

Move Your Mood Vision: Inspire people to be active & healthy for life.

Move Your Mood Mission: Support individuals, families, schools and community to improve their mental and physical well-being through healthy lifestyle practices.

Move Your Mood is a research-based program developed by the Recovery Alberta Move Your Mood Coordinator and the Central Zone Mental Health Promotion & Addiction Prevention team.

The program aims to teach children, youth, adults and older adults positive coping strategies that they can apply to their daily life to enhance their mental and physical well-being, build resilience, promote healthy decision making and positive relationships. The MYM program provides opportunities for participants to experience how to move their bodies, fuel their bodies, practice mindfulness, and build positive coping strategies. The goal is for participants to have fun, gain confidence and competence to be active and healthy for life.

If you are interested in knowing more about the Move Your Mood program, please visit www.moveyourmood.ca



Everything Gets Better When You Get Active! (ParticipACTION 24 Betters)

Moving your body every day — in a way that you enjoy — boosts your mental, physical and social well-being.

Physical activity can improve mental well-being by:

- Boosting self-esteem and improving mood.
- Improving sleep quality.
- Reducing stress, and symptoms of depression and anxiety.
- Enhancing brain cognition (thinking and learning), brain function (how the brain works), and mental health (emotional, psychological and social well-being).
- Helping to regulate emotions, enhance creativity, learning, and focus.

Physical activity strengthens physical well-being by:

- Maintaining a healthy body weight.
- Improving balance and coordination.
- Building muscular strength and endurance.
- Enhancing cardiovascular fitness and heart health.
- Preventing chronic disease and maintaining a high quality of life.

Beyond mental and physical benefits, being active connects you socially — helping you learn new skills, reduce loneliness, and build meaningful connections. It can also service as a sense of mastery and purpose in life. Understanding what really motivates you and what you love to do is key!

The goal of the Move Your Mood (MYM) program is to help participants discover—through experience—that the most immediate and powerful benefit of physical activity is how it makes you feel. Improved mental health often comes first, followed by physical health benefits when activity becomes a regular habit.

Even a single session of physical activity can trigger the release of endorphins, dopamine, and serotonin—your brain's natural "feel-good" chemicals that help relieve pain and elevate mood. Staying active consistently for 4 to 8 weeks leads to noticeable physical improvements, and over time, supports lifelong health and well-being.

What is the Move Your Mood (MYM) Program: MYM is a research-based program that teaches children, youth and their caregivers how physical activity and healthy lifestyles improves mental and physical well-being. This is done through education and participation in physical activity and healthy lifestyle practices. All children and youth benefit from participating in physical activity and learning how it positively impacts their mental and physical health. The targeted MYM program is a referral based 8-week program for children and youth accessing mental health supports in the community. The Central Zone MYM program receives recommendations for participants from community agencies and mental health therapists or liaison workers in school.

The MYM program took a bit to get to where it is today and we would like to share the history with you. There are many research articles and supporting evidence about the benefits of physical activity and mental health for adults. There is now growing evidence of the same benefits for children and youth. When the Move Your Mood program started in 2011 there was not as much evidence for children and youth which is why we started our program with a research study. This document will provide background about the program development, research findings and key learnings which brought us to where we are today.

Where it all started: The initial body of evidence that sparked the MYM program development was from the CMHA (Canadian Mental Health Association) in Ontario Minding Our Bodies. The group provided a literature review on the benefits of physical activity for adults with Mental Illness. This review followed with many CMHA's across Ontario implementing exercise programs for adults with Mental Illnesses. A few years later they also did a literature review on the benefits of Healthy Eating and Mental Illness. There was significant interest in implementing this concept into the work of Children's Addiction & Mental Health in Red Deer. The work began in 2011, when the Move Your Mood Coordinator position was developed.

Knowledge café, Literature review with Red Deer College: A research working group was implemented between AHS and the Red Deer College Psychology Department (Dr. Scott Oddie Rural Health Research Chair). The group started with a knowledge café bringing together professionals from Mental Health, Psychology, Kinesiology and Red Deer College students to explore the links between mental health and physical activity with children and youth. This provided the group with insight into what was currently happening in this area and how this project could proceed. This lead to a 4th year Psychology student completing a thorough literature review of the current research and evidence for children and youth. Upon the completion of this literature review it was determined that there was supporting evidence that physical activity would enhance children's mental wellness, but further research needed to be done in this area as not many studies were completed with

this population. This led to the first 1- year research project between Red Deer College, AHS MYM, Red Deer Public School division and the City of Red Deer.

First MYM research pilot in schools 2012. The Move Your Mood Research team developed the pilot program in Red Deer and Lacombe middle schools. The 8 week Move Your Mood school pilot project was delivered from January to March, 2012 with 129 students (61% Male, 39% Female; Average Age= 12.9). At the beginning and end of the program, participants completed a measure assessing self-concept, anxiety, depression, anger, and disruptive behaviours. Participants also filled out a survey measuring their exercise habits and attitudes. A control group of 76 participants (42% Male, 58% Female; Average Age= 14) also completed all measures, but did not participate in the physical activity program. The results concluded that 61% of participants reported that physical activity improved their mood, 40% of participants' mood ratings increased a full quartile on the mood scale following the physical activity sessions. The control group reported hours of physical activity were positively correlated with their reported motivation. The results also found that 67% of participants made use of their city recreation passes and 69% of participants reported that the city passes were significantly helpful in "getting them moving". However, there were no significant group differences on the pre- and post-test measures. There were many lessons learned that would later influence the Move Your Mood program development. Some of which were increased focus on coach training in organizing groups of children and youths, data collection, and mentorship. Smaller physical activity groups (e.g. groups of 15) will allow participants to have more interaction with group leaders and make groups easier to manage for coaches. Session length and activity duration must allow children to get at least thirty minutes of moderate to vigorous physical activity. Future Move Your Mood projects will also focus on education and health literacy; specifically, understanding what is physical activity, and how to participate to improve/maintain mental health. This pilot was in schools and did not recruit children and youth with mental health concerns. So, although the pilot was fun and students benefited from the physical activity and interaction with leaders this lead to our next step which was to develop a pilot program with students that were accessing mental health services.

