Where's the Boss?
JEF©: A New Ecologically-Valid Assessment of Executive Functions

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Acquired brain injury (ABI) can lead to a constellation of higher-order executive problems, which can significantly impact everyday behaviour. Although some neuropsychological assessments are able to objectively assess these impairments, increasingly, clinicians are finding that a subset of their patients pass these tests whilst still exhibiting difficulties in day-to-day living. Calls have therefore been made to develop assessments that are more sensitive and that are more ecologically-valid (Norris & Tate, 2000; Chaytor & Schmitter-Edgecombe, 2003; Wood & Rutherford, 2004). Virtual Reality (VR) technology offers an opportunity to address some of the limitations of the traditional tests. The Jansari assessment of Executive Functions (JEF©) is a new tool developed to address these issues through a series of experiments in the 'real world' and then VR.

JEF© is a role-playing task set within a standard business office which mimics aspects of the Multiple Errands Task (MET). Performance is evaluated on subtasks designed to test eight constructs central to executive function: Planning, Prioritisation, Selective-Thinking, Creative-Thinking, Adaptive-Thinking, Action-Based Prospective Memory (PM), Event-Based PM and Time-Based PM. A series of experiments will be presented where the sensitivity of JEF for assessment executive functions in adults with TBI is evaluated. Then experiments demonstrating its utility as an experimental tool for investigating the impacts of a range of chemical substances on brain-intact individuals will be described. Finally, the development of a children's version, JEF-C© will be described and the results from studies using this to assess executive functions in typically developing, atypically developing and brain-injured children will be described.

In conclusion, it will be suggested that JEF© and JEF-C© are safe ecologically-valid tasks that show great potential for becoming standard assessments of executive functions. Due to performance being evaluated across eight constructs, they also offers post-assessment tool for targeting specific vocational rehabilitation. Further, it can be used for evaluating theoretical models of executive functions. Currently, clinicians in Australia, New Zealand and India are using JEF in their clinical investigations while clinicians in Italy, France, Brazil, Finland, Sweden, Denmark, Israel and Holland are using JEF© or JEF-C© in their local languages to explore appropriateness for their cultures..