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Brief Report: Suggestibility, compliance and psychological traits in high-functioning adults with Autism Spectrum Disorder

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Running Head: Suggestibility in ASD

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Abstract

Individuals with autism spectrum disorder (ASD) may be over-represented within the criminal justice system; it is therefore important to understand how they fare under police questioning. The present study examined interrogative suggestibility and compliance in individuals with ASD, and whether this is associated with certain psychological traits. Adults with ASD and their typical counterparts completed the Gudjonsson Suggestibility Scales (GSS), Gudjonsson Compliance Scale (GCS), and measures of state-trait anxiety, self-esteem, fear of negative evaluation by others and paranoia. In contrast to previous research (North, Russell & Gudjonsson, 2008), there was no difference between the ASD and comparison groups on the measure of compliance, and groups also did not differ on any of the GSS measures, despite the ASD group reporting significantly higher paranoia. Findings indicate that individuals with ASD may be no more likely to succumb to interrogative pressures than their typical counterparts.

Key Words: Autism Spectrum Disorder; Suggestibility; Leading Questions; Recall; Eyewitness; Memory; Individual Differences

1.   Introduction

Individuals with autism spectrum disorder (ASD) may be over-represented in the criminal justice system as victims, witnesses, or even perpetrators of crime (see, e.g., Browning & Caulfield, 2011 for a review). Enabling them to give 'best evidence' is, therefore, essential. People with ASD have a rather unique memory profile, and previous work has shown, for example, that the widely recommended and evidence-based 'Cognitive Interview' is unsuitable for them (Maras & Bowler, 2010). Moreover, there are several theoretically-based reasons to suspect that individuals with ASD might also differ in their susceptibility to suggestive and interrogative interviewing styles. This is important to understand from both a witnessing perspective (i.e. susceptibility to being coerced into giving inaccurate evidence) and from a suspect perspective (i.e. vulnerability to making a false confession). Suggestibility (personal acceptance of the suggested information by the individual) and compliance (the tendency of an individual to assent to suggestions even though privately they may disagree with them) are two factors that can influence this (see, e.g., Gudjonsson, 2010).

Several lines of evidence predict that individuals with ASD might be more susceptible to suggestive and interrogative questioning styles than their typical counterparts. First, they tend to score higher on a number of psychological trait measures that have been reported to correlate with suggestibility and compliance in typical individuals (see, e.g., Gudjonsson, Sigurdsson, Brynjólfsdóttir & Hreinsdóttir, 2002). These include anxiety (e.g., Kuusikko, Pollock-Wurman, Jussila, Carter, Mattila, et al., 2008), fear of negative evaluation by others (e.g., North, Russell and Gudjonsson, 2008) and paranoia (e.g., Blackshaw, Kinderman, Hare & Hatton, 2001). Second, individuals with ASD have well-documented difficulties in monitoring the source of their memories (e.g., Bennetto, Pennington & Rogers, 1996; Bowler, Gardiner & Berthollier, 2004). This means that if they are less able to monitor where they first encoded details then they may be more susceptible to suggestions pertaining to these details. Third, individuals with ASD experience difficulty in consciously recollecting events, and instead rely more on feelings of familiarity to guide their memory (e.g., Bowler, Gardiner & Grice, 2000). Therefore a suggested detail that induces feelings of familiarity might be more likely to be erroneously judged to have occurred in the witnessed event. Finally, impairments in social skills, which often lead to increased social anxiety (e.g., Kuusikko et al., 2008), could make individuals with ASD more predisposed towards compliance with a desire to please the interviewer.

On the other hand, one could also predict that individuals with ASD might actually be less suggestible and compliant than their typical counterparts. For example, a substantial body of research shows that they have difficulty understanding the thoughts and beliefs of

other people (see, e.g., Baron-Cohen, 2000 for a review). If they are unable to gauge the social demands in the first instance, then they might be less susceptible to social conformity. Bowler and Worley (1994) utilised Asch's line judgement task (Asch, 1951) in examining susceptibility to social influence in adults with ASD and found that the ASD group were indeed less likely to conform to the social influence of their co-participants. However, it should be noted that this difference failed to reach statistical significance, probably because of the very small sample size used. People with ASD also have a tendency towards more of a local processing style (rather than seeing 'the bigger picture') which can often, particularly in higher functioning individuals, lead to an intact rote memory with memorization of details without necessarily understanding the relationships among them (e.g., Happé & Frith, 2006). Taken together with findings that people with ASD tend not to utilize the semantic or associative relatedness between items to aid their recall (Bowler, Gaigg & Gardiner, 2008), this indicates that as witnesses they might be less inclined to 'fill in the gaps' with suggestions for semantically related, but inaccurate, details.

