



# Mental Health and Pediatric Concussion

PRESENTED BY *Andrée-Anne Ledoux, PhD*



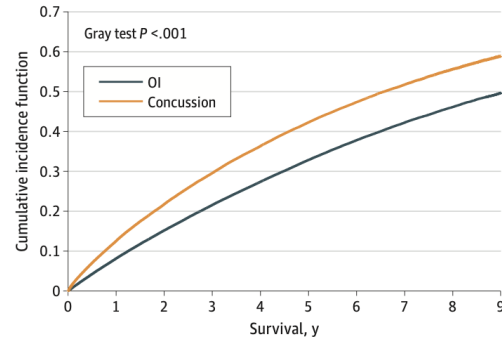
RESEARCH INSTITUTE  
INSTITUT DE RECHERCHE



uOttawa

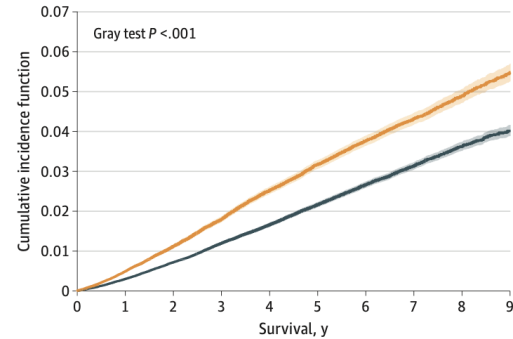
# Mental Health and Concussion

**A** Mental health outcome



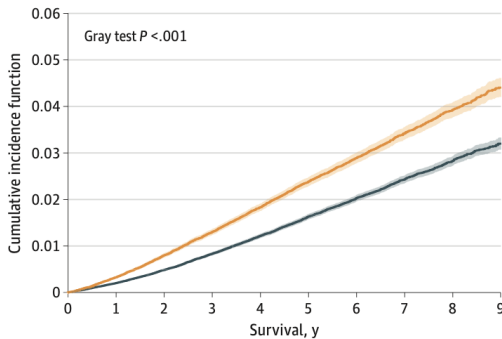
No. at risk	0	1	2	3	4	5	6	7	8	9
OI	296482	233938	186136	143764	106819	76142	52170	33378	18347	6528
Concussion	152321	116550	90550	68643	49988	35293	24402	15650	9008	3468

**B** Psychiatric hospitalization



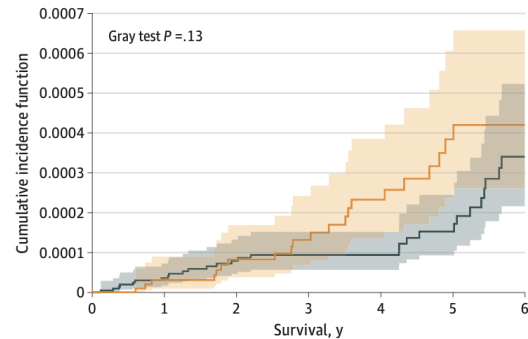
No. at risk	0	1	2	3	4	5	6	7	8	9
OI	296482	253870	217624	180531	143837	109918	80420	54758	32005	12148
Concussion	152321	132558	114050	94936	75333	57609	42812	29412	18165	7433

**C** Self-harm



No. at risk	0	1	2	3	4	5	6	7	8	9
OI	296482	254133	218142	181215	144489	110496	80948	55149	32275	12260
Concussion	152321	132780	114425	95421	75852	58060	43153	29666	18332	7485

