nucleus and projects to the cortex. The rostral-ventral path goes through the ven-
tral tegmental area (below the thalamus) and the posterolateral hypothalamus, 
and then reaches the frontobasal region; this path uses the basal forebrain bundle.

**Prospective.** The knowledge of structures controlling conscious behaviours can enable to better understand different types of severe and chronic consciousness disorders. This also could allow proposing adjusted therapeutic options including physical medicine, rehabilitation, pharmacology and neuromodulation.


**CO08-002–EN**

**Apathy and impulsivity after traumatic brain injury**

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**Keywords:** Apathy; Impulsivity; Psychosocial reintegration; Traumatic brain injury

**Introduction.** Apathy and impulsivity are two disorders frequently encountered after severe traumatic brain injury (TBI). However, there has been little research on the underlying nature of these behavioural modifications.

**Objective.** To assess components of apathy and impulsivity after TBI, their psychosocial consequences, and the burden experienced by the relatives.

**Method.** 38 close relatives of severe TBI patients were asked to complete four questionnaires: the UPPS impulsivity scale, short version [1], the apathy inventory [2], the Sydney psychosocial reintegration scale [3] and the Zarit Burden Inventory [4].

**Results.** TBI patients showed on the UPPS significantly higher levels of urgency, lack of premeditation, and lack of perseverance, and a significant decrease of sensation seeking, as compared with their pre-injury status (P < 0.05). Apathetic symptoms were reported, concerning the three dimensions of apathy. Psychosocial problems, and the relatives' burden both significantly and positively correlated with loss of initiative (P < 0.01) and with all dimensions of impulsivity (P < 0.05), except with sensation seeking. A positive significant correlation was found between lack of perseverance on the one hand and lack of initiative (P < 0.01) and loss of interest (P < 0.05).

**Discussion.** TBI patients showed, in comparison with pre-injury, a significant increase of both impulsivity and apathy. These modifications were significantly correlated with psychosocial problems and the relatives' burden. The underlying cognitive and motivational bases of these changes need to be further studied.

**References**


**CO08-004–EN**

**Ecological assessment of cognitive functions in children with acquired brain injury: A systematic review**

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**Keywords:** Acquired brain injury; Child; Assessment; Cognitive; Ecological

Childhood acquired brain injury (ABI) often leads to impairment in cognitive functioning, resulting in disabilities in both the home and school environment. Assessing the impact of these cognitive deficits in everyday life using traditional neuropsychological tests has been limiting. The aims of this review were to (i) systematically review the literature in order to identify existing ecological assessments of cognitive functioning that have been used in childhood ABI; (ii) describe the identified measures in terms of their psychometric properties, clinical utility and overall advantages and disadvantages.

**Method.** Eight databases were searched (until May 2010) for scales (tests or questionnaires) which include:

- focused on ecological assessment of cognitive functioning;
- applicable to children up to 18 years of age;
- with published data in an ABI population;
- in English. The title and abstract of all papers were reviewed independently by two reviewers.

**Results.** Database searches yielded a total of 12,475 references, of which 15 scales met the inclusion criteria for the review, focusing on executive functions (n = 8), memory (n = 2), general cognitive abilities (n = 2), visualspatial skills (n = 2) and attention (n = 1). The tasks consisted of four tasks using observation of actual performance in a natural environment, five questionnaires and six functional “paper and pencil” type tasks, developed with ecological validity in mind. While all tests had some information on their psychometric properties, there was a lack of information in many cases. However, discriminant validity

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