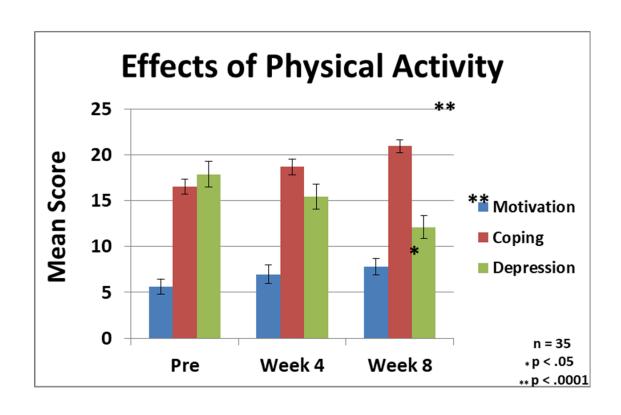
First pilot implemented for Children & Youth accessing Addiction & Mental Health services in the summer of 2012:

The 8-week Move Your Mood summer pilot was delivered from July 3rd to August 23rd, 2012 with 25 youth ages 11-13 who were either accessing service from Red Deer Mental Health or Unit 39 at Red Deer Regional Hospital. The goal of the pilot was to see if a physical activity group would work as a AHS project for children and youth accessing mental health. The program was well received by the participants and the AHS Mental Health Therapists that referred youth to the program. This lead to the AHS Children's team wanting to implement a second research study specific to this target group. So, the research team came together again.

Together the AHS Move Your Mood Coordinator and RDC Research team implement the second research project for Children and Youth accessing Mental Health Services (Most significant results came from this study).

The program was piloted from January to June 2013 for Children and Youth ages 10-17 accessing Mental Health supports with 36 participants in Red Deer. Referrals to the program were made from Children Mental Health Therapists, Unit 39 & Family School Wellness Workers. Each participant was encouraged to develop their own personal movement plan that was based on their interests and needs. Each participant was asked to exercise three days per week; one day with the MYM group, one day individually with the MYM coach, and one day per week on their own. Assistance with transportation i.e. Bus passes, and

health promotion incentives provided by RDC for participants to complete the program and survey's was provided. Red Deer College researched the affects the program had on Physical Activity Perceptions, Coping, Mood & Depression (see attached graph for summary of results.) The main findings were that Children and Youth in the program improved their coping significantly within the first 4-weeks with small improvements in the Depression scale. Then at 8- weeks there was a significant change in the Depression scores. It was also noted at 8- weeks that their motivation to exercise shifted from external motivators to internal motivation which is a benefit to the participants continuing to exercise into the future. This research study was published in the Journal of Psychology and has been accessed by thousands of people since it's release. Please refer to the full study provided.



MYM program receives funding: Upon completion of the second research study AHS recognized the benefits of the Move Your Mood program. The program was provided with a full time Move Your Mood Coordinator and a budget to run the program 4 times per year for 8- weeks. (Fall, Winter, Spring & Summer). Each 8- week session had 15 referrals from Mental Health Therapists and Community Liaison's in the community for children and

youth ages 11-16. There were additions made to the program as we were only able to focus on the benefits of exercise in the research. The program added other health promotion components including Fuel Your Body, Mindfulness and Expand Your Mind- positive coping strategies.

Sharing the evidence to expand the reach of Move Your Mood:

- The Move Your Mood program was highlighted in the Alberta Centre for Active Living Wellspring newsletter in 2016. The Move Your Mood Coordinator was then asked to present the findings at the Spring 2016 Alberta Centre for Active Living Forum "Sweat is the best antidepressant" along with other professionals working on the links between Physical Activity and Mental Health.
- In March of 2017 a Move Your Mood committee was formed to host a workshop with Dr. John Ratey "Science of Exercise and the Brain" to keep the research and conversation going. Over 600 participants attended the workshop from Central Alberta.



Move your body. Move your mood.

Denise Fredeen, BPE, CSEP-CEP, Move Your Mood Coordinator, Alberta Health Services

Regular physical activity can make us feel better, put us in a better mood, invigorate our bodies, quiet our minds, eradicate boredom, stave off depression, and boister our ability to cope with stress and anxiety!² Physical activity can bring about life-changing transformation by improving our state of mind and being.

Move Your Mood is a locally-developed, community-supported and provincially-funded program for youth. This program idea was initiated by an interest in the Canadian Mental Health Association's (CMHA) successful Minding Our Bodies program for adult Ontarians with chronic mental illness. The Aberta Health Services Children's Team at Red Deer Mental Health were inspired by the CMHA work and questioned. "How could a physical activity program benefit youth accessing mental health services?"

Prior to implementing a program, the benefits of physical activity for mental health in youth were investigated. This lead to a literature review and research project being co-developed and implemented by Alberta Health Services and Red Deer College's Rural Health Researcher, Dr. Scott Oddie.

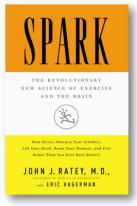
S U M M A R Y
Physical activity is an essential
part of the development
of healthy youth and
supports the maintenance of
psychological wellbeing.

www.JohnRatey.com



JOHNRATEYMD

ON FACEBOOK



SPARKINGLIFE.ORG

Enhancements to the program adding MYM Family Challenge:

As the message of the Move Your Mood program expanded the MYM Coordinator was asked to continue to share the message beyond the targeted program. This began the Move Your Mood Family Challenge in 2013. The idea was to reach more families and children with the MYM messaging. The program has been offered to all families in the City of Red Deer and expanded within Central Alberta. The program has had great success promoting ways families can be active, cook and eat together more often and develop positive relationships. The program models the same format with 4-weeks of creative ideas for families to try. Many amazing partnerships have developed in the Red Deer Community because of this program.

Enhancements to the program adding MYM School Challenge:

In 2018 a partnership with Red Deer Public Schools was developed to expand the message to all Red Deer Public Schools. The idea was to continue to share the Move Your Mood message and reach more children & youth. The school challenge incorporated the core MYM messaging over morning announcements in all elementary, middle and high schools with ideas on how students could be active, eat healthy, practice mindfulness, expand their minds and build assets. The school challenge continues to grow each year with the expansion to schools across Alberta reaching 350 schools in 2024.

Enhancements to the program adding the Community Better ParticipACTION Challenge:

In the Spring of 2019 the Community Better ParticipACTION challenge was incorporated into the MYM school and family challenge to highlight the Community ParticipACTION campaign. Partnerships were developed between Move Your Mood and ParticipACTION. The Red Deer Community placed 18th in all of Canada in the first ever Community Better Challenge. The MYM Coordinator saw value in continuing to promote this challenge every June to encourage all citizens to be active in the City of Red Deer. The focus was on building capacity between community organizations to promote the challenge. This led to Red Deer winning the challenge in 2022, gaining the title of the "Most Active Community in Canada" and the prize of \$100,000. Red Deer then won the challenge in 2023 for the province of Alberta and a prize of \$7500. We continued to build capacity and momentum in Red Deer winning the challenge again for the province of Alberta in 2024 and the prize of \$10,000. The MYM program encourages all Alberta communities to join the challenge and will share insights with communities on how Red Deer has gained such great momentum.

