# Self-conceptualisation in autism

*Knowing oneself versus knowing self-through-other*

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ABSTRACT    This study aimed to extend Lee and Hobson's (1998) findings regarding self-conceptualisation in autism by using a more verbally able sample. The study also investigated the ability to conceptualise self through other. Sixteen typically developing and sixteen adolescents with ASD matched for chronological and verbal mental age were administered a modified version of Damon and Hart's (1988) self-as-subject interview, which also required participants to conceptualise themselves from another's perspective. Self-conceptualisation ability was similar between groups across the categories of distinctiveness and continuity, but reduced in the ASD group under the category of agency. Participants with ASD were, however, less able to conceptualise themselves from another's perspective. These results are discussed in relation to second-person processes and narrative abilities.

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In the last few decades research in autism has been dominated by studies investigating theory of mind ability (ToM), defined as the ability to understand the mental states of oneself and others (Premack and Woodruff, 1978). Whilst a wealth of research has demonstrated reduced ability for understanding the mental states of others (e.g., Baron-Cohen, 2001) the investigation of the ability of people with ASD to understand their own mental states has been relatively neglected, proving to be far more contentious with methodological and conceptual issues preventing clear operationalisation and interpretation of data (Zahavi and Parnas, 2003).

One of the earlier studies investigating self-understanding in autism (Lee and Hobson, 1998) employed the self-understanding interview developed by Damon and Hart (1988). This interview protocol utilises the

Jamesian (1890) distinction between the self-as-object, or, 'me'– character-
ised by objective attributes of the self- and the self-as-subject or 'I', which
corresponds to subjective aspects of the self. Lee and Hobson (1998)
administered this interview to a group of children and adolescents with
autism and a matched sample of children with learning disabilities. In terms
of the self-as-object, they reported fewer self-conceptualisations framed
within social and interpersonal contexts as opposed to psychological and
physical contexts. The authors therefore proposed specific deficits relating
to interpersonal and social aspects of the self rather than a global deficit in
self-conceptualisation in ASD.

In relation to the self-as-subject, unfortunately, only a qualitative analysis
could be performed as both samples, possibly due to low verbal mental
ages, struggled to answer the questions, provided far fewer responses in
contrast to the self-as-object section, and did not demonstrate the higher
developmental levels of self-conceptualisation usually displayed by typically
developing individuals. The first aim of this study was to extend Lee and
Hobson's (1998) findings by investigating self-as-subject ability in a higher-
functioning sample of adolescents with ASD.

It is generally held that in the typically developed population self/other
knowledge tends to develop in tandem (Bosacki, 2000; Astington and
Gopnik, 1988), with evidence suggesting that these two abilities may be
related in autism (Hulburt et al., 1994). However, previous research has
conceptualised self/other knowledge as separate phenomena, focusing on
developmental *associations* (i.e., Frith and Happè, 1999). A major criticism
of such approaches is that they fail to consider more inter-subjective
accounts, which emphasise the developmental *mediating role* of interpersonal
processes in the development of self-consciousness. For example, Hobson
(2002) proposes that the ability to take another's attitude towards oneself
and to the world, and to *identify* with another, serves as a necessary condi-
tion from which a fully reflective relationship with oneself develops. As
such, the capacity for experiencing self-*through*-other (p. 106) mediates,
according to Hobson, the developmental course of the self. The second aim
of this study was to investigate the ability to conceptualise the self through
others in autism.

In view of previous studies (Hulbert, Happè & Frith, 1994; Lee and
Hobson, 1998; Losh and Capps, 2003) and in light of Bruner's observa-
tion that individuals with autism tend to provide un-agentive accounts of
'themselves *and their lives*' (Bruner, 1994, p. 48), it was predicted that self-
understanding would be reduced in autism. On the basis of the noted
difficulties in social/inter-personal engagements individuals with autism
display, it was predicted that the ASD sample would have difficulty in
conceptualising the self-through-others' perspectives.

# Method

## Design

A mixed design was employed with group (ASD vs. TD) as the between-participants factor and self-through-other and self-understanding (both agency vs. distinctiveness vs. continuity) as the within-participants factors.

