



Sport and Mental Health

Colin Higgs
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**Dr. John Cairney - McMaster
University**

Introduction, what it is, and how
we might spot problems

L.J. Bartle - High Five

Putting mental health
programming into practice

Colin Higgs – Sport for Life

Mental health and sport.

Mental Health, Substance Use Problems and Athletes

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Overview

- Mental Illness and Addictions
- Causes
- Treatments
- Athletes and Mental Illness and Addictions
- A Proposal

Bit of My Background

- PhD topic: stress and mental health
- From 2002-2008, I was a Canada Research Chair at the Centre for Addiction and Mental Health (CAMH)
- Past-President of the Canadian Academy of Psychiatric Epidemiology
- Interested in measurement and surveillance of mental health in the population

Mental Illness and Addictions

- Highly Prevalent: 1 in 5 Canadians
- Most Common:
 - Depression: 4-5%
 - Anxiety (social phobia / agoraphobia / panic disorder): 5-15%
 - Bipolar Disorder: 1-2% / Schizophrenia: ~1%
 - Substance Use or dependence: 5-6%
 - Eating Disorders: 0.3-1%

Patten SB, et al. Descriptive Epidemiology of Major Depressive Disorder in Canada in 2012. *Can J Psych* 2015;60(1):23-30.

Pearson C, et al. Mental and substance use disorders in Canada. Statistics Canada, Catalogue no.82-624-X (Health at a Glance, September 2013).

Major Depression

DSM-V Criteria

- Sad/blue or depressed most or all of the day, almost or everyday, for at least 2 week
- Loss of interest in most things almost or everyday for 2 weeks

Symptoms:

- Trouble thinking (concentrating; fuzzy)
- Changes in sleep
- Changes in appetite
- suicidal ideation
- Lack of energy; aches and pains

Depression + anxiety

Depression + substance use

Anxiety + substance use + Depression

**CO-MORBIDITY IS THE RULE NOT
THE EXCEPTION**

Causes?

- Multifactorial
- Most studied:
 - Stress
 - Genetics

Stress

STRESS

- Response to a demand (load)
- Point of overload
- Stress vs. Stressors

Types of Stressors:

- Life events
- Trauma
- Chronic Strains
- Everyday hassles

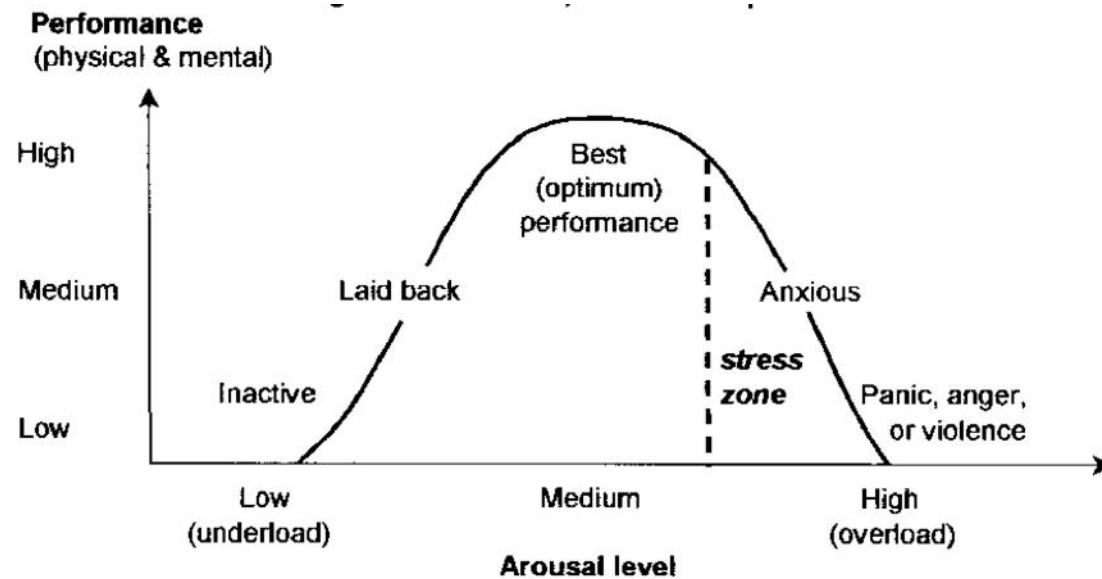


Stress Responses

- Psychological
 - Feeling overwhelmed
 - Anxiety
 - Depression
 - Distress
 - Irritable
- Physiological
 - Increased heart rate
 - Secretion of hormones
 - Motor changes



Stress isn't all bad



Why does stress lead to distress (mental health problems) in some people?

NO SEPRARTION OF PHYSICAL & MENTAL

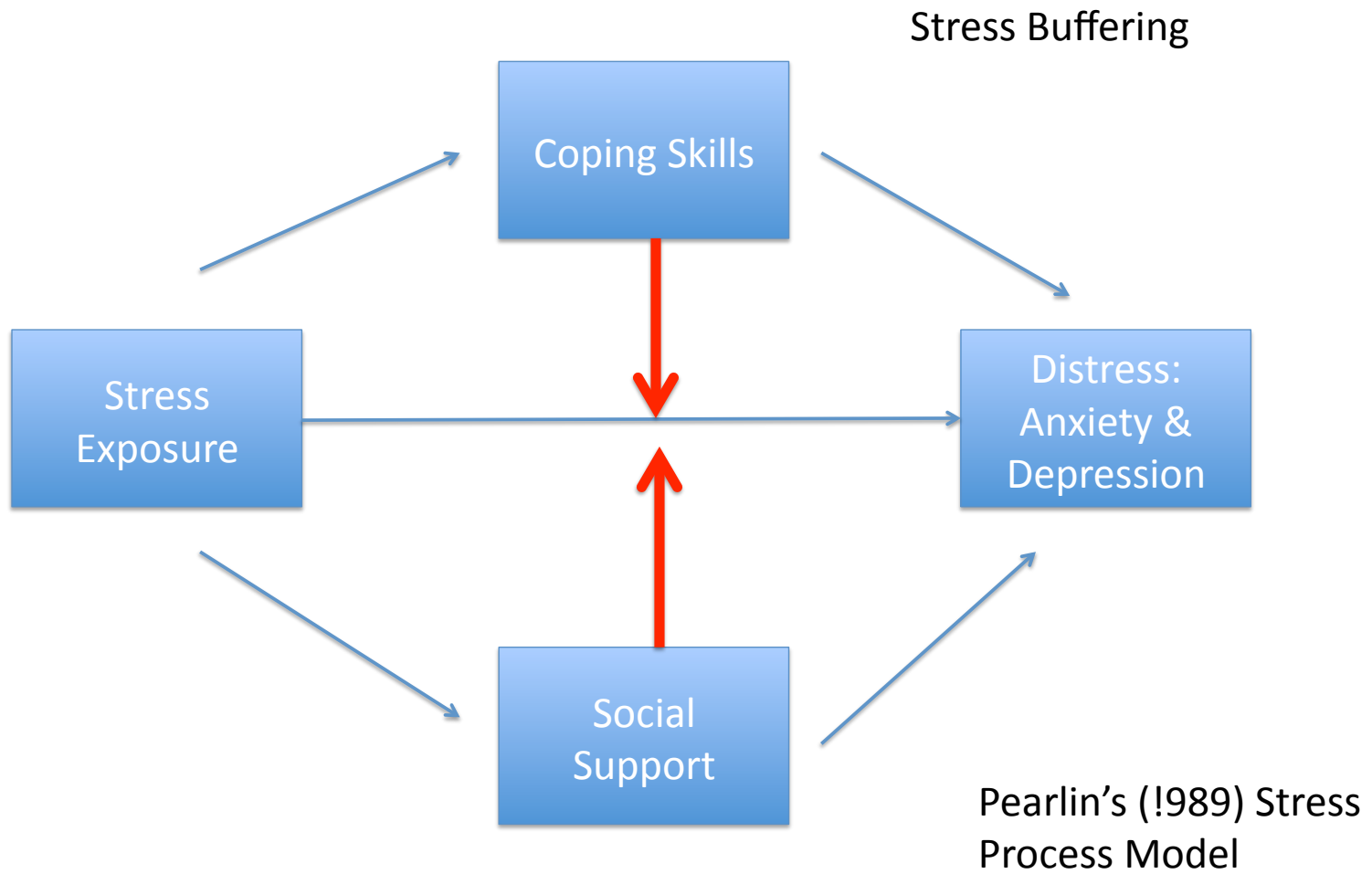
What is overtraining?