Expansion of the program across Central Zone:

In January of 2018 a group from the Prevention and Promotion Addiction and Mental Health Team began working to expand the program across Central Zone. Lesson plans were enhanced in each of the core MYM areas; Move Your Body, Practice Mindfulness, Fuel Your Body, and Expand Your Mind. Once the content was complete, three pilots were implemented in the Spring of 2019; in Camrose, Vermilion and Breton. These pilots were successful and the development of a Move Your Mood Network was made to expand the program withing Central Alberta.

Enhancements of the program for MYM Moms MYM Adults and MYM Older Adults:

The MYM program decided to take the research completed for the kids program and apply the same 8-week format for Post-partum Moms, Adults and Older Adults. We worked with specialized professionals in each of these age groups to adapt the program content. The program for Moms started in 2021 and runs in Red Deer, Camrose, Vermilion, Lloydminster and Stettler.

The MYM Adults program partnered with the AHS Supervised Exercise program and the AHS Addiction & Mental Health Team in 2023 to implement this program in Red Deer.

The MYM Older Adult (OA) program started in 2023 in the Camrose community with a team of professionals who adapted the lessons plans and piloted the program. A partnership with the RDP Psychology department started in the Spring of 2024 to complete a literature review on the MYM Pillars and the OA population. This program will continue to grow in 2024-2025.

The MYM Website was established in 2023 to share the variety of MYM programs and services more widely.

For more information on the Move Your Mood Program visit: www.moveyourmood.ca

Move Your Mood | AHS | Alberta

MYM partners with the Central Alberta Child Advocacy Centre to develop the first ever MYM Studio in the Sheldon Kennedy Centre of Excellence:

The MYM program was offered the opportunity to grow within the new Central Alberta Child Advocacy Sheldon Kennedy Centre of Excellence, located on the grounds of Red Deer Polytechnic in October of 2022. It took one year to raise funds and develop the MYM Studio housed on the second floor of the Centre. The MYM Studio is a shared space for all children and youth accessing services at the Centre, including services provided by: the Central Alberta Child Advocacy Centre, Recovery Alberta Children's Mental Health and Addiction, Recovery Alberta Step Up Step Down program, and the Sexual Assault Centre.

The goal of the MYM Studio is to provide children and youth with a space where they can take a break from the challenges and stressors presenting in their life and learn positive ways to cope through interactive activities. The Studio will be a place where they can play, relax, practice mindfulness, be physically active, listen to or play music, take part in creative activities, and learn how to make nutritious snacks that they can enjoy.

The Studio is a place for the MYM program to run and will be accessible to all professionals in the building to bring children and youth they are working with as part of the child's treatment and healing plan. This is a new model for healing, recovery and prevention in our community and we are proud to be a part of it.

Beyond those benefits, it is our hope that the Studio will become a Centre of learning for Red Deer Polytechnic students and other MYM coaches that run the program across Central Alberta.

The MYM Studio had it's grand opening with the SKCOE in the Spring of 2024 and will begin programming in the Fall of 2024.



Canadian kids need to move more to boost their brain health

The Brain + Body Equation

The 2018 ParticipACTION Report Card on Physical Activity for Children and

Youth is the most comprehensive assessment of child and youth physical activity in Canada. The Report Card synthesizes data from multiple sources, including the best available peer-reviewed research, to assign evidence-informed grades across 14 indicators. The Report Card has been replicated in over 50 cities, provinces and countries, where it has served as a blueprint for collecting and sharing knowledge about the physical activity of young people around the world.

The 2018 Report Card includes an Expert Statement on Physical Activity and Brain Health in Children and Youth — based on the findings of a team of experts in paediatric neuroscience and exercise science. This Statement was written after multiple reviews, discussions and consultations with stakeholders. The findings are applicable to all Canadian kids, regardless of gender, cultural background or socio-economic status, including those with disabilities.

This is the Highlight Report; to download the Full 113-page Report and corresponding citations, please visit

www.participACTION.com/reportcard.



The Brain + Body Equation

The 2018 ParticipACTION Report Card on Physical Activity for Children and

Youth is the most comprehensive assessment of child and youth physical activity in Canada. The Report Card synthesizes data from multiple sources, including the best available peer-reviewed research, to assign evidence-informed grades across 14 indicators. The Report Card has been replicated in over 50 cities, provinces and countries, where it has served as a blueprint for collecting and sharing knowledge about the physical activity of young people around the world.

The 2018 Report Card includes an Expert Statement on Physical Activity and Brain Health in Children and Youth —

based on the findings of a team of experts in paediatric neuroscience and exercise science. This Statement was written after multiple reviews, discussions and consultations with stakeholders. The findings are applicable to all Canadian kids, regardless of gender, cultural background or socio-economic status, including those with disabilities.

This is the Highlight Report; to download the Full 113-page Report and corresponding citations, please visit www.participACTION.com/reportcard.



The Science Is In

KIDS + STEPS + SWEAT = HEALTHIER BRAINS

Kids need to drop the phones, turn away from the screens, get off the couch and break a sweat. It's time for them to get moving more – for the sake of their brains.

For decades we've known that physical activity improves heart health, helps maintain healthy body weights and builds strong bones and muscles in kids across a range of skills and abilities. 1,2,3,4,5,6,7,8,9,10,11,12,13, 14,15,16,17,18,19,20,21,22,23,24,25 Now we are taking a closer look at what physical activity does for one of their most

The data around physical activity are alarming: on average, kids are still sitting too much and moving too little to reach their full potential.

vital and complex organs: the brain.

Only 35% of 5- to 17- year-olds are reaching their recommended physical activity levels as outlined in the Canadian 24-Hour Movement Guidelines for Children and Youth. Just 62% of 3- to 4-year-olds are achieving the recommended activity levels for their age group. In addition, 51% of 5- to 17-year-olds and 76% of 3- to 4-year-olds are engaging in more screen time than is recommended by the Canadian 24-Hour Movement Guidelines for recreational screen-based sedentary behaviours.

Why does this matter? It's all about the brain + body equation.

There are important connections between the health of the body and of the brain, connections that must be fostered in order for kids to reach their mental, emotional and intellectual potential. Kids' bodies have to move to get the wheels in their brains turning. They need to be active. Their brain health depends on it. A growing body of evidence indicates that physical activity in childhood is essential for a healthy brain and leads to improved:

- thinking and learning
- emotional regulation and self-control
- problem-solving ability
- memory
- brain plasticity the growth of new brain tissue
- stress management
- ability to cope with anxiety and depressive symptoms
- self-esteem and self-worth
- attention and focus

+ Adding more physical activity to kids' routines could be the missing part of the equation to support their success in the classroom, on the field, and with their friends.

The Science Is In

KIDS + STEPS + SWEAT = HEALTHIER BRAINS

Kids need to drop the phones, turn away from the screens, get off the couch and break a sweat. It's time for them to get moving more – for the sake of their brains.

