

BIP PROGRAM: THE ROLE OF SPORT AND EXERCISE ON MENTAL HEALTH
MODULE 2.D. Preventing mental health issues in sport: from burnout to depression

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Not all that glitters is gold. Mental health issues in community and elite sport practice

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Not all that glitters is gold regarding physical activity and sport

➔ Positive vs. deleterious effects

PA and Sport...

- Averts conditions such as obesity and frailty
- Contributes to prevent cardiac, metabolic, oncologic... diseases
- Fosters positive mood
- Improves motor skills
- Promotes socialization
- Teaches values
- Raises team building

But...

- Usually linked to sustaining sports injuries
- At times promoting overtraining and burnout
- Frequently associated to eating disorders
- On occasion related to substance use and abuse
- Sometimes peppered with harassment, violence, sexism...

Mental health issues in community and elite sport practice

Outlines

- The health toll of practicing sport
 - Sports injuries
 - Burnout
 - Anxiety and depression
 - Eating disorders, Drug abuse, Exercise addiction...
- Preventing mental health issues due to sustaining a SI
 - The athlete, more than a container of a broken piece
 - Challenges the injured athlete has to face during the rehab
 - The return to sport
- Preventing mental health issues in community and youth sport
 - Promoting safe, healthy and enjoyable sports environments
 - Strategies focused on an early detection of mental and some other health concerns

The health toll of practicing physical activity and sport

Sports injuries

- Epidemiology of sport injuries
 - US National Safety Council (2015): 3.3 million reported athletic-related injuries x year in USA
 - Bauer & Steiner (2009): SIs treated in Europe > 8 million x year
 - Buller et al (2015): $\Delta_{(1994-2006)}$ ACL reconstruction = 37%;
 $\Delta_{(1994-2006)}$ ♀ ACL reconstruction = 77%
 - US CDC (2011): $\Delta_{(2001-2009)}$ TBI = 62%; 70% of TBI among 10-19 year old youngsters

The health toll of practicing physical activity and sport

Sports injuries

- Epidemiology of SIs in children and youngsters
 - Caine et al. (2008): rates of injury per 1000 h of exposure (σ) from 5.0 to 34.4 (ice hockey), 3.4 to 13.3 (rugby), 2.3 to 7.9 (soccer); (ρ) from 2.5 to 10.6 (soccer), 3.6 to 4.1 (basketball), and 0.5 to 4.1 (gymnastics).
 - Owoeye et al. (2020): ρ 13.8/1000h (CI: 11.2–16.8); σ 14.8 (CI: 11.7–18.88) in basketball
 - Hootman et al. (2007): college athletes injury rates ranging from 4 to 13.8/1000 h depending on sports.
 - Hammer et al. (2020): 7.04/1000 h in all the sports analyzed as a whole.
 - Prieto-Gonzalez et al. (2021): 2.64/1000 h globally (soccer ratcheted up to 7.21/1000 h)

Preventing mental health issues due to sustaining a SI

Sports injury as bodily damage

- sustained during participation in sport activity.
- as a consequence of energy transfer which exceeds body's ability to maintain its structural and/or functional integrity

➔ The athlete is not a mere container of a set of parts that break down and must be repaired.

The biopsychosocial perspective of sport injury

- What people do, or don't, what people thinks, what people feels, contributes to make the athlete more (or less) vulnerable to sustain an injury, to foster (or not) rehab success, to promote a better return to play

The health toll of practicing physical activity and sport



Why sustaining a SI might bring devastation to the athletes

- Negative consequences of SIs
 - Short term
 - Impact on athletes' career
 - Cognitive and emotional reactions
 - Perceived stress, Perceived pain, Sense of loss...
 - Sadness, Fear, Grief, Frustration...
 - Long term
 - Health
 - Athletes' career
 - Physical and psychological wellbeing when leading to career ending



Preventing mental health issues due to sustaining a SI

Psychological responses to SI

- Once sport injury occurs, moderating and mediating factors frame an interactional cognitive, affective, and behavioral responses
- Cognitive appraisals refer to various cognitions associated with appraising beliefs and perceptions about the causes and consequences of injuries.

I won't be the same athlete again

Preventing mental health issues due to sustaining a SI

Psychological responses to SI

- These cognitive appraisals influence emotional responses to sport injuries, such as fear, depression, or grief.