## Participants

Ethical approval for the study was obtained from the University of the West of England's Ethics Committee. Sixteen adolescent males with ASD were recruited from two special needs schools specifically catering for individuals with ASD. All had received a diagnosis of ASD by experienced clinicians. Participants were individually matched to a sample of 16 typically adolescents (TD) on the basis of chronological and verbal mental age (VMA) t(30) = .396, p =.695; t(30) = .423, p = .676, respectively). VMA was measured with the *British Picture Vocabulary Scale 2nd ed.* (Dunn et al., 1997). See Table 1 for participants' characteristics. Following Lee and Hobson (1998) mean length of utterance (MLU) was calculated from participants first 50 utterances. MLU was significantly different across groups (t(30) = 4.3, p < .01).

## Materials and procedure

Children were tested in a quiet room in their school. The self-as-subject section of Damon and Hart's (1988) self-understanding interview was administered. Two questions were asked for each self-understanding category (agency, distinctiveness, continuity), and probe questions were administered following each response. The order in which each of the three categories was administered was counterbalanced across participants. Following each question, participants were asked a self-through-other question to evaluate participants' understanding of what other people would believe about the

*Table 1*  **Means, standard deviations (in brackets) and range of participants' characteristics**

| Group | | | CA | VMA | MLU |
|-------|---|---|-----|-----|-----|
| TD | n = 16 | M | 13.01 | 13.02 | 15.02 |
| | | SD | (0.11) | (2.05) | (5.04) |
| | | Range | 11.10–15.00 | 9.10–17.00 | 6.65–23.64 |
| ASD | n = 16 | Mean | 13.02 | 12.09 | 8.83 |
| | | SD | (1.10) | (3.06) | (2.77) |
| | | Range | 12.05–15.10 | 6.09–17.00 | 5.03–15.88 |

*Note.* CA = chronological age; VMA = verbal mental age; MLU = mean length of utterance

participant. For the interview protocol, examples of responses, and scoring, see Table 2.

## Scoring

Participants' responses to the self-understanding questions were segmented into 'chunks' for analysis. These chunks were scored using Damon and Hart's (1988) manual, which assigns scores between 1 and 4. To prevent over inflation of scores, this range was extended to 0–4, to include instances where participants were simply unable to provide a response or stated 'I don't know'. Self-through-other questions were analysed using a coding scheme that assessed the ability to explicitly formulate the content of the other's beliefs. These scores ranged from 0 to 2. For a detailed description of these criteria and examples of responses see Table 2.

Participants' responses were jointly coded by the first two authors. For reliability purposes an independent coder, blind to diagnoses and predictions of the study, coded responses for 25% of the sample (8 participants, 4 from each group). Weighted Kappa tests revealed moderate to high levels of inter-rater reliability (Self: agency: K = .93; continuity K = .76; distinctiveness: K = .81; Self-through-other: agency: K = .94; continuity K = .76; distinctiveness: K = .86).

## Results

### Self-understanding

Chi-square tests revealed that the developmental levels attained by both groups were significantly different for agency, but not distinctiveness or continuity ($\chi^2(4) = 11.72, p = .020; \chi^2(4) = 5.60, p > .05; \chi^2(4) = 3.49, p > .05$, respectively). As shown in Figure 1, both groups of participants found the agency questions more challenging as reflected by the number of 0 scores. ASD participants were unable to respond to distinctiveness and continuity questions in 14.3% of cases and TD participants in 4.7% of cases. In striking contrast, 37.5% of ASD participants, compared to 25% of TD participants (31% for both groups combined), were unable to provide self-conceptualisations in terms of agency. Therefore, it appears that whilst both groups found providing self-conceptualisations in terms of agency challenging, this tendency was greater in ASD.

In particular, the ASD group provided no responses at the highest level for the agency questions, in contrast to 12.5% of responses from the TD group. Furthermore, only 6.3% of ASD responses made reference to communication with others (level 3), in comparison to 25% of TD responses. Rather, ASD responses were greater for levels 1 and 2, representing 56.2%