For decades we've known that physical activity improves heart health, helps maintain healthy body weights and builds strong bones and muscles in kids across a range of skills and abilities. 1,2,3,4,5,6,7,8,9,10,11,12,13, 14,15,16,17,18,19,20,21,22,23,24,25 Now we are taking a closer look at what physical activity does for one of their most

The data around physical activity are alarming: on average, kids are still sitting too much and moving too little to reach their full potential.

vital and complex organs: the brain.

Only 35% of 5- to 17- year-olds are reaching their recommended physical activity levels as outlined in the Canadian 24-Hour Movement Guidelines for Children and Youth. Just 62% of 3- to 4-year-olds are achieving the recommended activity levels for their age group. In addition, 51% of 5- to 17-year-olds and 76% of 3- to 4-year-olds are engaging in more screen time than is recommended by the Canadian 24-Hour Movement Guidelines for recreational screen-based sedentary behaviours.

Why does this matter? It's all about the brain + body equation.

There are important connections between the health of the body and of the brain, connections that must be fostered in order for kids to reach their mental, emotional and intellectual potential. Kids' bodies have to move to get the wheels in their brains turning. They need to be active. Their brain health depends on it. A growing body of evidence indicates that physical activity in childhood is essential for a healthy brain and leads to improved:

- thinking and learning
- emotional regulation and self-control
- problem-solving ability
- memory
- brain plasticity the growth of new brain tissue
- stress management
- ability to cope with anxiety and depressive symptoms
- self-esteem and self-worth
- attention and focus
- + Adding more physical activity to kids' routines could be the missing part of the equation to support their success in the classroom, on the field, and with their friends.

Moving > Cramming

- Students who exercise before a test show stronger brain function than those who don't exercise before a test.²⁶ So, next time students feel the pressure to cram, encourage them to take an active break from studying: some heart-pumping physical activity may actually be the smarter study technique.
- When the body doesn't move enough, the brain can't perform to its fullest potential. Children with poor aerobic fitness appear to have more difficulty solving problems^{27,28,29} and are more likely to make mistakes when trying to sort out a challenge.³⁰

Busy Bodies = Bigger Brains

- Sections of the brain dedicated to memory and learning (hippocampus and basal ganglia) are larger in active children in comparison to their less active peers.³¹
- Being physically active can boost memory in children and youth, ^{32,33} including children with brain-based disabilities (e.g., attention deficit hyperactivity disorder, autism spectrum disorder, cerebral palsy). ^{34,35,38,37}

Active Bodies = AInnovative Ideas

- Active kids are better equipped to get creative.³⁰
- Even if they aren't artistic, creativity can manifest in think-on-your-feet scenarios such as strategizing for a game, leading a team project or solving a math problem. Without adequate physical activity, it's difficult for kids to tap into their full potential!





Zooming Around Helps Them Zoom In!

- Kids who participate in physical activity have more focus and longer attention spans, compared to their less active peers.^{32,33}
- This correlation appears to be consistent for all children and youth, including those with attention deficit hyperactivity disorder and autism spectrum disorder.³⁸

+ Boosting kids' physical activity levels could be the missing part of the equation in supporting their mental health.

Breaking a Sweat Releases Happy Hormones .: Kids Who Move Feel Great!

- Just like adults who love that "runner's high" from going the distance, kids who are active experience the same rush of feel-good brain chemicals (serotonin and dopamine).³⁷
- Children and youth who are fit benefit from this rush of chemicals and experience fewer depression-related symptoms than those who are not fit.^{35,36}
- Kids with brain-based disabilities are at an increased risk for mental health problems, so they have even more to gain from getting, and staying, active.³¹

♠ Movement = ♦ Symptoms of Anxiety

- Evidence suggests that physical activity may help lower feelings of anxiety in children and youth.^{39,40} Dance and team sports may be especially effective in children and youth with brain-based disabilities.^{41,42}
- Canadian kids are on the right track here, with 77% of 5- to 19-yearolds^{2014-16 CANPLAY} and 46% of 3- to 4-year-olds^{2012-13 and 2014-15 CHMS} participating in organized physical activities or sport.



↑ Movement = ◆ Stress

- Research suggests that physical activity is an effective tool in alleviating social and academic stress in young people; kids who are less active have measurably higher levels of the stress hormone cortisol in their bodies.⁴³
- Moreover, being active not only appears to bolster kids' resiliency when they are dealing with stress, but it appears to help them recover from stressful situations faster.⁴³
- Being active outdoors, even for a simple walk, is a powerful antidote for adolescents facing stress.⁴⁴ But with only 37% of 11- to 15-year-olds in Canada playing outdoors for more than 2 hours per day (outside of school hours),^{2013-14 HBSC} we have a long way to go to ensure they are reaping these mental health benefits.

↑ Movement = ↑ Self-Esteem

 Social media plays a major role in self-esteem for many young people. Kids are subjected to never-ending online scrutiny from their peers. Getting active can be a protective tool to bolster kids' self-esteem, confidence and self-worth.²⁰

- Real-world physical activity can distract them from these virtual experiences that can erode how they perceive themselves.⁴⁵
- When children and youth get active, research shows that they have improved self-esteem, which in turn leads to better moods and an overall more positive sense of satisfaction with how they perceive themselves. 46,47,48,49,50,51 Yet, 5- to 11-year-olds and 12- to 17-year-olds in Canada spend 2.3 and 4.1 hours per day, respectively, in recreational screen time pursuits, 2014-15 CHMS leaving little time for offline, active movement.

We all want to see Canadian kids realize their potential physically, emotionally and cognitively. A healthy brain is one of their greatest resources – today and into the future. Engaging kids in daily physical activity may be the most accessible, but underutilized, way to support them on this journey. Let's work to balance the equation.

THE SCIENCE IS IN.
KIDS + STEPS + SWEAT =
HEALTHIER BRAINS

For better brain health, all children and youth should be physically active on a regular basis In addition to physical health benefits, physical activity also improves cognition, brain function and mental health.

BACKGROUND

A team of experts in paediatric

neuroscience and exercise science created this Expert Statement, looking at the relationship between physical activity and brain health in children and youth. The best available scientific evidence was used to inform the development of this report, and an expert advisory group provided feedback on its messaging. All members of the expert team approved this Expert Statement.

While the physical health benefits of childhood physical activity are well known (e.g., improved heart, bone and muscle health; prevention of type 2 diabetes), 1,2,3 a growing body of research has begun to examine the benefits of childhood physical activity in relation to brain health. Emerging evidence suggests that physical activity in childhood and adolescence is associated with better cognition (i.e., thinking and learning), brain function (i.e., how the brain works) and mental health (i.e., emotional, psychological and social well-being).