- Performance decrements
- Mood changes



- **It is a stress response! Which results in psychological distress (depression, anxiety)**

Causes of anxiety/distress



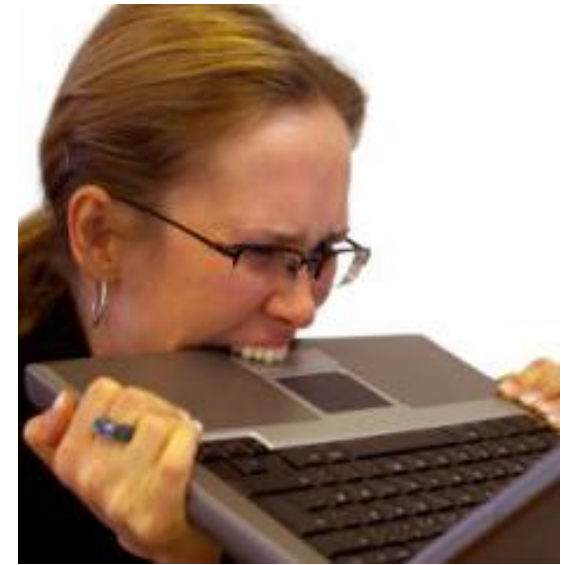
What About Genetics?

- Mental illnesses are hereditary

Depression (MDE)

- Twin studies suggest a heritability of 40% to 50%
- Family studies indicate a 2- to 3-fold increase in lifetime risk of developing MDD among first-degree relatives



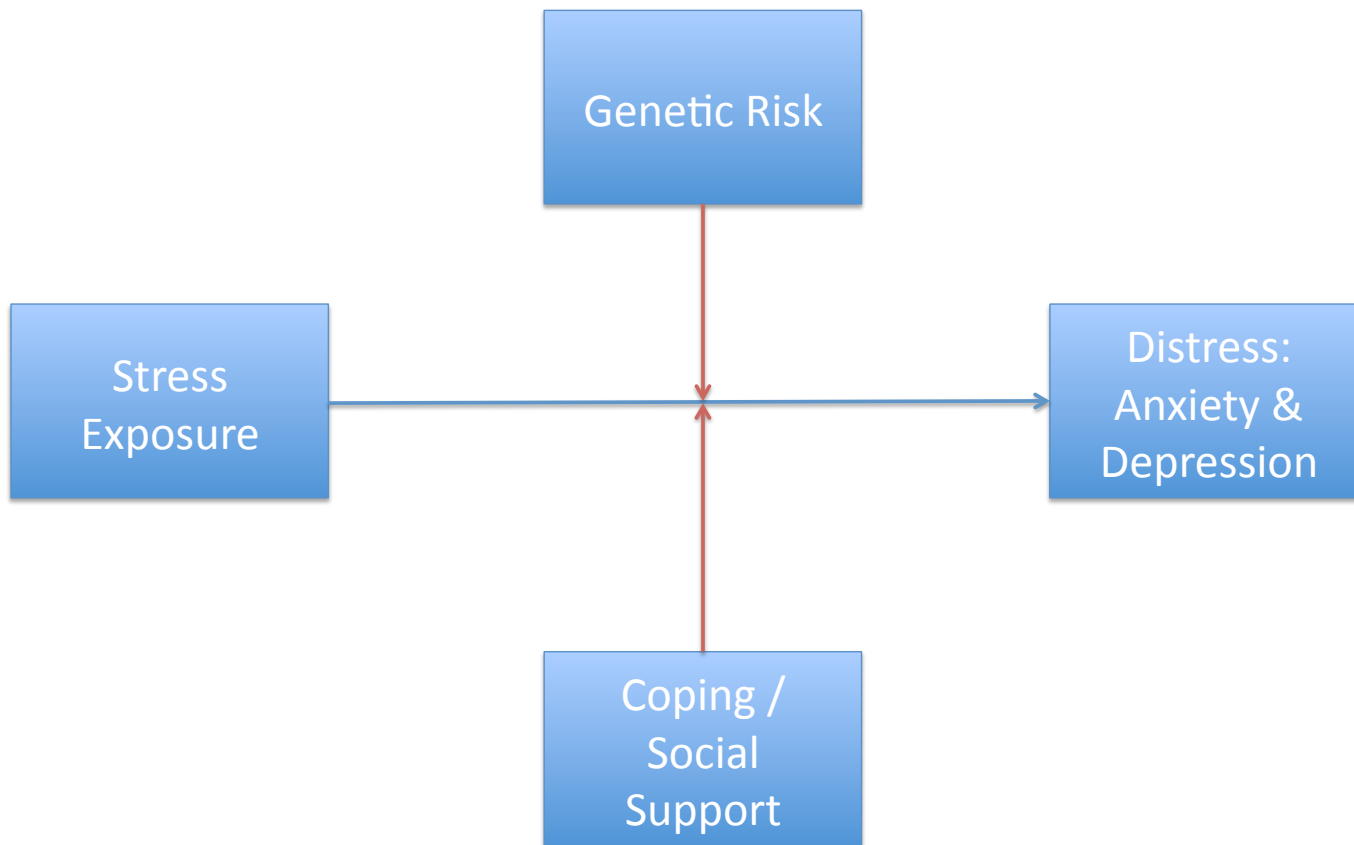


Stress or Genetics?

Putting it Together



Stress X Genetic (Synergistic)



Treatment

- Treatment: about 80% of individuals report improvement in symptoms and functioning
- Psychotherapy (talk therapy)
 - Cognitive-behavioural
 - Mindfulness
- Medications
 - SSRIs



Mental Health and Addictions in Athletes

- How common? Prevalence
- Very limited Research
- Studies show: increased risk, decreased risk, similar rates to general population
- Methodological Problems

Sport-specific Stressors

Major Stressors	Specific Categories
Double Burden (Role Conflict)	Education & Job / Family & Friends Free-Time / Self-determination
Sport Specific Demands	
Physiological	Bad performance/ Injury High training or competition load / Fatigue
Psychological	Pressure to perform / Mental stress Fear of failure / Loss of joy / Motivational difficulties
Condition	Lack of perspective, sponsoring, support from an organizational level / conflict within the team or with the trainer

Nixdorf, I. , Frank, R. and Beckmann, J. (2015) An Explorative Study on Major Stressors and Its Connection to Depression and Chronic Stress among German Elite Athletes. *Advances in Physical Education*, **5**, 255-262. doi: [10.4236/ape.2015.54030](https://doi.org/10.4236/ape.2015.54030).

Research / Evaluation / Policy Changes / Improving health of athletes

WHAT CAN WE DO?

STEP ONE

If we can't measure it, there is no
problem

No problem, no need for action

Recognizing the Signs

- Recognition/identification of mental health and addiction problems

Requirements:

- Education about symptoms
- Education about treatment
- Attitudes, beliefs and values (stigma)
- Tools (scales; measures)

Three Measures

Selected because:

1. Evidence-based
2. Open Access (no cost to use)
3. Easy to Use

A simple scale measuring psychological distress: symptoms of depression and anxiety

Used to screen for major depression and anxiety disorders

KESSLER OR K6

The following questions ask about how you have been feeling during the **past 30 days**. For each question, please circle the number that best describes how often you had this feeling.

Q1. During the past 30 days, about how often did you feel ...	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a. ...nervous?	1	2	3	4	5
b. ...hopeless?	1	2	3	4	5
c. ...restless or fidgety?	1	2	3	4	5
d. ...so depressed that nothing could cheer you up?	1	2	3	4	5
e. ...that everything was an effort?	1	2	3	4	5
f. ...worthless?	1	2	3	4	5

A short screen for substance use problems

CAGE-AID

1. Have you ever felt that you ought to cut down on your drinking or drug use?
2. Have people annoyed you by criticizing your drinking or drug use?
3. Have you ever felt bad or guilty about your drinking or drug use?
4. Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover?