Given these contrasting predictions and the important practical implications of examining suggestibility in witnesses with ASD, it is surprising that only two studies (to our knowledge) to date have actually examined this with adults with ASD. Maras and Bowler, (2011) explored suggestibility in ASD for *post-event misinformation*, where participants were presented with a mock newspaper extract about a previously witnessed slide sequence of a bank robbery. The extract contained some inaccurate items of misinformation that were either typical (e.g., that the robbers stuffed the money into a bag) or atypical (e.g., that the robbers held the door open for a customer before entering the bank) with bank robbery schema. Participants were later asked to freely recall everything that they could from the slides and were asked specific questions, some of which pertained to the misinformation (e.g., "what did the robbers do with the money?" referred to the misinformation "stuffed the money into a bag"). Contrary to predictions, ASD and comparison witnesses were equally suggestible, both groups incorporated more post-event misinformation into their subsequent reports if it was schema-typical than if it was schema-atypical, and both groups did so with similar levels of reported confidence. These findings indicate that, high-functioning adults with ASD at least, rely on event schemas to the detriment of their accuracy in a similar way to typical individuals.

North et al. (2008) examined how susceptible individuals with ASD are to suggestive *questioning styles*, using a standardised and well-established forensic measure of suggestibility. The Gudjonsson Suggestibility Scales (GSS version 1 and its parallel GSS 2; Gudjonsson, 1997) consist of a narrative that is read to participants, who then recall all they can about the story. Participants are then asked questions about the narrative, some of

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which are incorrectly leading, before being given negative feedback about their performance with the instruction that they must answer the questions again. This measures two different aspects of interrogative suggestibility: y*ielding* to leading questions, and *shifting* responses following negative feedback from the interviewer (interrogative pressure). *Yield* scores are thought to be more influenced by memory processes, with *Shift* scores being more biased by social and anxiety processes (Gudjonsson, 2003). Alongside the GSS is the Gudjonsson Compliance Scale (GCS, Gudjonsson, 1997), which is a self-reported measure of *compliance* that reflects an eagerness to please and avoid conflict and confrontation (Gudjonsson & Clark, 1986). North et al. administered the GSS 2 and GCS, in addition to four psychological trait measures that are associated with suggestibility and compliance in typical individuals (anxiety, depression, fear of negative evaluation by others and paranoia) to 26 adults with ASD and 27 gender- and IQ-matched typical comparisons. Although the ASD group were susceptible to the risk factors for increased suggestibility, with higher scores on all of the psychological trait measures, they did not differ from their comparisons on the Yield or Shift measures of the GSS. There were also no differences between groups in their free recall of the narrative, which, if Yield responses are more influenced by memory processes, goes some way in explaining the equivalent performance between groups on this measure. With regards to the Shift scores, North et al. suggested that the ASD group were not able, or willing (because of executive function deficits, e.g., Ozonoff, Pennington, & Rogers, 1991) to shift their responses following negative feedback. Another reason why the ASD group may have not been susceptible to shift their responses is that, in line with the theory of mind deficit hypothesis of ASD (e.g., Baron-Cohen, Leslie & Frith, 1985), they simply failed to recognise that, by providing negative feedback, the intentions of the interviewer were to elicit a different response.

North et al. (2008) did, however, report that the ASD group scored significantly higher on the measure of compliance (GCS). This is an important finding because it suggests that in forensic interviewing contexts witnesses or suspects with ASD might be more prone than typical individuals to respond compliantly to the requests and demands of the interviewer, even if they do not actually hold this information as being true. This finding is also important because higher compliance might mean greater susceptibility to exploitation by others, leading to increased victimisation and bowing to pressure to commit offenses. This has important practical implications and warrants further examination. The purpose of the present experiment was to extend North et al.'s (2008) study with a different sample of participants, and using some different measures of psychological traits. Since lower self-esteem has previously been reported in ASD (e.g., Williamson, Craig & Slinger, 2008), and low self-esteem has been shown to correlate with higher suggestibility (e.g., Baxter, Jackson

& Bain, 2003) this was included as an additional measure. In-line with North et al. (2008), we predicted that the ASD and comparison groups would not differ on the GSS recall and suggestibility scores, but that the ASD group would score significantly higher on the GCS self-reported measure of compliance, in addition to scoring higher on state-trait anxiety, paranoia, fear of negative evaluation, and lower on self-esteem.