I feel miserable. It was worthless all the effort I have put on it

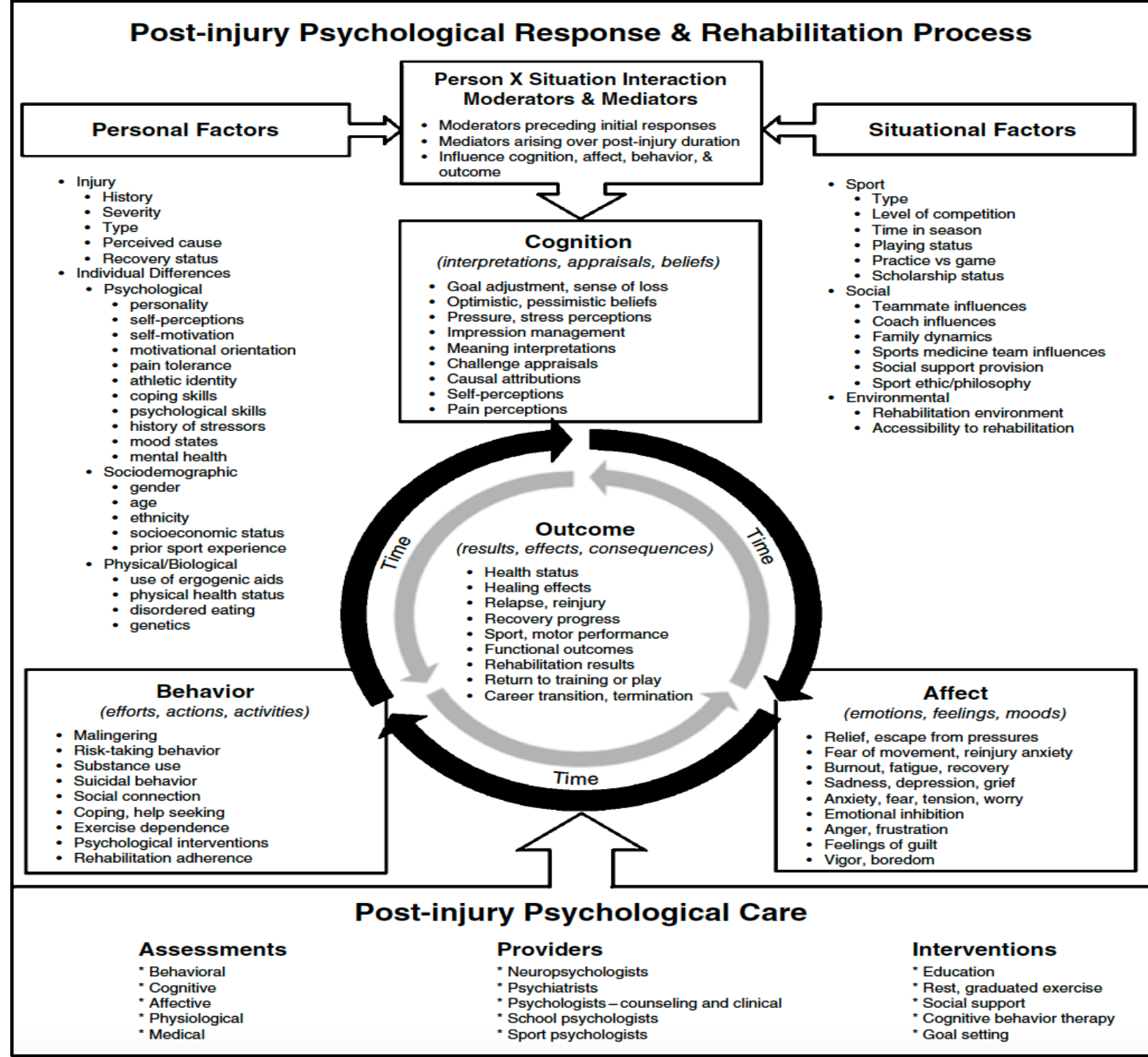
- In turn, behavioral responses, such as rehabilitation adherence or malingering, result from cognitions and emotions, and these influence new cognitive appraisal cycles
 - Impact on therapeutic compliance and effort
 - Impact on athletes' quality of life and wellbeing



In some cases, these responses increase the chances of athletes developing serious emotional conditions such as major depression



Wiese-Bjornstal et al.,
1998: An integrated
Model of Response to
Sport Injury



Preventing mental health issues due to sustaining a SI

More common mental health issues affecting rehab adaptation and wellbeing

- Anxiety regarding the healing process and/or the risk of recidivism or reinjury
 - How anxiety affects the rehabilitation process
 - Psychological, Physiological, Social effects of anxiety
- Outcomes
 - Negative feeling regarding the process
 - Reluctancy to carry out some exercises and/or to test the maximum functionality level reached
 - Attempts to extend the process

Preventing mental health issues due to sustaining a SI

More common mental health issues affecting rehab adaptation and wellbeing

- Anxiety regarding the returning to the pre-injury levels of activity and to competition
 - Contributing factors
 - The longer without practicing the sport skills, the higher the anxiety
 - The greater lack of physical fitness, the more concerns
 - In team sports, the emergence of another athlete who can shadow the injured athlete, the more uncertainty
 - The more the injury affects the technical gesture the worse

Preventing mental health issues due to sustaining a SI

More common mental health issues affecting rehab adaptation and wellbeing

- Mood disturbance and depression
- Outcomes
 - Feelings of isolation and lack of social support
 - Feelings of alienation from own's body and his/her AI
 - Complaints regarding memory and concentration impairments
 - Sleep disorders, gastrointestinal diseases
 - Autolytic ideations

Preventing mental health issues due to sustaining a SI

More common mental health issues affecting rehab adaptation and wellbeing

- The case of traumatic brain injuries
 - Outcomes
 - Physical: headaches, nauseas, vomits...
 - Cognitive: slowing, lack of focus, memory lapses...
 - Emotional: mood swings, sadness, irritability
 - Sleep-wake cycle: somnolence, sleep disturbance...

