

# Psychological Aspects of Covid 19 & Player experiences National Hockey League Canadian Football League



Martin Mrazik, PhD, R. Psych.  
Professor, University of Alberta

# Thank you's

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Thanks to

- Dr. Éanna Falvey & World Rugby
- Dr. Dhiren Naidu, CMO, CFL/  
Head Physician, Edmonton Oilers
- My family



# Acknowledgements

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## Appointments

- Professor, Department of Educational Psychology, U of A
- Consultant, Glen Sather Sports Med Clinic; Healthpointe
- Consultant, National Hockey League
  - Views expressed are mine and do not represent the NHL
- Consultant, Canadian Football League

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# Overview of Presentation

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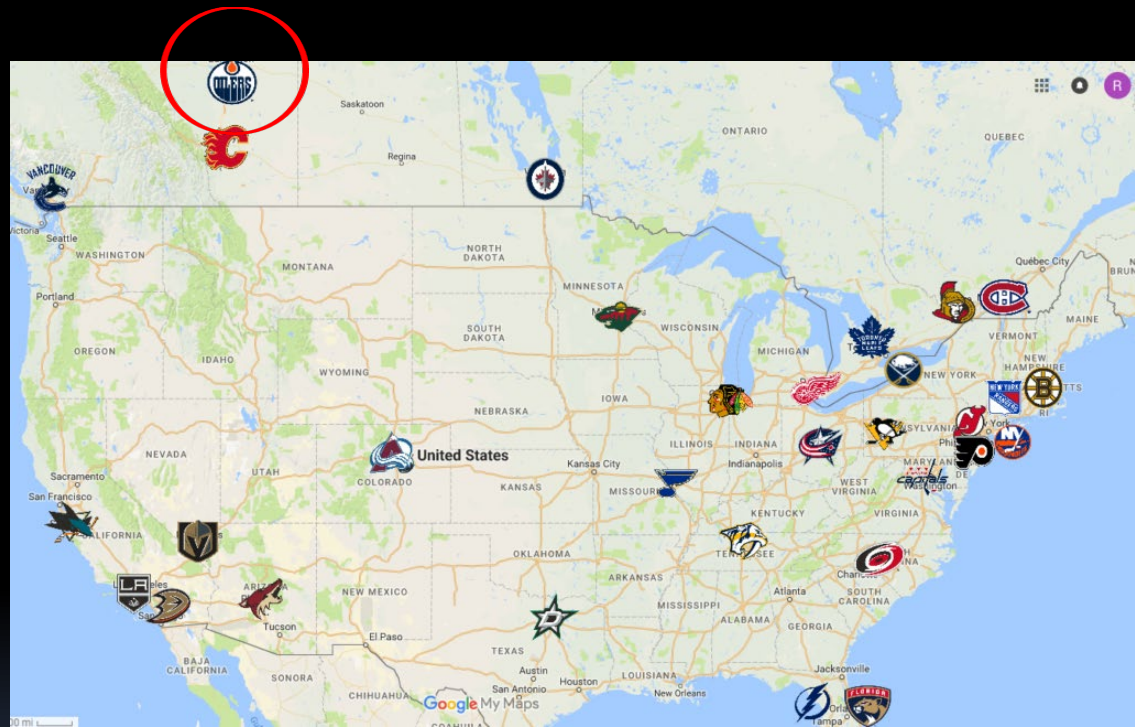
- Summary of the National Hockey League and Canadian Football League
- Psychological aspects of Covid
- Overview of Mental Health Study
- Proposing and Enhanced Mental Health Strategy

# The National Hockey League

32 teams

## Demographics

- 43 % Canadians
- 26% USA
- 12% Sweden
- 5% Finland
- 4% Czech
- 2% Swiss
- 1% Slovakian
- 1% Denmark
- 1% German



1 player from the UK!



