

The Canadian Assessment of Physical Literacy: Preliminary Results from Pilot and Feasibility Testing

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CS4L 2010

Physical Activity / Inactivity

Physical Activity Levels

- 90% of Canadian children and youth are not meeting current physical activity guidelines
- Girls are less active than boys
- Physical activity declines in adolescence
- SES may play a role in physical activity

Screen Time

- Average screen time on weekdays is almost 6 hours in 10-16 year-olds (HBSC)
- Average screen time on weekends is over 7 hours in 10-16 year-olds (HBSC)
- Preschool aged children are accumulating almost 2 hours of screen time per day

Sport Participation

- Sport participation has declined in youth between 1992 and 2005 (77% to 59%)



School

School-Community Assets and Engagement

- 84% of schools indicate partnerships with community

School Sport Opportunities

- 20-30% of student feel there are not enough school sport opportunities

Effective Evaluation of Programming

- More information required

School Facilities and Equipment

- More information required



The issues...

- *“Effective evaluation practices are needed to optimize the effectiveness of physical education programming” (p.184).*

- *“Evaluation is [also] needed to document the public health impact of physical education programming” (p.185)*

Welk, G. (2008). The role of physical activity assessments for school-based physical activity promotion. Measurement in Physical Education and Exercise Science,12, p. 184-206



Purpose



To create a contemporary assessment of
physical literacy

Tremblay & Lloyd (2010)

“how will we know if Canadian children ‘more physically literate’ as a result of strategic, programmatic, or curricular initiatives if physical literacy is not actually assessed?” (p.30).



CAHPERD: Award of Excellence

Feasibility Study Findings

- Unanimous support for new program
- Parents concerned about their children – want to know where they rank and how to support them
- Desire for common, turn-key, yet adaptable, user-friendly tool to promote physical activity and measure physical fitness
- Federal government is ready to act...
- Study/Report commissioned by Sport Canada

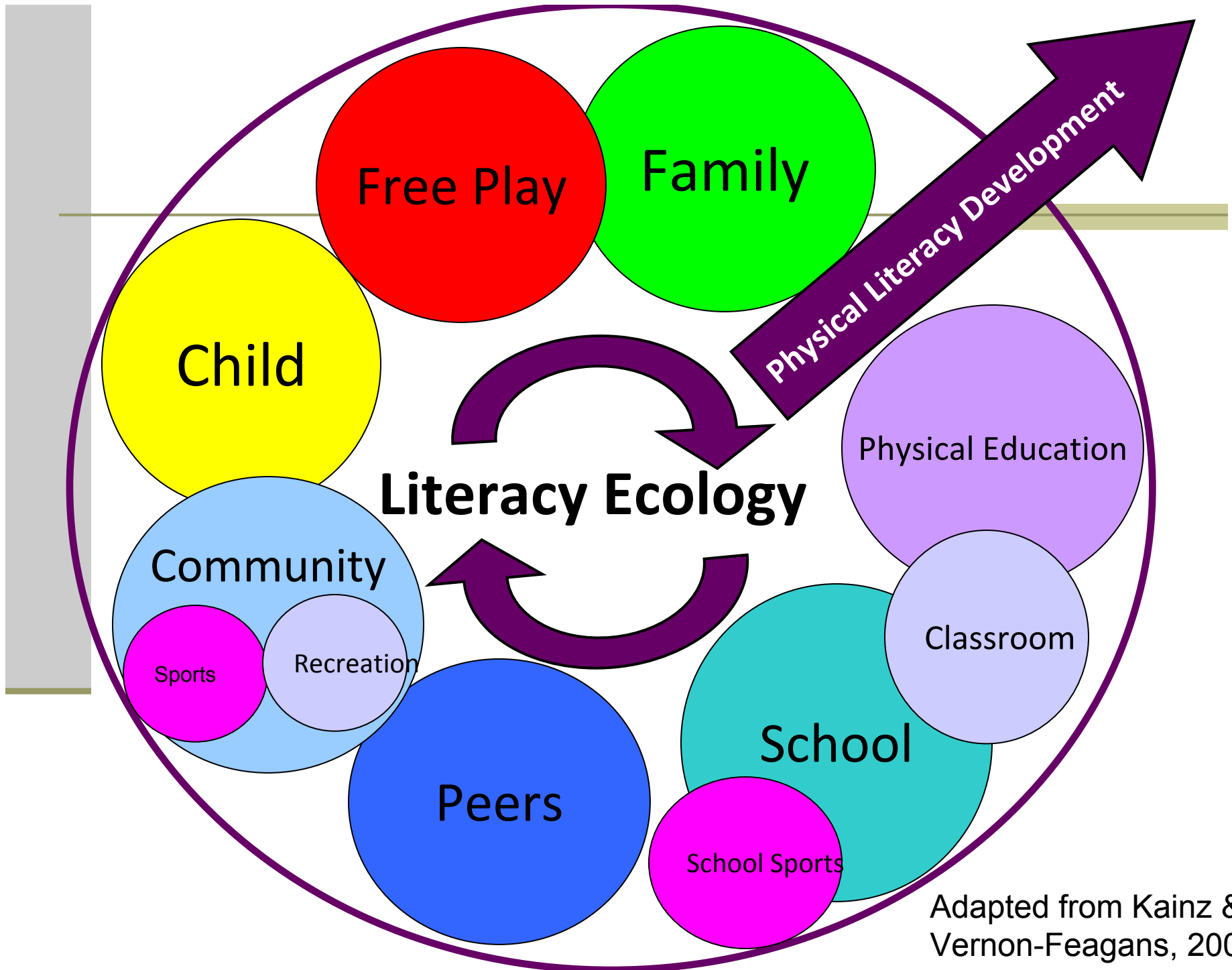
What is Physical Literacy?

- A construct which captures the essence of what a quality physical education or a quality community sport activity program aims to achieve.
 - It is the foundation of characteristics, attributes, behaviours, skills, awareness, knowledge and understanding related to healthy active living and the promotion of physical recreation opportunities and positive health choices.

For today's discussion we are discussing "land" based activities

Literacy Development

- Literacy is related to multiple factors
- No one factor is responsible for the development of literacy in children
 - The same applies to physical literacy
- Physically literate children learn from experiences in **multiple domains** (e.g. sport, physical education, play), **multiple contexts** (e.g. land, water, air, ice) and from **multiple sources** (e.g. coach, teacher, parent, peers).



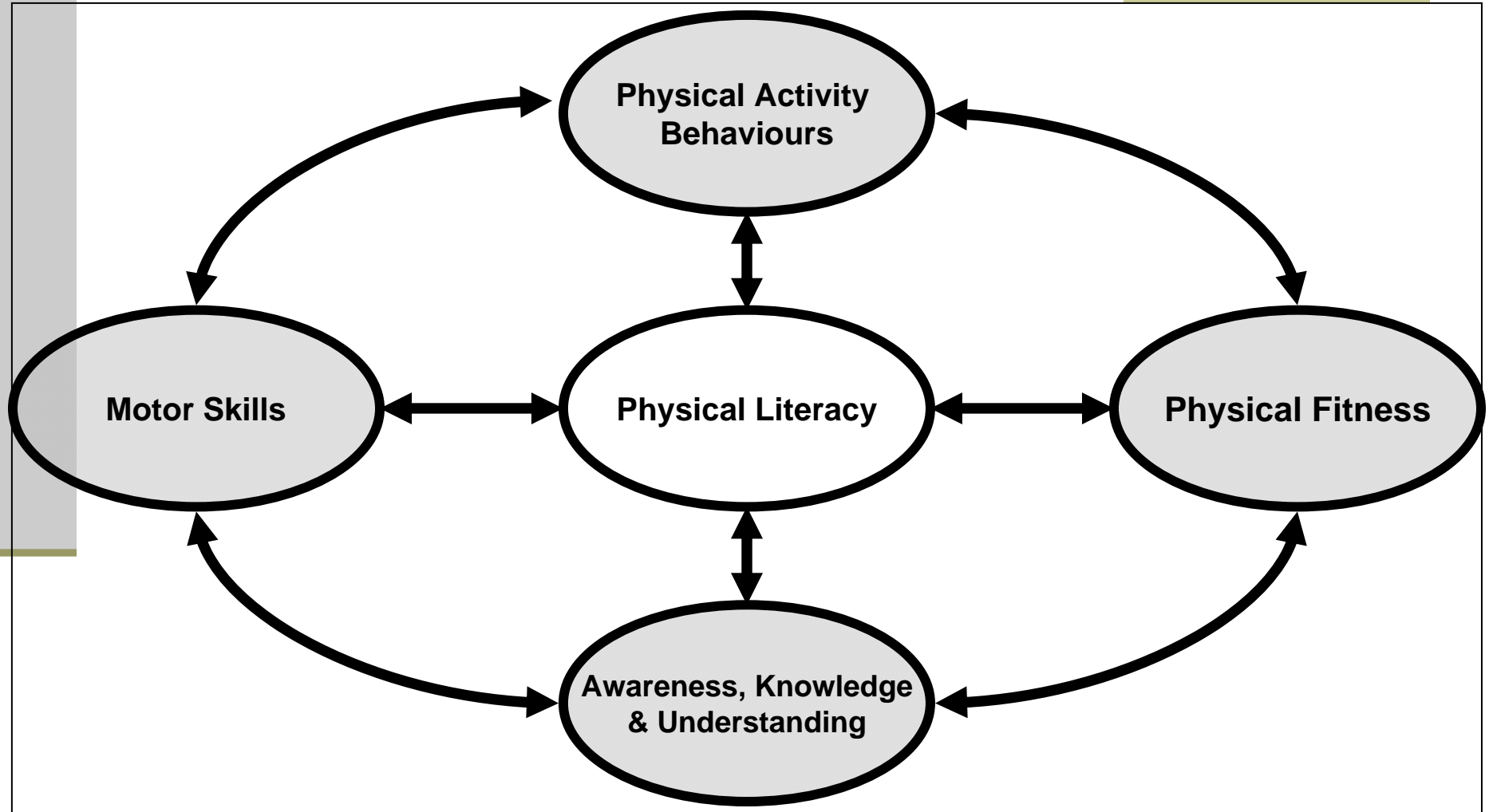
Adapted from Kainz & Vernon-Feagans, 2007

Physical Literacy Measurement

- How would we measure physical literacy?
- Its measurement includes elements of fitness, motor skill development, awareness / knowledge / understanding, physical activity and sedentary behaviours.