Preventing mental health issues due to sustaining a SI





More common mental health issues affecting rehab adaptation and wellbeing

- The case of traumatic brain injuries
 - Medium-long time possible effects
 - Lack of behavior regulation
 - Lack of critical thinking about the own's behavior and boundaries
 - Action planning impairments
 - Reckless behavior
 - Attention deficit disorders
 - Speech impairments

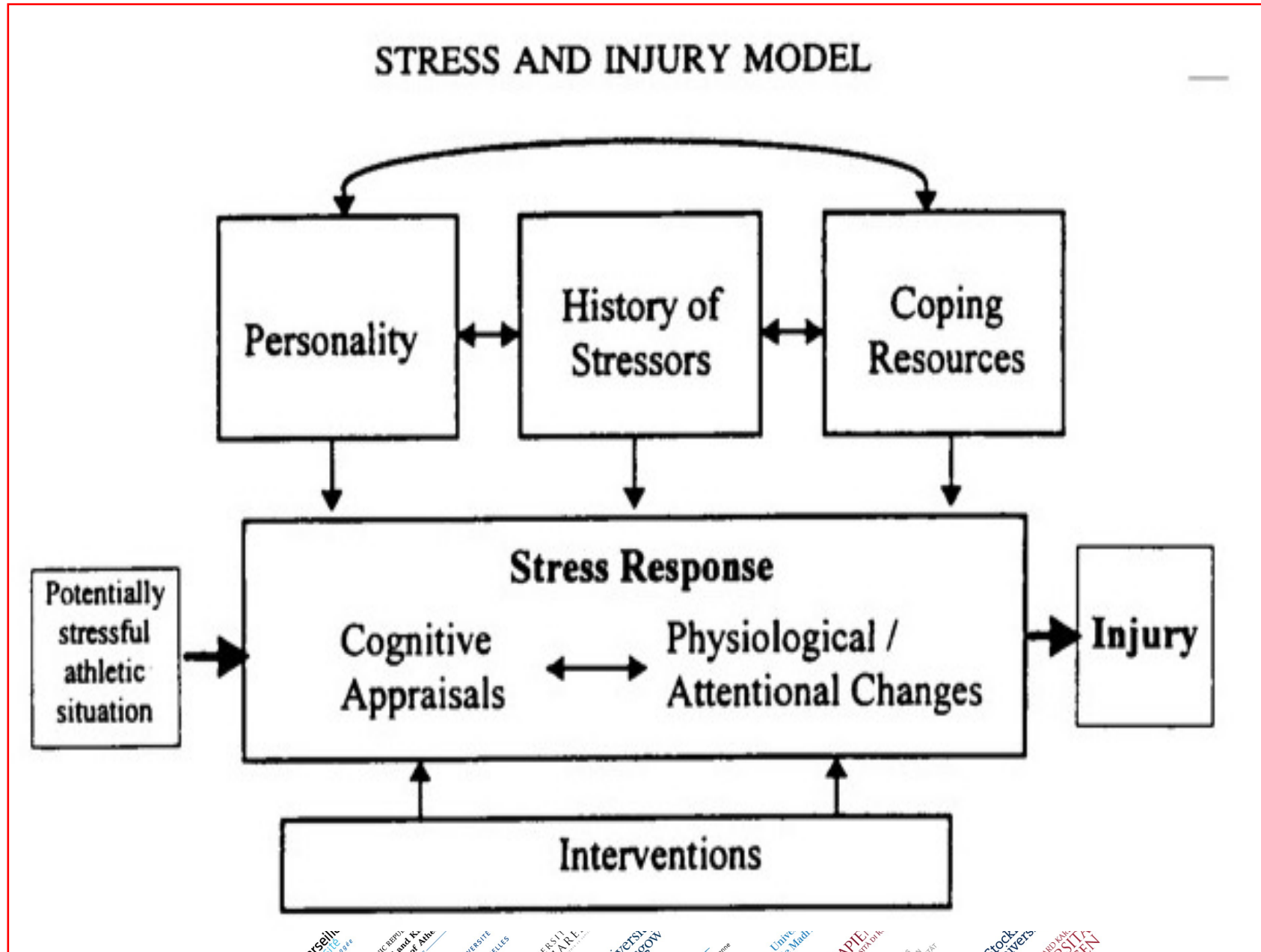
Preventing mental health issues due to sustaining a SI

Preventing SI to avoid related mental health issues

–The ABC of SI prevention

- Promote general flexibility and physical fit
- Avoid overuse 
- Develop a consistent warmup (before practicing) and stretching (afterwards) routine
- Take time to rest
- Wear the right gear 
- Avoid risk-taking behaviors 
- Reduce stress 

