



# Social Comparison Processes among Individuals with Severe TBI: A Longitudinal Pilot Study

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## Introduction

- Traumatic brain injury (TBI) causes a variety of deficits that can impair functioning and decrease quality of life.<sup>1</sup>
- *Social comparisons* (i.e., self-evaluations relative to others) are common among individuals with TBI and related disabilities.<sup>2,3</sup>
- To date, however, only one study has examined social comparisons among individuals with TBI; this study assessed social comparisons primarily among individuals with mild TBI who attended short-term rehabilitation (i.e., 6 months).<sup>4</sup>

### AIM OF THE PRESENT STUDY

Among individuals with *severe TBI*, we examined:

1. The *extent of self-reported comparisons* (relative to available norms for other groups),
2. The *internal consistency* of social comparison responses, and the *stability of these reports over one year*,
3. Relations between *social comparisons*, executive functioning, and treatment outcomes; relations were tested both *cross-sectionally and prospectively* (over 1 year).

## Participants

Participants were attendants at a long-term brain injury rehabilitation program ( $n = 31$ , 16 males and 15 females).

Participants ranged in age from 27 to 70 years ( $M = 44.35$ ,  $SD = 10.38$ ). All participants had sustained severe TBIs (years since injury:  $M = 20.47$ ; years in treatment:  $M = 7.14$ ).

Of the 31 participants who participated at baseline, 26 remained available at one-year follow-up and agreed to complete self-report measures at this time; clinical outcomes were available for 29 participants at follow-up.

## INCOM scores at baseline and one year

	Baseline M (SD)	Follow-Up M (SD)	r (correlation baseline to follow-up)
Overall SCO	36.04 (8.80)	32.78 (8.08)	0.60***
Upward SCO	19.04 (5.90)	16.83 (6.21)	0.61***
Downward SCO	15.48 (5.17)	13.61 (4.21)	0.45**

## Measures

### Social Comparison Orientation

The Iowa-Netherlands Comparison Orientation Measure (INCOM) is a 23-item measure of interest in and tendency to make social comparisons.<sup>5</sup>

- *Upward comparison* - comparisons to those perceived as "better off" in a given domain
- *Downward comparison* - comparisons to those perceived as "worse off" in a given domain

Additional items assessed participants' *affective responses to upward and downward comparison* (e.g., feeling happy, inspired, dejected, or anxious).

### Clinician-Rated Functioning

The Mayo-Portland Adaptability Inventory (MPAI-4)<sup>6</sup> is a 29-item questionnaire designed to assess functional outcomes in patients following brain injuries, specifically during the post-acute period.

### Depressive Symptoms

The Beck Depression Inventory-Fast Screen (BDI-FS) was used to assess reported symptoms of depression.<sup>9</sup>

## Social Comparison and Treatment Outcomes

	$\beta$	F	d
<b>Community Participation (MPAI) at One Year</b>			
Baseline MPAI	0.95	463.83***	
Negative response to Upward SC	0.07	2.82*	0.14
Baseline MPAI	0.95	466.51***	
Negative response to Downward SC	0.08	3.29*	0.20
<b>Overall Functioning (MPAI) at One Year</b>			
Baseline MPAI	0.97	946.79***	
Negative response to Upward SC	0.06	3.25*	0.67
<b>Depressive Symptoms at One Year</b>			
Upward SCO	0.58	13.49***	1.39

## Cross-Sectional Results

- Self-reported social comparison orientation (i.e., tendency to make comparisons) on the INCOM showed **high internal consistency** across overall ( $\alpha = 0.88$ ), upward ( $\alpha = 0.86$ ), and downward ( $\alpha = 0.87$ ) comparison scales at baseline.
- The average INCOM overall score for the present sample was 36.04 ( $SD = 8.80$ ) out of a possible 55 for overall social comparison orientation (SCO; see Table 1). Scores were **comparable to those of healthy adults in the United States**.<sup>5</sup>
- Participants who endorsed more frequent negative responses to downward comparisons showed less severe impairment in community participation, and less overall impairment (MPAI).
- Those with more frequent negative responses to upward comparisons demonstrated *worse* impulse control (Trails), and more severe participation and overall impairment ( $r_s = -0.34-0.37$ ).

## Longitudinal Results

- In contrast, more frequent negative responses to both downward ( $p = 0.08$ ,  $d = 0.20$ ) and upward ( $p = 0.10$ ,  $d = 0.14$ ) comparisons at baseline predicted **greater impairment in community participation at one year** (controlling for baseline impairment).
- More frequent negative responses to upward comparisons at baseline predicted **worse overall clinician-rated impairment** ( $p = 0.08$ ,  $d = 0.67$ ).

## Implications

- This study represents a necessary first step toward increasing knowledge about social influences on outcomes in **severe TBI rehabilitation**.
- Findings from this study confirm that individuals with severe TBI can report on their social comparisons by demonstrating that existing self-report measures have adequate psychometric properties in this group.
- Findings also indicate that self-reported comparisons are associated with concurrent functioning and outcomes at one-year follow-up.
- Further investigation of social comparisons in severe TBI is warranted, and **greater attention to comparisons in long-term rehabilitation** may improve clinical outcomes for this population.

## Contact

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