

Episodic memory in adults with autistic spectrum disorders: Recall for self- versus other-experienced events

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Abstract

People with autistic spectrum disorders (ASD) have difficulties in recalling recently experienced events, which is dependent upon intact functioning of several aspects of 'self awareness'. The current study examined impaired episodic recall in ASD and its relationship to specific impairments in aspects of 'self awareness'.

Between-group (participants with learning disabilities with and without autistic spectrum disorder) experimental design examining free and cued recall of table-top activities that were either self-experienced by participants or observed being performed by the experimenter.

Participants with ASD did not show superiority of free recall for self-experienced events over observed events, nor for recall of other-experienced events over self-experienced events, but did demonstrate a superiority for *cued* recall of self-experienced events. The implications for theory and practice are discussed. © 2006 Elsevier Ltd. All rights reserved.

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1. Introduction

Memory involves storage and recall of different forms of information (Tulving, 2000). In addition to the distinction between working, short and long-term memory, 'semantic

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memory' (knowledge about the world) can be distinguished from 'episodic memory' (recollection of events from an individual's personal past characterised by the conscious experience of 'remembering') (Tulving, 1985). A further distinction is made between the subjective experiences of 'remembering' (i.e. mentally returning to an event and re-experiencing it) and 'knowing' (i.e. recognition without recall of the original experience). 'Autonoetic consciousness' is the conscious awareness of one's own existence and identity "... in subjective time extending from the personal past through the present to the personal future" (Tulving, 1985). This facilitates 'mental time-travel' to past events, which can then be re-experienced (Gardiner, 2002). The linkage of episodic recall and autonoetic consciousness has implications for understanding of the 'self' and the extent to which self concept develops from episodic experiences (Klein, 2001). Conway (2002) further proposes that the recollective experience associated with episodic memories indicates that the mental image generated is a reflection of a self-experienced event, rather than dreams or fantasy, and that 'experiences with strong self-reference may receive privileged encoding that render them highly accessible'.

If episodic memory is dependent upon autonoetic consciousness, then episodic memory requires a 'self' that is continuing through time, with past and present experiences relating to the same 'self'. Episodic recollection is dependent on recollection of specific events and recognising that the event happened in one's own past. Thus, without reference to the past and self-continuity across time, individuals would exist in a 'permanent present' (Baddeley, 1999). Self-continuity through time does not develop until the age of 4 years, when episodic memory is first observed (Perner, 1990; Welch-Ross, 1995). Klein (2001) argues that impaired self concept leads to impaired memory, rather than vice-versa, and proposes that people with autistic spectrum disorders (ASD) might experience impaired self continuity related to observed autobiographical episodic memory dysfunction (Boucher & Lewis, 1989; Klein, Chan, & Loftus, 1999; Ozonoff, Pennington, & Rogers, 1991).

Perner (1990) proposes that episodic memory in typically developing children is dependent on mentalisation abilities. Therefore, people with ASD would be expected to exhibit episodic memory deficits and children with ASD have been found to have difficulties in recalling self-participation in events (Boucher, 1981; Boucher & Lewis, 1989). Powell and Jordan (1993) explain deficits in episodic memory associated with ASD by reference to an impaired 'experiencing self' that 'encodes events as part of a personal dimension'. Without this specialised encoding, spontaneous retrieval is hindered, impairing free recall of personal episodic memories. They further posit a difference between 'knowing' that one is engaged in an event and 'experiencing' it as happening to oneself, the latter involving evaluating personal feelings about the event and the personal significance of the event.

Episodic memories can be recalled by cued recall or by spontaneous free recall, which requires re-experiencing (Conway, 2002). Powell and Jordan (1995) suggest people with ASD will not be impaired on *cued* recall of personally experienced events, only on *free recall*, as their ability to deliberately place themselves back in an experience is impaired, which results in events not being encoded as part of a personal dimension.

Conway (2002) proposes experiences directly involving the self may receive 'privileged' encoding that makes them more easily searched for and retrieved, i.e. events involving the self should be more easily remembered than events observed (Baker-Ward, Hess, & Flannagan, 1990; Conway & Dewhurst, 1995). Therefore, people with ASD who have deficits in processes involving the self should *not* demonstrate this superiority for self-experienced events.

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