How useful is the concept of a 'working self' in accounting for the functioning of autobiographical memory?

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Autobiographical memories form the basis of an individual's sense of self-history, as Conway and Holmes (2005) suggest, they provide a 'database' of the self. These memories help people to interact with one another, give a sense of personal and social history, and provide a sense of continuity to experience which would otherwise not be possible. This essay endeavours to explore the utility of the concept of a 'working self' in accounting for how autobiographical memories are cognitively organised.

For Conway and Holmes (2005), due to the complexity of autobiographical memories, some sort of central or executive processing must be implicated in their construction, in order to maintain them and keep irrelevant knowledge out of one's mind, and that recall is centred upon the task or goal currently being undertaken by an individual. Such processes are complex and yet central to much human life and utilise a number of different parts of the brain. Due to this, autobiographical memory is vulnerable to disruption through trauma or illness.

Conway and Pleydell-Pearce (2000, cited in Conway and Holmes, 2005) use the concept of a 'working self', which describes how individuals place current goals and self-conceptions in an hierarchical mental structure. Therefore, the 'working self' in this view, has a very large influence on how autobiographical experiences are stored and retrieved, and how memories are personally constructed. They also postulate that periods of change and personal development will have an increased impact upon the 'working self' and retain particular salience in an individual's personal constructions.

For Conway and Holmes (2005), the 'working self' first develops in infancy, when a child develops the ability for objective and subjective self-awareness ('I' and 'me'), yet these early memories become less accessible as the child develops and only stabilises in late adolescence (Erikson and Erikson, 1982, cited in Conway and Holmes, 2005). Conway and Holmes (2005) cite a number of studies that highlighted 'childhood amnesia', where adults struggle to retrieve memories before the age of five, which were once freely available in their brains when they were children. Conway and Pleydell-Pearce (2000, cited in Conway and Holmes, 2005) suggested that this change occurred due to changes in the working self's goal hierarchy, making retrieval of such earlier memories more difficult as they lose relative salience. A more Freudian account would be to say the child 'working self' is unable to control the emotional intensity of experience, thus episodic memories from early childhood could impact upon the adult 'working self' by reinvigorating intense emotions from this period. This theory would suggest that the adult working self places constraints on memories from childhood, resurfacing.

Conway and Holmes (2005) suggest that when adults over the age of 35 are asked to freely recall significant autobiographical memories, there was a clustering around the late adolescent/early adulthood age range, represented in a graph by a 'reminiscence bump' (RB) in the 'lifespan retrieval curve' (LRC) at this stage in the life course. This recall effect has been found to aid the remembering of public events and cultural expression of the era concerned. These memories are also thought to be more accurate and judged to be more important to the individual (Rubin et al. 1998, cited in Conway and Holmes, 2005). It has been found that the RB is not due to memories being of first time experiences, or a more efficient memory system at this age (Conway and Holmes, 2005). Fitzgerald (1988, cited in Conway and Holmes, 2005) suggested that this period in life was characterised by self-defining experiences that link the 'working self' to a lived reality, salient in terms of a period of time when identity is becoming more defined.

Studies of the LRC have also found a 'recency effect' regarding memories, where, the further in the past that something is experienced, the harder it is to recall (apart from the RB). Memories that have been encoded more recently are thus easier to retrieve. When people are specifically asked to recall early memories, people often are able to, so this effect in 'free recall' studies suggest that rather than forgetting information, people preference the recall of recently stored information (Conway and Holmes, 2005).

Conway and Pleydell-Pearce (2000, cited in Conway and Holmes, 2005) suggested that autobiographical knowledge can be viewed in terms of the specificity of events, ranging from 'general events' to 'lifetime periods'. General events refer to an array of knowledge structures concerning single events, repeated events, or extended events (e.g. a holiday); and can be processed in a number of ways. Robinson (1992, cited in Conway and Holmes, 2005) found that general events can be structured in terms of 'mini-histories' containing detailed episodic memories of attaining one's goals, and Pillemer (1998, cited in Conway and Holmes, 2005) argued that such events can become significant reference points of constructing a sense of self-identity. McAdams et al. (2001, cited in Conway and Holmes, 2005) also found that general events may be organised together due to their emotional similarity. Conway and Pleydell-Pearce (2000, cited in Conway and Holmes, 2005) conclude that general events containing knowledge of context, actions, emotions and goals; can be represented through imagery, emotions, language used and so on; and are organised in mental models.

'Lifetime periods', like 'general events', also consist of autobiographical memories of context, emotions and goals; yet refer to a particular period of time within an individual's life course, and can be a way of accessing autobiographical knowledge, and evaluating knowledge in terms of goal attainment (Beike and Landoll, 2000, cited in Conway and Holmes, 2005). Bluck and Habermas (2000, cited in Conway and Holmes, 2005) suggest that these periods are important in building an individual's 'life story'. A 'life story' gives meaning to an individual's life and consists of schema and themes. Lifetime period knowledge provides support for the generation of schema and information utilisable for the evaluation of personal goals. This type of autobiographical knowledge is less event specific and related more to abstractions and concepts of self progression. Conway (1996, cited in Conway and Holmes, 2005) argues that these forms of autobiographical knowledge form 'hierarchical partonomic knowledge structures', referring to how episodic memory form a part of general events, which are part of lifetime periods, which then form a 'life story'.

