOKS program leader

03

## Opportunity to continue supporting BOKS trainers/program leaders

Some program leaders felt they could benefit from additional training and support in terms of exercise instruction and program delivery. Although many leaders felt they were adequately supported, one program leader provided additional commentary:

*"We have to read all the exercises first before introducing to them and I think that if we have like group leaders or some training on how to introduce all these exercises... I think it will be much better for us. We just have the training for High Five and that's it. We don't have any training specifically for BOKS, like how to explain the exercises or the Bursts. I think we need more training."*

– BOKS program leader



# Recommendations



04

## Opportunity to engage and communicate with parents/guardians

Many of the interviewed parents/guardians were unable to answer specific questions about their child's participation in BOKS (e.g., type of activities/games being performed). Some parents felt this was a missed opportunity. One parent/guardian believed this might have been due to current COVID-19 related restrictions, however, they wished they could be better informed on what their child has been doing during BOKS. When parents/guardians were asked about their level of understanding or knowledge about BOKS, the following responses were provided:

- "I don't really know. I bring my daughter; I pack her sneakers and that's about it."
- "Nothing other than pick-up and drop-off."

# Conclusion

**Work needs to be done to limit the further decline in mental health in BOKS trainers who are working with children and youth on a consistent basis**

**BOKS program should be considered an effective resource providing engaging physical activity programs for children both at home and in schools**

As a follow-up to the mid-term report (November 2020) titled, Impact of COVID-19 on Physical Activity of BOKS Trainers and Children, results from the National survey indicate that BOKS trainers are being negatively affected in their mental/emotional health and energy levels by the pandemic, with these values being even lower than what was reported in July 2020. Work needs to be done to limit the further decline in mental health in these individuals, who are working with the children and youth on a consistent basis. Having this population experiencing burnout will only cause further declines in opportunities for physical activity for the youth of the Nation.

Data from the National survey also indicates that children and families are limited by lack of outdoor space, motivation and lack of playmates in their attempts to engage in physical activity. The data from the HRCE shows that while children appeared to have higher stress, greater sleep disturbance and lower cognitive function than average in October, these scores improved after only 2-months of BOKS participation. Therefore, the BOKS program should be considered an effective resource, providing engaging activity programs that both educators and parents can use to increase the level of physical activity in their children (both at-home and in schools).

# Conclusion

**BOKS programming is making a positive difference in children's social, emotional and physical health**

The common theme between the National survey, program leader/parent/guardian/child interviews, and program leader surveys show that BOKS programming is used and enjoyed and is making a positive difference in children's social, emotional and physical health. Information from this evaluation has indicated that future work can be done to improve the BOKS program offerings by making more age diverse programming (more for both younger children in Grades K-2, as well as older Grades 6+), as well to incorporate more game-style activities.



# Appendix

	Global	PA	Cognitive	Affect	Peers	Life	Stress	Sleep	Family
<b>October</b>	49.41	50.12	46.67	47.92	47.56	47.19	56.54	55.57	49.41
<b>December</b>	49.74	49.45	47.80	47.69	50.00	48.26	54.36	53.17	49.55

Table 3. Summary of NIH-PROMIS Parent Proxy survey health outcome measures from October 2020 to December 2020. Data is presented as adjusted t-scores.

	Peer Relationships	Positive Affect	Cognitive Function	Family Relationships	Life Satisfaction
<b>Child</b>	49.22	51.48	45.61	41.21	47.73
<b>Parent Proxy</b>	50.00	47.69	47.80	49.55	48.26

Table 4. Comparison between NIH-PROMIS Child and Parent Proxy adjusted t-scores for the same construct.

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