Canadian Assessment of Physical Literacy





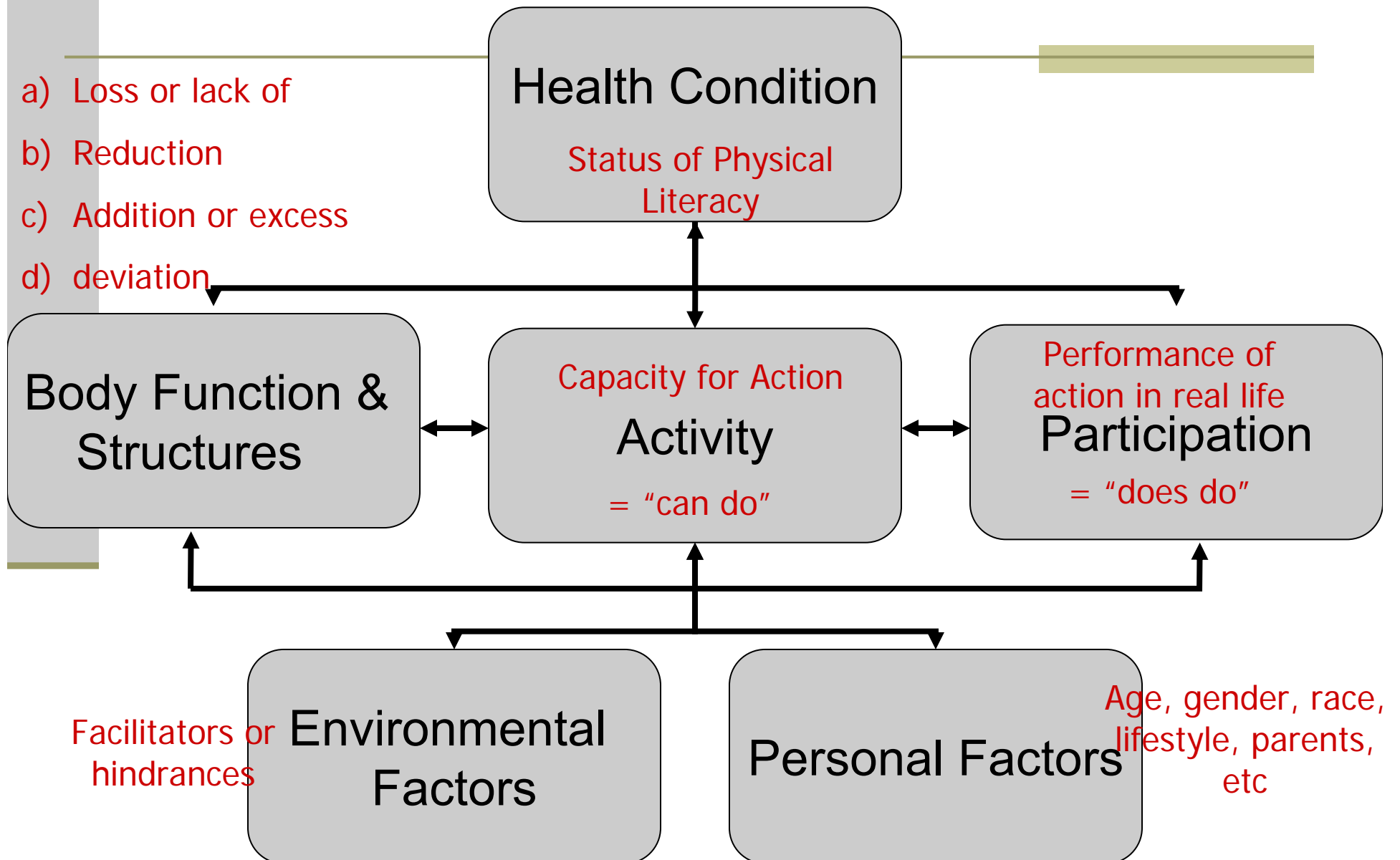
**We need a theoretical
framework of
assessment...**

**World Health Organization's
International Classification of
Functioning, Disability and Health**

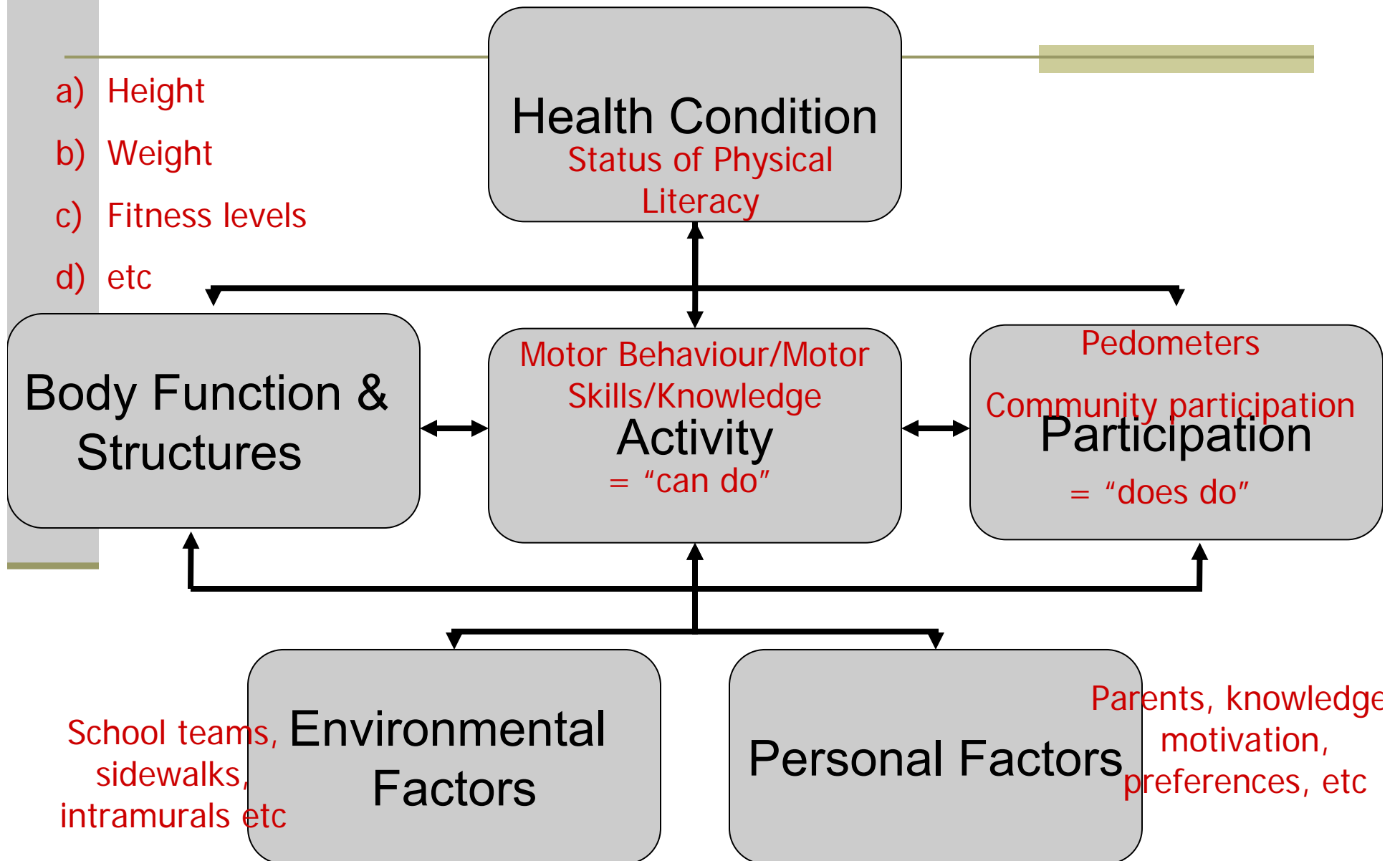
WHO-ICF: Introduction

- The ICF is designed to classify functional consequences of health conditions
- The ICF is being used in a preliminary fashion to inform conceptual frameworks in research (Bruyere, Van Looy & Peterson, 2005).
- The model proposes reciprocal relationships among the 3 central concepts (body functions & structure, activity, & participation), and there is a role for environmental and personal factors

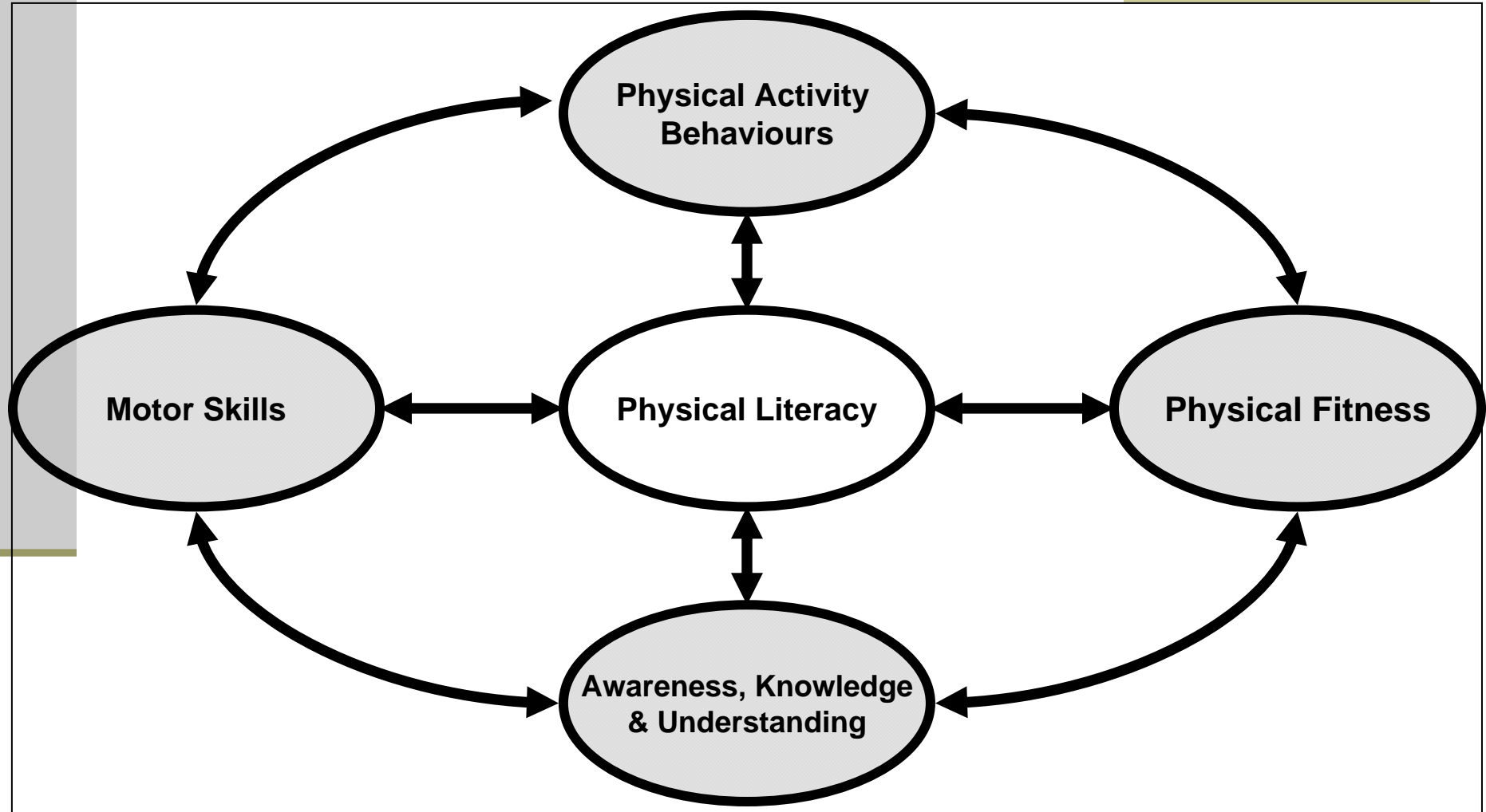
WHO: International Classification of Functioning, Disability and Health