*Table 2* Interview protocol, scoring criteria and examples of responses

| | |
|---|---|
| **Agency:** Formation, existence, control of self | 1) Supernatural, biological, social forces: 'By doing the things my friends like doing' (TD; 10:08)<br>2) Talents, abilities, wishes, effort: '… My Father was from […] and he done hard work …that's why I do a lot at school' (ASD; 14:03) |
| *Self-understanding:* 'How did you get to be the way you are; How could you become different?' | 3) Communication with others: 'Advice from someone … *Int: Why is it important that you have advice?* …because they want their friend to be better at something …and so that they can be proud and be proud themselves with having a great friend' (ASD; 14:03)<br>4) Personal or moral evaluations of life possibilities: 'Like if something happened to my family …it would be harder to live life without one of your parents so you have to do a lot more on your own and it will make you a stronger person' (TD; 12:10) |
| *Self-through-other:* e.g., 'If I asked (participant's friend) how they thought you got be the way you are – what would they say?' | 0) *No content* – No indication of belief: 'I don't know'<br>1) *Opaque content* – Poorly formulated and indirect references to the another's belief, no indication accompanied with explanation why: 'I don't know I just think he would think something …and not what I said' (TD; 12:10)<br>2) *Transparent content* – Identification and formulation of a specific belief content expressed without ambiguity: 'I think he'd answer that how I came here to be an important person and a really good friend to him … and especially – I am funny' (ASD; 14:03) |
| **Distinctiveness:** Concerning contrasts with others | 1) Observable physical properties & social group memberships: 'I'm completely different from other people … because of my voice and eyes' (ASD; 7:01)<br>2) Comparison of self/other across personality, behavioural or cognitive dimensions: 'I have different grades …it means you are *paying more attention* and you might get a better job' (TD; 9:10) |
| *Self-understanding:* 'Do you think there is anyone who is exactly like you are; What makes you different from anyone else?' | 3) Combinations of psychological & physical characteristics: 'I haven't met anyone like me …most of my friends have got different attitudes and behaviours and I don't think there is anyone exactly like me (TD; 10:08)<br>4) Subjective experiences/interpretations of the world: 'I am unique.… Everyone's different acts different, walks, talks different, looks differently' (ASD; 14:05) |
| *Self-through-other:* e.g., 'If I asked (friend) if they thought you were different to anyone else – what would they say?' | 1) *Opaque content:* 'Might say the same [as participant did to conceptualise themselves]' (TD); 9:10)<br>2) *Transparent content:* 'He would say that I am very funny' (ASD; 14:03) |

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**Table 2** Continued

| | |
|---|---|
| **Continuity:** Awareness of self over time | 1) Externally observable physical properties and behavioural characteristics: 'I've grown ... physical appearance' (ASD; 13:10) |
| | 2) Permanent cognitive/active capabilities & immutable characteristics: 'I still prefer being on my own than with other people' (TD; 16:04) |
| *Self-understanding:* 'How do you change from year to year; What has stayed the same about you from five years ago?' | 3) Recognition of self from others: 'Since I was in primary school I have changed because I have met new people ... if you enjoy being around them you want to act like them. *Int.: How does acting like other people change you?* ... because then you are not being yourself and people might dislike you' (TD; 12:10) |
| | 4) Relationship between one's earlier and present self characteristics: 'I've got mature ...I don't have as many arguments, I don't answer back to people as much. I don't take things as seriously as I used to' (ASD; 12:00) |
| *Self-through-other:* e.g., 'If I asked (friend) how they think you have changed – what would they say?' | 1) *Opaque content:* 'Um don't know what he would say as he used to go to archery class but he stopped a couple of years ago [when participant used to do same activity together]' (TD; 10:08) |
| | 2) *Transparent content:* 'I have grown ... because he has seen' (ASD; 16:05) |

*Note.* TD = typically developing; ASD = autism spectrum disorder.

of responses, whilst this was the case for 34.3% of the TD group (see Table 2 for description of levels). Interestingly, the ASD group provided more responses at the highest levels than TD participants for both continuity (14 ASD; 11 TD) and distinctiveness (11 ASD; 9 TD). Continuity scores for both groups seemed to be concentrated at levels 2 and 4, representing 75% of all responses, compared to levels 0, 1, and 3 combined (25 % of all responses).

## Self-through-other

Before reporting these results it is important to note that out of the 96 questions scheduled to be presented to the ASD group only 78 questions were asked (approx. 81%). This was largely due to attention difficulties and the repetitive nature of the interview which some participants with ASD found challenging. Missing scores spread evenly across self-understanding categories and participants. A summary of scores can be seen in Figure 2.