Andersen & Williams, 1998;
Williams & Andersen 1998's stress-injury model



Preventing mental health issues due to sustaining a SI

Teaching what to expect when injured and how to cope with to reduce uncertainty

- Anatomy of the affected area
- Changes produced due to the injury
- Full description of the diagnosis and surgery procedure (if necessary)
- Pain expectation and how to cope with
 - Differences between “good” and “bad” pain
- Active and passive rehab methods
- Guidelines for a correct independent use of cooling, warming and compression
- Active rehab plan

Preventing mental health issues due to sustaining a SI

Teaching what to expect when injured and how to cope with to reduce uncertainty

- General estimation of length and evolution of the process
- Explanation of the aim of the pharmacological prescription
 - Pinpointing the need of consistent use when necessary
 - Highlighting potential side effects
- Rational and adequacy of movement and daily activities restriction
 - Guidelines for a correct use of orthopedic aids
- Emphasis on the active and co-operative role of the athlete

Preventing mental health issues due to sustaining a SI

Train in an easy-to-learn-and-use relaxation technique

- Relaxation as a biological antagonist response to the physiological effects of anxiety
 - Reduces tonic muscle tension
 - Decreases frequency and intensity of heart rate
 - Increases arterial vasodilatation increasing peripheral blood flow and cellular oxygenation
 - Cuts back general sympathetic activity
 - Diminishes adrenaline and noradrenaline excretion
 - Drops off the basal metabolism



Preventing mental health issues due to sustaining a SI

Increase treatment compliance

- Analyzing the causes
 - Lack of motivation
 - Lack of accessibility/availability
 - Pain
 - Misunderstanding of clinical prescriptions
 - Lack of confidence/satisfaction with the therapists /professionals
 - Type of treatment

Preventing mental health issues due to sustaining a SI

Increase treatment compliance

- Improve
 - Pain management
 - Accessibility/availability
- Promote a positive climate with physical therapist
 - Check athlete's perceptions and beliefs
 - Bring direct and concise instructions
 - Explore athlete's needs
 - Be sensitive to athlete's “buts”

Preventing mental health issues due to sustaining a SI

Increase treatment compliance

- Foster a correct goal setting
 - SMART: Specific, Measurable, Achievable, Relevant, Time-based objectives
 - Focused on the short-term though related to the long term
 - Promote setting process and performance goals instead of outcome goals
 - Defined in a positive way

Preventing mental health issues due to sustaining a SI

Help to manage pain

- Why managing pain is so important...
 - Reduces adherence
 - Induces stress responses and anxiety levels
 - Increases muscle tension which interferes with the physical therapy
 - Promotes negative appraisals
- ...And how can deal with
 - CNS plays a key role in inhibiting or exciting pain perception according to
 - The attention paid to
 - The cognitive appraisal
 - The perceived control over it

Preventing mental health issues due to sustaining a SI

Help to manage pain

- Dealing with catastrophizing pain
 - Note the athlete that catastrophizing pain usually:
 - Increases the subjective pain experience both, current and anticipated
 - Increases painkillers intake
 - Reduces activities that can be linked to the pain experience
- Check pain experience
 - Associated to the different situations and settings
 - Daily average, peak and at its minimum

Mental health issues in community infant and youth sport

Safe, healthy and engaging sport environments

- Nowadays most of physical activity children and adolescents carry out is through organized sport
- Children and adolescents participating in sports
 - channels physical activity
 - Contributes to peers' socialization
 - Promotes rules acceptance and goal orientation
 - Improves socioemotional development and learning values

In short, sport provides children with benefits that will accompany them for the rest of their lives ...



...if it's done in a safe, healthy and and engaging way, and takes into account their needs and right and not only based on an adult and profesionalized sport model