WHO: International Classification of Functioning, Disability and Health



Canadian Assessment of Physical Literacy



Fundamental Movement Skills

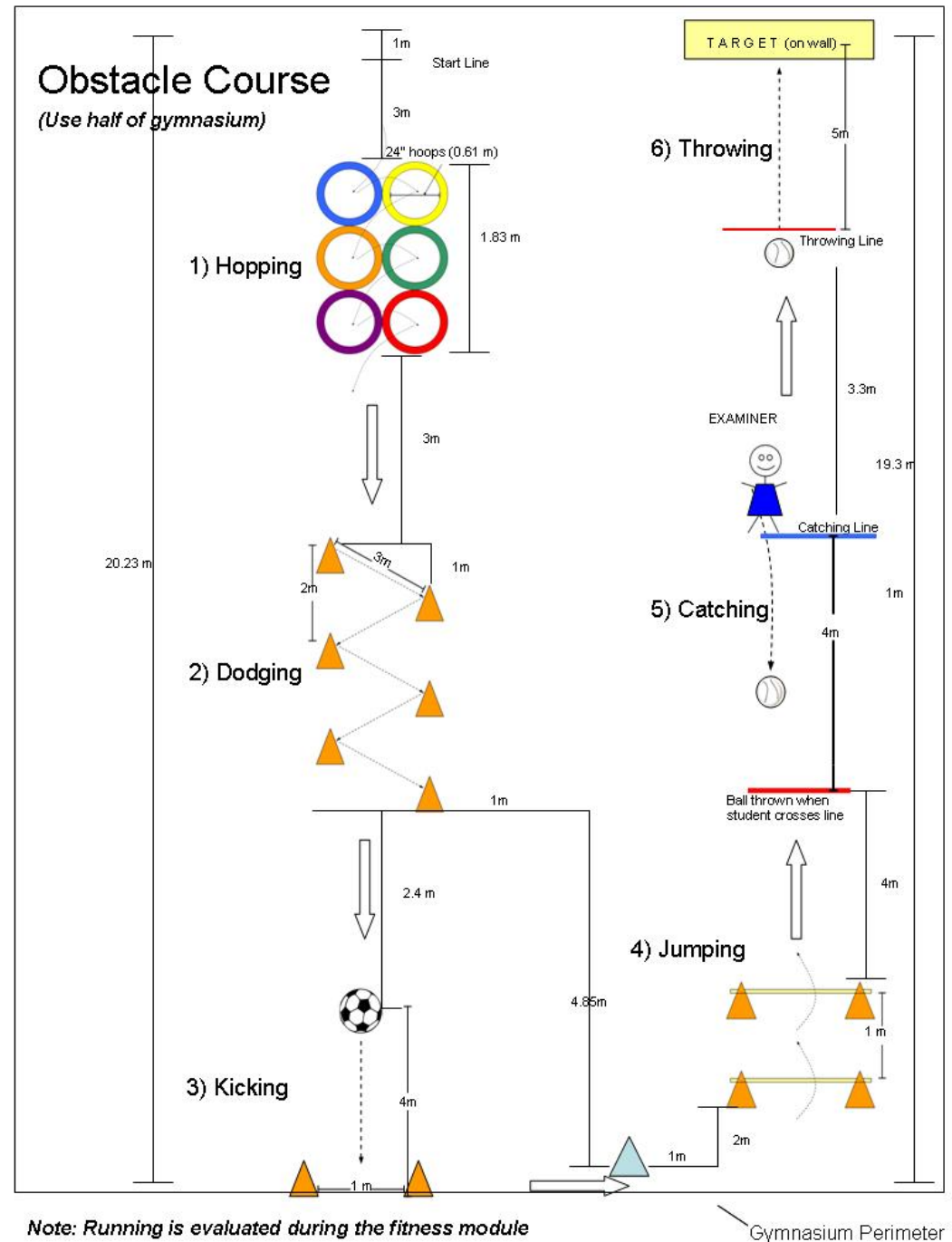


Obstacle Course Assessment

- Novel approach to motor skill assessment.
- More open setting
- Not static skills
- Looking at function, not form.

VIDEOS

Motor Skills Version 3





Physical Fitness



Fitness Assessment

-FitnessGram

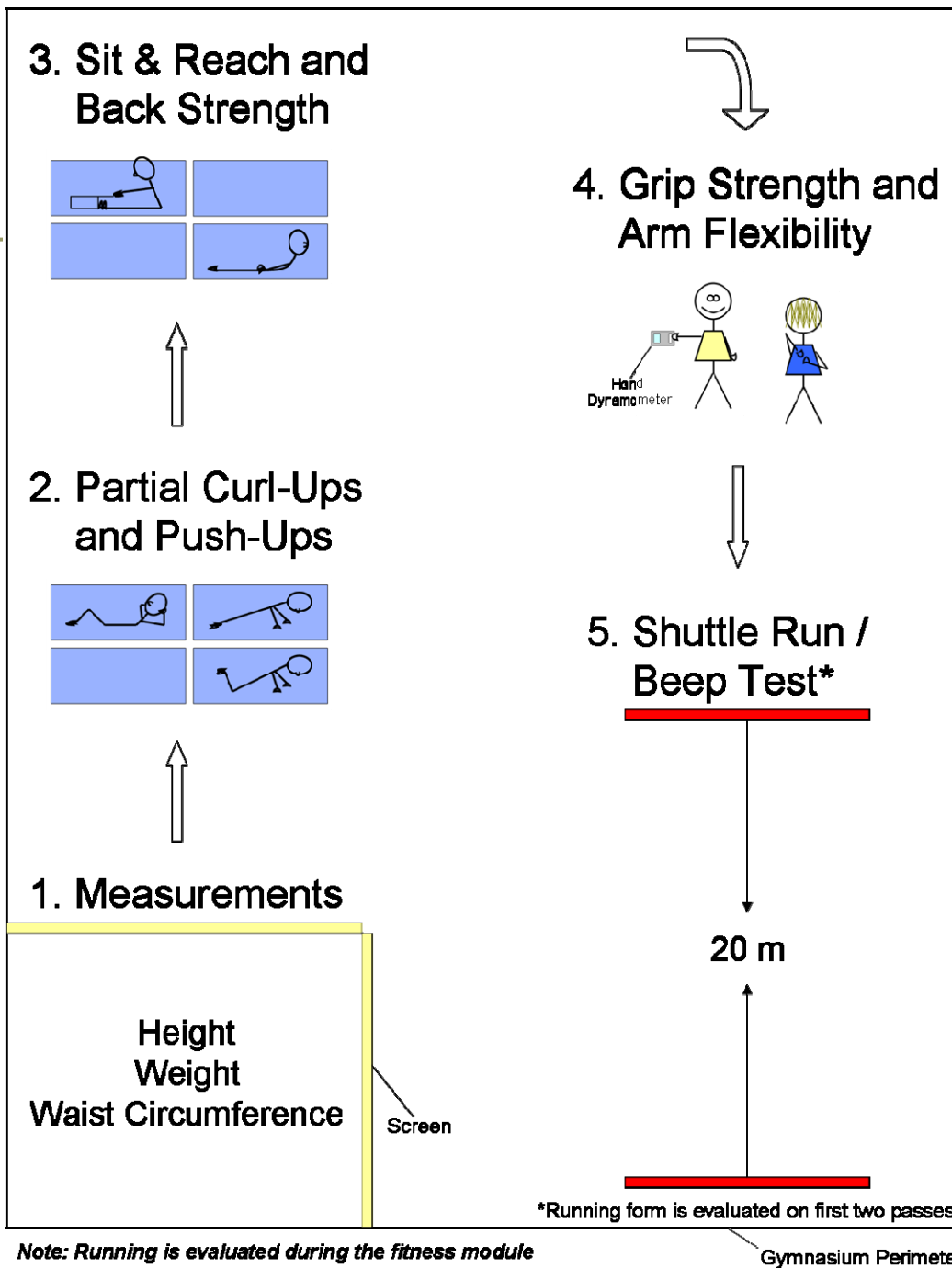
-CPAFLA

-Eurofit

-Other standard measures that we can compare our results to.

-VIDEOS

Fitness Version 1



Note: Running is evaluated during the fitness module

Gymnasium Perimeter

Height, Weight and Waist Circumference





Physical Activity Behaviour

Pedometers

- 7 days of pedometer data
- Appropriate for all children regardless of ability level





Knowledge, Understanding and Awareness

Questionnaire

- Two iterations so far
- Currently open ended questions
- Next phase will be multiple choice, fill in the blank type questions
- Teachers/parent/coach can scribe for children with learning disabilities

Physical Education Knowledge (Canadian Assessment of Physical Literacy)

Name: _____ Age: _____

I am in grade: 4 5 6 (please circle one)

I am a: boy girl (please circle one)

In this project, when we talk about physical activity, we mean things that you do for at least 20 minutes that make you breathe harder.

Why are we asking you these questions? We want to know what kids like you know about physical activity, sports and exercise.

Please remember:

- There are no right or wrong answers. If you do not know the answer, please give your best guess.
- There is no time limit, so please take all the time you need.
- Please use the space under each question to write your answer.

1. Name 3 things you like about playing sports or being physically active.

2. Name 3 things you don't like about playing sports or being physically active.

CHERO Research Ethics Board
APPROVAL
Chair's Signature: *Carolyn Smith*
Date: *September 2, 2009*

CAPL Cycle 1 & 2

Cycle 1

- Data was collected over an 8 week period
 - On 238 children
 - In 10 Classes (5 schools)
 - From 2 school boards
 - 1 Urban
 - 1 Rural

Cycle 2

- Data was collected:
 - On 373
 - In 18 School Classes (5 +1 schools)
 - From 2 school boards
 - 1 Urban
 - 1 Rural
 - 5 Community Groups