Respondents answer: YES/NO

Short Screen for Eating Disorders in Female Athletes

Martinsen et al., 2015

BEDA-Q

1. I feel extremely guilty after overeating
2. I am preoccupied with the desire to be thinner
3. I think that my stomach is too big
4. I feel satisfied with the shape of my body
5. My parents have expected excellence of me
6. As a child, I tried very hard to avoid disappointing my parents and teachers

Respondents answer:

Never, Rarely, Sometimes, Often, Usually

Additional Items

- Are you trying to lose weight now?
 - Yes/No
- Have you tried to lose weight?
 - Yes/No
- If yes, how many times have you tried to lose weight
 - 1-2x, 3-5x, >5x

Scoring

- All of these scales are additive
- All have validated cut-points

Example:

- K6 scores range from 6 to 30
- Scores ranging between 5 and 7 are associated with high probabilities of clinical significance (sensitivity: 82 to 92%; specificity: 78% to 89%)

Cairney, J., et al. *Can J Psychiatry*; 52:111–120.

Administration Consideration

- All self-reported
- Could be completed using pen & paper; online survey
- Informed consent
- Ensure privacy for completion
- Ensure privacy for results
- **Who should administer?**

Data Collection, Reporting and Storing

- Survey for what purpose?
 - Surveillance
 - Screening

Proposal

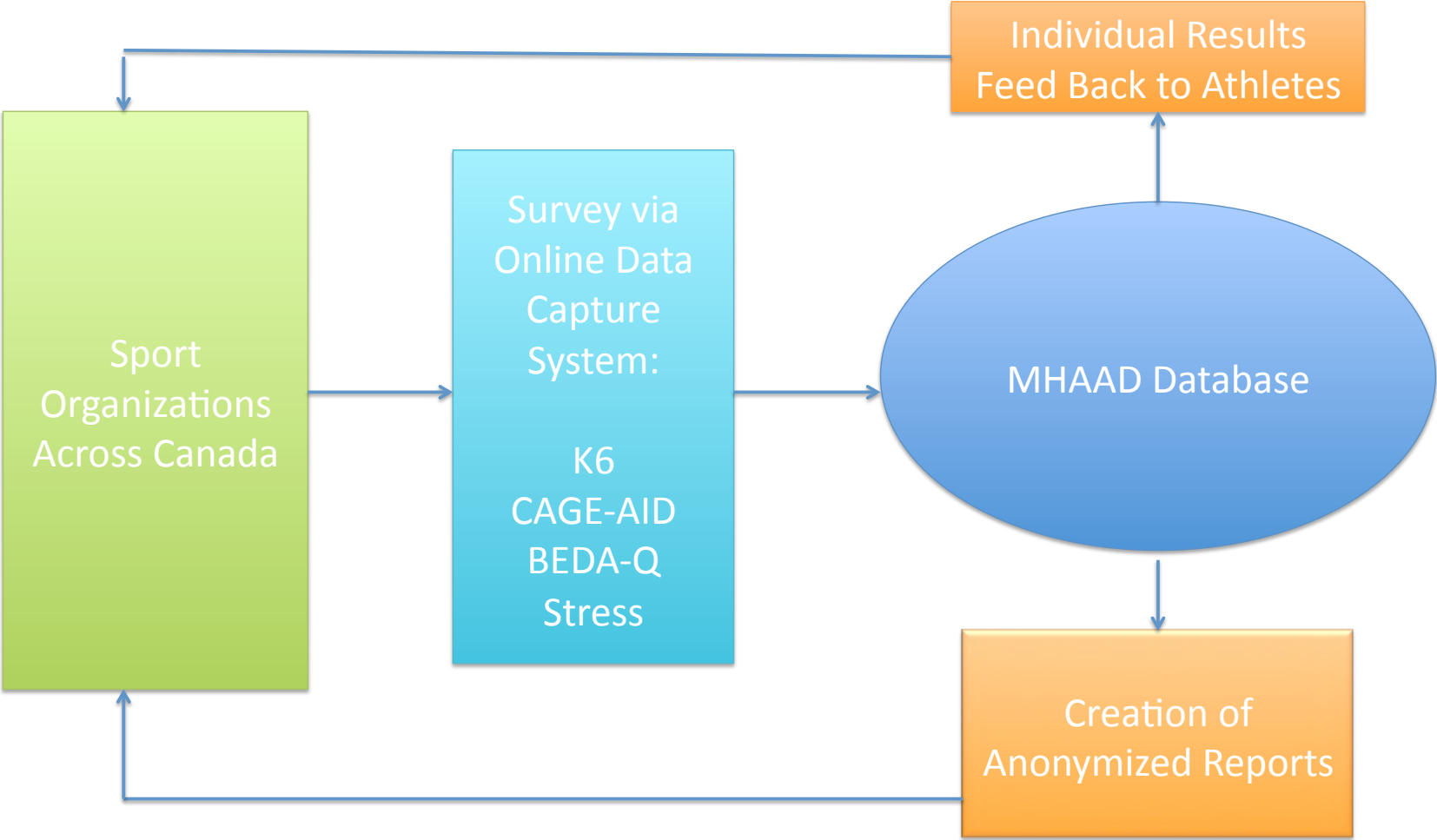
- A 3rd party is responsible for administration, data collection, reporting and data storage.

Two Objectives:

1. Surveillance for program decision-making and resource allocation
2. Risk reduction at the athlete level (health and well-being of athletes)

MHAAD – CANADA

(Mental Health and Addictions Athletes Database)



Summary

- Mental health and substance use problems are prevalent in our society
- Athletes are not immune
- The real extent of the problem in this population is not known
- We have the tools to measure
- The act of measuring **CAN** lead to system and individual change (if the will is there)

Resiliency and Sport

@HIGHFIVE_Canada
#bestway2play



The best way to play™

Wellness Wall



- What do you do to foster your own mental health?
 - Write as many things as you can think of on sticky notes and post on the Wellness Wall.

It begins with YOU!



- Positive mental health cannot flourish in a negative environment!
- Think about what you can do immediately to foster positive mental health with staff and volunteers.

What is HIGH FIVE®?



HIGH FIVE is Canada's only comprehensive quality assurance standard for children's recreation and sport.



Why Quality Matters?



- People are more likely to stay active for life if they have a positive experience in sport, recreation and physical activity as a child.
- Physical activity has benefits both physically and emotionally!