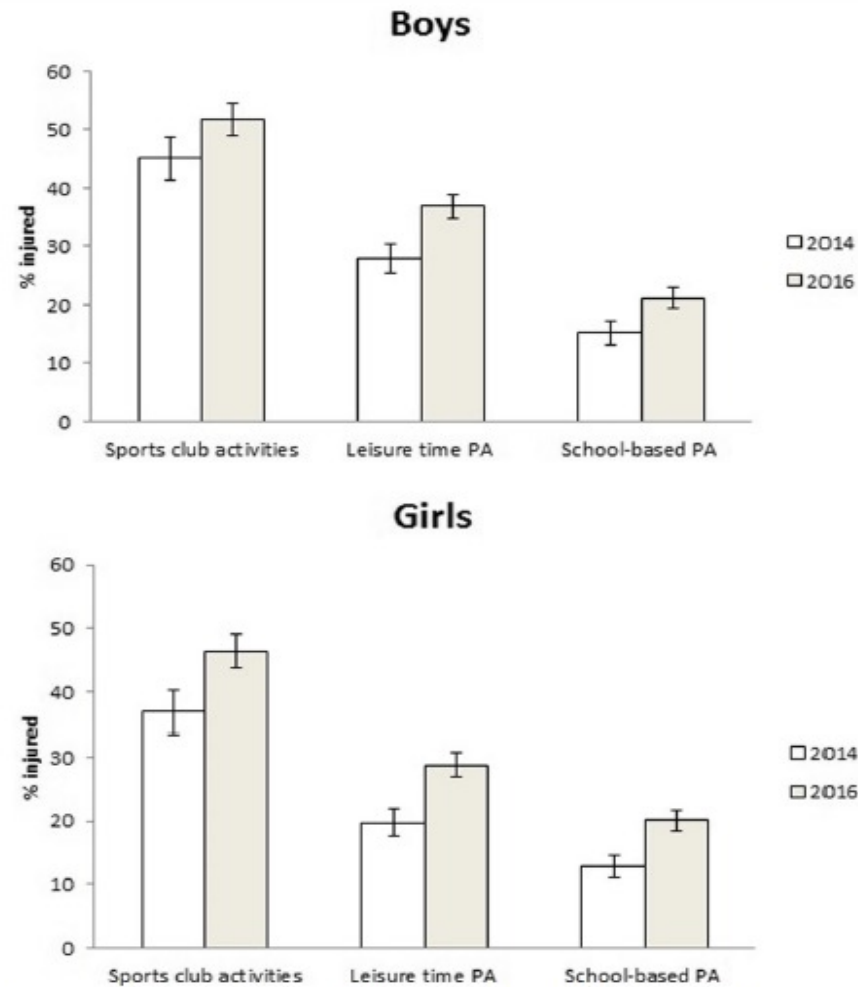


Fig. 3 Injury prevalence (%) in sports club activities, leisure time PA and school-based PA in 2014 and 2016 among boys and girls presented with 95% confidence interval

Räisänen et al. (2018): Prevalence of adolescent physical activity related injuries in sports, leisure time, and school: the National Physical Activity Behaviour Study for children and Adolescents

Mental health issues in community sport

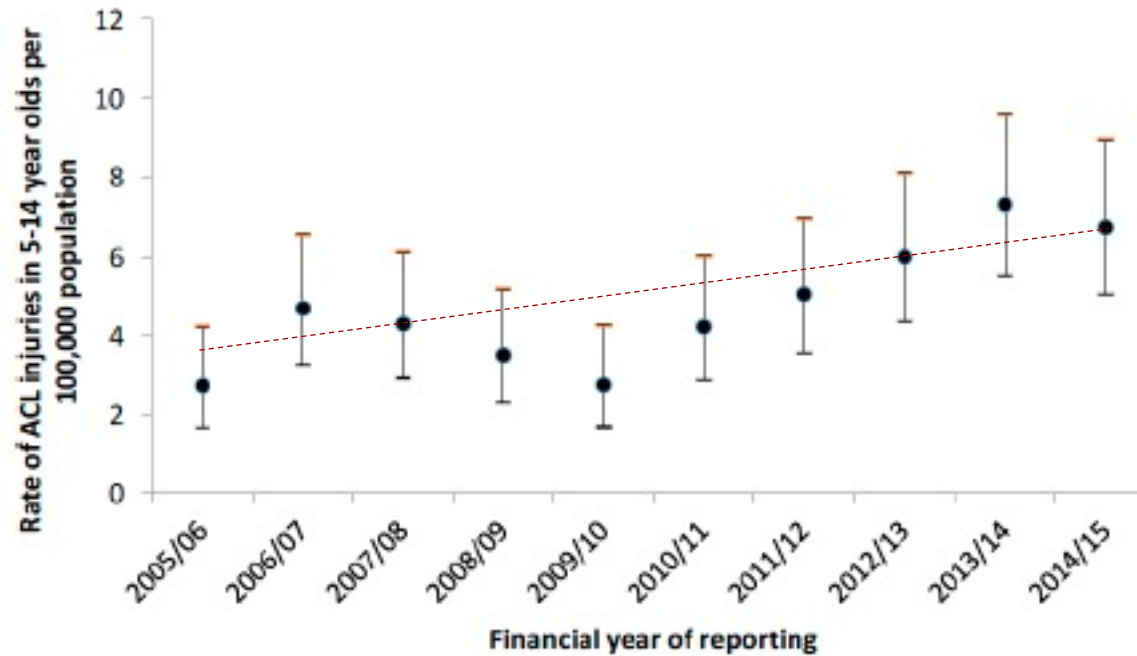


Figure 1. Person time rates per 100,000 population for ACL injuries admitted to hospital in Victoria amongst 5- to 14-year-olds with 95% confidence intervals.

Shaw & Finch (2017): Trends in Pediatric and Adolescent Anterior Cruciate Ligament Injuries in Victoria, Australia 2005–2015