CAPL Cycle 1 & 2

Cycle 1

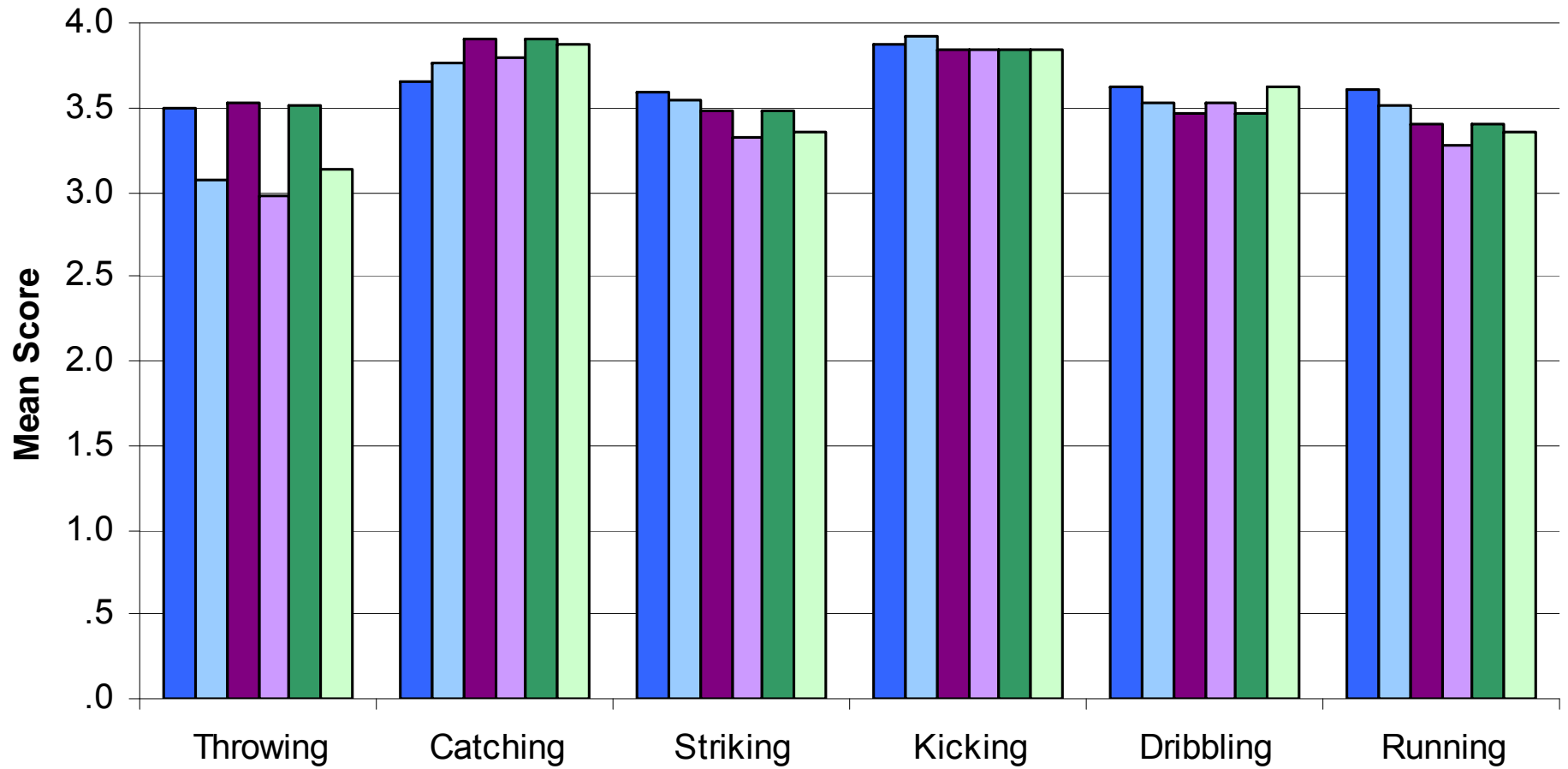
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Cycle 2

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Static Motor Skills

Gr 4M Gr 4F Gr 5M Gr 5F Gr 6M Gr 6F

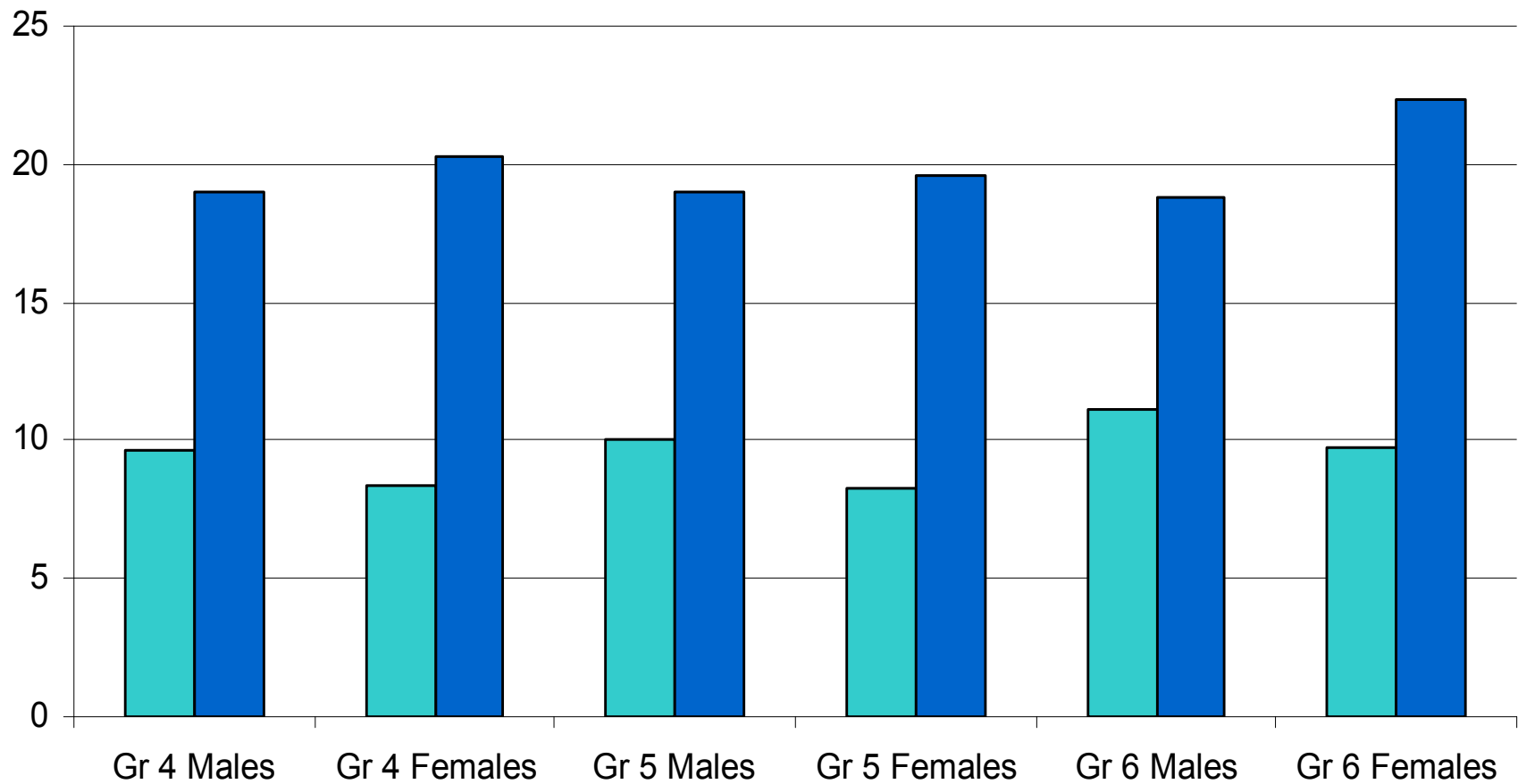


n = 567

Obstacle Course – Cycle 1

Obstacle Course - Cycle 1

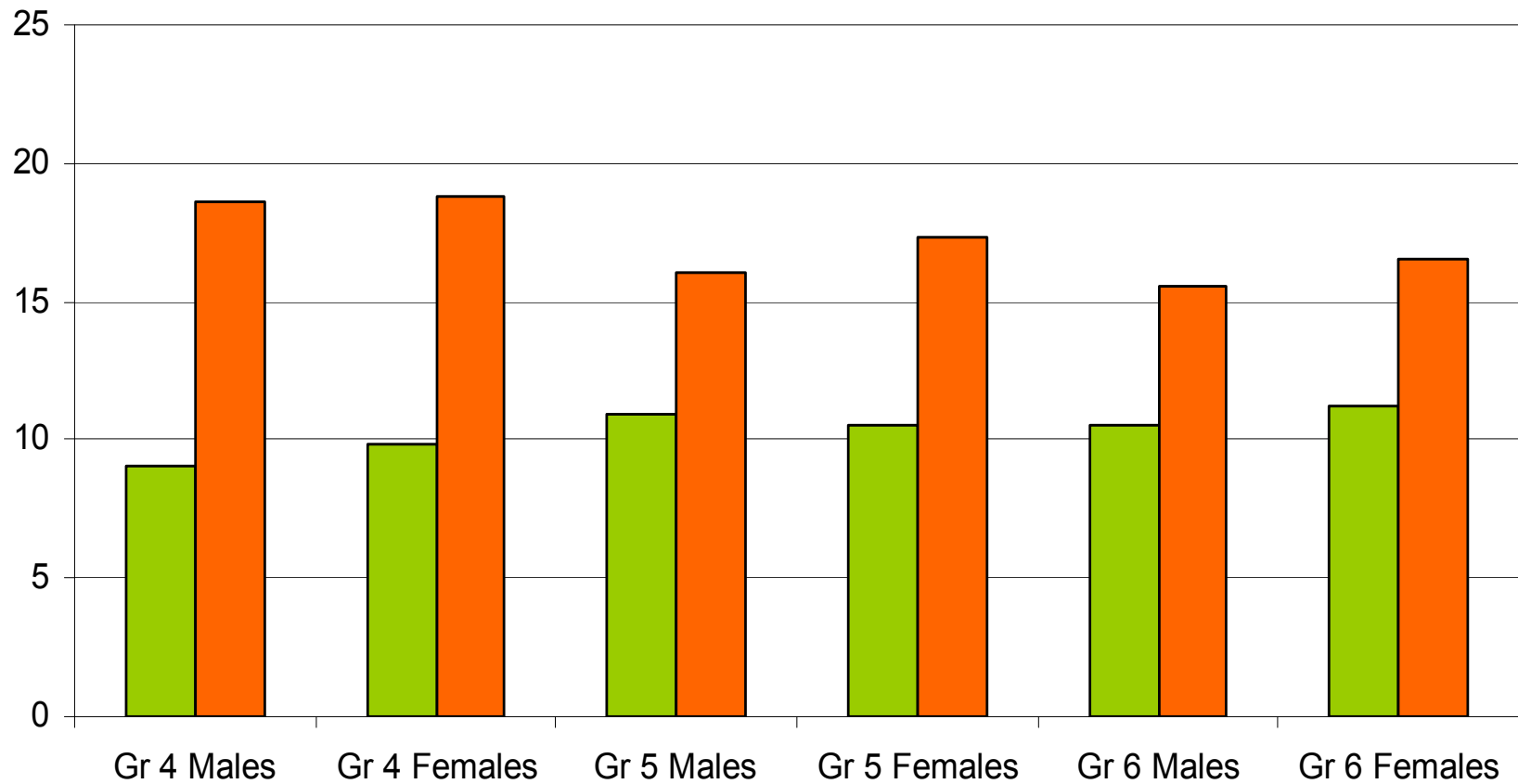
■ Mean Score (out of 13) ■ Mean Time to Complete