Principles and Design Guidelines



A Caring Adult



Friends



Play



Mastery



Participation



**Developmentally
Appropriate**



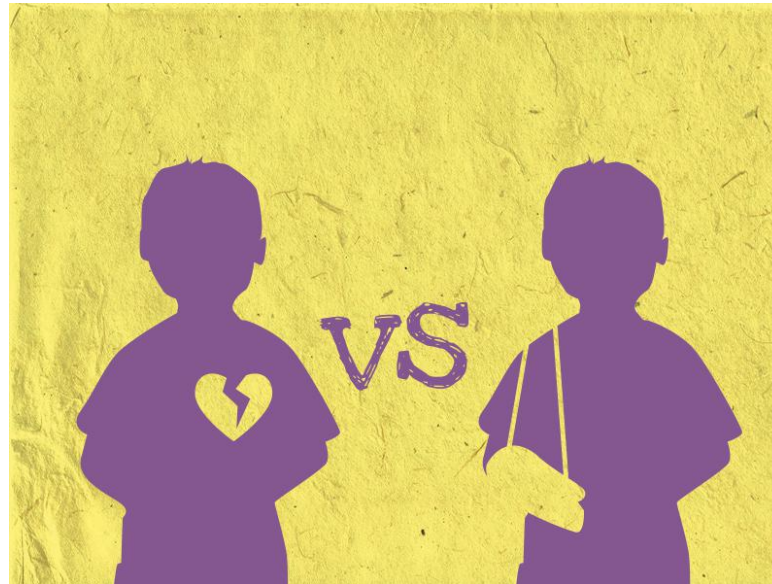
Safe



**Welcoming of
Diversity & Uniqueness**

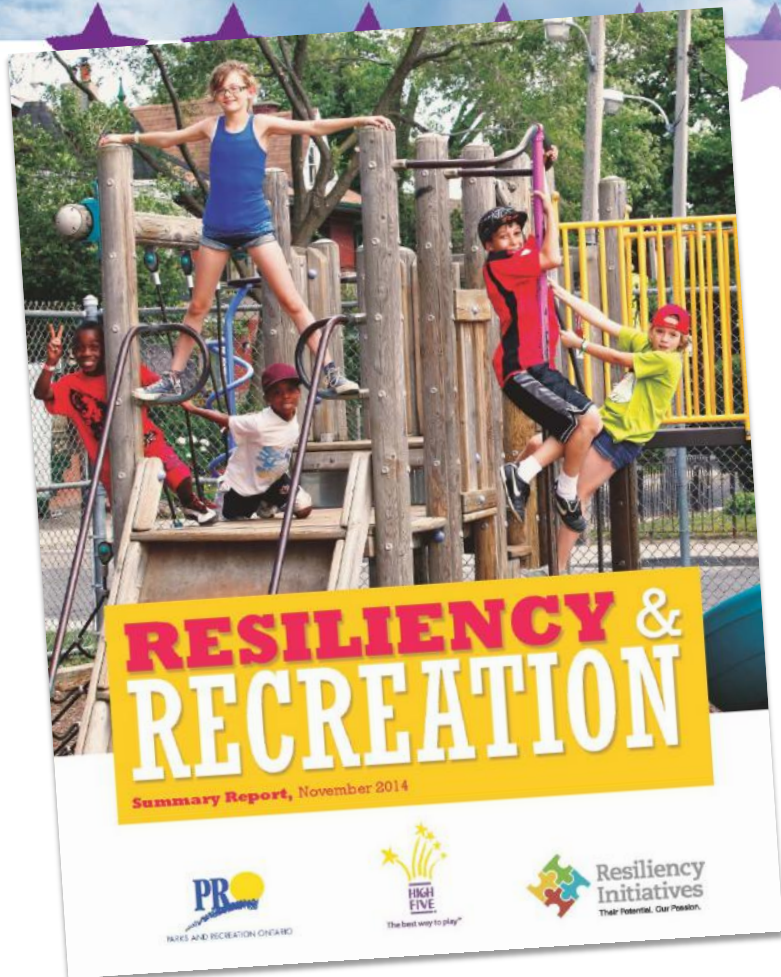


Emotional Safety – The Need



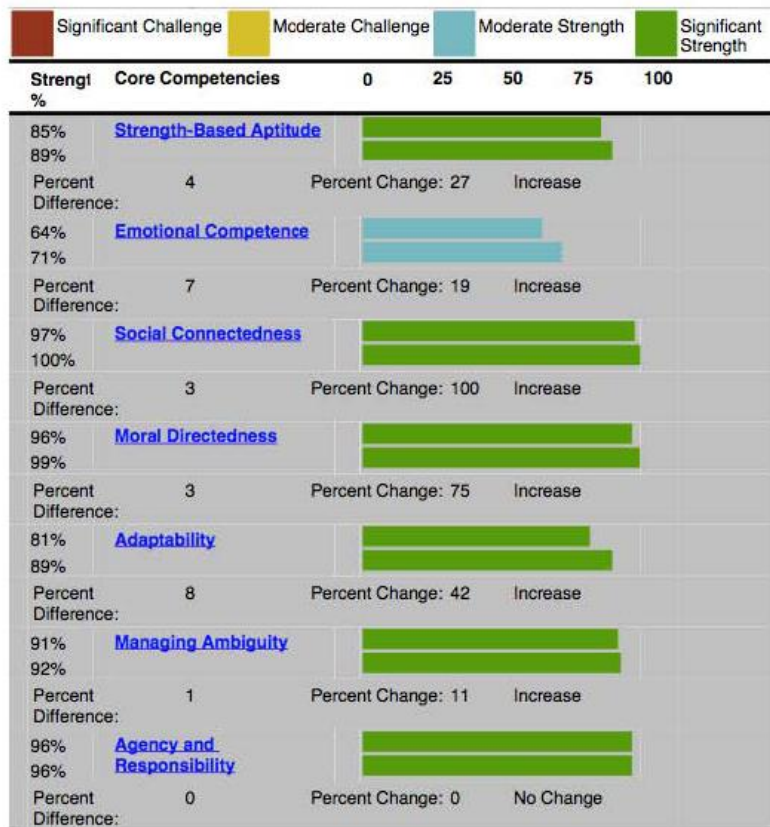
- Ensuring mental health is just as important as ensuring physical health

Resiliency and Recreation: Summary Report



- Study released in Nov. 2014
- Looked at the link between resiliency in children to recreation
- Key finding was a connection to A Caring Adult and Friends

Comparative Report



Key Findings of Core Competencies:

- All traits improved from Pre to Post other than Agency and Responsibility which stayed the same.
- Work is most needed in Emotional Competence to strengthen empathy.
- Social Connectedness was the most significant strength of all traits.
- The most significant improvement in the traits was in Adaptability which helps children succeed regardless of circumstances.

Results



There is a link between
recreation and resiliency...

and it's connected to strong
relationships formed there!



Link to You!

You are also making
significant relationships!
And have the opportunity to
intentionally foster resiliency!

Engagement through building Key Character Traits



- **Cooperative** – Able to get along with others
- **Ability to Cope** – Able to successfully manage stress
- **Adaptable** – Good problem solving skills, able to learn from mistakes
- **Sociable** – Acts appropriately and in a friendly way in social situations
- **Responsible** – Knows the difference between ‘right’ and ‘wrong’
- **Optimistic** – Has a positive view of the future
- **Confident** – Comfortably able to express emotions in positive way

Engagement through building Key Character Traits



- **Cooperative**

- Able to get along with others

- **Strategies to enhance Cooperation**

- Ask kids to come up with strategies for social inclusiveness, belonging and responsibility
- Establish Code of Ethics in collaboration with kids in programs
- Regularly acknowledge participants, leaders/coaches who demonstrate cooperation

Engagement through building Key Character Traits



- **Ability to Cope**

- Able to successfully manage stress

- **Strategies to enhance Ability to Cope**

- Get to know kids and the stress in their lives.
- Encourage kids to think about what they have control over and what they don't have control over.
- Help kids prioritize their areas of focus and encourage them to take action

Engagement through building Key Character Traits



- **Adaptable**

- Good problem solving skills, able to learn from mistakes

- **Strategies to enhance Adaptability**

- Create culture where curiosity, learning for fun and open-mindedness is encouraged.
- Encourage kids to ask questions
- Incorporate flexibility into programming plan

Engagement through building Key Character Traits



- **Sociable**

- Acts appropriately and in a friendly way in social situations

- **Strategies to enhance Sociability**

- Provide fun opportunities for interaction
- Create awareness campaign on importance of good friends and positive relationships (ie: Friendship Week)
- Match vulnerable participants with peer mentors and/or collaborate with local mentoring organizations

Engagement through building Key Character Traits



- **Responsibility**

- Knows the difference between 'right' and 'wrong'

- **Strategies to enhance Responsibility**

- Kids who are vulnerable in this area make decisions based on survival and fear
- Provide opportunities for growth and mentorship
- Support these opportunities with guidance and encouragement from A Caring Adult

Engagement through building Key Character Traits



- **Optimistic**

- Has a positive view of the future

- **Strategies to enhance Optimism**

- Have kids read and write stories that require them to reflect on feelings and experiences of others
- Discuss current events that may be causing stress and/or fear of the future and let kids express emotions
- Talk about what they can do locally to address concerns

Engagement through building Key Character Traits



- **Confident**

- Comfortably able to express emotions in positive way

- **Strategies to enhance Confidence**

- Ask kids to keep a success and/or gratitude journal (draw or write 3 things they did well/are grateful for today)
- Adapt games to incorporate positive encouragement from one another (ie: have others identify areas of strength)
- Identify failure as a necessary and positive step to success

Strategies to foster children's strengths



- Focus on self-regulation
- Practice strategies for managing stress
- Strengthen thinking skills
- Foster critical awareness
- Build confidence
- Nurture a positive outlook
- Give responsibilities
- Encourage participation
- Make it okay to ask for help
- Learn about mental health
- Address stigma

Strengthening Children's Mental Health



Strengthening Children's Mental Health
Building Knowledge and Strategies for Supervisors

Learner Resource



- New training developed with Canadian Mental Health Association Ontario
- Training available through HIGH FIVE Authorized Providers across Canada

Strengthening Children's Mental Health



- Supporting anyone working with kids to foster positive mental health
- Supporting children and parents to get extra help when needed

Other Supports



HIGH FIVE Healthy Minds for Healthy Children

- Free online training module that follows front line leader/ coaching courses (PHCD, HIGH FIVE Sport)
- Takes healthy child development to the next level
- Includes a downloadable resource for additional support

Thanks for attending!



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#bestway2play

Sport and Mental Health

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Sport is fun...or is it?

The big question

- Is sport participation positive or negative in terms of mental health?
- When is it positive - and what is the mechanism? and
- When is it negative - and what is the mechanism?