# The Canadian Football League

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Founded in 1956

9 teams

Demographics

- 50% Canadian players
- 50% Imported players

The Championship:  
Grey Cup



# Impact of Covid

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## NHL:

2019-20 season was moved to fall 2020

Hub Cities

No fans

Daily covid testing

2020-2021 season started January 2021



## CFL

2019-2020: season cancelled

2020-2021: season reduced; strict Covid protocols

# My role

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- Neuropsychological evaluations
- Consulting with teams re concussions/mental health
- Conducting assessments with players
- Consulting with other neuropsychologists





# What is mental health?

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Definition: The condition of being mentally and emotionally sound that is characterized by the absence of mental illness and adequate adjustment to meet the demands of daily life

## Key Points:

Rates of mental illness are comparable between elite athletes & the general population

General Risk Factors: genetics; negative life events, low social support, poor sleep

Athlete Specific Factors: injury risk, performance failure, over training, sport type

# Psychological Variables from Covid

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- Restrictions to player activity
- Isolation from families
- Daily Covid tests
- No fans in the stadiums
- Masked faces & emotional responding



# This past year...

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# Mental Health: Pilot study

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## Instruments:

PhQ-9 (depression)  
GAD-7 (anxiety)

## Procedures:

Anonymous electronic survey  
Not able to mandate survey; snowball sample

Covid Pandemic Mental Health Questionnaire (COPAQ)

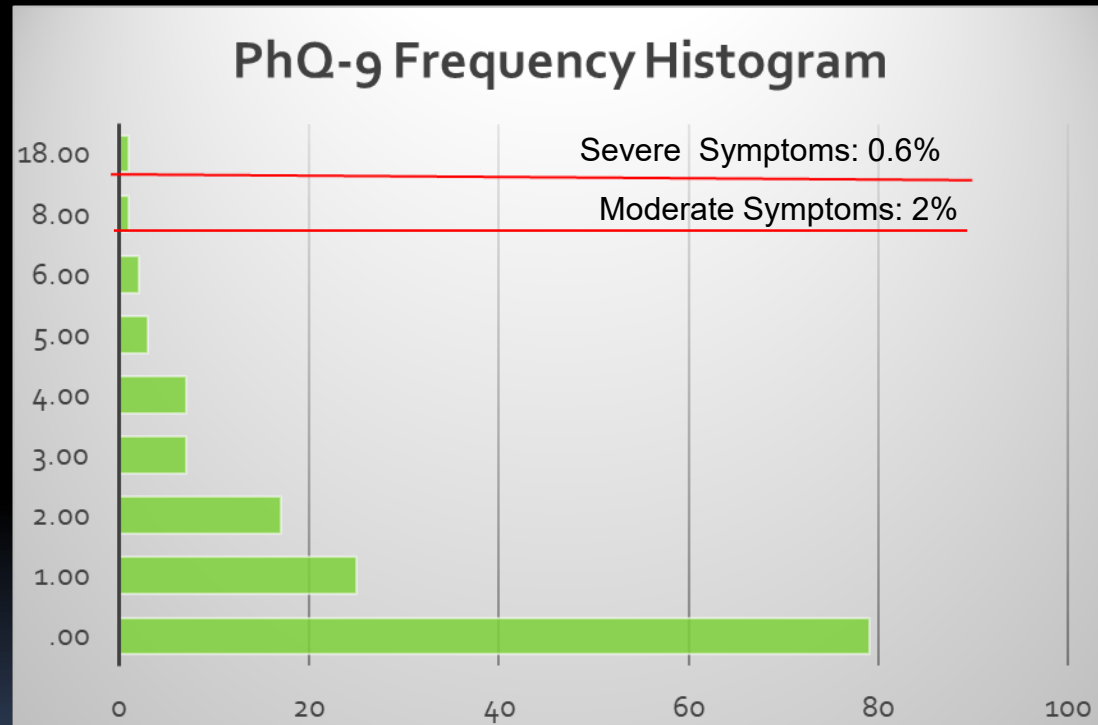
## Participants:

N = 143 at baseline (3 teams)  
n = 48 at Post – Injury

# Baseline data (pre-covid)

## PhQ 9 (total score)

- Mean: 1.13; SD: 2.01;  
Range: 0 – 18
- Frequency above minimal symptoms (>5): 4/143: 3 %
- Test Taking attitude:  
Difficulty rating symptoms (9/143): 2%



