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## Effectiveness of Functional Cognition Intervention for Adults with Traumatic Brain Injuries: A Systematic Review

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# Effectiveness of Functional Cognition Interventions for Adults with Traumatic Brain Injuries: A Systematic Review

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# Background

5.3 million Americans are living with a permanent traumatic brain injury (TBI)-related disability (CDC, 1999).

Functional cognition is one's ability to use and integrate thinking and processing skills to complete complex instrumental activities of daily living (IADLs) (Giles et al., 2017).

Impairments in functional cognition are commonly seen in adults after a TBI.

Occupational therapists support individuals post-TBI by implementing functional interventions.



# Background

## The goals of this systematic review are to:

- Identify the effectiveness of interventions to improve functional cognition in adults post-TBI.
- Inform occupational therapy practitioners about intervention strategies to improve functional cognition during occupation- or activity-based tasks for this population.



# Methods

## MESH terms related to:

- Occupational therapy, functional cognition, adults post-TBI

## Databases searched:

- CINAHL, Embase, Cochrane, MEDLINE/PubMed

## Coverage date:

- August 30, 2022 to October 1, 2022



# Methods

## Inclusion:

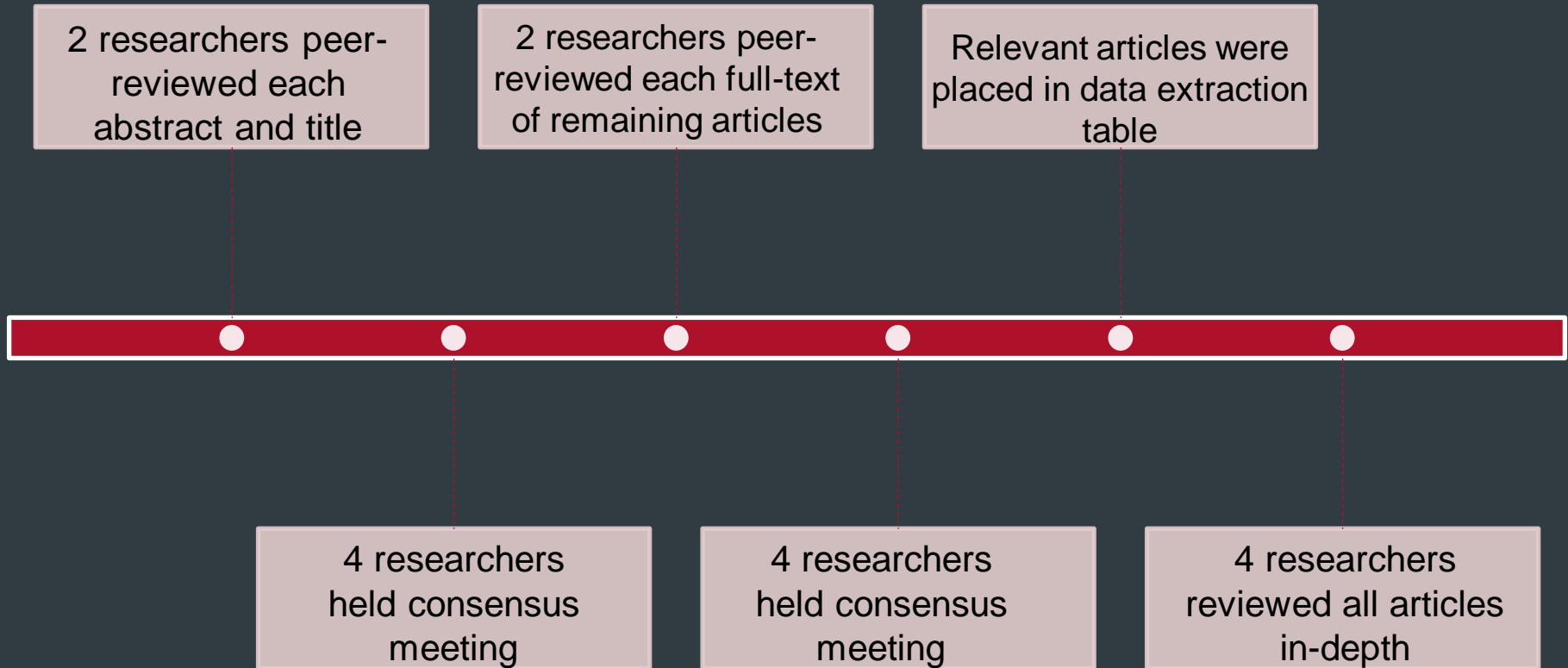
- January 1st, 2010 to the end of data collection
- Randomized control trials
- Participants age 18+
- Sample size of participants with TBI is greater than 50%
- Interventions addressing functional tasks

## Exclusion:

- Acquired brain injury (ABI), mild cognitive impairment, or disorder of consciousness (DoC)
- Interventions pertaining to vision or communication

