

Everyday event memory, psychological well-being, and quality of life after a Traumatic Brain Injury

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Introduction

In healthy individuals, **episodic memory** is associated with both **psychological well-being** (Waters, 2014) and **quality of life** (Fernandez et al., 2024), with a particularly important relation with social relationships (Cook-Maher et al., 2017).

Evidence suggests that **similar associations** may also exist following **traumatic brain injury** (TBI; Gilmore et al., 2025), a population in which memory impairments are frequently observed (Vakil et al., 2019).

Unfortunately, **few studies** have examined this relationship after TBI, and all **relied on laboratory-based memory measures** that are known to poorly capture memory for everyday events.

Objective: Explore the links between psychological well-being, quality of life and everyday event memory using a new ecological assessment

Method

TBI group (n = 50)

Age = 44.40 years (± 17.35)
Range: 18-83
Years of education = 15.44 (± 2.99)
Range: 12-23

Control group (n = 50)

Age = 44.66 years (± 17.32)
Range: 20-84
Years of education = 14.66 (± 2.56)
Range: 8-21

Time elapsed since brain injury: From 3 to 744 months ($M = 147.30$; $SD = 183.34$)
Loss of consciousness: $n = 32$ (from a few minutes to 40 days)
Post traumatic amnesia: $n = 31$ (from a few seconds to 1 month)

Questionnaires

The Outcome Questionnaire 45 (OQ-45)

3 scales: Symptoms distress
Interpersonal relations
Social role

Quality of Life Systemic Inventory (QLSI)

Mean distance between ratings of current and satisfactory situations across 28 life domains

L-RECAP: Everyday event memory



Notifications asking about ongoing activity 5 times a day for 7 days



Verbal recall of 5 selected events (the most memorable, important and infrequent of the week)

Scoring

Accuracy

Concordance between recalled information and those encoded in the app (day, time of the day, location, people, and mood).

Specificity

Level of precision of episodic information (temporal, spatial, perceptual information and emotions/thoughts).

Phenomenology

Subjective ratings of the feelings associated with memory retrieval (vividness, coherence, reliving, rehearsal, scene, visual details).

Results

Group comparisons

Compared to the control group, TBI individuals showed significantly lower **memory accuracy** ($U = 946.5$; $p = .02$), **higher issues concerning their interpersonal relations** ($U = 796$; $p = .007$) and **higher gap between their current and desired life situations** ($U = 876$; $p = .04$). Despite also reporting higher level of distress symptoms and issues in their social roles, these differences did not reach significance.

Correlations between L-RECAP and questionnaires

		Accuracy	Specificity	Phenomenology
Symptoms Distress	TBI	-.34*	-.33*	-.45***
	Control	-.07	-.12	-.10
Interpersonal Relations	TBI	-.49***	-.41**	-.50***
	Control	-.31*	-.35**	-.26*
Social Role	TBI	-.20	-.24	-.32*
	Control	-.13	-.22	-.11
Quality of life	TBI	-.58***	-.46***	-.57***
	Control	.07	-.05	.004

* <.05; ** <.01; ***<.001

Discussion

Results revealed **strong associations between everyday event memory and interpersonal relationships**, which is consistent with findings in healthy older adults and support the social function of memory (Bluck & Alea, 2002). Notably, this was the only association that reached significance in both groups.

In the TBI group, **associations with psychological distress** were also observed, confirming the well-documented link between cognitive difficulties and psychological symptoms (Uiterwijk, 2022).

Social roles were associated with **memory phenomenology** rather than **objective performance**, suggesting that it is mainly confidence in one's memories that may facilitate social engagement.

Consistently, findings further confirm the **link between memory and overall quality of life** (Gilmore et al., 2005).

Although the direction of these relations remains to be established, these **correlations exceed those typically reported with traditional memory tasks**, highlighting the importance of using comprehensive and ecological assessment integrating both objective and subjective components of episodic memory to predict well-being and quality of life, which should be key objectives of cognitive assessment.