# Baseline data (pre-covid)

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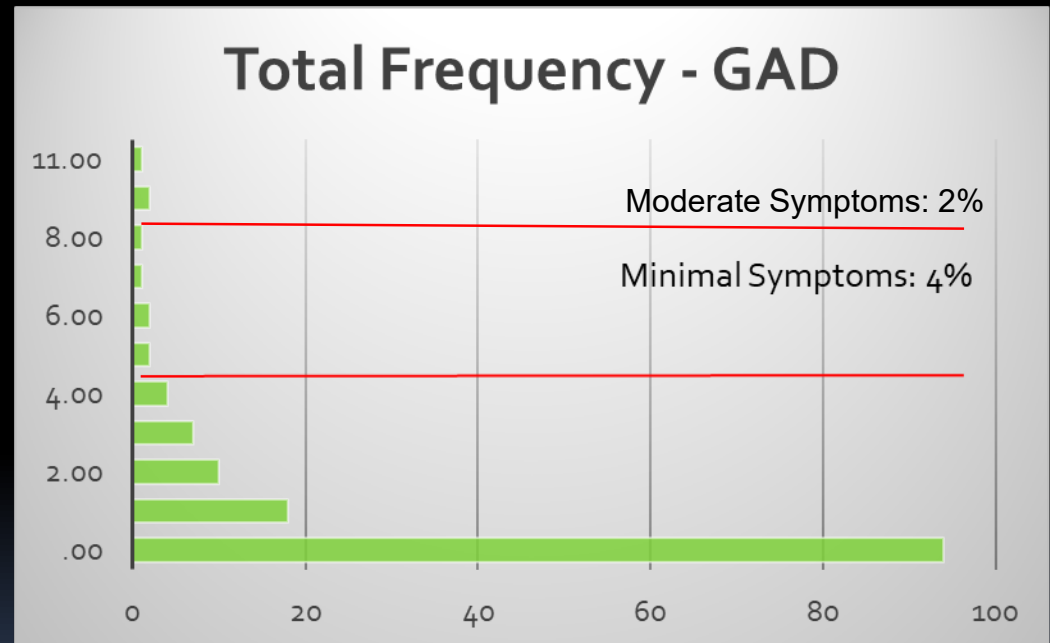
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## GAD – 7

Mean: 0.99; SD: 2.00;  
Range: 0 – 11

Frequency above minimal  
symptoms: 9/143: 6 %

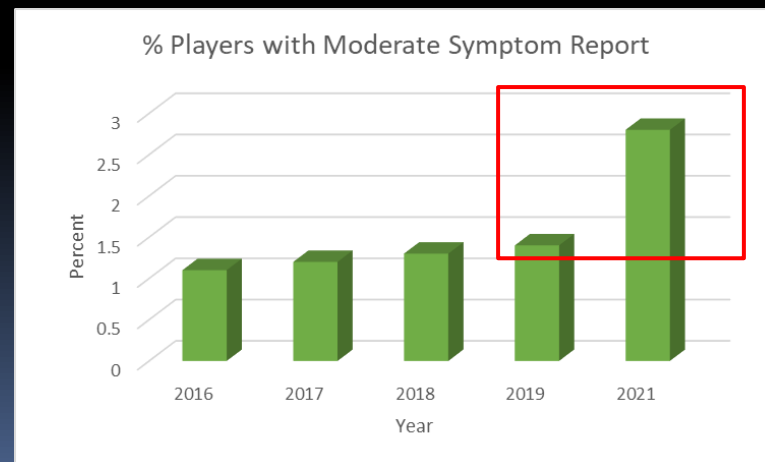
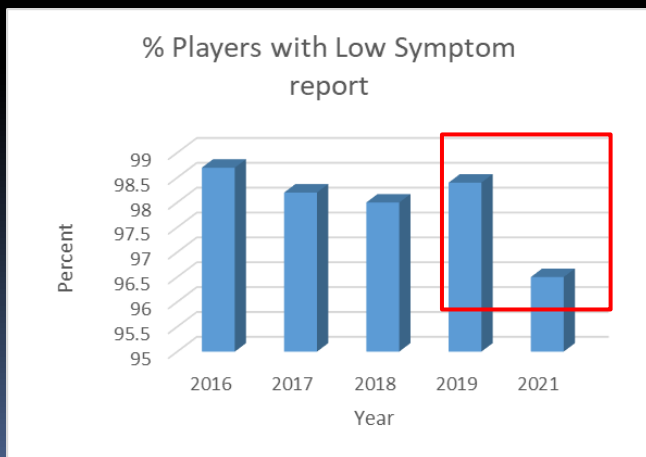
Test Taking attitude:  
Difficulty rating symptoms  
(5/143): 3.4%