Tulving (1972, cited in Conway and Holmes, 2005) postulated a distinction between 'episodic memory' distinguished by its specificity to time and place, and 'semantic memory' characterised by abstract and conceptual knowledge that is context-free. This distinction begins to break down however, as episodic memories can be seen to hold semantic meaning, and semantic memories often contain specific events. This led Tulving (cited in Conway and Holmes, 2005) to later consider the defining feature of episodic memory to be a 'recollective experience', where an individual has feelings of 'experiencing the past', which does not occur with other types of memory retrieval. For Conway (2001, cited in Conway and Holmes, 2005) however, episodic memories are of a largely sensory-perceptual nature, yet will not endure as memories unless attached semantically to more permanent mental representations of an autobiography.

Tulving (1983, cited in Conway and Holmes, 2005) argued that when individual's construct an autobiographical memory, their cognitive system enters into a 'retrieval mode', where attention is directed inwards, and consciousness becomes engaged in internal mental representations. As a memory forms, the individual recollecting the past becomes emotionally influenced by the experience, and a sense of self in the past is realised. Recall of autobiographical memories, could therefore interfere with everyday functioning, especially in the case of 'intrusive recall', where prior traumatic events can involuntarily resurface into consciousness; a problem symptomatic of 'post-traumatic stress disorder' (PTSD). Conway and Pleydell-Pearce (2000, cited in Conway and Holmes, 2005) argue that due to the emotional salience of autobiographical memory and its potential disruptive effect on everyday functioning, controlling and managing memory constructions, is one of the main 'functions' of the working self. Conway and Holmes (2005) suggest that there are two ways in which to enter retrieval mode: 'generative', being conscious and intentional; and 'direct' retrieval, triggered by external cues that become linked to a previous event.

Conway and Holmes (2005) argue that the working self structures goals into a hierarchy, and that goal related experiences are prioritised in the construction of autobiographical memories. Markus (1977, cited in Conway and Holmes, 2005) found that individuals that showed a strong personality trait on the independence-dependence continuum, showed preferences to memories of experiences where they had acted in an independent or dependent way respectively; yet, this was not the case for those who did not show such a strong trait in this regard. The effects of personality on the shaping of autobiographical memories, has also been found with other traits, such as power-seeking, intimacy, and generativity; referring to caring for phenomena that will outlast the self (Conway and Holmes, 2005).

Pillemar (1998, cited in Conway and Holmes, 2005) examined the memories people had regarding 'educational episodes', and found that autobiographies of educational experience (such as interactions with teachers) often contain accounts of 'turning points', both negative and positive in the construction of a working self, that could have a profound effect on sense of self for an individual's entire life, from being an inspiration, to forming a self-concept of an inadequate learner. Singer and Salovey (1993, cited in Conway and Holmes, 2005) found that memories associated with emotions of happiness and pride, were strongly linked to the attainment of goals prioritised by the working self. Conversely, memories associated with negative emotions were often associated with feelings of failure to reach one's goals. For Singer and Salovey (1993, cited in Conway and Holmes, 2005), these memories become 'self-defining'.

Using data from fMRI, ERP, and studies looking at 'split-brains' and focal lesions, Keenan et al. (2000) examined the relationship between self-recognition and other self processes, such as self-evaluation and autobiographical retrieval. By reviewing this evidence, Keenan et al. (2000) concluded that self-processes, including everything from self-recognition to autobiographical memory, preferentially activate networks in the right fronto-temporal region. For Keenan et al. (2000) self-recognition indicates a state of self-awareness not found in non-human primates. Without this skill, even the most fundamental aspects of reflective thought would not be possible. They also argue that the 'self-network' may share the same underlying neural substratum as 'theory of mind' abilities.

Magno and Allan (2007) also examined neural activity in tasks where the 'working self' was implicated, in order to see whether or not there was a specific memory system underlying a conscious sense of self continuing through time. Using ERP techniques, a common neural signature was found to be associated with self-processing for retrieving general knowledge (noetic awareness) and for 're-experiencing' past events (autonoetic awareness). Thus, their findings suggest that there is a single locus of control in the brain for the ordering of explicit memories. For Magno and Allan (2007), access to self-referential information requires a functionally independent executive control component (i.e. a 'working self'), yet also found that self-referential processing was required earlier in the process in the construction of autonoetic memories.

A number of studies (Millward et al., 2000; Bowler et al., 2000; Klein et al., 2004; Goddard et al., 2006; Goldman, 2008) have found that those diagnosed as on the autism spectrum have an impaired ability to recall personally experienced events. It is theorised by Millward et al. (2000) that people on the autistic spectrum have a specific memory deficit pertaining to the self. Goldman (2008) suggested that people on the autism spectrum are frequently able to understand the mechanics of a personal narrative, yet often lack the sense of personal information that gives meaning to social stories, such as an inability to provide a central 'high point' to the meaning of their own personal narratives. Klein et al. (2004) found that a breakdown in any of the key components that transform memorial representations into autobiographical experiences can be implicated in the taxonomy of many syndromes and disorders, from autism, to amnesia, frontal lobe pathology and schizophrenia.

The concept of a 'working self' with a goal oriented hierarchical structure is a useful way of explaining the evidence presented by Conway and Holmes (2005). It would suggest that the purpose or function of the working self is to monitor and control access to pertinent knowledge held within long-term memory, with impairments in these systems being implicated in a number of mental disorders and syndromes (Klein et al., 2005). This processing need not be conscious however, although the working self may also be able to direct attention and influence processing. The retention of memories in the construction of autobiographical memories, are filtered through the goal structure of the working self and integrated into pre-existing knowledge structures. This is not a passive process but highly selective, where memories and experiences of events are interpreted within the framework of one's personality and prior sense of self. It can be seen from the evidence presented in this essay that the concept of the 'working self' is well supported by research, and a useful way of describing the functioning of autobiographical memory processes.

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