2. Method

2.1. Participants

Ethical approval for the study was obtained from the Senate Research Ethics Committee at City University London. All participants gave their informed, written consent to take part and were paid standard university fees for their participation. Participants were tested on an on-going basis alongside participation in other unrelated tasks that were being run by the autism research group.Thirty-two participants with ASD (24 males and 8 females) and 30 non-ASD typical participants (22 males and 8 females) took part in total. However, due to time limitations and the rolling nature of ongoing participation on an opportunistic basis, not all participants completed all of the measures (see Table 2 for participant numbers). Individuals with ASD were diagnosed by clinicians using a range of approaches, and a review of records and/or assessment with the Autism Diagnostic Observation Schedule (Lord, Rutter, DiLavore & Risi, 1999) confirmed that all met DSM-IV criteria for ASD excluding the requirement for absence of clinically significant delay or abnormality of language development. Clinical diagnoses were checked against the DSM-IV criteria, and diagnoses were accepted only if explicit information on the criteria were present in the letter of diagnosis. The comparison group was recruited from an existing database via local newspaper advertisements and none had a history of neurological or psychiatric illness. All participants completed the Autism Spectrum Quotient (AQ, Baron-Cohen, Wheelwright, Skinner, Martin & Clubley, 2001). None of the comparison participants exceeded the minimum cut off score for ASD of 32 (range = 22 - 46). Seven of the 32 individuals with ASD scored below 32 (range = 22 – 46). It should be noted however, that rather than being a diagnostic instrument *per se,* the purpose of the AQ is to measure the degree to which an individual has traits *associated with* the autistic spectrum (Baron-Cohen et al., 2001), and as expected, the ASD group scored significantly higher on the AQ than the comparison group, t (48) = 11.19, $p < .001$. Moreover, the pattern of findings remained the when the ASD participants whose scores did not exceed the 32 cut-off were excluded from the analysis.

Groups did not differ on age, verbal IQ, performance IQ, or full-scale IQ as measured by the WAIS-R or WAIS-III UK (Wechsler, 1999). Table 1 summarises these data.

[INSERT TABLE 1 HERE]

2.2.   Materials and procedure

Participants were tested individually, and those who had time permitting completed the following measures in same order during one testing session. Participants were verbally instructed by the experimenter how to complete each pen-and-paper measure, in addition to written instructions at the top of each questionnaire:

2.2.1.   The State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983) is composed of two 20-item pen-and-paper questionnaires. The participant answers each item (e.g., "*I feel calm*") with one of four alternative responses depending on how much they agree that each statement applies to them, with reverse scoring for some questions. One questionnaire asks participants to answer based on how they feel at that given moment in time, to give a *state* anxiety score, and the other questionnaire instructs participants to answer based on how they feel in general, to give a *trait* anxiety score. Higher scores represent higher levels of reported anxiety. The inventory has excellent internal consistency (average αs > .89), and test-retest reliability (average r = .88) for the Trait portion (Barnes, Harp & Jung, 2002).

2.2.2.   The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item pen-and-paper questionnaire. Items (e.g., "*on the whole, I am satisfied with myself*") are answered on a four-point scale, with reverse scoring for some questions. Higher scores represent higher levels of self-esteem. The Self-Esteem Scale has good test-retest reliability and internal consistency (αs > .81, Schmitt & Allik, 2005).

2.2.3.   The Brief Fear of Negative Evaluation Scale (Leary, 1983) is a 12-item pen-and-paper questionnaire. Items (e.g., "*I am afraid that people will find fault with me*") are answered on a five-point scale, with reverse scoring for some questions. Higher scores represent higher fear of negative evaluation by others. This scale has excellent internal consistency (α = .91) and test-retest reliability (r = .75, Miller, 1995).