Obstacle Course Cycle 2

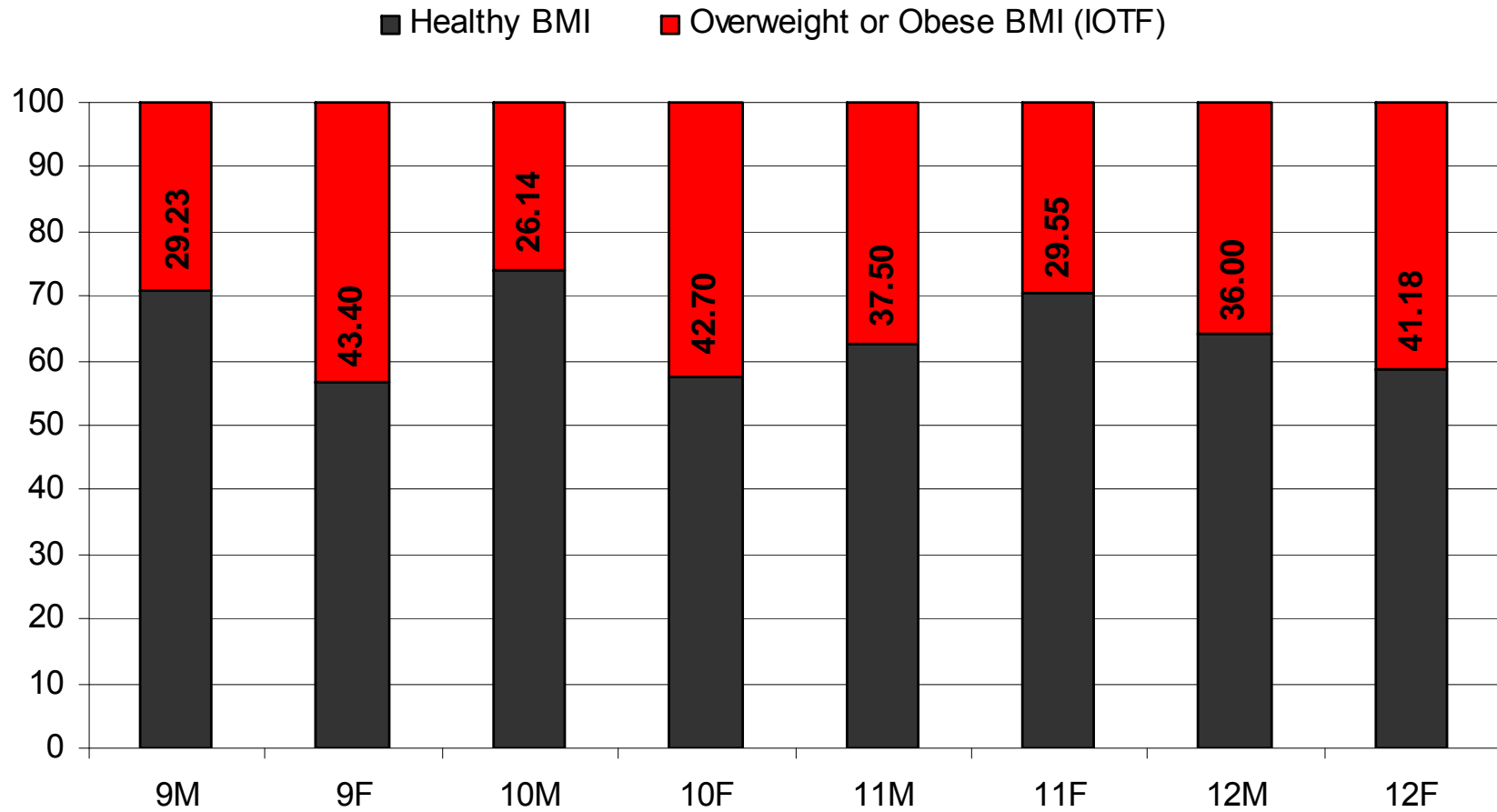
Obstacle Course - Cycle 2

■ Mean Score (out of 14) ■ Mean Time to Complete



BMI

BMI -Percentage of Overweight or Obese Children

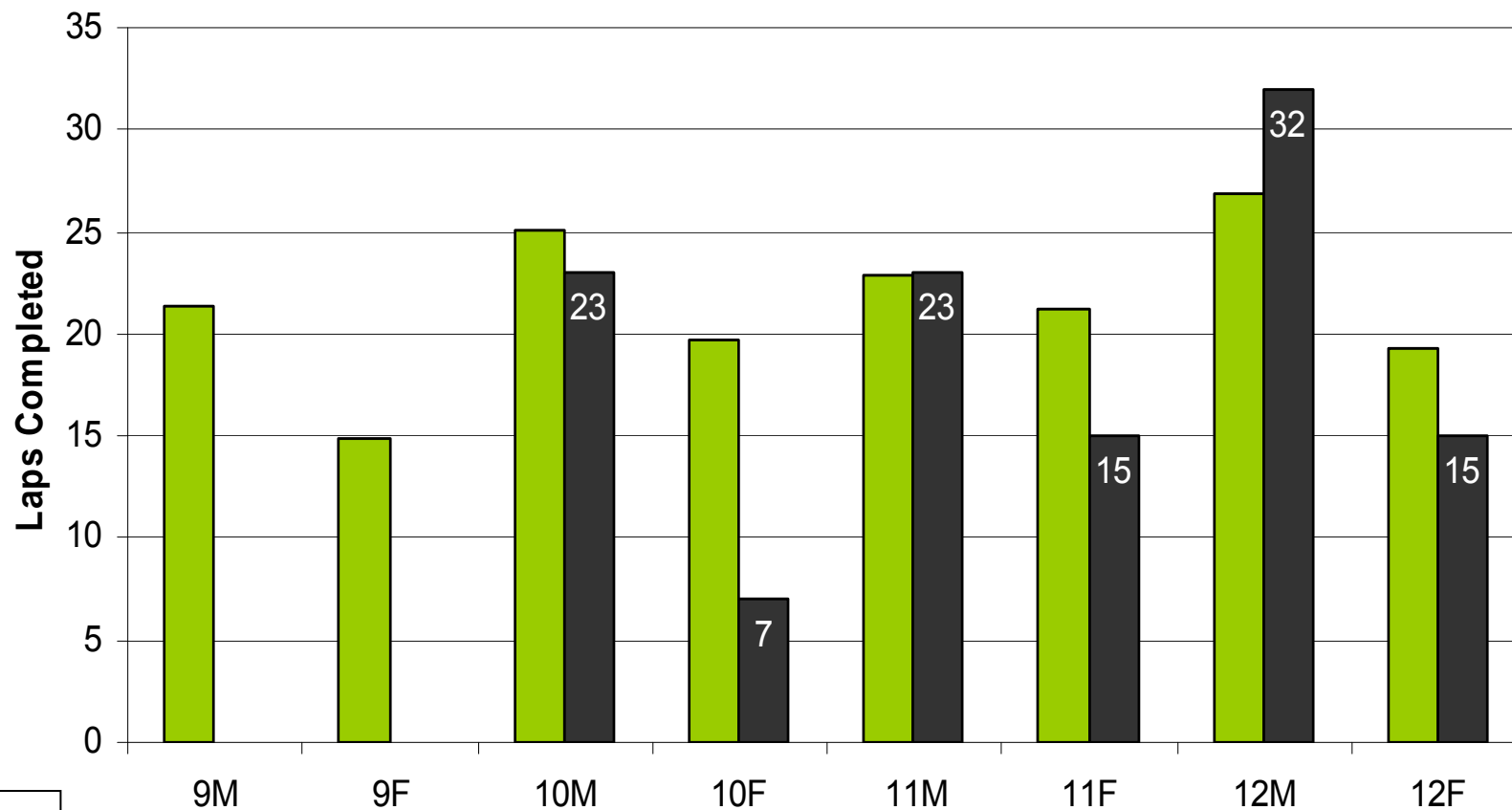


n = 549

Cardio-respiratory Fitness

PACER

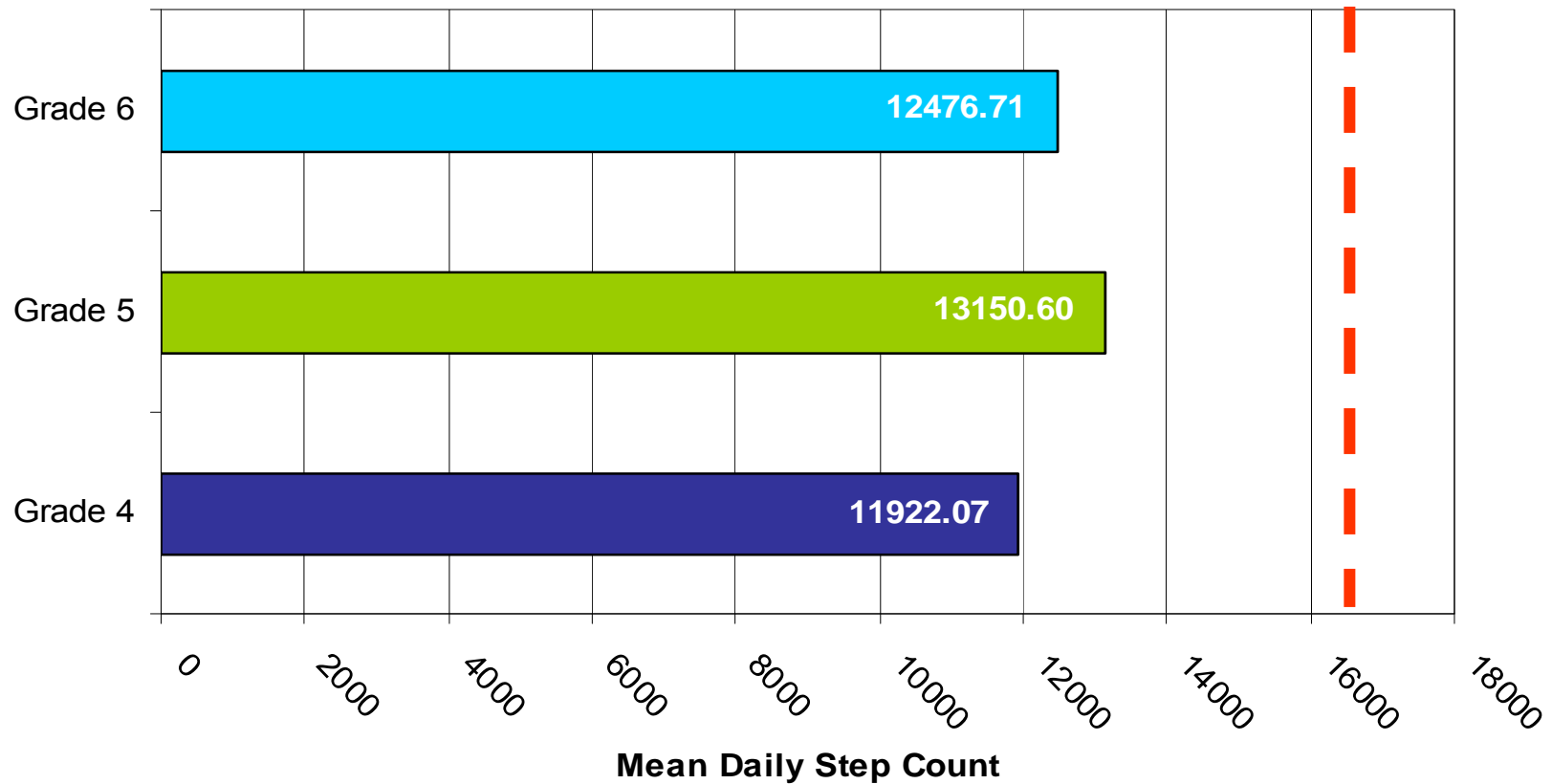
■ Mean Performance ■ Minimum Performance Guideline for FG HFZ



