

Individuals with **PPCS** exhibit a **higher number of depressive symptoms**

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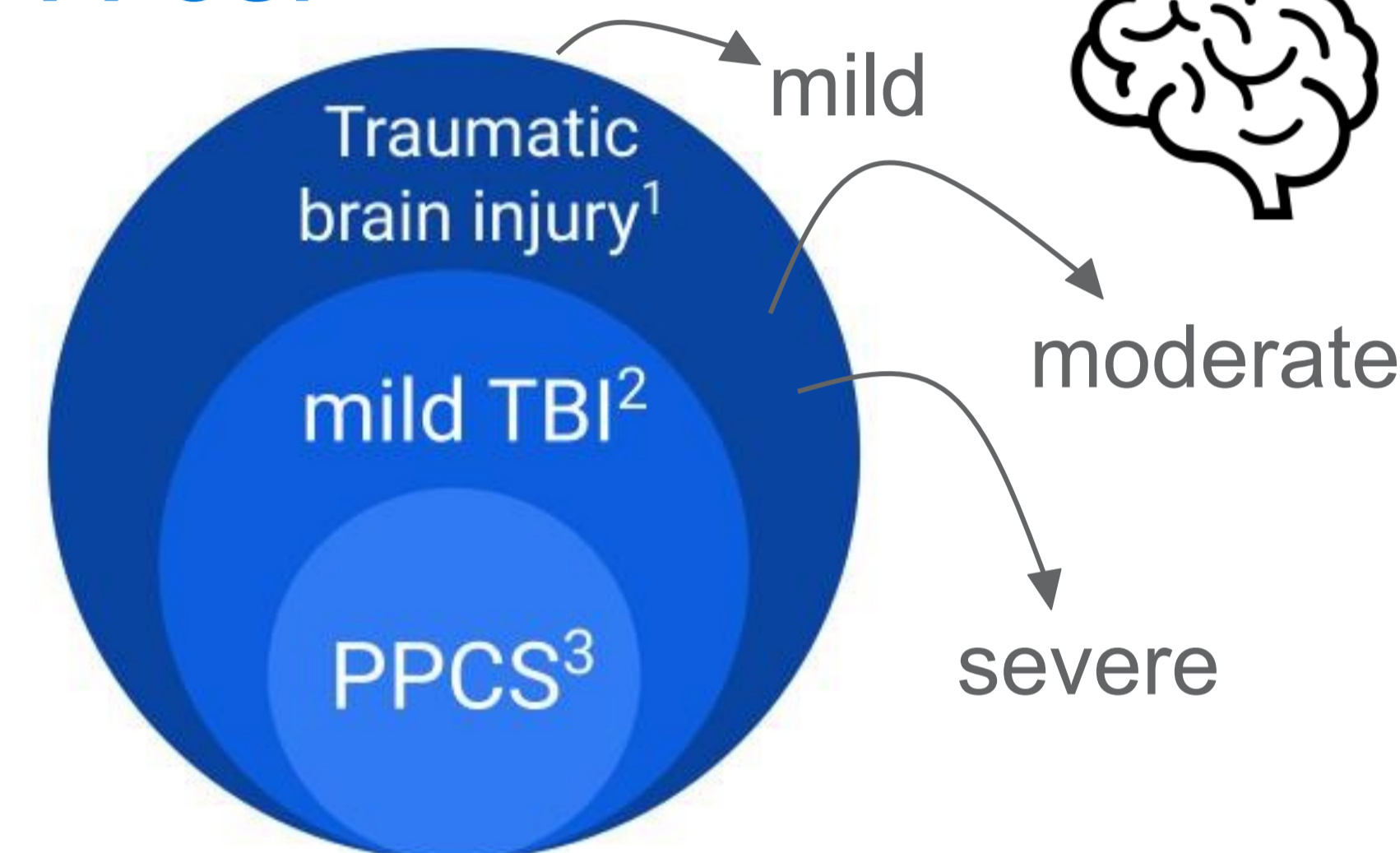


Depressive Symptoms in Individuals with Persistent Post-Concussion Symptoms: A Systematic Review and Meta-Analysis

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Background

PPCS:



Individuals with **PPCS** experience a variety of **physical, cognitive, and behavioural/ emotional** symptoms that can have detrimental impacts on **quality of life^{3,4}**

MENTAL HEALTH IMPACTS^{5,6}

- **Bidirectional link** between mental health outcomes with PPCS
- Individuals with PPCs are more at risk of experiencing **depressive symptoms** and found to predict **recovery time**
- **Multiple variables** (age, sex, pre-existing mental health) identified as **moderators** of the relationship between depression and PPCS