2.2.4. *The Paranoia Scale* (Fenigstein & Vanable, 1992) is a 20-item pen-and-paper questionnaire. Items (e.g., *"it is safer to trust no one"*) are answered on a five point scale, with higher scores representing higher paranoia. The paranoia scale has very good internal consistency (α =.84) and good test stability ($r = .70$, Fenigstein & Vanable, 1992).

2.2.5. The *GCS* self-reported version, Form D (Gudjonsson, 1997), was administered. This is a 20-item (e.g., *"I give in easily when I am pressured"*), true/false pen-and-paper questionnaire, with reverse scoring for some questions. Higher scores represent higher reported compliance.

2.2.6. *The GSS 2* (Gudjonsson, 1997) involves participants instructed to listen carefully to a fictional story that lasts approximately two minutes, before immediately verbally recalling everything that they can remember. This gives an 'immediate recall' score, for the number of *correct* details reported (out of a maximum of 40), and a *total confabulations* score comprising *distortions* (incorrect details) and *fabrications* (details that were not present in the narrative at all). Following free-recall, the participant is asked 20 yes/no and either/or questions, 15 of which are misleading in that they suggest an incorrect desired answer in the question (e.g., *"did the couple have a dog or a cat?",* when in fact no mention was made of either in the narrative). Participants are scored one point for each leading question that they yield to, giving a *Yield 1* score (out of a maximum of 15). The participant then receives interrogative pressure in the form of negative feedback where they are told: *"you have made a number of errors. It is therefore necessary to go through the questions once more, and this time try to be more accurate"*, regardless of their actual performance, before answering the 20 questions again to give a *Yield 2* score (out of a maximum of 15). A *Shift* score is calculated as the number of times (out of a maximum of 20) that the participant distinctly changes their answer when asked a second time around, irrespective of whether this change is towards or away from accuracy. A *total suggestibility* score is calculated from the sum of Yield 1 and Shift (out of a maximum of 35). Participants' completed the GSS 2 only if it was not preceded by other memory tasks, and their free-recall and responses to questions were audio-recorded. The GSS 2 and GCS were administered and scored in-line with the Gudjonsson (1997) Suggestibility Scales Manual, which has clear scoring criteria and guidelines, and provides details of the good psychometric properties of these scales.

3. Results

An examination of the Shapiro-Wilk statistic revealed that a number of the variables significantly violated assumptions of normality: state anxiety, $W(37) = .89$, $p < .001$; self-esteem, $W(37) = .93$, $p < .05$; GSS distortions, $W(37) = .88$, $p < .001$; fabrications, $W(37) = .66$, $p < .001$; total confabulations, $W(37) = .88$, $p < .001$; Yield 1, $W(37) = .82$, $p < .001$; Yield 2, $W(37) = .87$, $p < .001$; Shift, $W(37) = .84$, $p < .001$; and total suggestibility, $W(37) = .85$, $p < .001$. The non-parametric Mann-Whitney test was used in place of t tests to examine differences between groups on each of the measures, and significance levels were adjusted with Bonferroni corrections for multiple comparisons. Effect sizes, r, were calculated from the Mann-Whitney z scores. There were no differences between the ASD and comparison groups on the psychological measures of state anxiety (U = 324.5, $p = .10$, $r = 22$), self-esteem (U = 358, $p = .45$, $r = .10$), or fear of negative evaluation (U = 313, $p = .10$, $r = .22$). However the ASD group scored significantly higher (i.e. more paranoid) on the paranoia measure (U = 213.5, $p < .001$, $r = .42$) and significantly higher (i.e. more anxious) on trait anxiety (U = 268.5, $p < .01$, $r = .33$) than the comparison group.

There were no differences between groups on any of the GSS free recall measures; free-recall (U = 157.5, $p = .51$, $r = .11$), distortions (U = 162, $p = .59$, $r = .09$), fabrications (U = 133.5, $p = .14$, $r = .24$), total confabulations (U = 144.5, $p = .29$, $r = .17$). Nor were there any differences between groups on the GSS suggestibility measures; Yield 1 (U = 160, $p = .39$, $r = .14$), Yield 2 (U = 160, $p = .40$, $r = .14$), Shift (U = 158.5, $p = .37$, $r = .14$), total suggestibility (U = 145.5, $p = .21$, $r = .20$). Groups also did not differ on the GCS measure of compliance (U = 308.5, $p = .34$, $r = .13$). These data are summarised in Table 2.