Mental health issues in community infant and youth sport

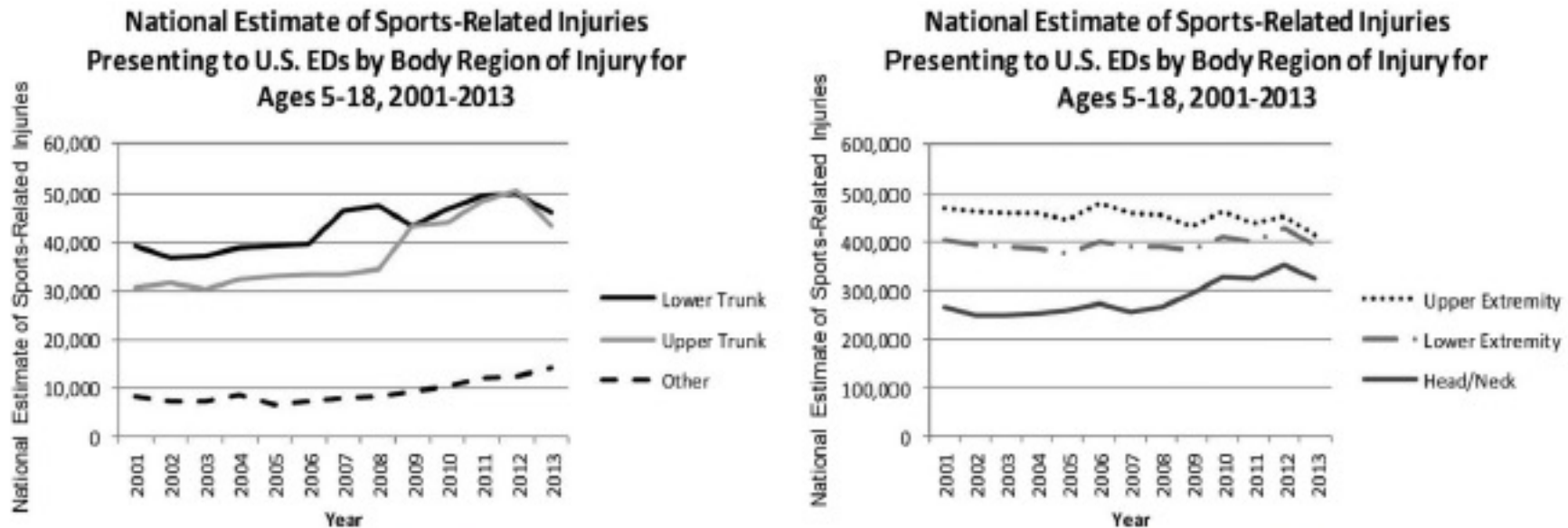
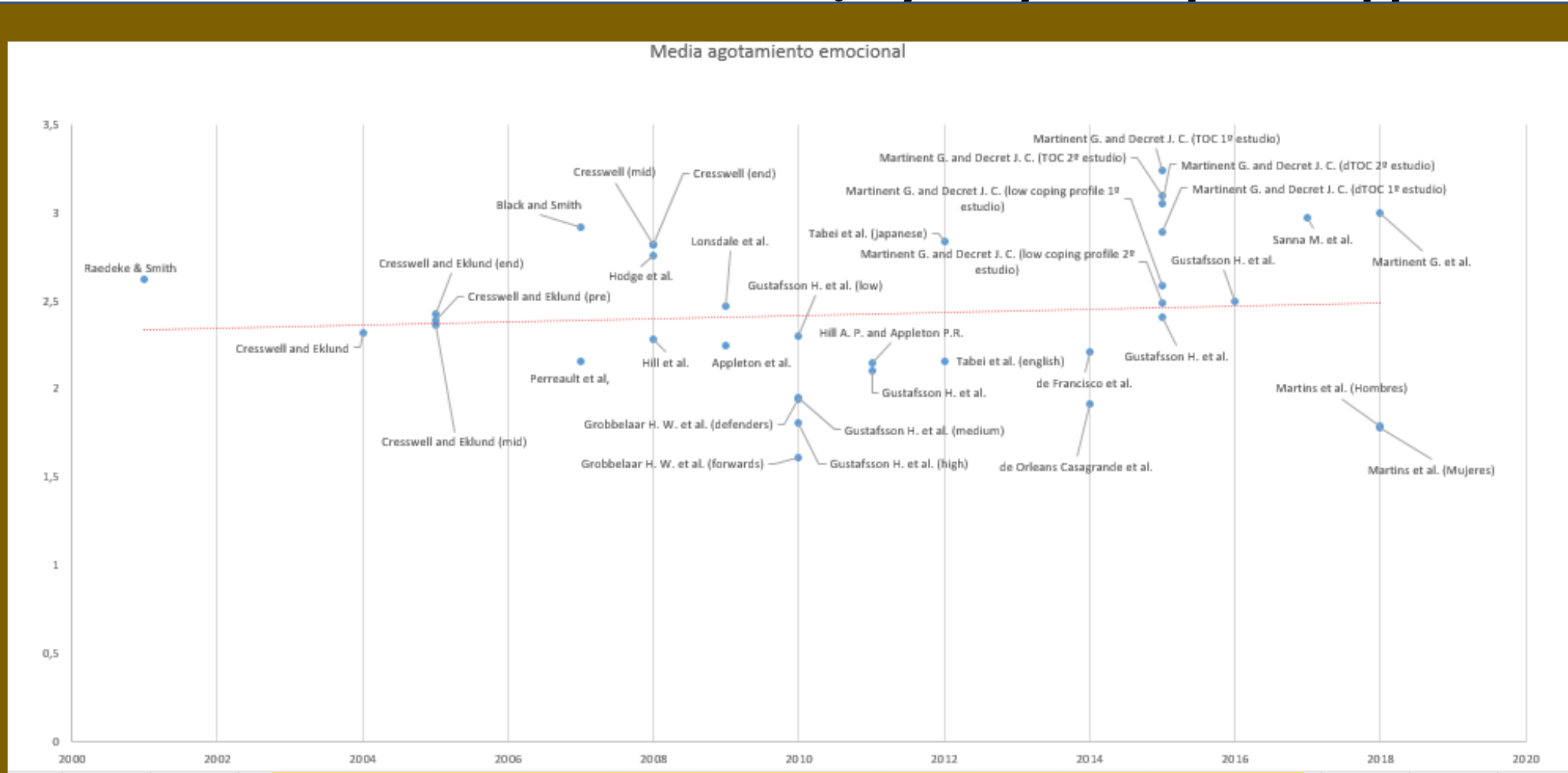