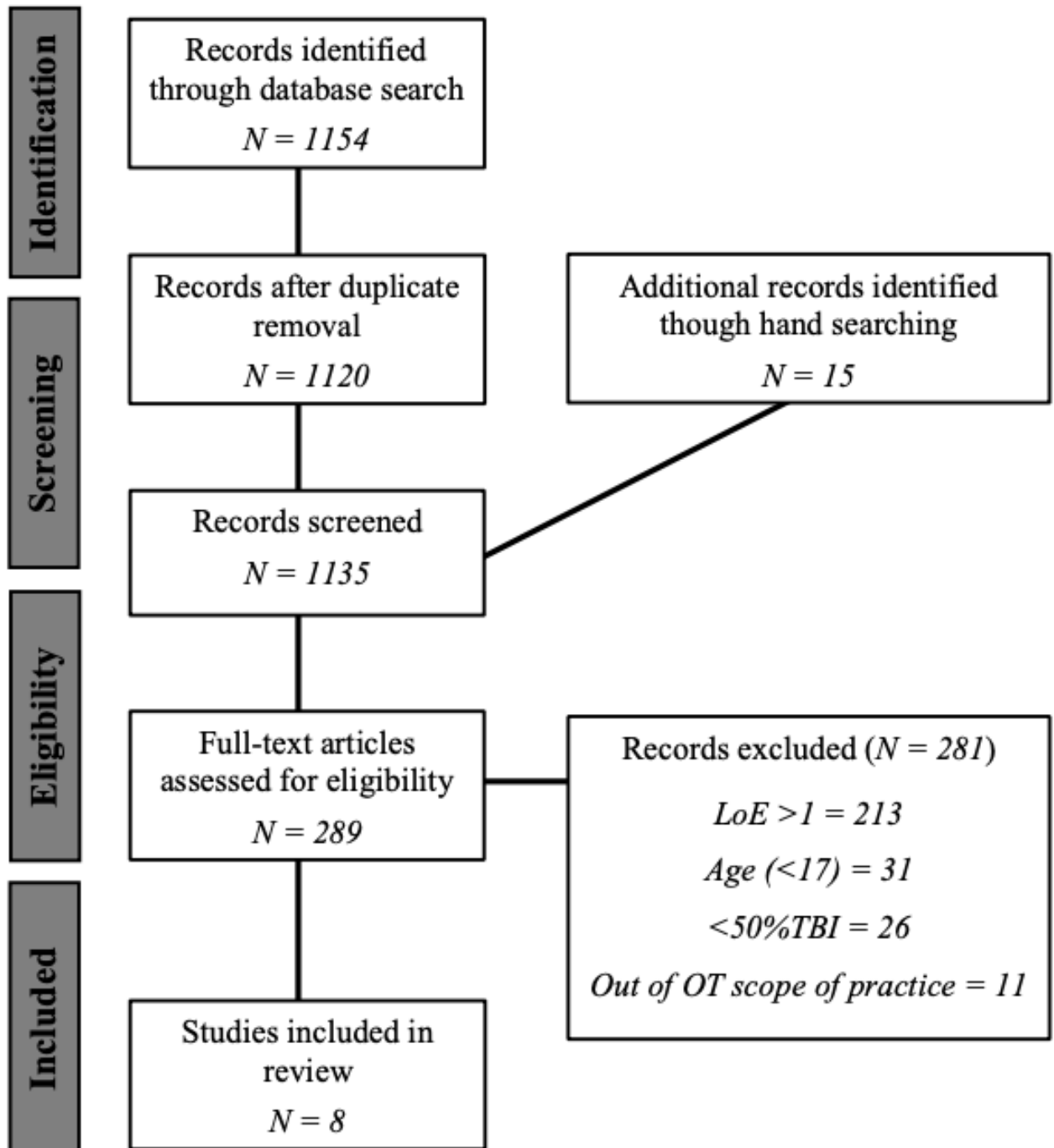


# Methods





# Results



# Results

## **Simulated electronic-based interventions**

**3 articles, Level I evidence**

- Moderate evidence supports implementation of psychoeducation and compensatory strategies and semi-immersive interaction with virtual scenarios.

## **Metacognitive strategy training interventions**

**5 articles, Level I evidence**

- Moderate evidence from four articles support implementation of goal-oriented skills training and the opportunity for self-correction.
- The evidence in one article does not support journaling as a tool to reflect on self-correction.



# Limitations

Small sample  
size

Smaller than  
planned sample  
size

Results not  
generalizable

High dropout  
rates

Differences  
between  
characteristics at  
baseline

Further research should be conducted to address these limitations.



# Discussion

Consider  
implementing  
functional cognition  
interventions

Occupational therapy  
curricula may  
incorporate these  
findings

Additional research  
is warranted



# References

Center for Disease Control and Prevention. (1999). *Report to Congress: Traumatic brain injury in the United States*. U.S. Department of Health and Human Services. <https://www.cdc.gov/traumaticbraininjury/>

Giles, G. M., Edwards, D. F., Morrison, M. T., Baum, C., & Wolf, T. J. (2017). Screening for functional cognition in postacute care and the improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014. *The American Journal of Occupational Therapy*, 71(5), 7105090010. <https://doi.org/10.5014/ajot.2017.715001>



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