n = 350

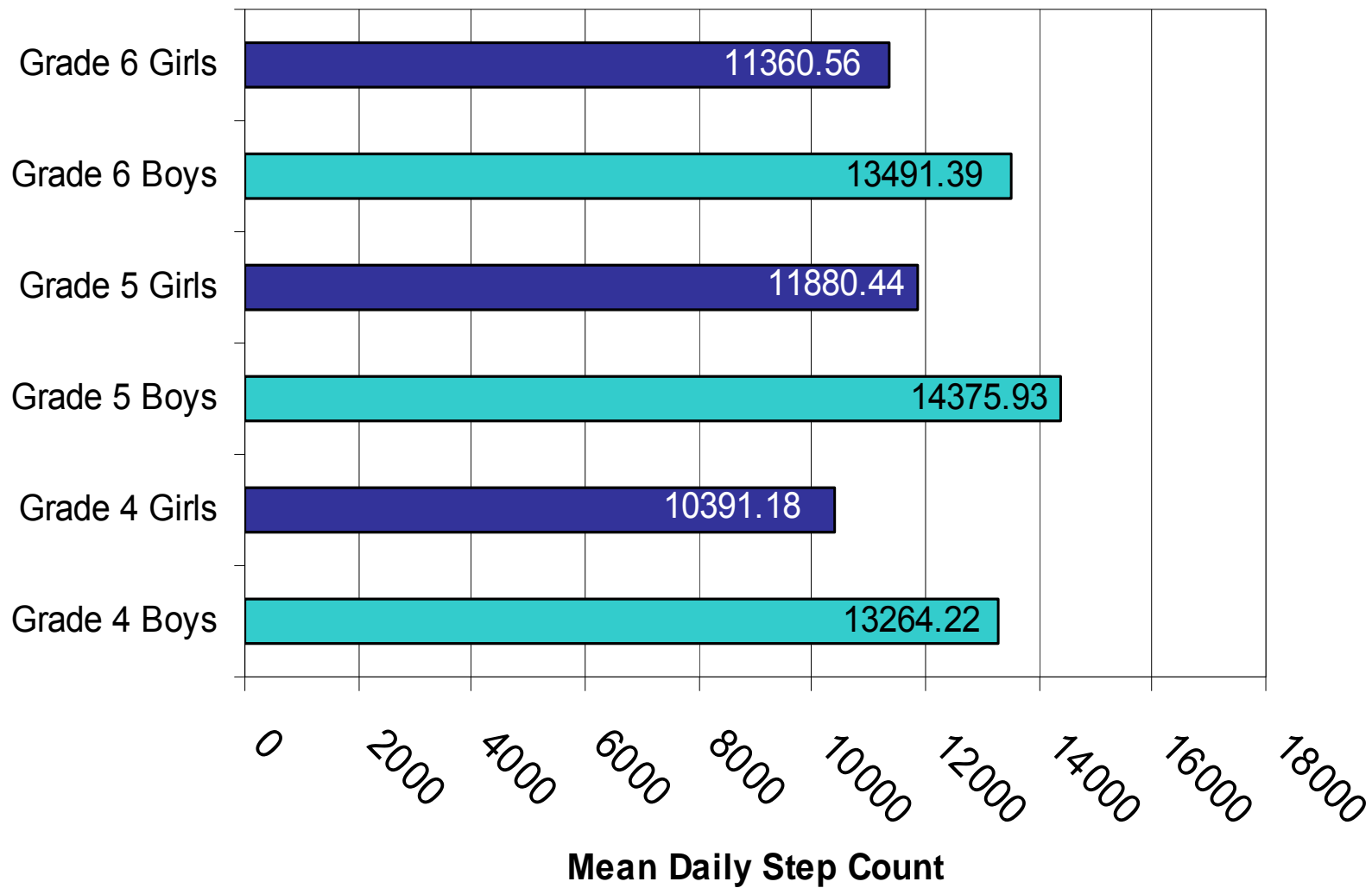
Physical Activity Behaviour

Physical Activity Behaviour for Grade 4-6 Students



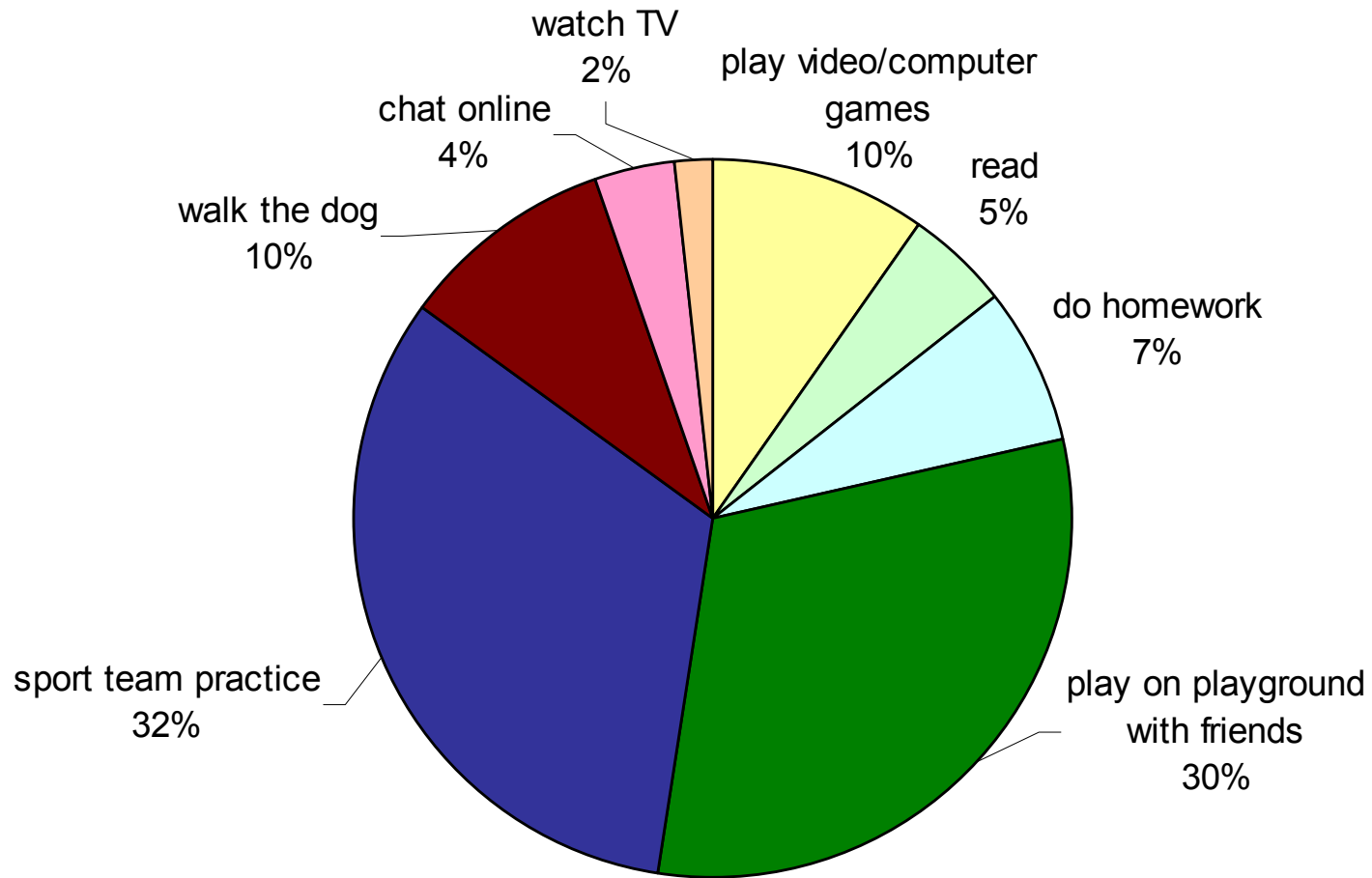
n = 472

Mean Physical Activity Behaviour



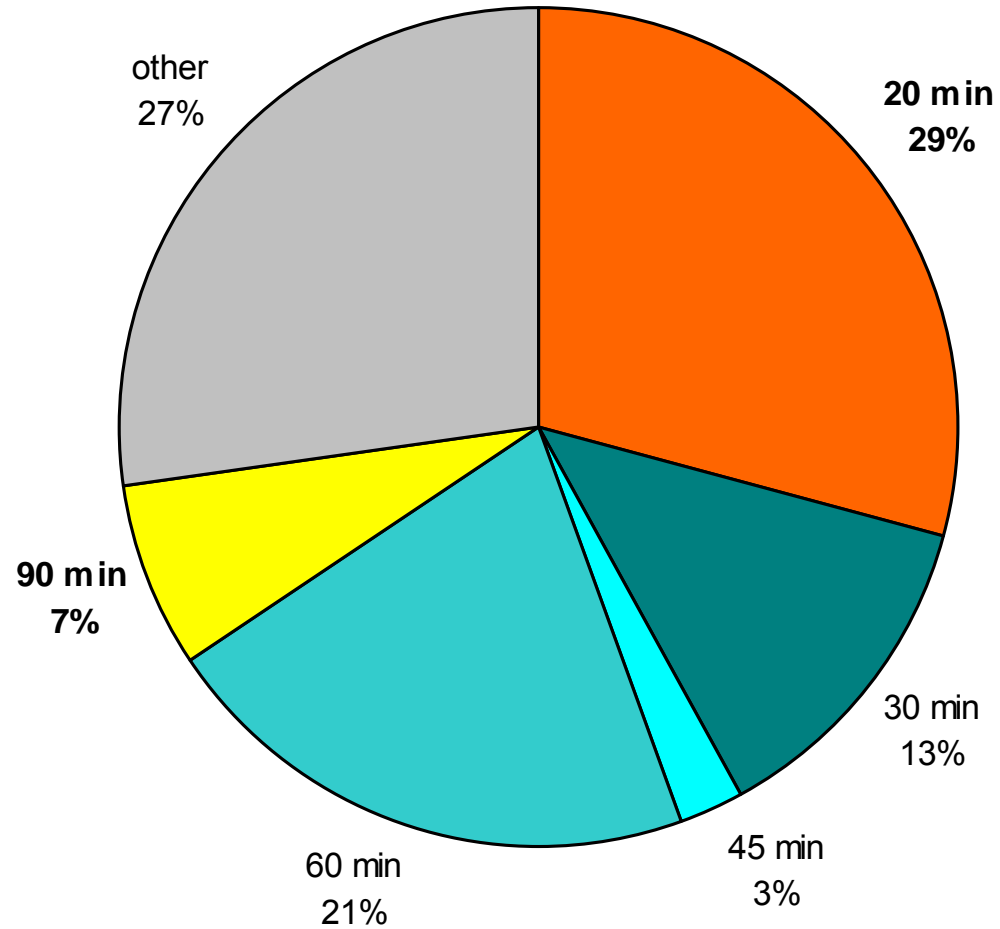
n = 472

If you were allowed to pick what you do after school, which activity would you pick?