Figure 2 The national estimate of sports-related injuries presenting to US emergency departments by body region of injury for 2001–2013 among children aged 5–18 years. Figure on the left displays national estimates of sports-related injuries to lower trunk, upper trunk and other body region. Figure on the right depicts the national estimate of sports-related injuries to upper extremity, lower extremity and head/neck.

Bayt & Bell (2015) Trends in paediatric sports-related injuries presenting to US emergency departments, 2001–2013

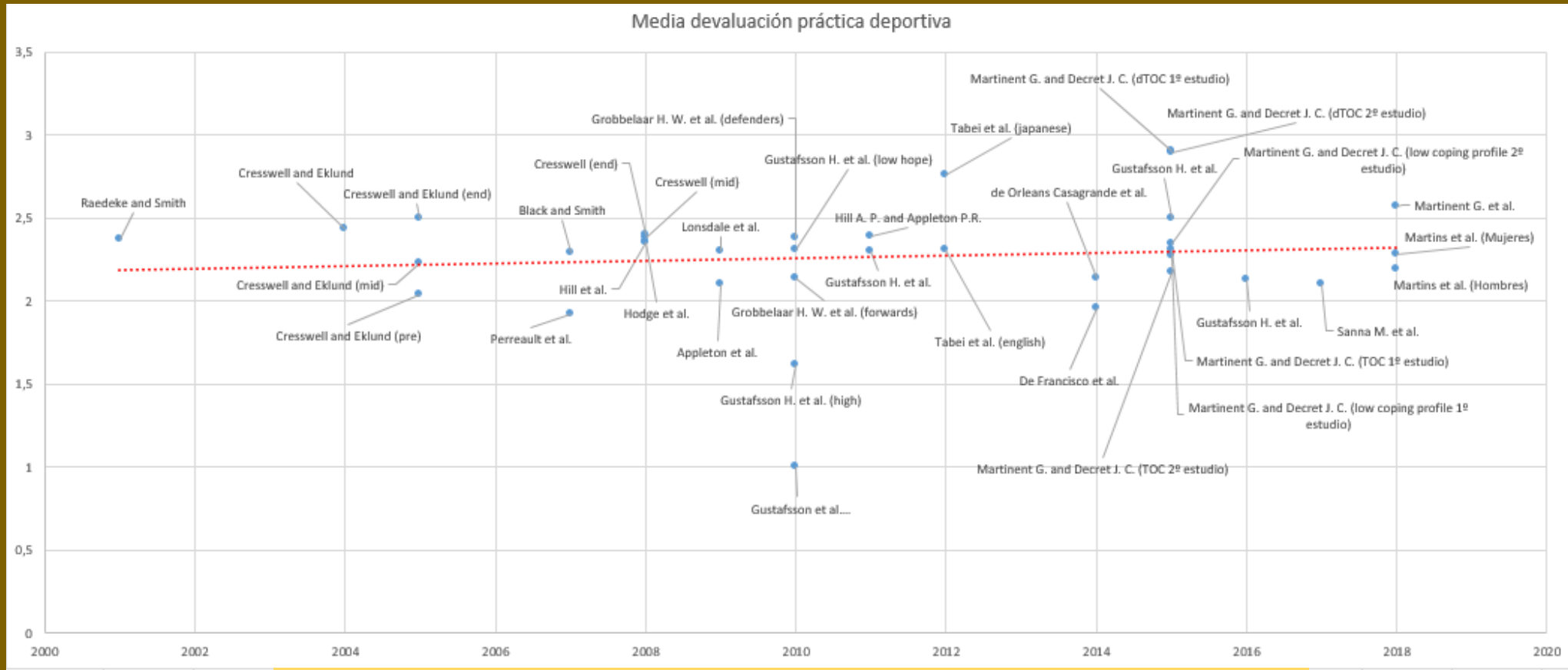
Mental health issues in community



Rubio, D. (2021): Prevalencia del burnout en el deporte 2001-2018



Mental health issues in community



Rubio, D. (2021): Prevalencia del burnout en el deporte 2001-2018

Mental health issues in community infant and youth sport

Mental health complains in youth sport

- About 8% of young athletes show mental health issues (Aubert et al., 2018)
- There are less mental health issues in young athletes participating in team sports compare to those who don't practice any sport but there are higher mental health issues in individual sport young athletes (anxiety, depression, social problems, and attention difficulties) compare to any other group (Hoffmann et al, 2022; n=11,235; 9-13 y.o. USA)
- 13.5% athletes vs. 4,6% control show clinical or subclinical symptom of eating disorders
 - Great variability among sports/gender (Sundgot-Borgen & Torstveit, 2004):
 - ♂ 22% of athletes of antigravity sport vs 5% of ball-sport athletes or 9% in endurance sports
 - ♀ 44% of aesthetics sports athletes vs 24% in endurance or 16% in ball sports
- It is estimated among 0%-19% of male athletes and 6%-45% of female athletes show eating disorders (Bratland-Sanda & Sundgot-Borgen, 2012)

Mental health issues in community infant and youth sport

Safe, healthy and engaging sport environments



Safe sport is not just about preventing negative experiences; it also concerns how well sport actively promotes positive experiences and psychosocial outcomes for everyone involved, applied to all stages of athletic journeys (ISSP Position Stand, 2021)

How can a safe, healthy and engaging sport setting be promoted



Mental health issues in community infant and youth sport

Risk factors of sustaining SIs in children and adolescents

- Intrinsic factors
 - Previous injuries
 - Physical fitness (flexibility, strength, stability, balance, coordination...)
 - Stress, coping skills, competitive anxiety, personality
 - Athlete behavior
- Extrinsic factors
 - Sport characteristics (type, rules...)
 - Training techniques and periodization
 - Sport setting (surface, climatology...)
 - Opponents' behavior



<https://activesafe.ca>

Mental health issues in community infant and youth sport

Risk factors of burnout in children and adolescents

- Highly demanding activity and overtraining lead to a decrease in performance as well as to produce strong psychoneuroendocrine responses
 - 1/3 youth athletes have sometimes experienced excessive demands (Matos et al, 2011; Winslet & Matos, 2011)
- Early specialization
- Low self efficacy
- Interactions with adults and peers
 - Lack of consistent guidelines and instruction among coaches
 - Eminently negative feedback
 - Lack of control over sport decisions



Mental health issues in community infant and youth sport

Risk factors of mental health issues in children and adolescents