[INSERT TABLE 2 HERE]

In order to examine whether each of the psychological measures correlated with suggestibility and compliance, we calculated Spearman's rho correlation coefficients for each of these measures for ASD and comparison participants separately. As can been seen in Table 3, paranoia was the only measure to correlate with the GSS suggestibility measures for both the ASD and comparison groups. The GCS correlated significantly with higher fear of negative evaluation by others for both ASD and comparison groups. For the ASD group scores on the GCS also correlated positively with state anxiety, and for the comparison group GCS scores also correlated with trait anxiety and self-esteem.

Given that the ASD group scored significantly higher on the paranoia scale, and that their scores on this scale were significantly associated with their Yield 2, Shift and Total Suggestibility GSS suggestibility scores, it is surprising that they were no more suggestible than their typical counterparts. However there was a much larger range in paranoia scores for the ASD group (3-63) than the comparison group (3-39). We ran a scatter plot in order to examine whether it was a few particularly high paranoia-scoring individuals with ASD who subsequently had high Yield 2 scores (which would have had a knock-on effect for their Shift and Total Suggestibility scores); leaving the rest of the ASD group with relatively low paranoia and low Yield 2 scores. This notion is supported by inspection of the scatter plot in Figure 1.

Finally, we explored the possibility that higher scores on the Autism Spectrum Quotient (AQ) were associated with higher scores on the psychological trait measures. Spearman's rho correlation coefficients were calculated between AQ and psychological trait measures for ASD and comparison participants separately. None of the correlations was significant for the comparison group (all $r_s < .31$, ps $> .09$), and the only measure that was significantly associated with AQ scores for the ASD group was trait anxiety, $r_s = .48$, $p < .01$. That is, higher AQ scores were associated with higher self-reported trait anxiety for participants with ASD.

[INSERT TABLE 3 HERE]

4. Discussion

The aim of the present study was to examine whether adults with ASD differed from their typical counterparts on measures of suggestibility and compliance, and whether scores on these variables were associated with their scores on psychological trait measures. In line with North et al. (2008), the ASD and comparison groups did not differ on any of the GSS memory or suggestibility measures. As noted in the introduction, despite several lines of research indicating that individuals with ASD might be *more* suggestible, there are also a number of reasons to suspect that they might actually be *equally* or *less* suggestible than their typical counterparts. For example, yielding to leading questions means understanding the motivational desires of the questioner, yet individuals with ASD have difficulty understanding others' knowledge and beliefs. Moreover, the ASD group's recall memory was

good; they did not differ from their typical comparisons in terms of the number of correct details or confabulations that they reported on the GSS recall measure, which could have contributed to their resistance to suggestive influences. This is an important finding because it demonstrates that high-functioning individuals with ASD are able to resist suggestive questioning styles. Future work should extend these findings to see how lower-functioning individuals with ASD, who have broader declarative memory impairments (see Boucher, Mayes & Bigham, 2008), perform on the GSS.

In addition to individuals with ASD being no more suggestible than their typical counterparts, a second positive finding from the present study was that, in contrast to North et al. (2008), there was no difference between the ASD and comparison groups on the GCS measure of compliance. This might be because the ASD group did not differ from the comparison group on state-anxiety and fear of negative evaluation, both of which correlated with GCS scores. Therefore, the ASD participants in our study may have been less predisposed to give compliant answers on the GCS than those in North et al's study (who did score higher on anxiety and fear of negative evaluation). This finding is encouraging, and despite being in contrast to North et al, it is supported by other work. Lemanek, Stone and Fishel (1993), for example, reported that in a parent-child behavioural context, children with ASD were actually *less* compliant than their non-ASD peers. This suggests that, in addition to being somewhat resistant to complying with an interviewer's demands as a suspect or a witness, individuals with ASD may also be resistant to complying with the exploitative demands of others to commit offences.