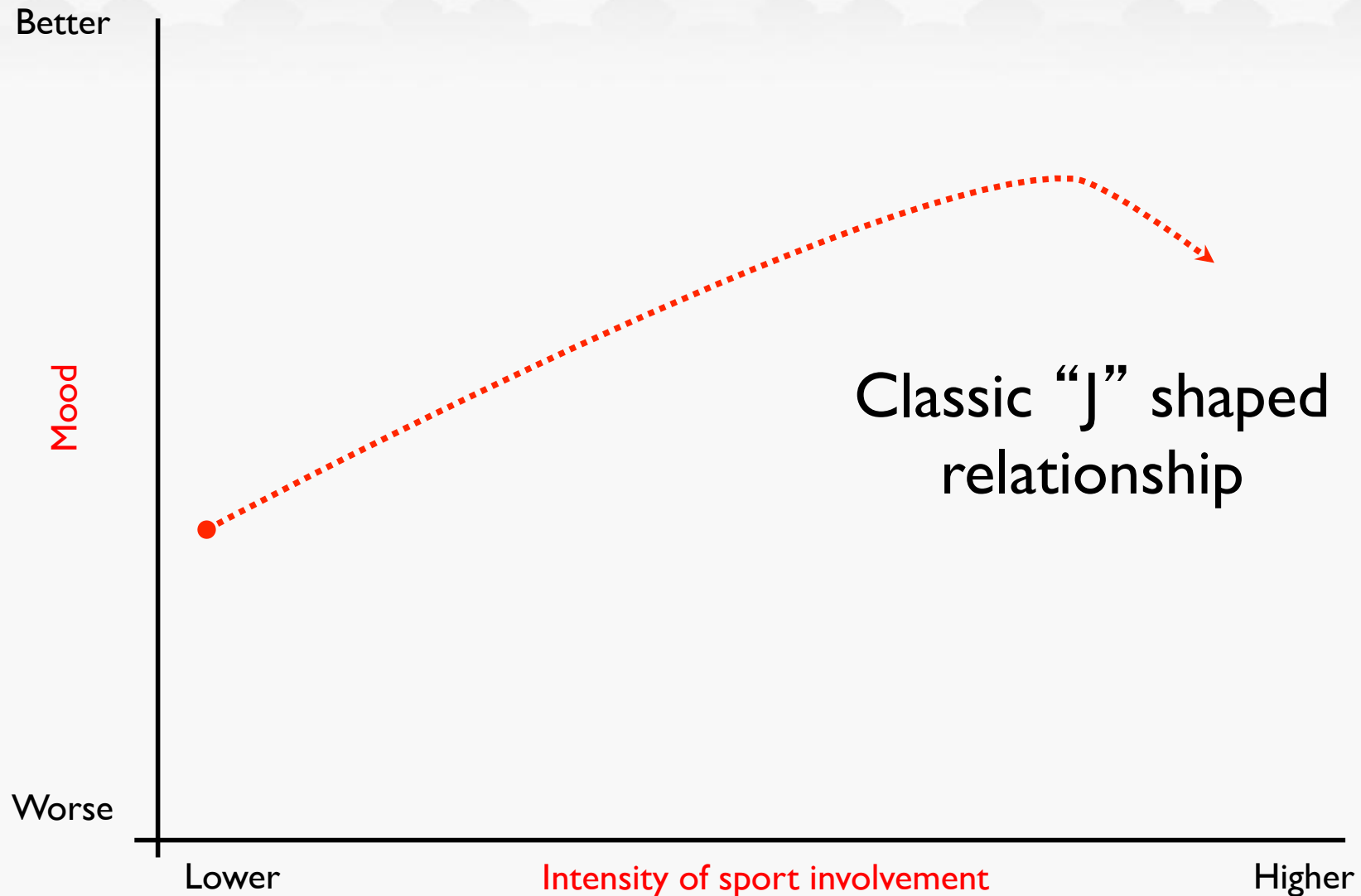
Mental Health Overview

- British Olympic Association Study of “Multiple Olympic Gold Medal Winners.
- More than one gold medal in more than one Olympic Games. The best of the very best.
- In depth interviews

Findings (BOA)

- **ALL** of the multiple medal winners
 - Entered sport following a major setback or trauma:
 - Serious illness
 - Death of family member/parent
 - Divorce etc.
 - Suggests that sport can be a coping mechanism or a refuge- a positive influence

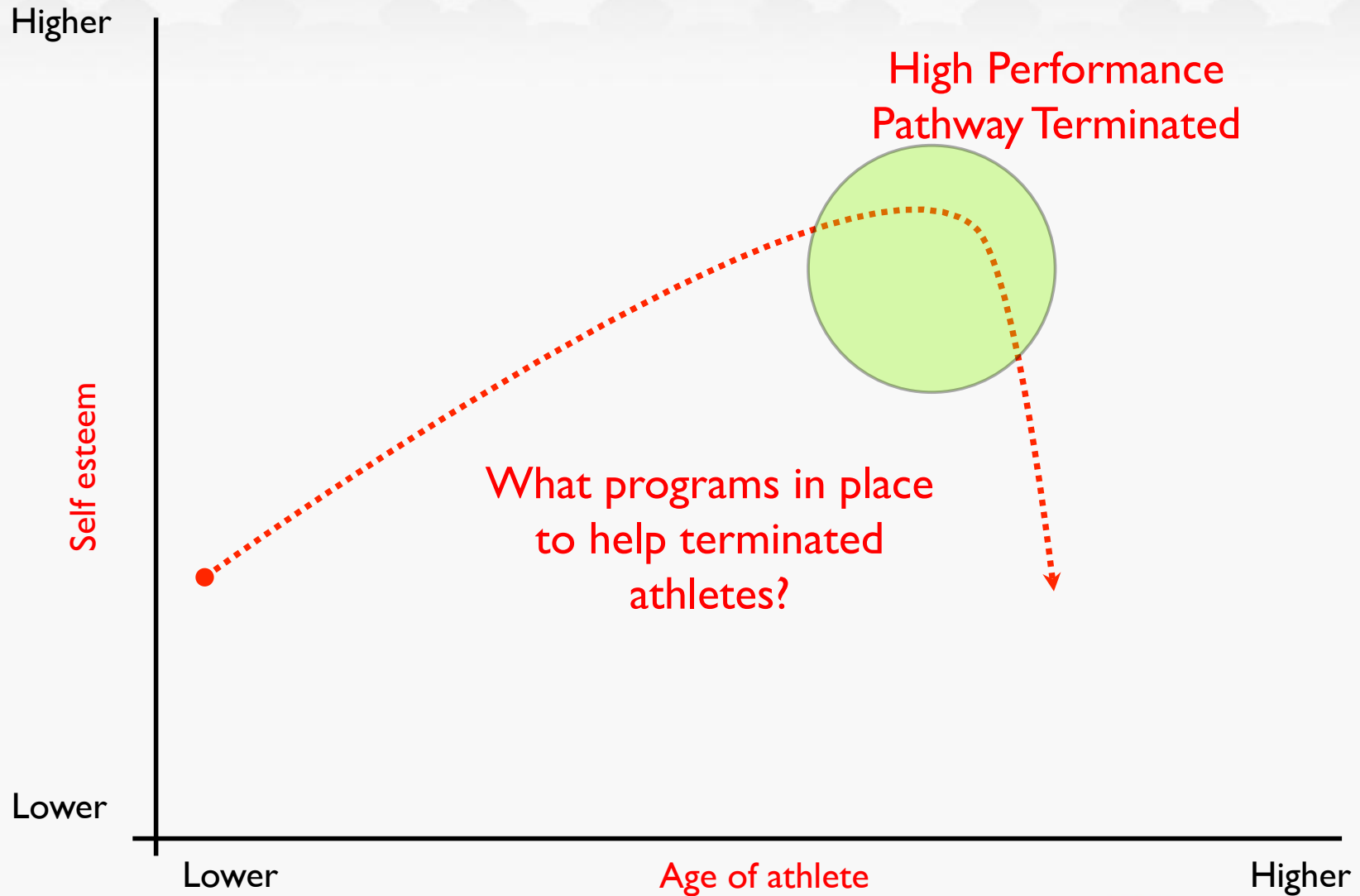
Physical Activity and mood



Mental Health and Talent ID

- Early talent ID and “Academy” programs can be problematic.
- Early self-identification as an “athlete” with self concept (self-esteem) and worth tied to this identity.
 - Withdrawal from other activities (education)
 - High expectation of **continued** success
- Low conversion rate from early ID programs to highest levels of performance

Talent ID and Mental Health



Mental/Physical Health

- Rising concern over the negative long-term consequences, both physical and mental, of Chronic Traumatic Encephalopathy (CTE)
- Most common in:
- Football (American and Soccer)
- Ice hockey
- Professional wrestling and...