# Baseline SCAT5 Symptom Report

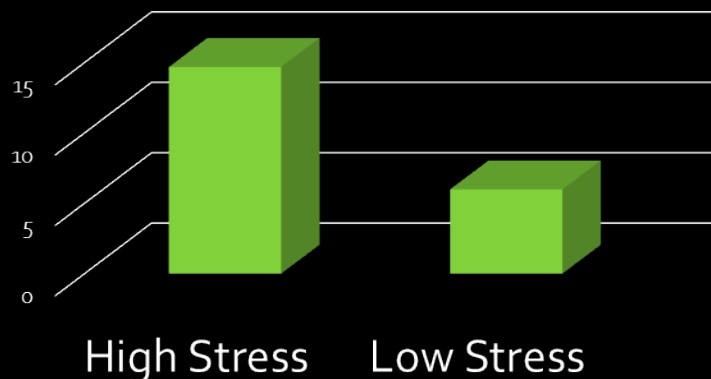
## SCAT5 Mood symptoms

- 4 symptoms (irritability; sadness, nervousness, more emotional) added to yield overall mood score
- Baseline testing from 2016 – 2021 (No season in 2020)
- Statistically Significant increase in mood symptom report in 2021 compared other years
- Low Symptom report = scores < 4; Moderate Symptom report > 5 (range 5 – 16)



# Results

Anxiety (GAD)



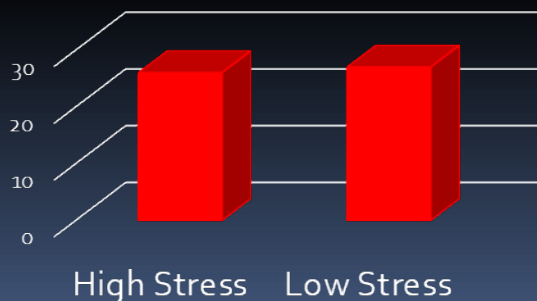
## Key Findings:

- 15 % of our sample > moderate stress
- Significantly higher substance use
- Significantly higher media consumption about covid
- Significantly fewer personal contacts per day
- Resilience factors predict better outcomes

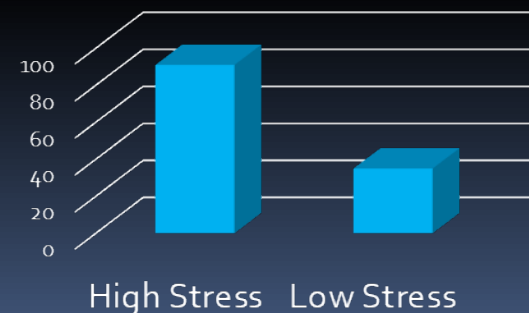
Substance Abuse (drinks/day)



Daytime structure



Media Use (minutes/day)





# Next steps?

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Future outcomes: Consideration of the short-term and long-term outcomes of mental health

# Psychology and injury

Predisposing factors



Perceived stress state



Daily stressor and hassles - a key finding



Risk behavior



Injury risk



References:

- 1) Johnson, U., Tranaeus, U., & Ivarsson, A. (2014). Current Status and Future Challenges in Psychological Research of Sport Injury Prediction and Prevention: A Methodological Perspective. *Revista de Psicologia del Deporte*, 23, 2, 401-409.
- 2) Tranaeus, U., Johnson, U., Ivarsson, A., Engström, B., Skillgate, E., & Werner, S. Sports injury prevention in Swedish elite floorball players: evaluation of two consecutive floorball seasons. *Knee Surgery, Sports Traumatology, Arthroscopy*. 2014 Oct (Epub ahead of print).
- 3) Ivarsson, A., Johnson, U., & Podlog, L. (2013). Psychological predictors of injury occurrence: A prospective investigation of professional Swedish soccer players. *Journal of Sport Rehabilitation*, 22, 19-26.
- 4) Johnson, U. (2011). Athletes' experience of psychosocial risk factors preceding injury. *Qualitative Research in Sport and Exercise*, 3(1), 99-115.