A further series of chi-square analyses showed a significant difference in the distribution of scores across groups in all three categories (A: $\chi^2(2)$, $= 6.44$, $p = .04$; C: $\chi^2(2) = 6.80$, $p = .033$; D: $\chi^2(2) = 9.85$, $p = .007$. Participants with ASD showed significant difficulty with the self-through-other questions with 49.4% of ASD responses obtaining 0 scores in contrast to 20.8% in the TD sample. This difficulty is also evidenced in that only 35.1% of ASD responses, in contrast to 69.8% in the TD sample, were identified as obtaining the maximum score. Similar percentages could be observed for responses that alluded indirectly to other people's beliefs (ASD $= 15.5\%$; TD $= 9.4\%$).
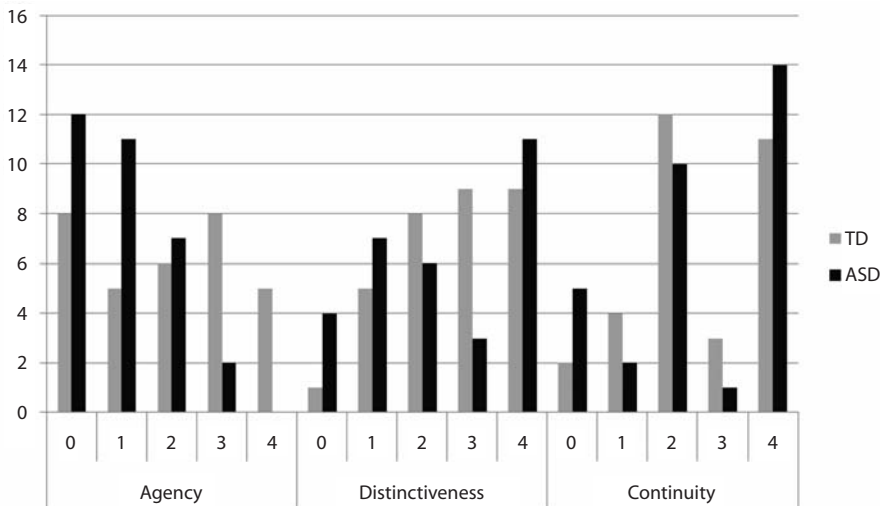


*Figure 1* **Number of responses for self questions in each level, across categories and groups**
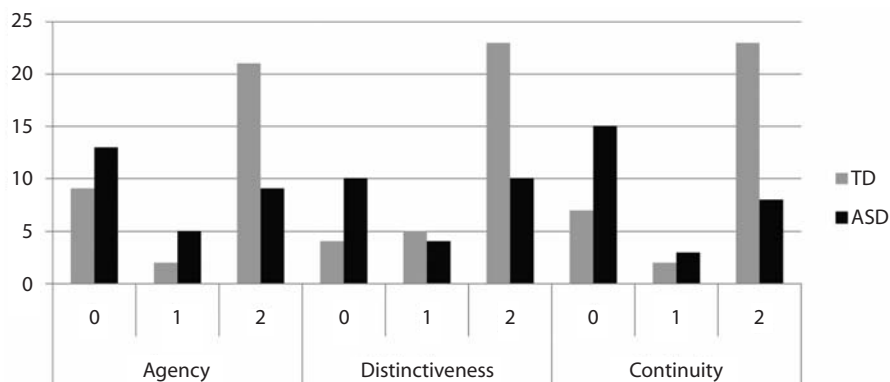
**Figure 2** **Number of responses for self-through-other questions in each level, across categories and groups**

## Discussion

The present study suggests that, overall, adolescents with ASD self-conceptualise to a similar level as TD adolescents. It appears, however, that adolescents with ASD have a specific difficulty with the formation of self-conceptualisations relating to agency; that is, the formation, influences, and control of the self. In line with predictions, individuals with ASD were also less able to imagine how a significant other would perceive them across these categories.

The specific difficulty relating to agency could be related to more basic disruptions in the pre-conceptual *experience* and awareness of one's agency (Russell, 1996, 1997; although see Williams and Happè, 2009). However, the present operationalisation of agency refers to participants' understanding of the volitional and contingent conditions of their development, thus, conceptualising agency at the level of identity and selfhood, as opposed to a 'pre-theoretical' capacity. Whilst such prior 'pre-theoretical' disruptions may be related to difficulties in conceptualisation of oneself in terms of agency, one would expect such difficulties to also have an impact on the other two categories.