Cheerleading

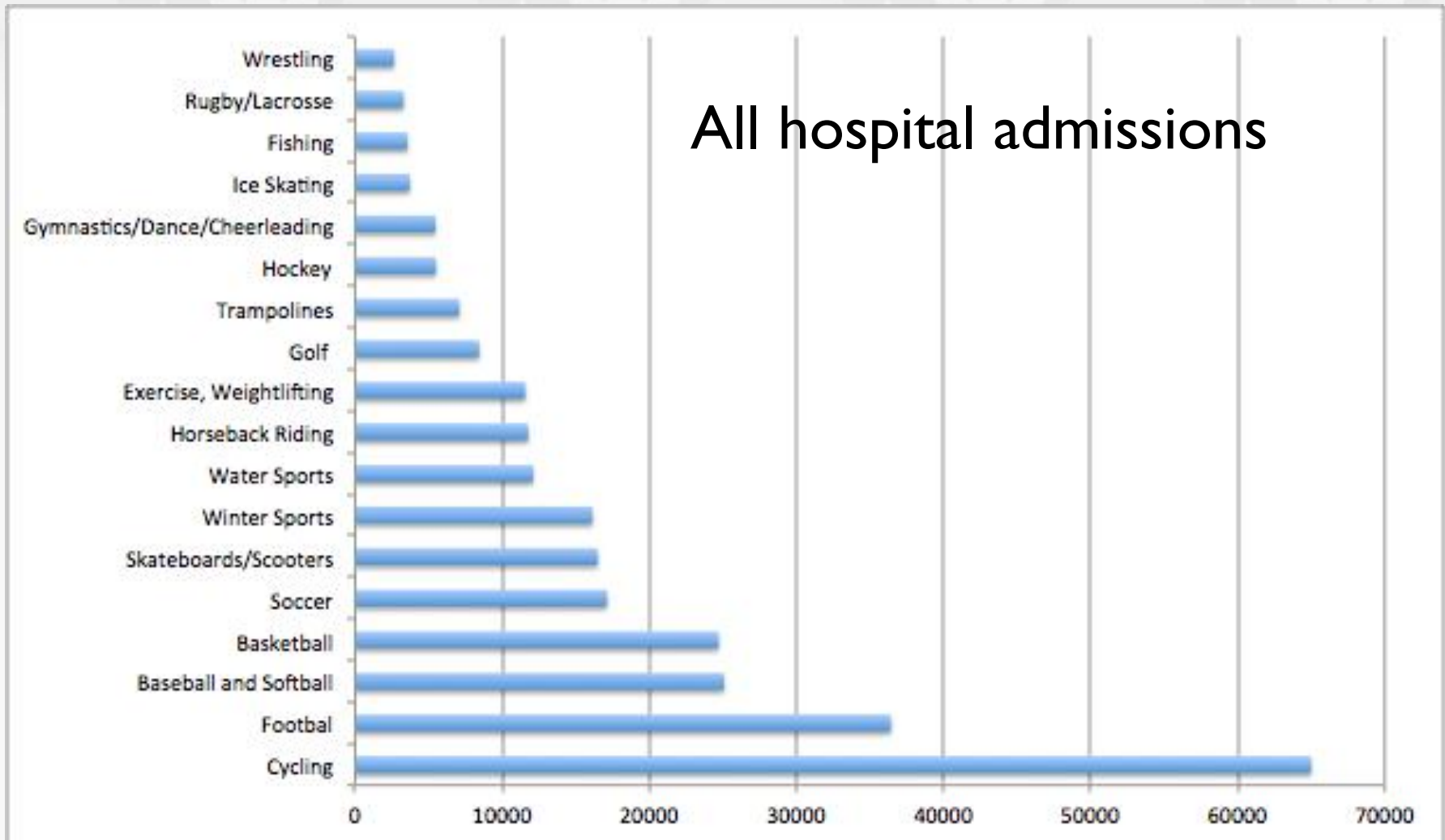


We know the physical dangers of head injury

And head injuries are common...

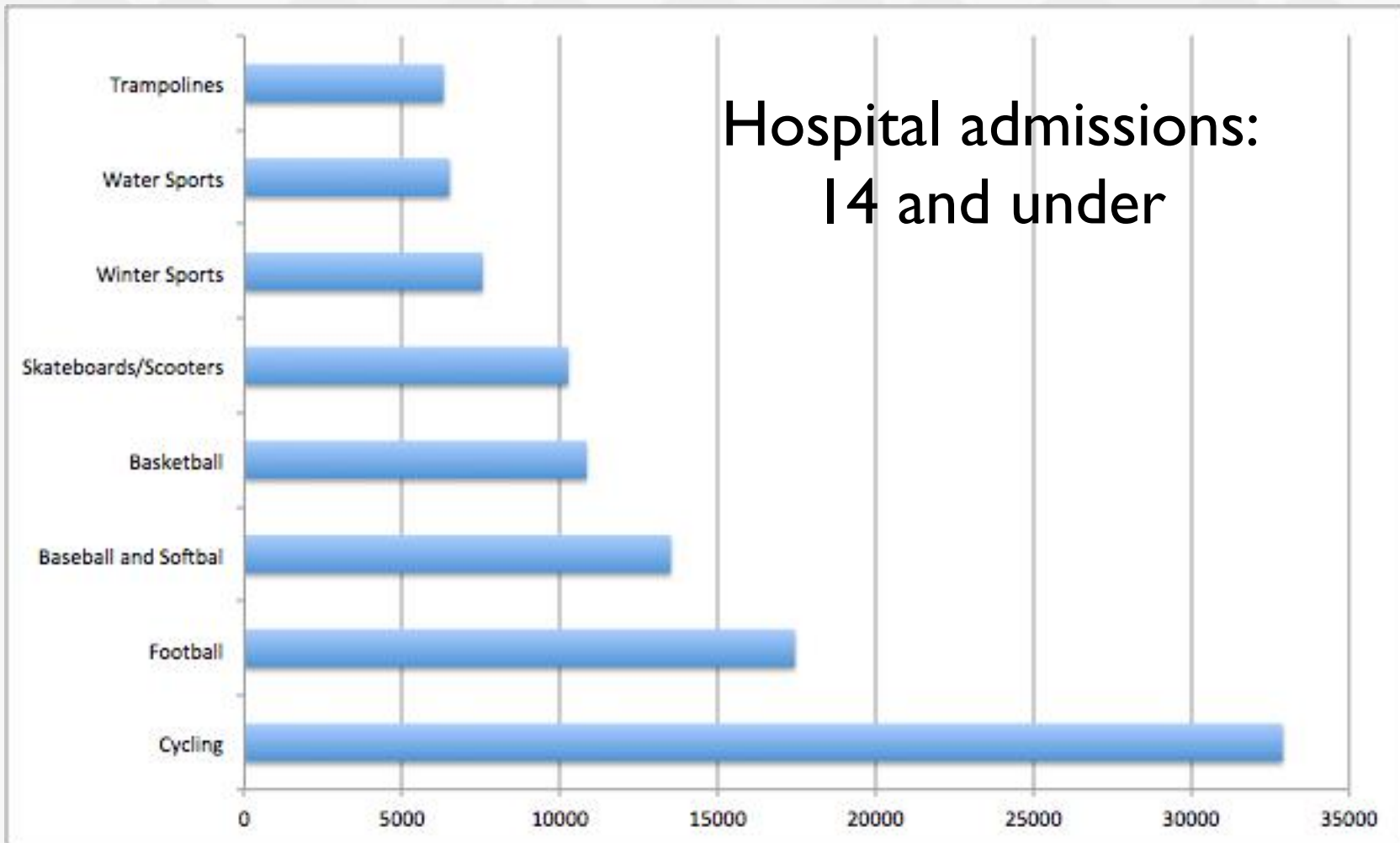


US data (divide by 10 for typical Canadian numbers)



<http://www.brainandspinalcord.org/brain-injury/statistics.html>

US data (divide by 10 for typical Canadian numbers)



<http://www.brainandspinalcord.org/brain-injury/statistics.html>

Long-term problems: Head injuries

- Retired NFL Players scored higher on depression than controls.
- Potentially related to concussions
- White matter abnormalities

The NFL estimates about 6,000 of its former players will develop disabilities such as [Alzheimer's disease](#) or dementia in the coming decades.