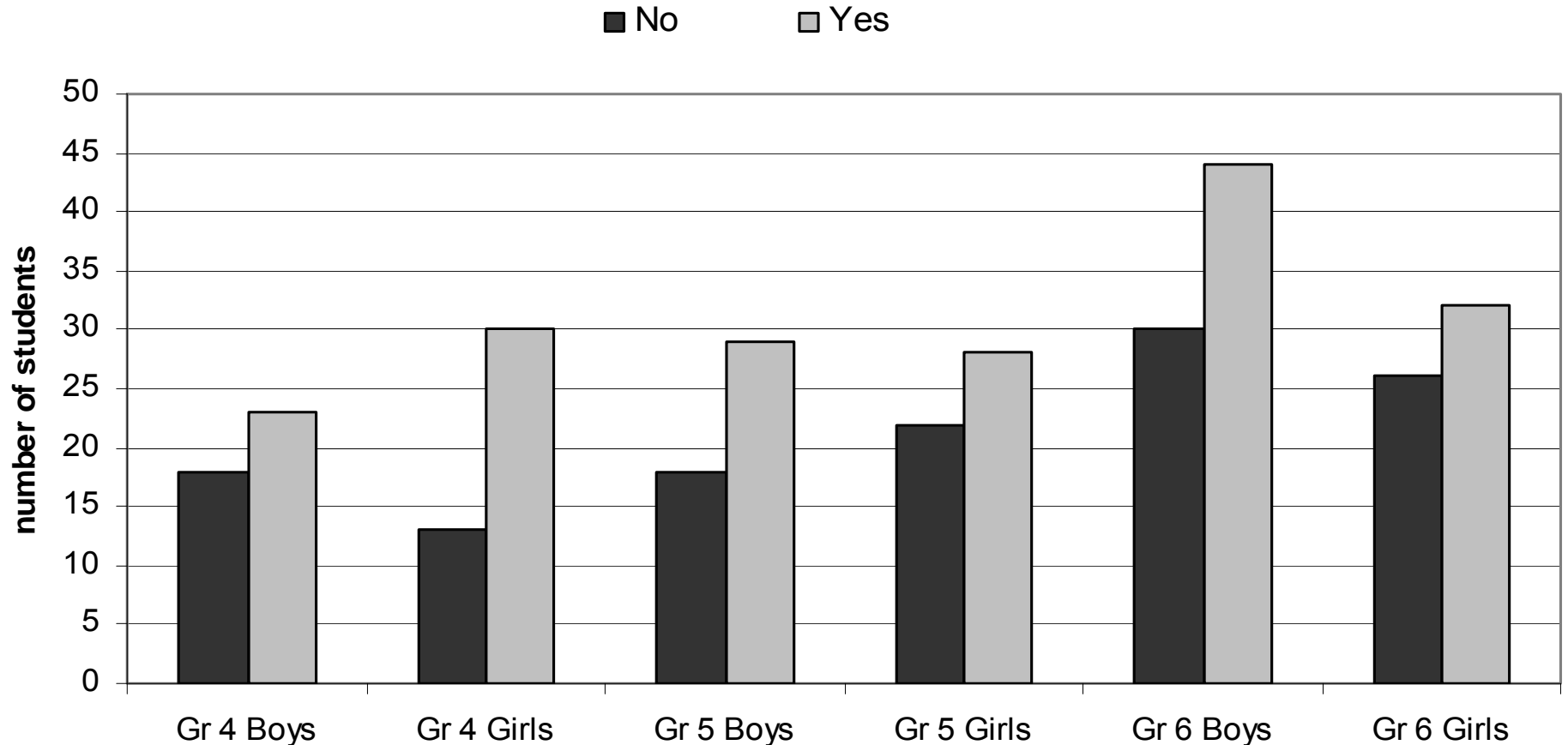
n = 541

How long should you and other Canadian children engage in physical activity every day?



n = 543

Do you play on any sports teams at school?



60% of boys and girls indicated they play sports at school

40% say they don't play sports at school

175 children attend schools who have NO school sports

Question 1. Name 3 things you like about playing sports or being physically active

Grade 4 boys	Getting stronger (5), I like playing with my friends (5), meeting new people/friends (5), sports are cool, showing off your skill, being sporty, staying out of trouble
Grade 4 girls	Getting exercise (4), Being healthy (4), meeting new people/friends (3), feeling good or better/proud (3)
Grade 5 boys	strength/muscles (13), Playing with friends (10), being fit (8), setting goals like making it to the NHL/Olympics (2)
Grade 5 girls	Making new friends/playing with friends(16), keeping healthy (8), makes me feel good about myself/feels good after (5)
Grade 6 boys	Playing with friends/tournaments/competitive teams (11), staying in shape/fit (5),Helps build muscle/get stronger (3)
Grade 6 girls	Being healthy (9), make friends/be on a team (6), not being judged/getting acknowledged or rewards (3), feeling good after (3)

Question 2. Name 3 things you don't like about playing sports or being physically active

Grade 4 boys	Tiring (8), Losing (3), too competitive (3), using up time (4), too rough (3), getting yelled at (2), I don't like getting crushed like a grape, it hurts
Grade 4 girls	Being sweaty (4), Being tired (4), getting hurt (3), not being liked/being made fun of (2), mean people/sour winners (2)
Grade 5 boys	Getting hurt/injured (8), bathroom breaks (6), getting tired (6), mean people (2), letting your team down, over competitiveness, getting embarrassed, bad sportsmanship/poor sports (3), being slow/not strong (2)
Grade 5 girls	Getting hurt (7), Being sweaty (7), too competitive (5), getting yelled at (2), getting your feelings hurt, getting made fun of/embarrassed (2)
Grade 6 boys	Cheaters (2), Sore losers (3), being away from friends (3), getting hurt (3)
Grade 6 girls	Being sweaty (7), Being tired (5), Breathing heavy (5), being watched, not understanding how, I don't like when I'm playing a sport and my pants fall down

Question 6. Do you think it's important to be fit? Why? Grade 6 girls responses

HEALTH

So you don't get sick

It can make you healthy

If you're not physically fit your body isn't healthy

If not we would all be lazy

So we don't become lazy

Because we could have problems like fat on the liver etc.

It's healthy for you

If you are not physically healthy you cannot possibly be healthy in any other form

Keeps you healthy (3)

so we can have a healthy body


It's better for our lifestyle and health

Because if you're not you will probably not be healthy when you are older

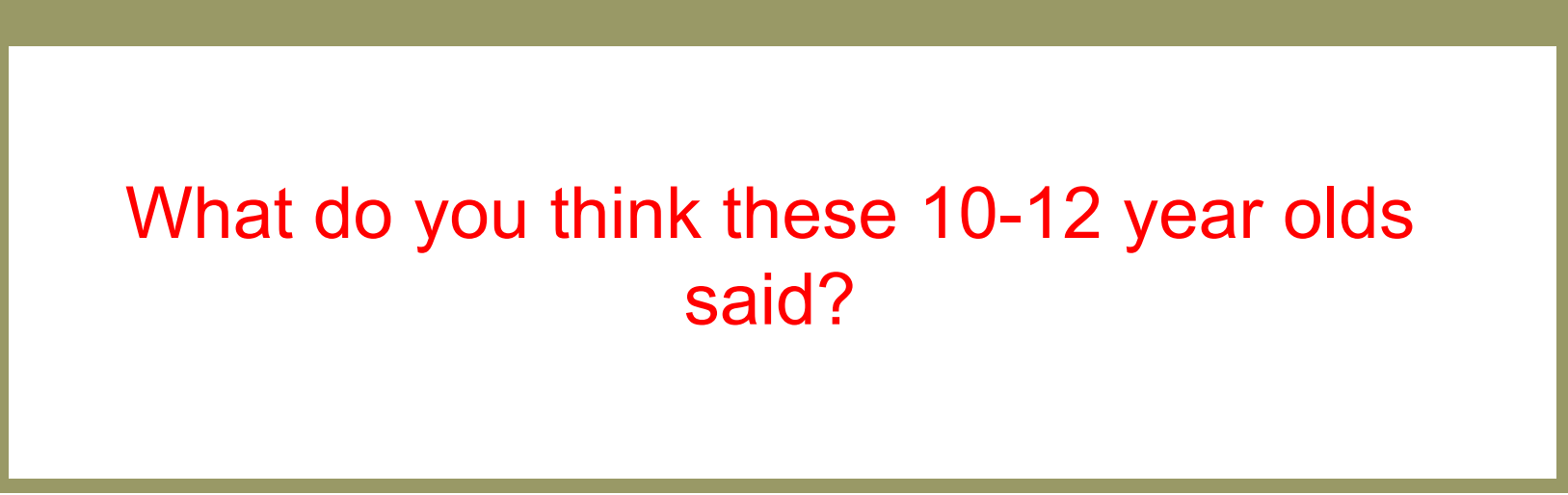
Because that way you will live a healthy and long life

So we stay healthy, keep fit and have fun!





Why can't some children
participate in physical activity
or sports?



What do you think these 10-12 year olds
said?

Disabilities/Health

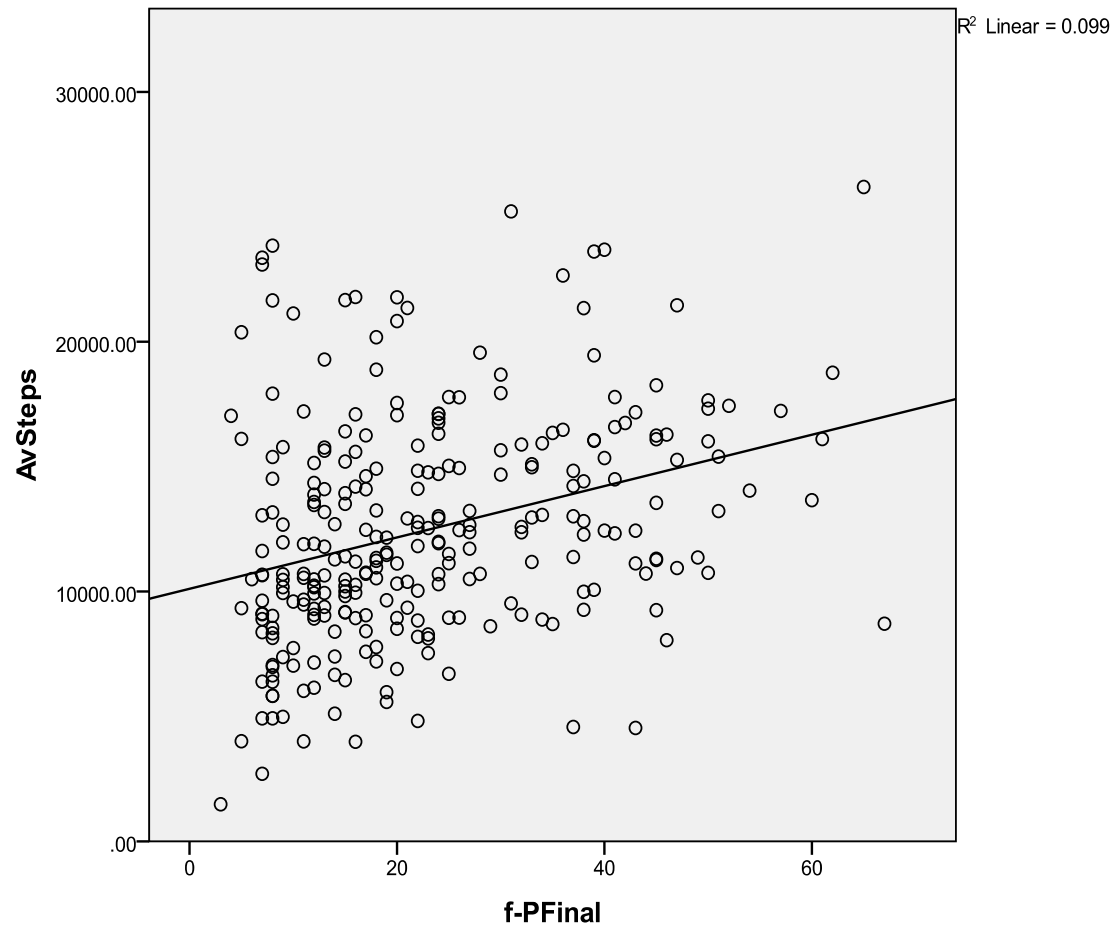
- -wheelchairs (13)
- -handicapped
- -blind so they have to be watched every minute
- -blind (2)
- -disabled/disabilities (19)
- -tired all the time
- -physical problems
- -can't walk (3)
- -paralyzed (3)
- -mental problems
- -mentally challenged
- -asthma (10)
- -they don't get enough sleep
- -heart problems (2)
- -they hurt/injured themselves (3)
- -they are hurt (2)
- -broken bone (3)
- -sick/illness (16)
- -cancer (2)
- -flu
- -rare disease
- -don't feel well
- -no legs or arms (2)
- -physically challenged
- -physical conditions
- -amputated part of body

Why can't some children participate in physical activity or sports?