The landscape of preventable chronic disease among children and youth is changing—and not for the

better. The prevalence of overweight and obesity. diabetes,5 and use of health services for mental illness6 is high. These issues are more prominent in children and youth with neurodevelopmental (brain-based) disabilities, where physical activity participation can be challenging, and social inclusion is limited^{8,9,50} due to the initial diagnosis, inaccessible facilities, and financial constraints. Further, there is a lack of appropriate and modified equipment, as well as few professionals who are prepared or trained to promote physical activity among children and youth with brain-based disabilities. 11,12,13 The majority of research in this population has focused on children and youth with Down syndrome and autism spectrum disorder; however, based on the evidence, it is anticipated that all children and youth, regardless of disability type, will benefit from physical activity.

Is inactive modern living hindering our children's ability to develop optimally and perform well in all aspects of life? Have we created physical and social environments that no longer promote physical activity to the point that they are negatively impacting the brain health of our children and youth? This is something that society—parents, governments, healthcare professionals, non-profits—should seriously consider.

This Expert Statement applies to all children and youth (under 18 years), including those with brain-based disabilities, regardless of sex, cultural background or socioeconomic status.



How Does Physical Activity Help The Brain? The Evidence

COGNITION, BRAIN FUNCTION AND BRAIN STRUCTURE

Physical activity is broadly beneficial to how the brain controls thoughts and behaviours, and even how the brain is structured. These brain benefits occur after short bouts of physical activity and become more apparent with regular physical activity.

Improved Cognition and Behaviour

Participation in regular physical activity improves
the ability of children and youth to meet academic
expectations, with greater physical activity levels leading
to better performance in subjects such as mathematics,
reading/language, science and social studies. Active
children and youth are better able to pay attention and to
focus and concentrate on a given task for a longer period of
time. This also appears to be true for children and youth
with attention deficit hyperactivity disorder (ADHD)
with attention deficit hyperactivity disorder (ADHD)
or autism spectrum disorder, with even a single bout
of physical activity improving attention and focus.

Physical activity has also been shown to be associated with
better memory, both in typically developing children and
youth and in children with ADHD.

Physical activity also helps with **convergent** and **divergent thinking**, 26 leading to improvements in creative problem-solving and decision making. 27 Also, physical activity seems to beneficially impact the

cognitive aspects involved with behaviour regulation, known as executive function. 24,28,29,00,24,32 Less active children and youth seem to have more difficulty than active children and youth in performing challenging and demanding tasks, 50,04,35,06,37,80 and are also more likely to make more mistakes on these tasks. 20 It seems that children and youth who are less active or who have brain-based disabilities (such as autism spectrum disorder 40) experience the greatest benefits in executive function as a result of physical activity. 17,34

A primary goal for children and youth with brain-based disabilities is participation in regular physical activity. Physical activity has the potential to build the basic foundations to better communicate, socialize, increase self-control and maintain focus—leading to a healthier, higher quality of life."

Enhanced Brain Function and Structure

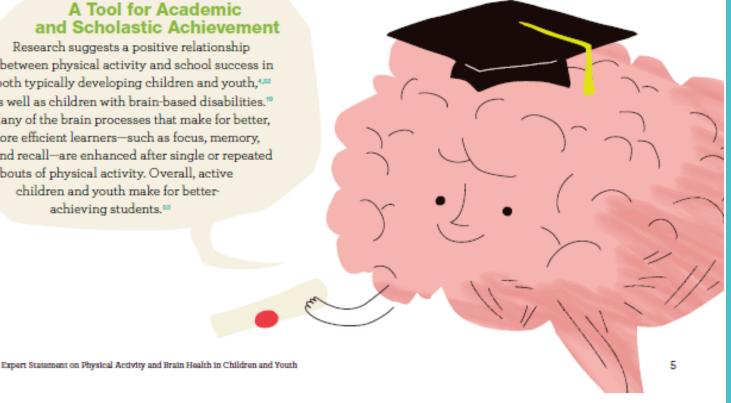
Research suggests that physical activity can change the structure and function of the brain. Children and youth who are physically active have larger brain volumes in the areas involved with memory and executive functions, including the hippocampus (deals with memory and emotions)42 and basal ganglia (deals with routine/voluntary motor movements).49 Physical activity can positively affect the amount of grey matter (i.e., the "living brain")44 as well as support better communication between grey and white matter (i.e., tissue that connects different parts of grey matter to each other).45,46,47 Active children and youth are also better able to "switch on" the brain regions responsible for high-level thinking.85,48 Markers of brain health appear to be sensitive to both single and repeated bouts of physical activity participation, with physical activity resulting in greater attention, motor skills and self-regulation.16,33,48,49,50,51

The current state of evidence highlights favourable relationships between physical activity and cognition. Many studies support a positive relationship between physical activity and brain function and structure.

Physical activity plays an important role in helping children and youth learn better, solve problems more creatively, and develop healthier brains. Children and youth who are least active or who have brain-based disabilities may have the most to gain.

A Tool for Academic and Scholastic Achievement

Research suggests a positive relationship between physical activity and school success in both typically developing children and youth,4,422 as well as children with brain-based disabilities.** Many of the brain processes that make for better. more efficient learners—such as focus, memory, and recall—are enhanced after single or repeated bouts of physical activity. Overall, active children and youth make for betterachieving students.50



MENTAL HEALTH

Physical activity can help support mental health and wellness among children and youth. It can help manage and prevent negative symptoms from occurring in the first place, and also promote positive emotions and self-esteem.

Reduction in Symptoms of Depression

Physical activity helps minimize depressive

symptoms in children and youth. **CREATERS****

Perceptions of control and the social nature of physical activity are two of the most understood reasons for how physical activity contributes to reduced depressive symptoms in children and youth. Additionally, research suggests that the rush in serotonin and dopamine—neurotransmitters or "feel-good" brain chemicals that are released while being physically active—may also play a role in promoting feelings of happiness in children and youth. Of note, children and youth with brain-based disabilities are at an increased risk for mental health problems, and potentially have more to gain from participating in physical activity. Long-term participation in physical activity may help with

While much of the published work highlights the effectiveness of physical activity in reducing depression, 67,00 more evidence is needed to examine the impact of physical activity in preventing depression in children and youth.

neurotransmitter release and improve emotional health.63

Social Inclusion and Children with Disabilities

Children and youth with disabilities are less active.
Physical activity helps improve social integration which is a major challenge noted among children with brain-based disabilities.
Physical activity provides opportunities for these children to enhance their interaction and communication skills,
resulting in improved daily functions, health-related outcomes and quality of life.