On the psychological trait measures, the ASD group scored significantly higher on trait anxiety and paranoia. This is hardly surprising considering the social and change-coping difficulties that individuals with ASD face throughout their lives that might make them more inherently anxious (e.g., Kuusikko et al., 2008), and is supported by our finding that autistic symptomatology (as measured by AQ scores) correlated with higher trait anxiety. The finding of increased paranoia is also expected given the difficulties that people with ASD have in making causal attributions to others' mental states that might feed into paranoia. Indeed, Blackshaw et al. (2001) have suggested that increased paranoia in ASD may be related to concerns of threat from others, which stems from a confusion or perplexity about social rules. Whilst this finding is interesting, it should be noted that although the Paranoia scale was designed to measure trait suspiciousness and tendencies to mistrust others (Fenigstein & Vanable, 1992), in ASD participants it might have been measuring something different, such as a very literal cognitive style. Incidentally it was observed during testing that a number of ASD participants made comments such as "well of course I sometimes feel as if I'm being followed; there's CCTV cameras following your every move in the towns and

cities", or "if you think about it adverts are always trying to influence your mind; they want you to like and buy their products!" In other words, it is possible that the ASD participants simply took each statement very literally rather than answering based on how suspicious they actually were, thus findings of increased paranoia in ASD should be interpreted with some caution.

In contrast to our initial predictions, we found no group differences on the state anxiety, self-esteem and fear of negative evaluation scales. This might reflect the high-functioning adult nature of our sample who volunteer for research and are more able to cope with the demands of everyday life on a day-to-day level than lower-functioning individuals or adolescents with ASD might be (e.g., Liss, Harel, Fein, Allen, Dunn, et al., 2001; Williamson et al., 2008). Nevertheless, it should be noted that some of the psychological trait measures (state anxiety and fear of negative evaluation) yielded medium effect sizes and differences between groups in the predicted direction, but were not statistically significant. It may be that, despite our relatively large sample sizes, they were still not large enough to detect a significant difference, and future work should extend these paradigms with larger groups of participants to see whether the non-significant findings still stand. It is also worth noting here that we considered the possibility that the large range of scores on a number of the psychological trait measures were due to the same minority of participants with ASD being high-scorers on most of the self-report measures, but this turned out not to be the case; a number of different individuals had high scores on one measure but normal scores on others, which may simply reflect the diversity inherent in ASD.

In terms of the associations between psychological trait measures and suggestibility, given that the ASD group scored significantly higher on the paranoia scale, and that their scores on this scale were significantly associated with their Yield 2, Shift and total suggestibility scores, it is at first glance somewhat surprising that they were no more suggestible than their typical counterparts on any of these GSS suggestibility measures. However, the paranoia-suggestibility correlations were far from perfect (all r's < .55), meaning that whilst there was an association between paranoia and suggestibility, it was simply not strong enough to mean that all highly paranoid individuals with ASD were more suggestible. Moreover, as noted in the results section there was a relative split in the data, with a few particularly high paranoia-scoring individuals with ASD who had high suggestibility scores, and the rest of the ASD group who had low paranoia scores and were equally or even less suggestible than their typical comparisons. It might be the case that, as previously mentioned, the paranoia scale was measuring a literal cognitive style more than it was paranoia *per se.* It will be important for future work to examine whether suggestibility is better associated with a measure of paranoia that is not self-reported.

Indeed, whilst these findings potentially have important implications, including that investigative professionals should be as cautious not to adopt leading or suggestive questioning styles with individuals with ASD as they are with typical individuals, limitations of the present study are acknowledged. It is of course possible that our study (and North et al.'s, which had similar sample sizes) simply lacked sufficient power to detect a small effect. Indeed, a post-hoc power analysis with the G*Power 3.1 (Faul, Erdfelder, Buchner & Lang, 2009) indicated that the power to detect a small and medium effect for total suggestibility was .15 and .46, respectively, and .23 and .57 for small and medium compliance effects. Future work should therefore use larger sample sizes to explore the possibility that there is a small effect that the present study failed to pick up on. This is also pertinent given that the present study carried out multiple comparisons with corrections, which may have inflated the change of a Type II error (see Sato, 1996 for a discussion). It should also be noted that the GCS and psychological trait measures were based on self-reports, and individuals with ASD are known to have difficulties with introspection. Whilst these difficulties tend to be reduced in high-functioning individuals with ASD through effortful learning (e.g., Frith & Happé, 1999), caution is nevertheless warranted when interpreting findings from these measures. It may also be of relevance that that the GSS measures memory and suggestibility for a previously *heard* narrative. This obviously differs from the dynamic nature of a real-life witnessed event. Since individuals with ASD have been reported to experience difficulty in recalling *personally experienced* events (e.g., Lind & Bowler, 2010), future work should extend these findings to explore suggestibility for more dynamic and personally experienced events in ASD. Nevertheless, as they stand, findings from the present study are positive and imply that individuals with ASD are just as able to resist suggestive influences and are no more compliant than their typical counterparts.

