

Editorial: impact of traumatic brain injuries on participation in daily life and ...

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Editorial on the Research Topic

Impact of Traumatic Brain Injuries on Participation in Daily Life and Work: Recent Research and Future directions

A large proportion of individuals with traumatic brain injuries (TBI) sustain long-term physical, cognitive, and emotional impairments that have a profound impact on their everyday level of functioning, community participation, and reintegration ([1](#)). Participation in daily life activities and work is identified as one of the most important outcomes of TBI-rehabilitation by patients, their families and healthcare professionals. Identifying predictors for long-term participation is complicated, as there is a complex interaction between several influential factors ([2](#)). For example, motor and cognitive deficits appear to have significant impact on participation in the early stages, whereas personal, emotional and social factors play a major role in later stages of TBI ([3](#)). Injury-specific factors seem to play the largest prognostic role early on, whilst general factors such as resilience, access to social support, and degree of pre- and co-morbid psychological problems, play a greater role in long-term adjustment ([4](#)).

There are a limited number of well-designed TBI studies examining determinants of participation by the individuals with TBI, effective rehabilitation and community re-entry programs, and long-term outcomes. Rehabilitation studies from different countries are required to allow a better understanding of sociopolitical and cultural variation in patient needs and service delivery.

This e-book comprises 12 original research articles and two reviews from Australia, Canada, China, Denmark, France, Netherlands, Norway, and USA. The materials provide insights into the impact of TBI on physical, cognitive, emotional, behavioral and psychosocial functioning, participation in daily life activities and work, driving behavior, vocational rehabilitation, the role of peer support groups, financial compensation following TBI, and classification of health-related rehabilitation services.

The book opens with an original article by Wardlaw et al. , which assessed the association of resilience, demographic, injury-related, cognitive, emotional, and family factors with participation following TBI. The study demonstrated that, across the full spectrum of injury severity, and persisting disabilities, resilience can impact on community reintegration many years post injury. Understanding the role of resilience can promote optimistic and hopeful treatment approaches.

The article by Shao et al. found that patients with mild TBI had reduced cortical thickness in the left entorhinal cortex while increased cortical thickness in the left precuneus cortex and right lateral occipital cortex. Female patients also had an increased cortical thickness in the left caudal anterior cingulate cortex compared to males. Increased cortical thickness was positively related to post-traumatic stress complaints in female patients. Sex differences in cortical thickness may be used as a neuroimaging phenotype for investigating clinical profiles of mild TBI.

In their review article, Polinder et al. discussed current evidence and controversies concerning the use of the terms post-concussion symptoms vs.

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syndrome, its diagnosis, etiology, prevalence, assessment, and treatment in both adults and children. The authors highlighted that post-concussion symptoms are dependent on complex interactions between somatic, psychological, and social factors, and that treatment is variable, and primarily directed at symptom relief, rather than at modifying underlying pathology.

An original article by Tibæk et al. investigated return to work in young persons (<30 years) with acquired brain injury, over a 10 years period. About one third had not achieved stable return to work and had much lower odds compared to controls for stable work attachment. No improvements in return to work were obtained after 2–5 years. Given the economic and social benefits of work, this result presents a major rehabilitation challenge.

2. Ponsford J, Draper K, Schonberger M. Functional outcome 10 years after traumatic brain injury: Its relationship with demographic, injury severity, and cognitive and emotional status. *J Int Neuropsychol Soc* . (2008) 14: 233-42. doi: 10. 1017/S1355617708080272

3. Andelic N, Arango-Lasprilla JC, Perrin PB, Sigurdardottir S, Lu J, Landa LO, et al. Modeling of community integration trajectories in the first five years after traumatic brain injury. *J Neurotrauma* . (2015) 33: 95-100. doi: 10. 1089/neu. 2014. 3844

4. Whitnall L, McMillan TM, Murray GD, Teasdale GM. Disability in young people and adults after head injury: 5-7 year follow up of a prospective

cohort study. *J Neurol Neurosurg Psychiatry* . (2006) 77: 640–5. doi: 10.1136/jnnp.2005.078246