Decreased Feelings of Anxiety

Though limited, preliminary evidence suggests that physical activity may play a role in the prevention and management of feelings of anxiety in children and youth, 65,000 including children and youth with brain-based disabilities, such as ADHD and autism spectrum disorder. The Activities such as dance and team sports have specifically been highlighted in the literature as reducing feelings of anxiety in children and youth with brain-based disabilities. Physical activity can also serve as a short-term distraction from the anxious symptoms experienced by children and youth. The Aution of the State of the State

Improved Stress Response

Although the mechanisms are largely unknown, higher levels of physical activity in children and youth are associated with lower stress and reduced stress reactivity (i.e., the body's reaction to stress). To Children and youth who have high levels of stress tend to spend more time being sedentary. In contrast, children and youth who participate in various types of physical activity seem to cope better with stress and display better resilience. The teenage years are a particularly vulnerable time of development, as various regions of the brain are undergoing many changes, which are negatively affected by stress. Fortunately, physical activity may improve these stress-induced changes.

Enhanced Self-esteem, Self-concept and Self-perception

Children and youth who engage in regular physical activity report better perceptions of themselves, including having higher **self-esteem**. **\omega_P_G_T_T_P_B_P_B_B_B_B}
Regular physical activity is associated with increased **self-concept** and **self-worth** in typically developing children and youth **\omega_T_T_T_B_T_B_B_B_B_B} and in children with brain-based disabilities. **\omega_D_B_B_B_B} Increased self-esteem can, in turn, promote better moods, increase life satisfaction, lessen symptoms related to anxiety and depression and shield children from the negative impacts of stress.

Collectively, the research indicates that physical activity plays a key role in preventing and reducing symptoms of depression and anxiety, in helping with stress management and in improving self-esteem in children and youth. Although initial evidence is promising, additional work is needed to clarify and confirm the relationship between physical activity and mental health in children and youth with brain-based disabilities.

Overall, when it comes to mental health, physical activity can help children and youth who are experiencing low moods or stress, and can also provide benefits for all children and youth by helping them better manage stress and by promoting positive emotions. Physical activity supports and encourages mental and emotional wellness, with very little evidence suggesting harmful effects.

CANADIAN 24-HOUR MOVEMENT GUIDELINES Physical Activity Recommendations Under 1 Year

Being physically active several times daily in a variety of ways, particularly through interactive floor-based play—more is

floor-based play—more is better. For those not yet mobile, this includes at least 30 minutes of tummy time spread throughout the day while awake.

1-2 Years

At least 180 minutes spent in a variety of physical activities at any intensity, including energetic play, spread throughout the day—more is better.

3-4 Years

At least 180 minutes spent in a variety of physical activities spread throughout the day, of which at least 60 minutes is energetic play—more is better.

5-17 Years

An accumulation of at least 60 minutes per day of moderate to vigorous physical activity involving a variety of aerobic activities. Vigorous physical activities, and muscle- and bonestrengthening activities, should each be incorporated at least 3 days per week.



csepguidelines.ca BuildYourBestDay.com

Physical Activity Recommendations for Brain Health

For healthy brain development, children and youth shou be encouraged to participate in at least the daily minimu of physical activity recommended by the Canadian 24-Hour Movement Guidelines. 17,84,86,87 However, some physical activity is better than none.

The benefits of physical activity can also build over time. While some of the effects of physical activity a immediate, participation in regular physical activity supports long-term brain development and better mental health. In addition to immediately improving self-esteem, creativity and concentration, regular physical activity can increase neuroplasticity in children and youth, creating new pathways in their brains and supporting better learning. 44,17,21,44,70 It also improves brain blood flow, which increases the amount of oxygen flowing to the brain, and releases neurotrophins and neurotransmitters that support better brain function. 61,00,00,00

Children and youth with brain-based disabilities shou be encouraged to engage in daily physical activity for improved brain health. With the prior approval of thei healthcare provider, children and youth with brain-bas disabilities should be encouraged to engage in a varie of activities at various intensities that are fun for them and appropriate for their skill-level and abilities. Supportive, accepting and modified environments, developmentally appropriate equipment, and trained coaching staff are essential. 22 Most importantly, promoting daily physical activity among children and youth with brain-based disabilities will help foster feelings of happiness and mental wellness, 20,94,96 as wel improve executive function. 22,23,24,29,30,31,96,97,98,99,100 Physica activity can also improve sleep, a particular benefit to children and youth with brain-based disabilities, who often experience sleep problems that can greatly hind their quality of life. 101,102

GUIDELINES

For optimal health benefits, children and youth (aged 5–17 years) should achieve high levels of physical activity, low levels of sedentary behaviour, and sufficient sleep each day.

A healthy 24 hours includes:









SWEAT

MODERATE TO VIGOROUS PHYSICAL ACTIVITY

An accumulation of at least 60 minutes per day of moderate to vigorous physical activity involving a variety of aerobic activities. Vigorous physical activities, and muscle and bone strengthening activities should each be incorporated at least 3 days per week;

STEP

LIGHT PHYSICAL ACTIVITY

Several hours of a variety of structured and unstructured light physical activities;

SLEEP

SLEEP

Uninterrupted 9 to 11 hours of sleep per night for those aged 5–13 years and 8 to 10 hours per night for those aged 14–17 years, with consistent bed and wake-up times;

SIT

SEDENTARY BEHAVIOUR

No more than 2 hours per day of recreational screen time; Limited sitting for extended periods.

Preserving sufficient sleep, trading indoor time for outdoor time, and replacing sedentary behaviours and light physical activity with additional moderate to vigorous physical activity can provide greater health benefits.

Physical Activity

This handout will help you understand some of the benefits of physical activity. Regular physical activity boosts your physical health, your mental and emotional health, and your social health.

HERE ARE JUST A FEW OF THE BENEFITS:

bysical Health Benefit

- Stronger muscles and bones
- / Improves your heart health
- ✓ Reduces risk of chronic diseases
- Improves chronic disease symptoms
- Helps to maintain a healthy body weight



Mental & Emotional Benefits

- ✓ Improves your mood
- Helps you cope with stress and anxiety
- ✓ Feel better about yourself
- ✓ Sleep better
- Great way to have fun



wid health Benefits

- Great way to spend time with family
- Good way to see friends more often
- ✓ Excellent way to meet new people
- Positive way to be involved in your community







We can see some of the benefits of physical activity right away! Other benefits may take more time and patience.

THIS TABLE PROVIDES A TIMELINE OF SOME HEALTH BENEFITS:

- Mood and energy
- Self-esteem
- Sleep
- Concentration
- Good cholesterol
- Calories used

Stress

- Depression
- High blood sugar
- Bad cholesterol
- Blood pressure

- Muscle strength
- ↑ Bone and joint strength
- Balance and posture
- Heart health
- Insulin sensitivity

- Body weight and body fat
- Joint pain and swelling
- Falls
- Bad cholesterol

- ↑ Quality of life and overall well-being
- ↑ Your independence
- ↑ How long you live

- Heart disease
- Osteoporosis (bone disease)
- Dementia (such as Alzheimer's)
- Certain cancers (such and colon and breast cancer)



Contant provided by Alberta Centre for Active Living.