- Directly related to the sport setting
 - SIs and concussions
 - Poor sport performance
 - Sport transitions
 - Overtraining
- From other contexts
 - Major life events
 - Lack of social support
 - Sleeping disorders



Mental health issues in community infant and youth sport

Risk factors of eating disorders risk factors in children and adolescents

- Personal characteristics of the athlete
 - Perfectionism
 - Unidimensional self-concept
 - Misguided nutritional beliefs
- Characteristics of the proximal context
 - Coaches, parents and/or other agents pressure on the
 - Eating behavior
- Characteristics of the sport
 - Sports including an aesthetic component
 - Sports where categories are set by weight
 - Sports where performance may be facilitated by lowering weight



Mental health issues in community infant and youth sport

Designing a children safeguarding system in sport clubs

- Information system: instruments, administration and implementation to collecting information about the outcomes
 - From coaches
 - From athletes
 - From families
 - From other stakeholders (technical staff, administrators, others)
- Data collection and analysis:
 - Systematically
 - Recording
 - Series analyses



Mental health issues in community infant and youth sport

Designing a children safeguarding system in sport clubs

- Training and incentives: introduce and extend training on safeguarding culture to all the stakeholders and design incentives to promote compliance
 - The organization must assume the safe and healthy sport environment culture
 - Training coaches as direct agents of health and safety sport promotion
 - Parents' schools
 - Contingency system based on compliance with health and safety measures



Mental health issues in community infant and youth sport

Designing a children safeguarding system in sport clubs

- Co-ordination: effective assembling of the different agents (safeguard officer)
 - Coordinates the surveillance system
 - Establishes the process of data collection
 - Designs the contingency schema



Mental health issues in community infant and youth sport

The 8 CHILDREN pillars (Rhind et al., 2017)

- **Cultural sensitivity:** There was a clear need for flexibility within the Safeguards such that they can be tailored to the cultural and social norms of the context
- **Holistic:** Safeguarding should be viewed as integrated into all aspects of an organization as opposed to being an additional element
- **Incentives:** There needs to be a clear reason for individuals and an organization to work toward the Safeguards
- **Leadership:** The Safeguards need to have strong support from those working in key leadership roles



Mental health issues in community infant and youth sport

The 8 CHILDREN pillars (Rhind et al., 2017)

- **Dynamic:** The safeguarding systems within an organization need to continually be reviewed and adapted to maintain their relevance and effectiveness
- **Resources:** The implementation of the Safeguards needs to be supported by appropriate resources (e.g., human, time, and financial)
- **Engaging stakeholders:** A democratic approach should be adopted which invites and listens to the voices of those in and around the sport (e.g., parents, coaches, community leaders)
- **Networks:** An organization's progress toward the Safeguards will be strengthened by developing networks with other related organizations



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