Neuroimaging of Cognitive Dysfunction and Depression in Aging Retired National Football League Players

John Hart Jr, MD; Michael A. Kraut, MD, PhD; Kyle B. Womack, MD; Jeremy Strain, BS; Nyaz Didehbani, PhD;

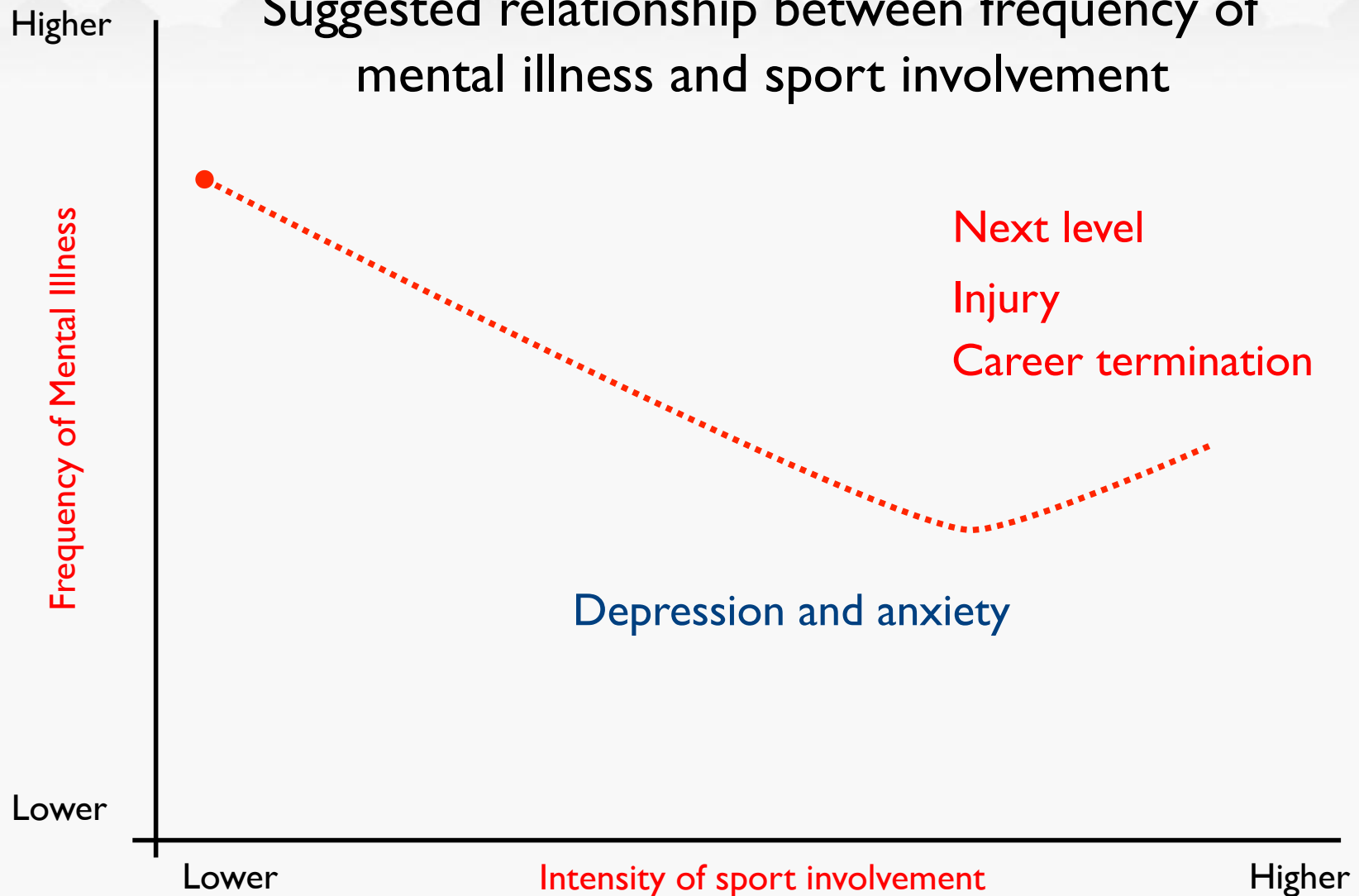
Elizabeth Bartz, PhD; Heather Conover, BS; Sethesh Mansinghani, BS; Hanzhang Lu, PhD; C. Munro Cullum, Ph

Mental health issues in sport unrelated to Traumatic Brain Injury

- Overall athletes appear to have mental health issues:
 - At about the same frequency as general population - or
 - Slightly lower frequency than the general population - or
 - Slightly higher frequency than the general population

Is there a reason for these contradictory findings?

Suggested relationship between frequency of mental illness and sport involvement

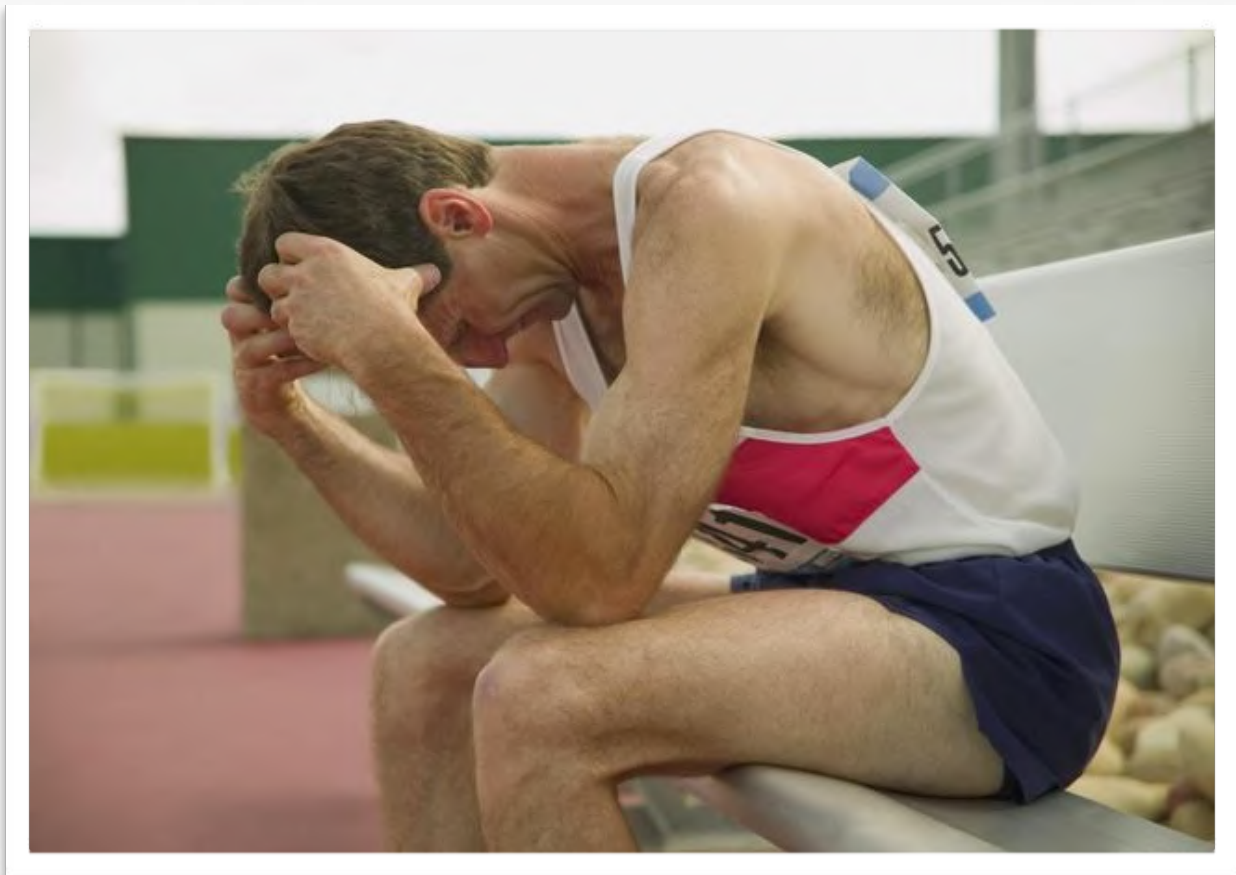


Plus consequences being an athlete

- About 46% of elite athletes* at some point in time experienced one (or more) mental health issue(s)
 - 27.2 % Depression
 - 22.8 % Eating disorders
 - 7.1 % Generalized anxiety disorder
 - 4.5 % Panic disorder
- Injured athletes significantly higher level of depression and generalized anxiety disorder

* The mental health of Australian elite athletes. J Science & Med in Sport. April 2014. A. Gulliver et al. 224 Athletes surveyed.