Being physically active everyday improves your mental and physical well-being. The key is to find physical activities that you enjoy!

MOVING YOUR BODY CAN...

- improve how you feel about yourself
- boost mood and self-esteem
- reduce symptoms of depression and anxiety
- decrease stress
- help you meet new people
- improve quality of sleep
- boost brain health and function
- enhance concentration and creativity
- help develop physical literacy skills
- give you a break to do something you enjoy!

MOVE YOUR BODY EVERYDAY YOUR WAY!







Fuelling your body means nourishing your body with a variety of foods it needs to function at it's best. Food and water give your body the fuel it needs to grow, learn and play. Choose foods that make you feel good and give you the energy you need. Food can also connect us to others by eating together, talking and enjoying food. This can help fuel your mind and spirit!

EATING A VARIETY OF VEGETABLES AND FRUITS, PROTEIN FOODS AND WHOLE GRAINS CAN:

- Increase energy levels
- Keep you healthy
- Provide you with vitamins, minerals and nutrients
- Improve digestion
- Improve mood and focus

DRINK WATER EVERYDAY TO STAY HYDRATED!

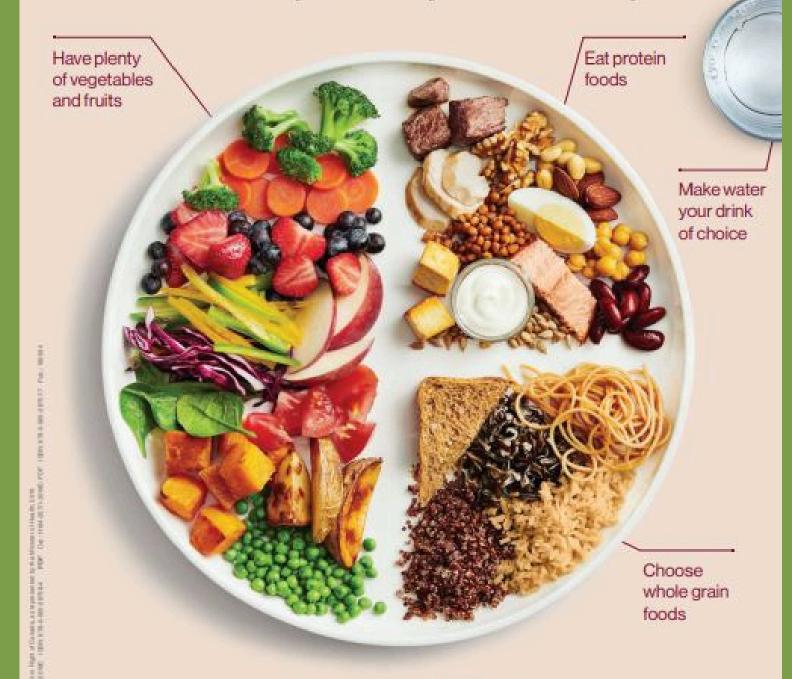




Canada's food guide

Eat well. Live well.

Eat a variety of healthy foods each day



Discover your food guide at

Canada.ca/FoodGuide

Canada's food guide

Eat well. Live well.

Healthy eating is more than the foods you eat



Be mindful of your eating habits



Cook more often



Enjoy your food



Eat meals with others



Use food labels



Limit foods high in sodium, sugars or saturated fat



Be aware of food marketing



Mindfulness is a practice of gently focusing your attention on the present moment and being fully engaged with whatever you're doing at the moment — free from distraction or judgment.

BEING MINDFUL CAN...

- improve attention and creativity
- boost mood and self-esteem
- help decrease symptoms of stress and anxiety
- help develop relationships & strengthen compassion
- improve quality of sleep
- improve emotional awareness and regulation
- improve decision making ability

MINDFULNESS IS A SUPERPOWER.









Building a strong brain includes understanding feelings, thoughts, and behaviours. It also means learning skills and strategies to cope through difficult times. Through simple actions you can expand your mind, build resilience and create a healthy growth mindset.

One strategy is to practice gratitude. Gratitude is when you feel thankful for the good things in your life. Practicing gratitude means thinking about and noticing the small or big things in life. Example: I am grateful for my school, home, my friends.

BEING GRATEFUL CAN...

- help you feel calm and joyful
- boost your mood and self-esteem
- help you feel less lonely and more connected
- help you develop stronger relationships
- improve your quality of sleep
- encourage positivity and optimism
- make life more enjoyable

START EACH DAY WITH A GRATEFUL HEART.







Assets are building blocks for growing up healthy, caring and responsible. Just like a superhero has gadgets to solve problems, these assets help children and youth handle life's challenges and make good choices. You are building assets as a caring adult in the children and youth you are working with.

The 40 Developmental Assets are research based life experiences or building blocks, which all children need to grow up healthy, caring and responsible. Research shows that the higher number of these assets a young person has, the more likely they are to thrive and engage in positive behaviors. Research also shows that the lower number of these assets a young person has, the more likely they are to engage in risky behaviors.

When a child is exposed to the necessary building blocks of healthy development, they are better equipped with coping mechanisms that help them flourish, making it possible to manage stressors, even when there are boundaries caused by mental health problems. Our goal is to increase the number of assets children have.

Principles of Asset Building:

- •All young people need assets
- Everyone can build assets
- •Relationships are key
- Asset building is an ongoing process
- Consistent messages are crucial
- Repetition is important

Check out http://www.search-institute.org/ the Search Institute website where you can learn everything you need to know about their research into "developmental assets."











to Learning







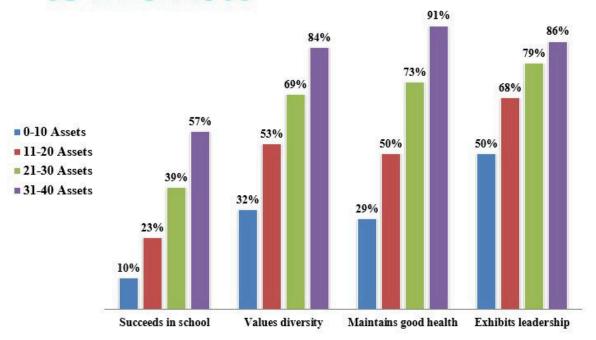


Expectations

Positive Values



The Power of Assets to Promote



The Power of Assets to Protect 52% 39% ■ 0-10 Assets 31% ■ 11-20 Assets 27% 21-30 Assets ■ 31-40 Assets 22% 20% 11% 10% 9% 5% 3% 3% 0% 0% Problem alcohol use Illicit drug use Violence Sexual activity





Developmental Assets the sum of success for youth

Search Institute* has identified the following building blocks of healthy development-known as Developmental Assets* - that help young people grow up healthy, caring, and responsible.



