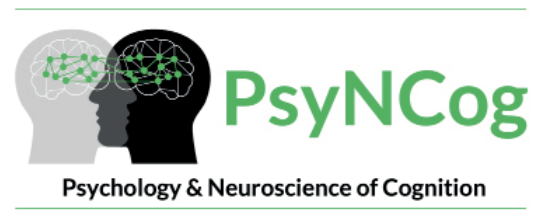


When Forgetfulness Becomes Part of the Self: Psychological and Metacognitive Predictors of Memory Complaints after Mild Traumatic Brain Injury



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Background

Memory difficulties after mTBI

- Frequently reported
- Can persist and have an impact on quality of life (25-60%)⁽¹⁻²⁾



The origin of this persistence is still debated

Neurobiological factors

(e.g. microlesions)⁽³⁾

Psychological factors

Pre-existing and/or resulting from mTBI: PTSD, maladaptive coping strategies, catastrophizing thoughts, ...⁽⁴⁾

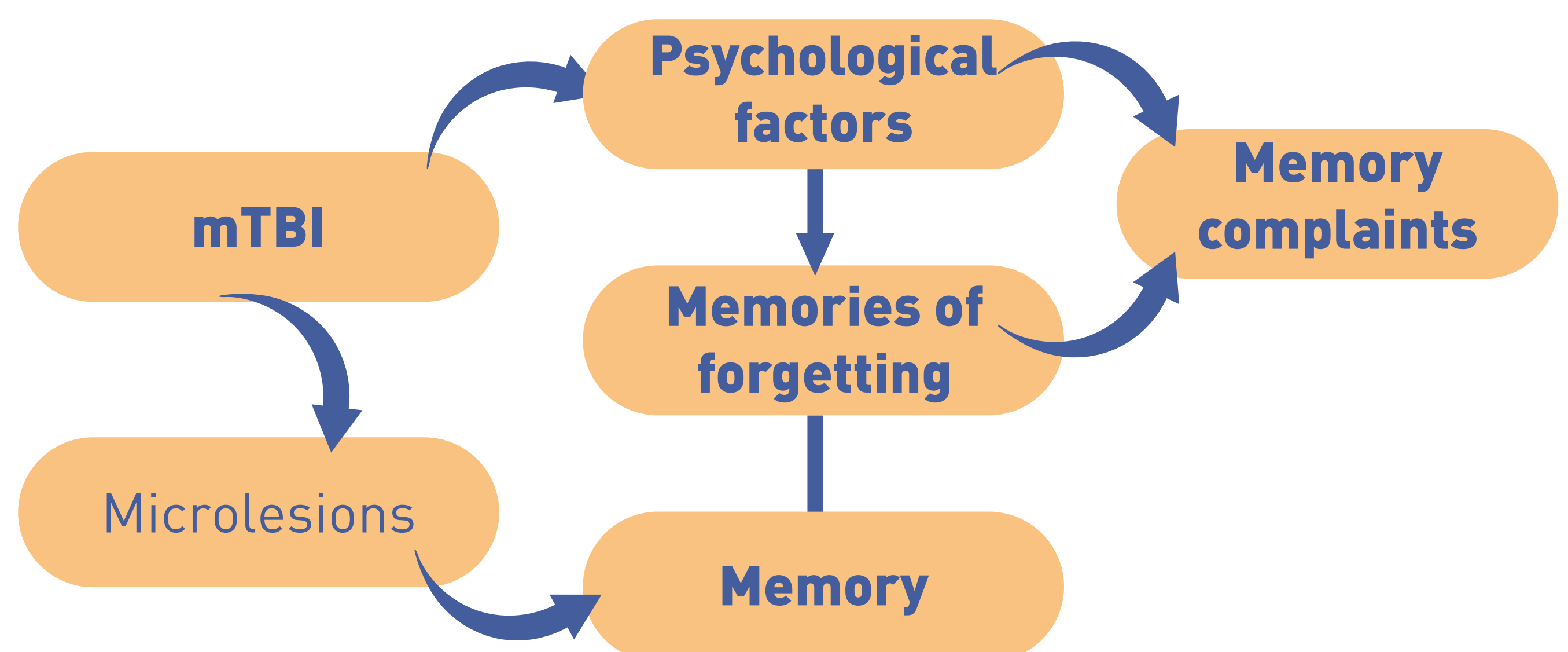
Multifactorial origin⁽³⁾

Role of metacognition?⁽⁵⁾



Objective

Investigating different factors contributing to persistent memory complaints, with a focus on psychological factors (including behavioural responses and symptom-related thoughts) and metacognitive processes, such as memories of forgetting



Participants

50 mTBI

Demographics

- 62% females
- 42.48 ± 13.88 years old
- 14.8 ± 3 years of education

Injury data

- Time since injury : 6.42 ± 6.02 months
- Loss of consciousness : 40%
- Amnesia : 40%
- Etiology : car accident (24%), sport (18%), fall (30%), aggression (10%), others (18%).