Overtraining v Depression



Scenario I

Doctor sees a patient with fatigue, which she has had for several weeks. Patient has increasing difficulty carrying out daily responsibilities, lacks motivation and energy and is irritable and discouraged. Has trouble sleeping, and is frequently late for scheduled responsibilities, is not performing as well as previously in her job and other roles - and has had several minor injuries/headaches/back pain

Most doctors would see this as a classic description of a person with depression

Scenario 2

Doctor sees a patient with fatigue, which she has had for several weeks. Patient has increasing difficulty carrying out daily **training**, **lacks motivation and energy** and is **irritable and discouraged**. Has **trouble sleeping**, and is frequently late for **training**, is not performing as well as previously in **training and competition** - and has had several **minor injuries/headaches/back pain**

The same symptoms in sport are seen as a classic description of **overtraining**

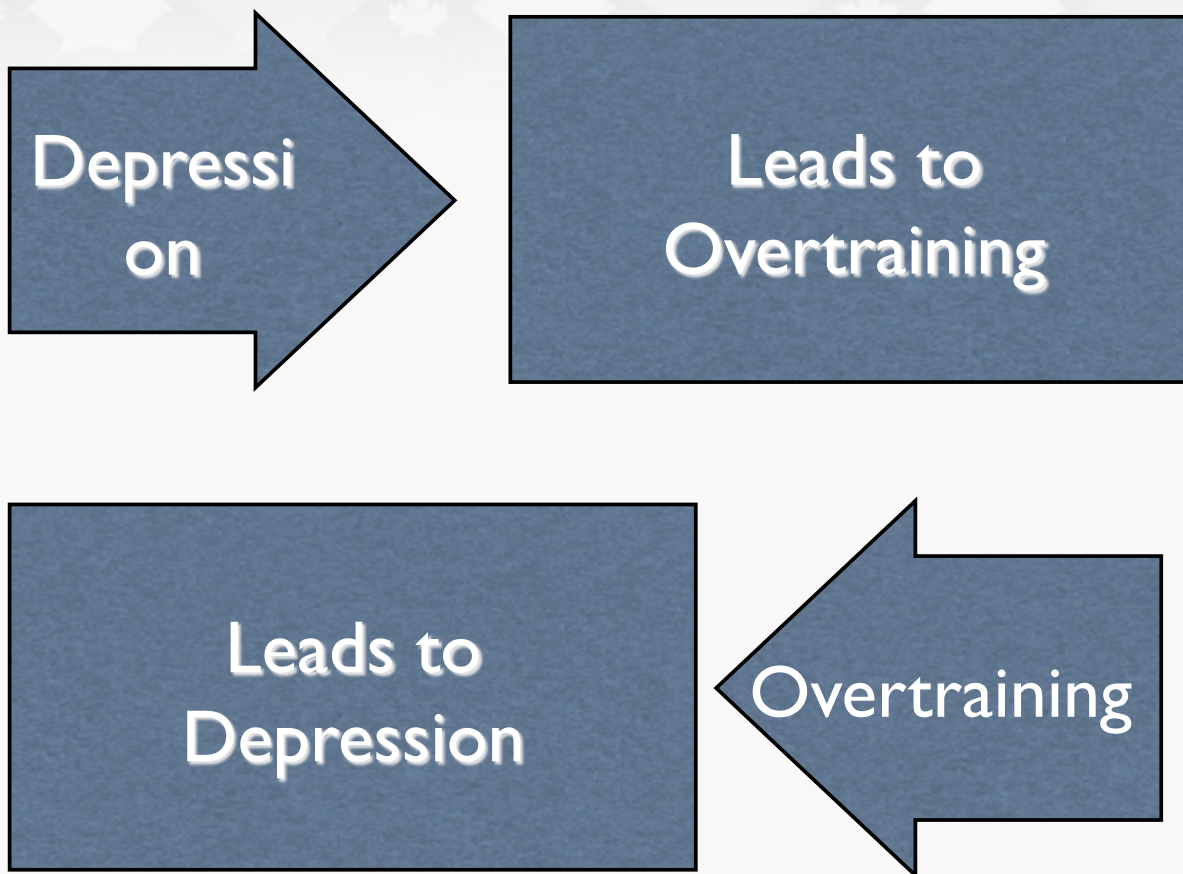
Depression v Overtraining

- Symptoms are almost identical.
 - Almost identical physiological, hormonal and metabolic changes.
 - Immunological changes are almost identical
 - Both are related to central fatigue - with very similar changes in neurotransmitter levels in body and the brain
 - Both generate high levels of stress hormones
- But they are treated differently**

Overtraining v Depression*

- Considerable anecdotal evidence from athletes that antidepressant drugs significantly help in overtraining situations.
- If it looks like depression, sounds like depression, and responds to the same drugs as depression - we need to seriously consider overtraining as a form of depression - not just a reason to change training routines.

*The stigmatization and denial of mental illness in athletes. T. Schwenk. British Journal of Sports Medicine 2000, 34:4-5



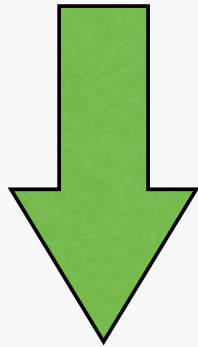
Critical times for mental illness

- Breaking out - going to the next level
- When performance fails to improve
- Post Injury - recurring injury
- Approaching, at, and post, retirement.

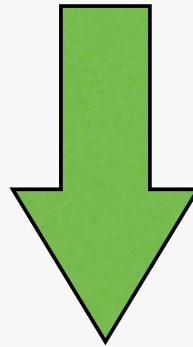
Often a result of personal identity as an “athlete”. Too heavily invested in this identity, with no other identity to replace it.

Long-Term

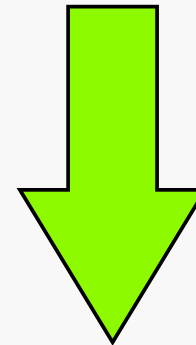
Concussions



Loss of Identity



Overtraining



Depression

The largest differences between athletes and controls were observed in reports of problems with **concentration** (53% vs 19%, respectively), **changes in appetite** (47% vs 13%), **loss of energy** (60% vs 29%), **changes in sleep** (57% vs 26%), and **decreased interest in sex** (43% vs 16%).

Other mental health issues

- Consequences of emotional, physical, or **sexual abuse** in sport.

A 2002 Australian study of athletes at the club and elite level reported that **31% of female and 21%** of male athletes had been **sexually abused** at some time in their lives.

Of these, **41% of females, and 29% of males reported sexual abuse within the sports environment.** The authors concluded that the chances of an elite athlete being sexually abused were about fifty-fifty; for athletes at the club level, the chances were still one in four.

Hartill, M., "The sexual abuse of boys in organized male-sports." *Men and Masculinities* (February 2008).

So what for sports?

- Concussion protocols - a MUST
 - Identification
 - Return to play
- Rule changes to reduce incidence of concussion
- Support for athletes at critical transition periods

So what for sports?

- Change in coaching mentality around:
 - Toughing it out
 - Overtraining
 - Reduction in stigma associated with seeking help for mental illness - particularly in “macho” team sports.

Remember

- There are other significant mental health challenges in some sports, in particular
 - Anorexia
 - aesthetic sports/weight based sports
 - Females
 - Body image problems
 - Males and females

Crystal Ball...the future

- NSO's might find themselves liable for creating an environment that exacerbates mental illness - particularly at the National Team and Developmental Team levels
- If we don't address the mental health issues around high performance sport - particularly concussion - we will see fewer parents letting their children take part.

But above all

- Encouraging athletes to speak out and tell their stories.
- SO a big thank you to trailblazers:
 - Clara Hughes - Canada - Cycling/Skating
 - Clarke Carlisle - Soccer - UK
 - Mike Yardy - Cricket - UK

- Canadian Mental Health Association
www.cmha.ca/
- Sport and Mental Health www.mind.org.uk
- Bell Let's Talk letstalk.bell.ca/