**D** Suicide

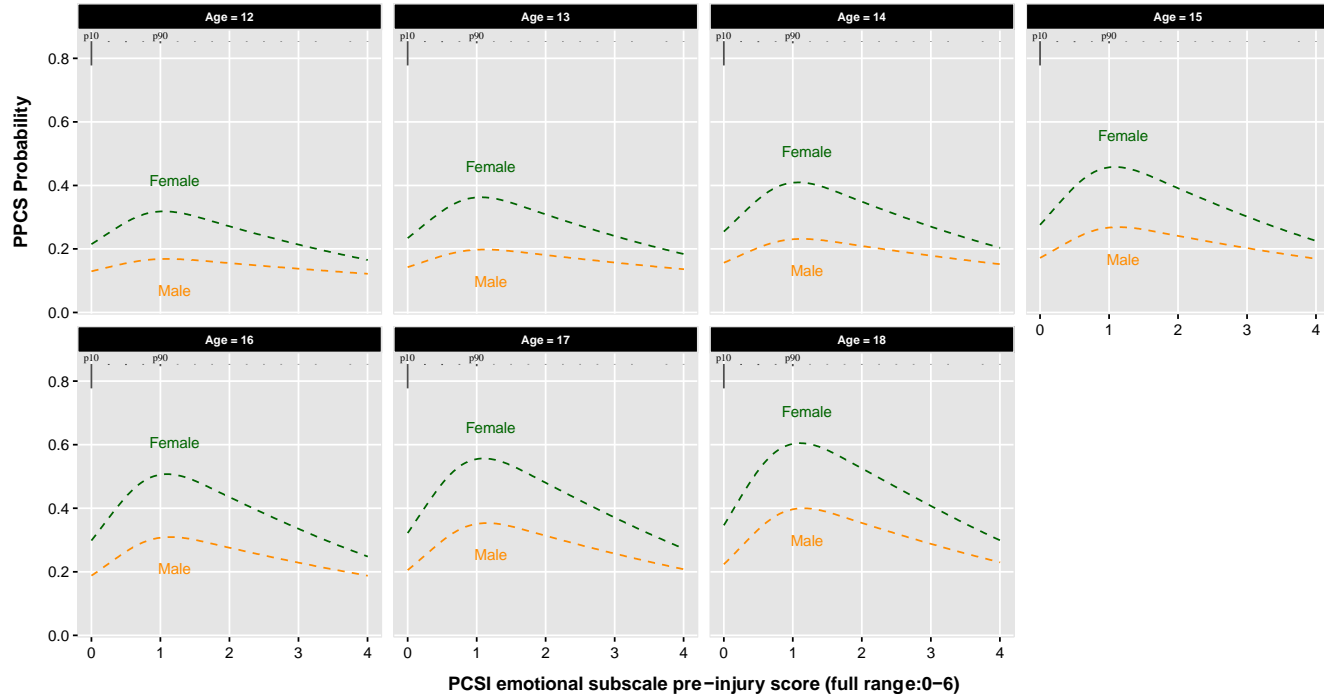


No. at risk	0	1	2	3	4	5	6
OI	218295	176985	139893	106374	77297	51647	28047
Concussion	110795	91862	72547	55431	40861	27641	15770

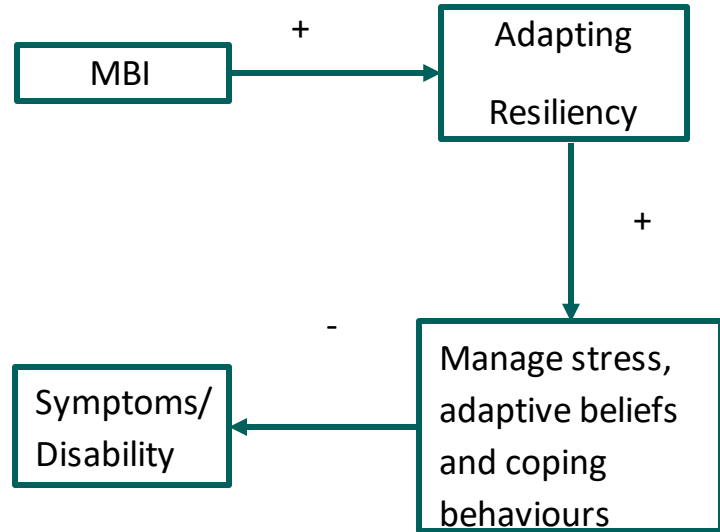
# Predictors of Persistent Symptoms

Overtime, Preinjury symptoms and characteristics are more predictive of PPCS than injury predictors:

Somatic symptoms;  
Pre-injury cognitive ability;  
Attention and mood concerns;  
Anxiety;  
Coping strategies (e.g., fear avoidance behaviour).