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Table 1

Age and IQ scores for the ASD and comparison groups (standard deviations in parentheses)

	ASD (N = 32)	Comparison (N= 30)
Age (years)	39.44 (12.35)	42.03 (12.45)
VIQ[a]	112.87 (14.38)	109.47 (14.39)
PIQ[b]	110.42 (16.38)	104.70 (14.73)
FIQ[c]	113.00 (15.86)	107.93 (15.13)

a Verbal IQ; b Performance IQ; c Full-scale IQ (WAIS-R UK or WAIS-III UK) (all non-significant)

Table 2

Central tendency for each of the measures for the ASD and comparison groups

	Mean(standard deviation)		Median (range)	
	ASD	Comp	ASD	Comp
State Anxiety	N = 31	N = 28		
	39.19 (13.82)	33.04 (8.55)	37.00 (20-72)	33.00 (20-53)
Trait Anxiety**	N = 31	N = 28		
	49.81 (11.50)	42.29 (11.33)	49.00 (27-71)	42.00 (26-65)
Self-Esteem	N = 30	N = 27		
	19.40 (6.18)	20.85 (5.24)	20.00 (8-28)	22.00 (6-28)
Fear of Negative Evaluation	N = 31	N = 27		
	26.26 (11.76)	21.00 (7.74)	26.00 (7-48)	21.00 (7-40)
Paranoia**	N = 31	N = 27		
	29.90 (15.25)	17.33 (10.56)	30.00 (3-63)	16.00 (3-39)
GSS:	N = 20	N = 19		
Recall	20.70 (7.02)	22.36 (5.58)	22.00 (5-33)	23.00 (13-30)
Distortions	2.05 (1.76)	1.69 (1.51)	2.00 (0-6)	1.50 (0-6)
Fabrications	1.10 (1.41)	.67 (1.13)	1.00 (0-6)	0 (0-4)
Total Confabulations	3.15 (2.30)	2.33 (2.17)	2.50 (0-8)	2 (0-9)
Yield 1	3.05 (3.02)	2.63 (3.44)	2.50 (0-11)	1 (0-10)
Yield 2	5.60 (4.39)	4.32 (4.49)	4.50 (0-12)	3 (0-14)
Shift	4.60 (3.72)	3.32 (3.00)	2.50 (1-12)	2 (0-11)
GSS Total Suggestibility	8.10 (6.30)	6.00 (6.33)	6.00 (1-21)	4 (0-20)
GCS Compliance	N = 28	N = 26		
	9.29 (4.33)	8.27 (3.91)	9.50 (1-18)	8 (2-17)

** $p<.01$

Table 3

Spearman's r_s correlations of the GSS measures of Yield 1, Yield 2, Shift, and total suggestibility, and the GCS measure of compliance, with each of the psychological measures separately for the ASD and comparison groups

Psych Measure	**ASD**					**Comparison**				
	Yield 1	Yield 2	Shift	Total Suggest	GCS	Yield 1	Yield 2	Shift	Total Suggest	GCS
State Anxiety	.21	.20	.24	.24	**.53****	.20	.42	.39	.34	.39
Trait Anxiety	-.04	-.04	.14	.02	.28	.49	.47	.42	.45	**.48****
Self-esteem	.26	.23	-.01	.13	-.25	-.34	-.18	-.23	-.29	**-.47****
Fear of Neg Eval	.00	-.02	.01	.04	**.45****	.32	.50	.35	.39	**.52****
Paranoia	.21	**.55****	**.49****	**.52****	.06	**.69****	**.52****	**.53****	**.66****	.33

** *p*<.01

Figure 1

Scatter plot showing the relationship between paranoia scores and Yield 2 scores for the ASD group