Knowing me, knowing you: Self defining memories in adolescents with and without an autism spectrum disorder

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ABSTRACT

Background: Autobiographical memory plays a key role in self-understanding and psychological health. While deficits in autobiographical memory are well-established in autism, few studies have focused on adolescence; a critical period for the developing self and self-esteem.

Method: 16 adolescents with an autism spectrum disorder (ASD) and 16 typically developing adolescent controls matched for IQ and gender, were asked to provide three self-defining and three everyday memories. Participants rated their memories for emotional intensity, visual perspective and the extent to which they were self-revealing. Memories were independently rated as self-defining or everyday experiences, and according to their valence and theme. Self-esteem and depressed mood were further assessed with self-report questionnaires.

Results: There were no group differences in the ability to recognise self-defining memories as assessed by independent reports. Both groups also reported their self-defining memories to be more intense than their everyday memories. However adolescents with ASD, in contrast to non-ASD controls, reported self-defining memories to reveal less about them than everyday memories. Relative to controls, they retrieved fewer memories with an achievement theme and more memories with a recreational theme. The control group showed a bias towards retrieving positive rather than negative self-defining memories but the ASD group showed no such tendency. Self-esteem, but not mood was poorer in the ASD group and self-esteem was related to the retrieval of negative self-defining memories.

Conclusions: Adolescents with ASD exhibit an instable self-representation; they recognise the types of past experiences that define them but feel weak connections with these memories.

1. Introduction

Autobiographical memories play a vital role in providing a coherent sense of self (Conway & Pleydell-Peace, 2000) and the manner in which past experiences are appraised can also regulate self-esteem and mood (Wilson & Ross, 2003). Autobiographical memory deficits are typical in individuals with an ASD (Bruck, London, Landa, & Goodman, 2007; Crane & Goddard, 2008; Crane, Goddard, & Pring, 2009; Goddard, Dritschel, Robinson, & Howlin, 2014) and these deficits are thought to contribute to poor self-understanding (Lind, 2010). Autobiographical memory impairment may also be a factor in the

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increased incidence of mood disorder and low self esteem, frequently observed in ASD (cf. Ghaziuddin, Ghaziuddin, & Gredin, 2002; White, Oswald, Ollendick, & Scahill, 2009; Williamson, Craig, & Slinger, 2008). Given the importance of autobiographical memory in understanding self and psychological health and its potential as a mechanism for intervention (Dalgleish et al., 2014), it is not surprising that autobiographical memory research in ASD, has recently flourished. However several gaps in the literature remain. For example, few studies have directly examined the links between autobiographical memory deficits, self and mood. Furthermore, the period of adolescence has been neglected, with most studies subsuming this lifetime period within either child or adult research. The aim of the current study was to address these gaps and examine autobiographical memory in the context of mood and self-esteem in adolescents with and without an ASD.

Adolescence produces profound changes in self-understanding. It is a life-time period that is often troublesome in autism with the increasing incidence of depression emerging during this period (Tantam, 2000). Self-concept development in adolescence involves learning what differentiates one from others, leading to appraisals of competency that contribute to a sense of self-worth (Harter, 1999). Previous research on self-concept in adolescents with an ASD has shown that they perceive themselves to be less competent in a variety of domains including social, athletic, and peer likeability (Williamson et al., 2008). They also have lower overall global self worth compared to neurotypical adolescents (Jamison & Schuttler, 2015). Autobiographical memories provide an important source of psychological self-knowledge (Sebastian, Burnett, & Blakemore, 2008) that can also influence self-perceptions and self-esteem. In particular, self-defining memories (cf. Moffitt & Singer, 1994) are personally significant events that contain 'affective patterns and themes that stamp an individual's most important concerns' (Singer & Salovey, 1993, p. 4) and are closely tied to current working models of the self (Conway & Pleydell-Pearce, 2000). They are typically high in affective intensity and their valence is associated with quality of self perception; accordingly positive self-defining memories can enhance self esteem and negative memories may diminish self esteem (Cili & Stopa, 2015).

Few studies have directly considered how autobiographical memory deficits in individuals with an ASD may impact self-representations. A recent study by Berna et al. (2016) examined how autistic traits within the general population affected both the abilty to draw meaning from self-defining memories, and an individual's clarity of self-concept. Self-concept clarity refers to the extent to which 'self' is experienced as internally consistent, temporally stable and confidently defined. This was measured by questionnaire where participants made judgements of agreement on items such as "My beliefs about myself seem to change very frequently". Results revealed a relationship between autistic traits and self concept clarity that was mediated by the ability to extract meaning from self-defining memories. This finding suggests a direct link between self-deficits and difficulties in using autobiographical memories as a source of self-understanding. Similar effects have been found in adults with an ASD diagnosis. Crane et al. (2010) hypothesized that adults with an ASD would have difficulty identifying self-defining memories such that ratings on qualities typically characteristic of these memories (eg. vividness, emotionality and the extent to which they were self-revealing) would not differ from everyday memories. Difficulties were assumed, due to the purported weaker sense of self in individuals on the AS. However, contrary to predictions, self-defining memories were distinguishable from everyday memories in a similar manner to those of a non-autistic control group. Although, in line with Berna et al. (2016), the ASD group relative to controls appeared to extract less meaning from these memories. Thematic analysis also revealed fewer achievement themes and more recreation themes in the self-defining memories of the ASD group compared to controls.

There are no studies to date that have considered the self-defining memories of adolescents with an ASD. Yet the developing complexity of self during this period and potential for low self-esteem, make this age group a pertinent target for research. Therefore the current study aimed to further understanding of self-memory processes in ASD by comparing the self-defining memories of adolescents with and without an ASD. It was hypothesized that characteristic qualities of self defining memories (i.e., emotional intensity, self-relevance and meaning making) would be less apparent in the self defining memories of adolescents with an ASD compared to age and IQ matched typically developing controls, due to delays and or deficits in the developing self. Self-defining memories were also predicted to be less distinguishable from everyday memories on these qualities, compared to those of a control group. The predictive power of self-defining memories on mood and self-esteem was also explored. Attention was given to memory valence, and it was predicted that the ASD group compared to controls, would report lower self-esteem and lower mood and that this would be related to fewer positive self-defining memories and more negative self-defining memories. An additional quality of memory explored was its visual perspective since visualising a memory from a first person perspective has been hypothesized as a key characteristic of self-defining memories (Libby & Eibach, 2002). Previous research by Lind and Bowler (2010) has demonstrated an increased incidence of observer memories in adults with an ASD compared to controls. This, they reasoned, was indicative of a diminished level of re-experiencing. Thus we also expected more memories to be experienced from an observer perspective in the ASD group relative to controls.

2. Methods

2.1. Participants

All participants (both ASD and control) were recruited from mainstream secondary schools with a specialist resource provision for autism. The sample comprised 16 participants with an ASD (14 males, 2 female) and 16 control participants. Criteria for inclusion were a full-scale IQ of 70 or above and age between 13 and 17. In addition, for the experimental group, a