### 3.3 Evaluation of the Prediction Part of the Model: A Path Analysis

The model indicated acceptable fit  $\chi^2 (3) = 28.18$ ,  $p < 0.001$ , CFI = 0.93, RMSEA = 0.06 (90 % CI [0.04, 0.09]), SRMR = 0.03. The model explained 7.3 % of the variance in injury occurrence and 7.0 % of the variance in stress responses. All paths were statistically significant ( $p < 0.05$ ) with effects ranging from 0.08 to 0.27. All effect estimates for the different paths are provided in Fig. 2.



The model explained 7.3% of the variance of injury occurrence

# Enhanced Mental Health Strategy

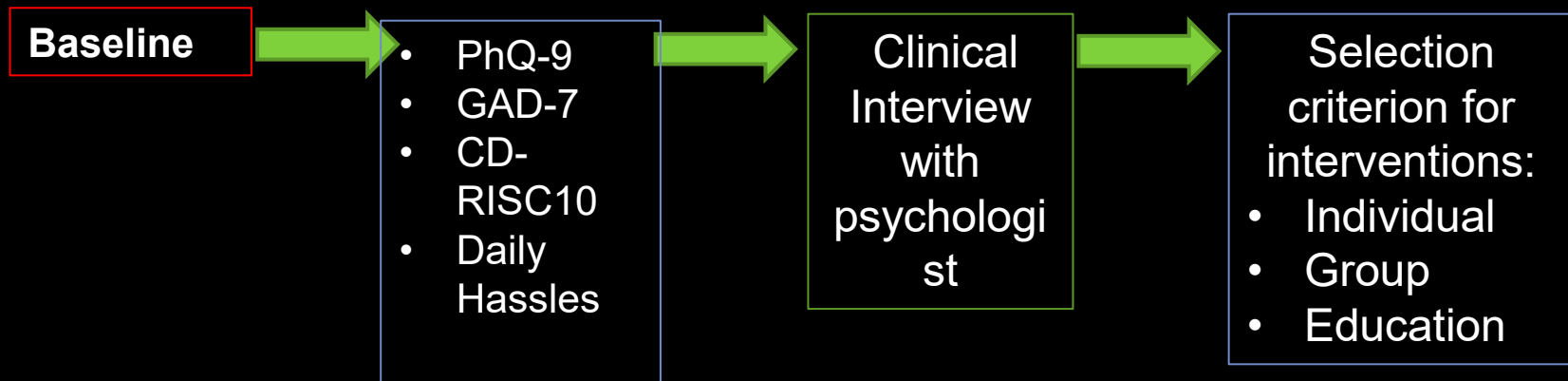
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## Key Points:

- Increased awareness of player mental health
- Mental health is more than symptom report
- Reduction of injury and enhanced performance
- Improved recovery times post injury
- Commitment to long term well being of athletes

# Proposed Model: Enhanced mental health strategy

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Participants:

Collegiate athletes at University of Alberta/Augustana

Data collection: 2020-2022

# Enhanced Mental Health strategy

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## Key Findings

### 1. Injury Outcomes      2. Psychological Burden      3. Coping

Scores > 5 on PhQ-9 & >4 on GAD-7,

- Players were 2 x times more likely to suffer an injury during season



- 25% reported heightened psychosocial burden vs psychosocial lift

- Importance of going beyond symptom report



- >80% of athletes reported interest in more strategies

- Interventions need to be tailored to unique athlete needs



# Enhanced Mental Health strategy

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## Case Study

- 28 year old defensive player
- 5 years in the CFL
- Following arrival to Edmonton & quarantine, referred for mental health
- Results:
  - PhQ-9 score = 15 (moderate/severe)      Psychological Burden
  - GAD-7 score = 8 (mild)      Burden > Uplift
  - CD RISC score = 35 (positive resilience)
- Player underwent several therapy sessions
- No Injuries (to date); improved outcomes

# What's the point?

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# Making a Difference

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- Teammates
- Re-defining your identity
- Venting/outlets
- Recognizing that mental health needs as much work as your physical health
- Connecting with others
  - The magical number 200



Thank-You for Coming!

Dr. Martin Mrazik

6-135 Education North

Department of Educational Psychology

University of Alberta

Phone: 780-492-8052

E-mail: [mrazik@ualberta.ca](mailto:mrazik@ualberta.ca)