Sessions

Session 1

- Autobiographical memory fluency task
- L-RECAP instructions
- Memory and post-concussion symptoms self-assessment questionnaires

7 days

- L-RECAP notifications (5x/day)
- Psychological questionnaires

Session 2

- L-RECAP free recall task

Measures

Memory abilities & Metacognition

- Liege Recall of Events via Continuous Assessment of Personal experiences (L-RECAP): a new ecological test
- Prospective and retrospective confidence judgments

Memory complaints

- Multifactorial Memory Questionnaire
- Autobiographical Recollection Test

Memories of forgetting

- Autobiographical memory fluency task : evocation of memories of forgetting and rating of their centrality to identity

Psychological factors

- Symptom Checklist-90
- Post-traumatic Stress Disorder Checklist
- Beck Anxiety Inventory
- Beck Depression Inventory

Post-concussion Syndrome

- Rivermead Post-Concussion Symptoms Questionnaire
- Pain Catastrophizing Scale
- Fear Avoidance Behaviour after TBI Questionnaire
- All-Or-Nothing Behavior Scale of the Behavioral Response to Illness Questionnaire

Zoom on the L-RECAP



Curious ? Ask me more about it !

Creation of a tailored episodic memory test: Sampling of 5 life events via an app

Free recall task : evaluation of specificity, richness, vividness and metacognition



Exploration of variables surrounding memories (e.g. mood, frequency, personal significance, ...)

Assessing episodic memory in **CONTEXT**

«How confident are you in the accuracy of the memories you just described?»

Main results

Correlational analyses

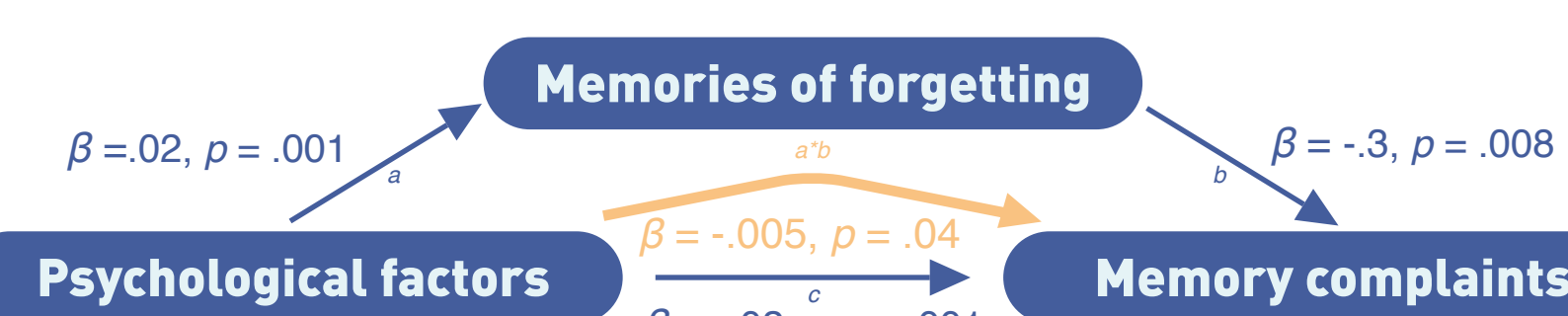
- No significant correlation between objective memory performance and subjective memory complaints (all $p_s > .05$)
- Positive correlation between centrality of forgetful events and time since injury ($r_s = .48, p = .002$)
- No beneficial effect of time since injury on persistent memory complaints or psychological symptoms

Regression analysis

The following factors explained 57.1% of the variance in memory complaints ($F(4,40) = 15.66, p < .001$)

1. Centrality of forgetful event ($\beta = -.26, p = .03$)
 2. Post-concussion symptoms ($\beta = -.302$)
 3. Avoidance / endurance ($\beta = -.2$)
 4. Psychological distress ($\beta = -.19$)
- Individually, all $p_s < .05$

Mediation analysis



Conclusion

Memory complaints were significantly associated with a combination of metacognitive, somatic, and psychological factors such as maladaptive behaviours and psychological distress, rather than with long-term memory performance. Over time, forgetful events may become increasingly integrated into one's self-concept. These results highlight the relevance of interventions targeting both beliefs about memory functioning and psychological factors following mTBI.



See the references here !
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