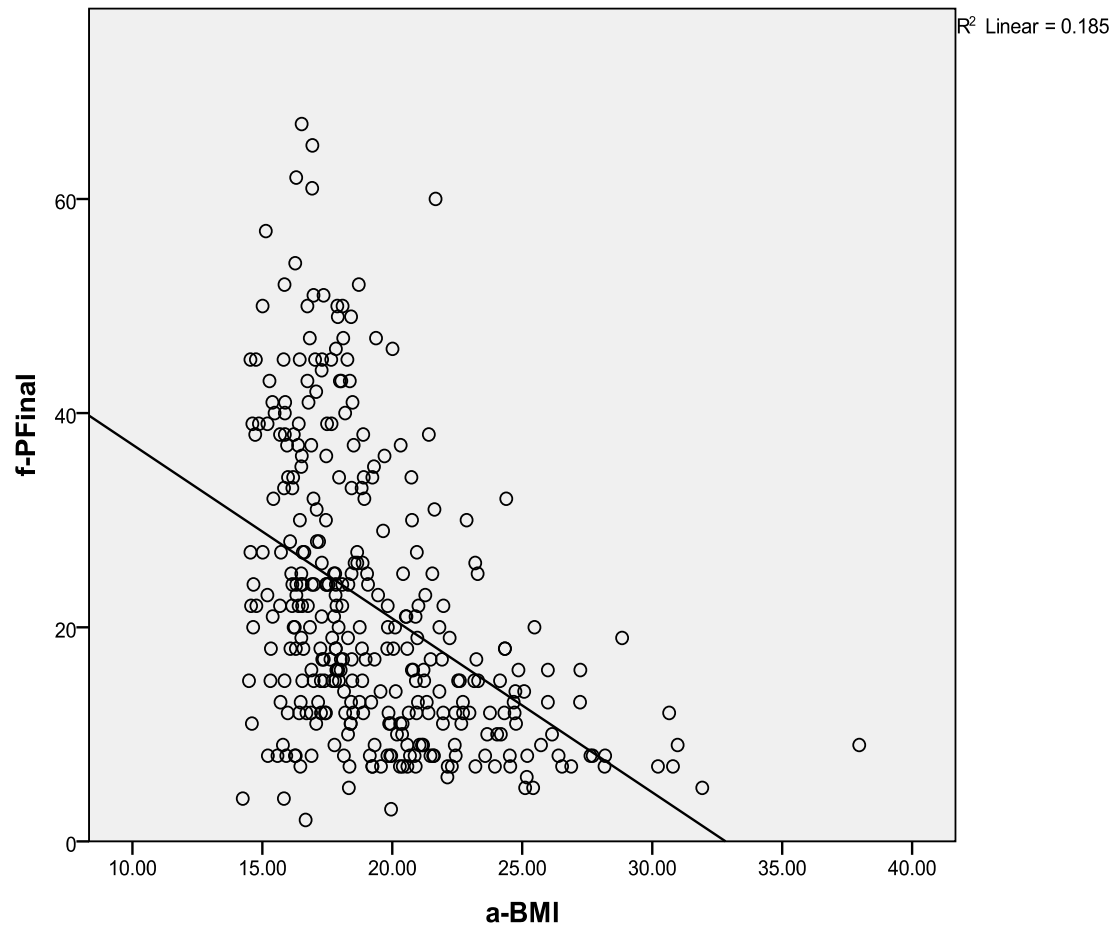
- Disability/Health Answers
 - Girls – 152 statements
 - Boys – 116 statementsTOTAL = 268

- Monetary
 - Girls – 20
 - Boys – 49TOTAL = 69

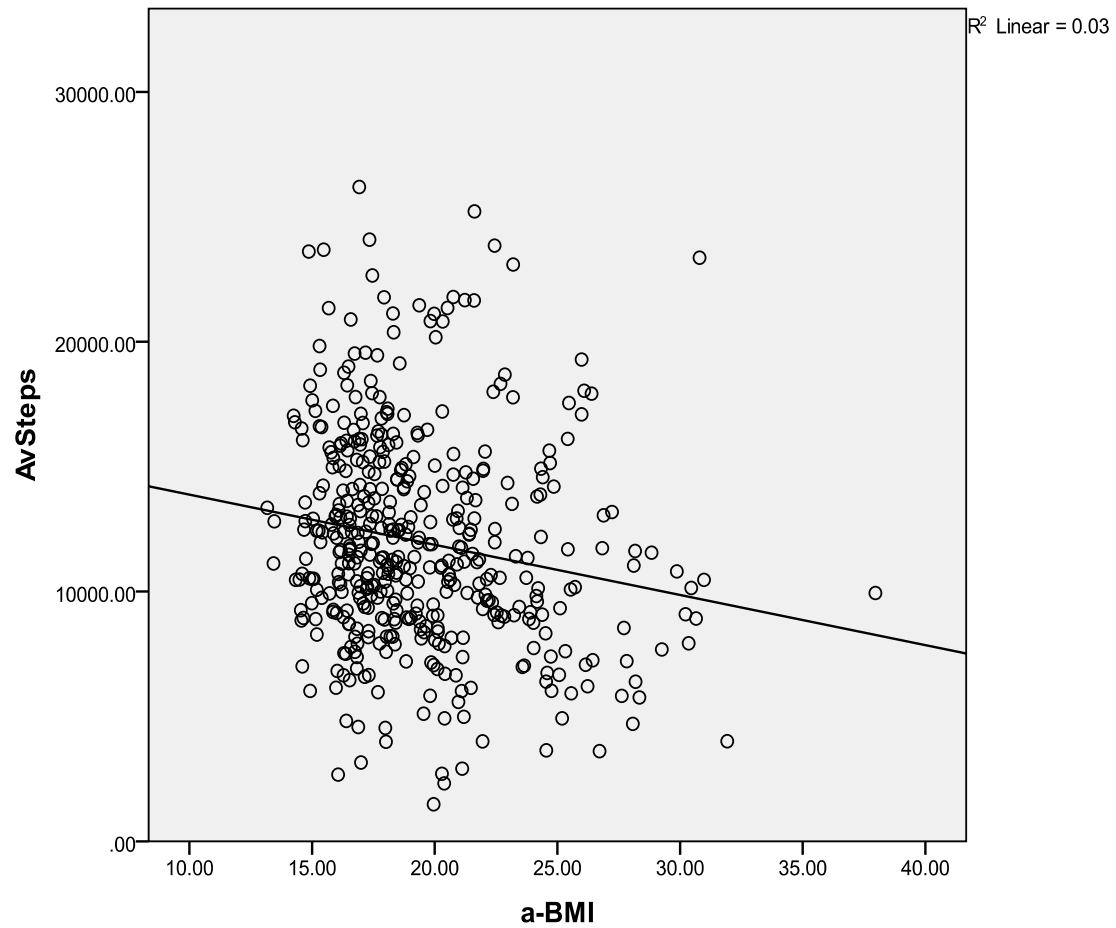
Physical Activity and Fitness



Fitness and BMI



Physical Activity and BMI





Teacher Impressions

REB approved questionnaire: 3 questions

What were your positive impressions of the CAPL?

- Very well organized, good communication.
- I like the different parts – the kids really liked the pedometers, and the beep test, the obstacle course was a great hit too.
- Students were actively engaged
- Reinforced importance of fitness
- Introduced many students to pedometers
- Your staff were well organized and positive
- Well organized in all aspects
- The package you provided with an overview of the activities with related games was very informative.
- Kids enjoyed participating and were excited about program
- Very accommodating to schedule and time – it was great!

What were your positive impressions of the CAPL?

- It was very well organized and easy (little work required) on the teachers!
- The activities in the gym gave me an idea of how to better assess physical literacy/fitness.
- I liked the idea of giving students a survey to find out about their knowledge about health and fitness (an idea for the beginning of the year as a phys-ed teacher) students were motivated!
- My overall impressions are that this is long over-do! I think it was a wonderful experience all the way through! The class was very excited to participate. Your staff was very positive with my student's 😊! I really think we have to continue to emphasize the importance of a healthy lifestyle to our students and this will definitely help. Thanks!
- I was impressed with how willing you were to work around our schedules. I was also impressed with how thorough the various activities were that you did with the kids. The staff were also very encouraging & supportive to all the students – positive feedback was provided regardless of how the student did. I also like the questionnaires the kids did.

What were your negative impressions of the CAPL?

- Teachers will need the support of principals to get adequate gym time to complete the testing.
- All the equipment needed for the test needs to be kept in one area/and or delivered to school at a specific time (like the EQAO materials are so that equipment doesn't go missing)
- Set up time for the teachers to get course (i.e. The obstacle course ready – will be an issue as teachers will need to use their prep time to set up (cannot do it at recess or lunch)
- Schools/teachers will need to be flexible to get gym time.
- None
- The only thing was I was a little frustrated with some of my students who did not fill out their pedometer sheet properly. I hope it wasn't a waste of time (for you!) Maybe they could record it at 12 noon every day or a consistent time at school, I'm not sure.
- N/A
- No negative! All positive!

What would you do to make it better?

- Some minor concerns about time management (e.g. student survey and pedometer handout with individual instructions) – Thank you for allowing us to participate. Best Wishes.
- Nothing – I hope you found (name of school) a useful stop on your way!
- If study was done earlier in the school year, teachers could use results to direct their teaching.
- Can teachers have access to survey (blank) or a copy of student surveys? (realize that is a lot of paper)
- Great learning process! 😊
- Can't think of anything – it is beyond your control – but I was disappointed in my kids with respect to the pedometer tracking – some of the figures were majorly inflated.

Discussion

- It is feasible to conduct this type of assessment.
- Very positive feedback from teachers
- The inter-relationships are becoming clear.
- Much more work to be done.



Current Partners and Funding Sources: CAPL

PARTNERS

- Active Healthy Kids Canada
- ParticipACTION (2 years)
- CAHPERD (now PHE Canada)
- Champlain LHIN
- Champlain Cardiovascular Disease Prevention Network (2 years)
- Upper Canada District School Board
- Ottawa Catholic School Board
- OPHEA
- Public Health Agency of Canada
- Ontario Ministry of Health Promotion

RESEARCH GRANTS

- CIHR 1 year operating grant (2009-2010)
- CHEO-RI – 1 year pilot funds (2009)
- Summer Studentship (2009)

Acknowledgements: Healthy Active Living and Obesity Research Group

Emily Knight

Travis Saunders



Canadian Institutes
of Health Research

Instituts de recherche
en santé du Canada



Thank You!



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