# Mindfulness-Based Interventions (MBI)



# Mindfulness-Based Interventions (MBI)



Costly



Therapist  
required



In-person  
weekly  
meetings



At-home  
practice



8 to 16  
weeks

**MOBILE HEALTH**

# Intervention

## Targeted MBI journey

- 4-8 week custom-made program for youth
- 10-15 min/day for minimum 4 days a week
- Based on formal MBI (mindfulness-based stress reduction)



MOBIO  
INTERACTIVE



Goal  
setting



Check-ins  
on mood  
and stress



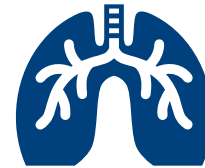
Psycho-  
education



Body scans



Walking  
meditations

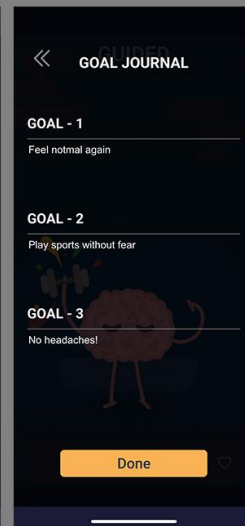
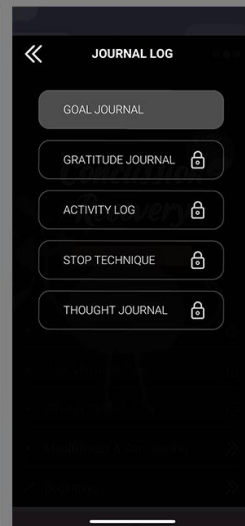
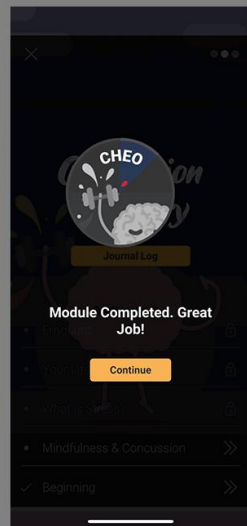
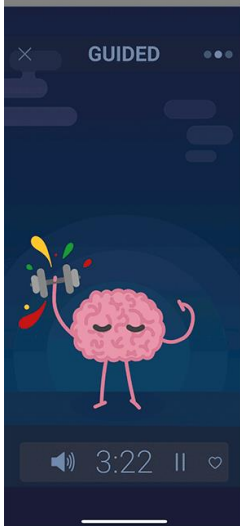
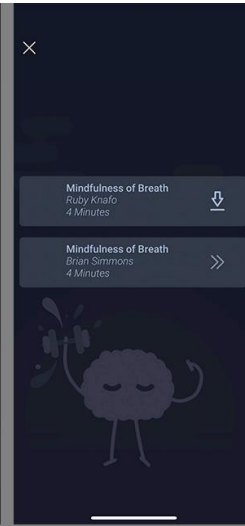
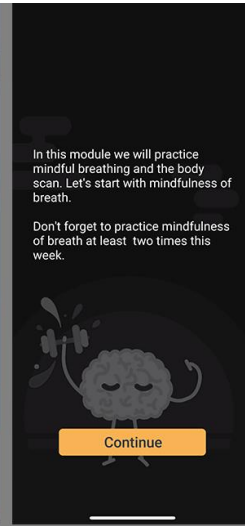
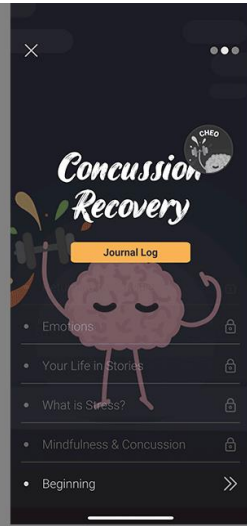
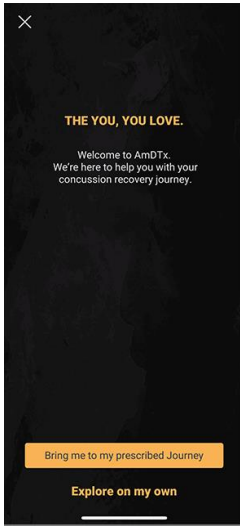


Breathing  
exercises



Journaling  
events

# M B I - 4 - m T B I



# Summary

- Mental Health ↑
- Increased risk of mental health post-concussion
- As a coach/parent:
  - Lookout for worrying indicators
  - Be open to speaking with the child/adolescent
  - Communication is key!
  - Returning to school/activities and physical activity is **IMPORTANT**

<https://pedsconcussion.com/>