EXTERNAL ASSETS

Support .

- Family Support: Family life provides high levels of love and support.
- Positive Family Communication: Young person and her or his parents communicate positively and young person is willing to seek advice and counsel from parents.
- 3. Other Adult Relationships: Young person receives support from three or more non-parent adults.
- Caring Neighbourhood: Young person experiences caring neighbours.
- Caring School Climate: School provides a caring, encouraging environment.
- 6. Parent Involvement in Schooling: Parent(s) are actively involved in helping young person succeed in school.

Empowerment @



- Community Values Youth: Young person perceives that adults in the community value youth.
- 8. Youth as Resources: Young people are given useful roles in the community.
- 9. Service to Others: Young person serves in the community one hour or more per week.
- Safety: Young person feels safe at home, school and in the neighbourhood.

Boundaries & Expectations



- 11. Family Boundaries: Family has clear rules and consequences and monitors the young person's whereabouts.
- School Boundaries: School provides clear rules and consequences.
- Neighbourhood Boundaries: Neighbours take responsibility for monitoring young people's behaviour.
- Adult Role Models: Parent(s) and other adults model positive, responsible behaviour.
- 15. Positive Peer Influence: Young person's best friends model responsible behaviour.
- 16. High Expectations: Both parent(s) and teachers encourage the young person to do well.

Constructive use of Time



- 17. Creative Activities: Young person spends three or more hours per week in lessons or practice in music, theatre or other arts.
- 18. Youth Programs: Young person spends three or more hours per week in sports, clubs or organizations at school and/or in the community.
- 19. Religious Community: Young person spends one or more hours per week in activities in a religious institution.
- 20. Time at Home: Young person is out with friends "with nothing special to do" two or fewer nights per week.

INTERNAL ASSETS

Commitment to Learning 🗑



- Achievement Motivation: Young person is motivated to do well in school.
- School Engagement: Young person is actively engaged in learning.
- 23. Homework: Young person reports doing at least one hour of homework every school day.
- 24. Bonding to School: Young person cares about her or his school.
- 25. Reading for Pleasure: Young person reads for pleasure three or more hours per week.

Positive Values 🕀



- 26. Caring: Young person places high value on helping other people.
- 27. Equality and Social Justice: Young person places high value on promoting equality and reducing hunger and poverty.
- 28. Integrity: Young person acts on convictions and stands up for her or his beliefs.
- 29. Honesty: Young person "tells the truth even when it is not easy."
- 30. Responsibility: Young person accepts and takes personal responsibility.
- Restraint: Young person believes it is important not to be sexually active or to use alcohol or other drugs.

Social Competence ①



- 32. Planning and Decision Making: Young person knows how to plan ahead and make choices.
- 33. Interpersonal Competence: Young person has empathy, sensitivity and friendship skills.
- 34. Cultural Competence: Young person has knowledge of and comfort with people of different cultural/racial/ethnic backgrounds.
- 35. Resistance Skills: Young person can resist negative peer pressure and dangerous situations.
- 36. Peaceful Conflict Resolution: Young person seeks to resolve conflict non-violently.

Positive Identity &



- 37. Personal Power: Young person feels he or she has control over "things that happen to me."
- Self-Esteem: Young person reports having a high self-esteem.
- Sense of Purpose: Young person reports that "my life has a purpose."
- 40. Positive View of Personal Future: Young person is optimistic about her or his personal future.

SPARC Red Deer is a passionate group of individuals & organizations focused on creating awareness, through developing and highlighting activities that engage children, youth and families to thrive.



A positive affirmation is something good you say about yourself. It can be a good quality you have, something good you believe about yourself, or something good you've done. It can also be a quality you would like to have or something you would like to believe or do. Affirmations are like seeds planted in soil. When you intentionally care for them, they grow into a strong and healthy mindset.

An affirmation is really anything you say or think. Sometimes what we say to ourselves is quite negative and doesn't create good experiences for us. The good news is we can retrain our thinking and speaking into positive patterns that encourage a healthy growth mindset and help to build self-esteem. Self-esteem is how you feel about yourself.

We encourage you and the children and youth you work with to pay attention to their thoughts so that they can begin to eliminate the ones creating experiences they do not want in your life. Check out the positive affirmations that can be used with students to practice speaking affirming and kind words to themselves, words that make them feel good and know they are enough. It takes practice, so be gentle with yourself and save space for grace on your journey to speaking kindly to yourself and others.

Try practicing a positive affirmation every time you come into the MYM Studio and kids. It will help build their confidence and boost their self-esteem. It will help them grow up great!





LET'S TRY TO PRACTICE SPEAKING KIND WORDS TO OURSELVES.

Say or write something kind to yourself. If you were to speak to yourself like you would to a friend, what would you say?

Brainstorm words to positively describe yourself:







Life is Wonderful

Life doesn't have to be perfect to be wonderful!



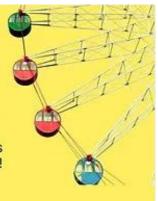




Mine Your Mood is an Alberta Health Services Initiativ

Feel Joy

Today I will do my best! Today I will try my best to make healthy choices that make me feel good!







I Am Strong

I am brave. I am confident. I am powerful.







= -

Compassion

Let our hearts and hands be stretched out in compassion toward others, for everyone is walking their own path.







Control

Today I will not stress over things I can't control.







Choice

I am choosing to start the day by setting my intention and becoming the author of my life.







For additional resources visit Alberta Health Services: <u>Help in Tough Times</u>

Get Help Now

- Emergency-911
- Addiction Helpline- 1-866-332-2322
- Mental Health Helpline- 1-877-303-2642

Important Phone/Text Numbers

- Community Resources- 211 Alberta
- Crisis Text Line- Text CONNECT to 741741
- Family Violence- Find Supports- 310-1818
- Health Link-811
- <u>Income Supports</u>- 1-866-644-5135
- Indian Residential School Survivors and Family, IRSSS-1-866-925-4419
- <u>Kids Help Phone</u>- 1-800-668-6868 or text CONNECT to 686868
- MyHealthAlberta.ca: List of Important Numbers
- Physician & Family Support Program 1-877-767-4637
- Talk Suicide
- <u>Kids and Drugs</u>

Mental Health Resources

- Mental Health Literacy
- CMHA Mental Health Week
- Addiction & Mental Health
- Youth & Digital Technology

Wellness Resources

- Ways to Wellness
- Healthy Eating Starts Here
- Nutrition Services
- <u>Healthier Together Schools</u>
- Ever Active Schools Free Resources
- ParticipACTION