A more appropriate explanation locates such dissociation within a narrative framework. Whilst the categories of continuity and distinctiveness questioned the participants about the *actuality* of their past or current self-characteristics, the questions for agency included questions requiring participants to engage in a simulative style of reasoning characterised by subjunctive, imaginative, and projective/retrospective narrative conceptualisations (i.e., How could you become different?). Such processes are known

to be disrupted ASD (Craig and Baron-Cohen, 1999; Boucher, 2007; Hutto, 2003). This, together with the difficulties found in the active formation of a social identity during adolescence in ASD (i.e., Willey, 1999; Williams, 2003), may suggest that disruptions in the ability to identify with the conceptual attitudes of others (treating self-as-other) leads to a disrupted ability to engage in conceptual self-identification; that is, to conceptually relate to oneself in a dialogically maturated fashion.

Furthermore, such concerns may partially account for the finding that the ASD group provided slightly higher (14) responses at the highest level for continuity (TD = 11), and may reflect a preoccupation with the comparison between past and earlier characteristics of the self. Future research needs to investigate the possibility of reciprocal effects between increased developmental experiences of unsuccessful attempts to adapt and regulate the self (particularly in relation to social contexts) and noted narrative and pragmatic difficulties in the condition.

The findings of this study highlight the importance of studying different aspects of the self in ASD. As the results demonstrate, only certain aspects of the self may be impaired in ASD. The self is not a unitary concept but is constituted by different aspects which can be investigated separately. The distinction underlying this study is that made by James (1890) between self-as-object and self-as-subject. Previous studies showing difficulties (e.g., Hulburt et al., 1994) do not explicitly use this, or Neisser's (1988), distinction of the different aspects of the self and it is therefore difficult to make direct comparisons between different studies. Future research is needed to systematically investigate different aspects of self, in both typical development and ASD, in order to get a comprehensive understanding of the pattern of difficulties and strengths present in ASD.

This study also explored Hobson's (2002) proposal that identifying with the perspectives of others mediates the ability to adopt a 'distancing' perspective upon the self and to self-conceptualise. Whilst this proposal specifically relates to the development of conceptual abilities through *pre-conceptual* affective-conative engagements between the infant, caregiver and world, the present study has focused upon the status of a conceptual analogue to such identification, whereby participants were asked to identify with the beliefs of another in relation to the self.

Given that the ASD group were notably less proficient at conceptualising self-through-other it is surprising that they demonstrated self-conceptualisations of a developmentally similar level to the TD group for distinctiveness and continuity. Due to the nature of the data it was not possible to investigate the predictive relationships between self and self-through-other and thus no firm conclusions may be drawn regarding the relationships between the two. More importantly, however, the nature of

the self-through-other questions required complex inferential processes which may not be required to take others' attitudes towards the self.[1] Mean length of utterance (MLU) was significantly lower in the ASD group, especially so for self-through-other responses. Unfortunately, it was not possible to re-analyse the data with subgroups matched for MLU; therefore the results need to be taken with caution. Future research is needed to address this problem.

Alternatively, certain kinds of self-conceptualisation may not be reliant upon being able to identify with the beliefs of others as directed to oneself. In this sense, the self in ASD may be more akin to the traditional Cartesian conception of the mind; whilst being able to self-conceptualise to a high level, they may be less able to incorporate and utilise self-relevant information, both from and within social contexts, which may lead to an idiosyncratic self-understanding and lead to an increased incidence of inaccurate beliefs about the self. This in turn may lead to further difficulties with the embedding and direction of oneself within second-person engagements and social contexts; thus contributing to the reported sense of alienation, estrangement and loneliness (Whitehouse et al., 2009), and hence a strongly defined sense of distinctiveness from others – as demonstrated by the ASD group.

In conclusion, whereas the ability to self-conceptualise in terms of continuity and distinctiveness may be relatively intact in autism, there seems to be a specific difficulty with self-conceptualisations pertaining to agency. Future research will need to identify the pattern of deficits relating to self in autism by making more explicit the distinction between different aspects of self. In relation to our understanding of the extent to which inter-subjective processes afford the epistemic *and* affective constitution of selfhood and reflection, future research is also required to investigate the developmental relationships between both pre-conceptual and conceptual forms of first-person self-consciousness and second-person engagements.

## Notes
1. We would like to thank an anonymous reviewer for this observation.

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