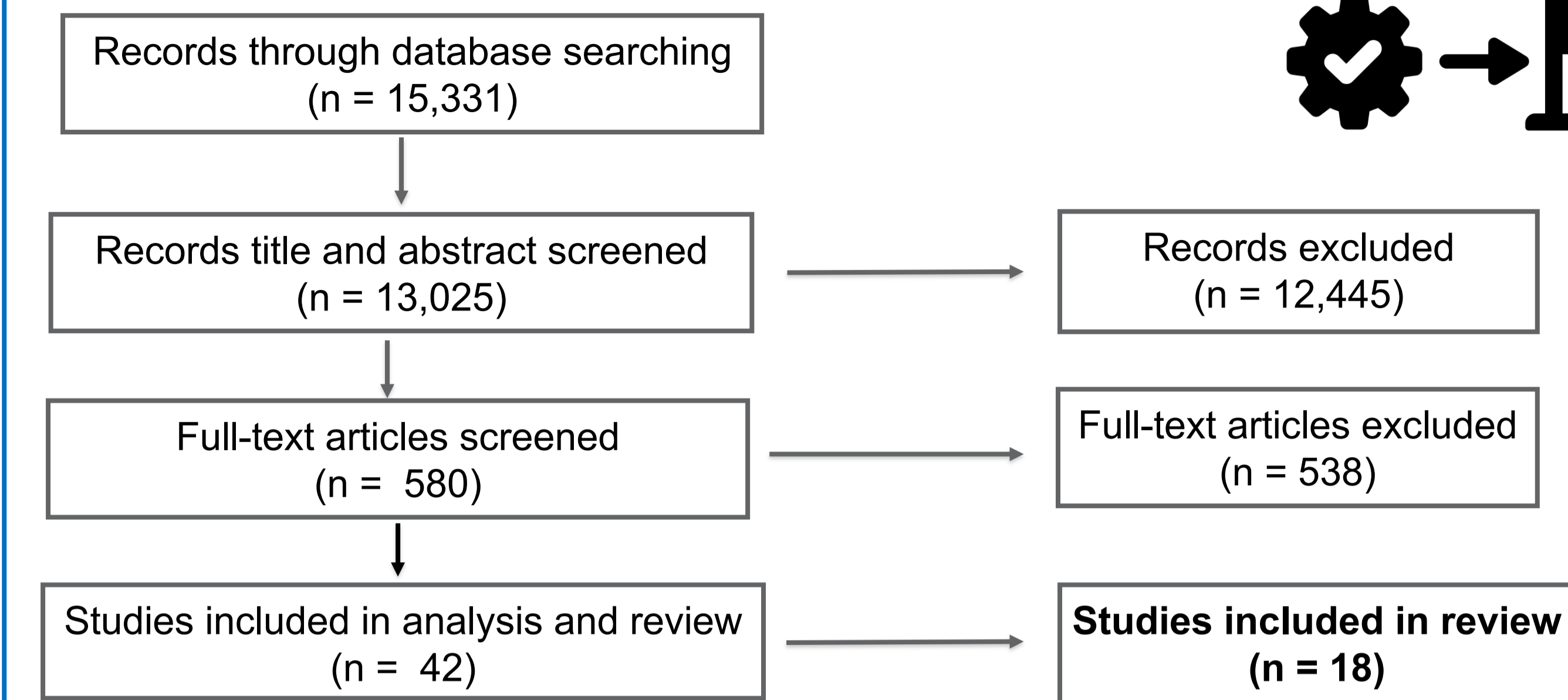
Objectives

- (1) To synthesize the association between depressive symptoms and PPCS in individuals across the lifespan
- (2) To investigate potential moderators and determine if the association differed based on moderators

References

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Methods



Results

Effect Size: Association of PPCS and Depression

- Significant **positive association** between PPCS and depressive symptoms ($r = 0.44, p < 0.01$)

Sample Characteristics & Moderator Analysis

Moderator	Average	b	p
Age (Years)	33.7	-0.002	0.67
Gender (% men)	53.7	0.001	0.73
History 2+ concussion (%)	36.1	0.004	0.61
History mental illness (%)	20.8	0.011	0.004
Time since injury (weeks)	21.3	0.001	0.76

- No significant moderators

Conclusions

- Need to gain more knowledge on PPCS and **identifying variables** that could affect prediction and intervention
- More focus on **child and youth** PPCS studies that investigate the relationship with depression is much needed
- Findings support the development of **strategies** for **prevention** and earlier **intervention** to optimize recovery trajectories of **at-risk** populations (i.e. mental health history)