The aim of the present study was two-fold. First, to gather baseline data regarding how autistic people perform in response to standard (unadapted) employment interview questions compared to non-autistic interviewees (Phase 1). The second aim was to use the findings to develop and test adaptations to questions (in Phase 2). Since candidates are often judged not only on the content of their responses but also on interviewers’ overall perceptions of them (Barrick et al., 2009), employers rated the quality of interviewees’ responses to each question individually, as well as rating their overall impressions of the candidates across the entire interview. In accordance with the growing recognition of the need to include autistic perspectives (Chamak et al., 2008; see also Pellicano et al., 2018), feedback was also sought from interviewees regarding their perceptions of the interview questions.

**Participants**

*Interviewees.* A total of 50 participants took part in Phase 1 of the study: 25 autistic (15 males, 10 females) and 25 non-autistic (5 males, 20 females). Of these, 21 autistic (12 males, 9 females) and 21 non-autistic (5 males, 16 females) returned to complete the second interview in Phase 2. Autistic and non-autistic participants were recruited primarily from the Centre for Applied Autism Research (CAAR) database at the University of Bath and through ongoing recruitment, including via social media, support groups, and the local community (posters, magazine articles, etc) across the South West of England. All autistic participants had received a formal clinical diagnosis of Autism Spectrum Disorder according to DSM–IV (American Psychiatric Association, 2000) or DSM-5 (American Psychiatric Association, 2013) criteria, which was confirmed with a copy of their diagnostic report. Those who had received a diagnosis but were unable to access their report received the Autism Diagnostic Observation Schedule, Second Edition (ADOS-2; Lord et al., 2012), to confirm the diagnosis.

Autistic and non-autistic groups did not significantly differ on age, *t*(48) <0.01, *p*=1.00, *d* <0.01, or on measures from the Wechsler Abbreviated Scale of Intelligence-Second Edition (WASI-II; Wechsler 2011): Verbal Comprehension Index (VCI), *t*(48) =0.47, *p*=.644, *d* =0.13, Perceptual Reasoning Index (PRI), *t*(48) =1.07, *p*=.289, *d* =0.30, or Full Scale IQ (FSIQ), *t*(42.87) =0.10, *p*=.325, *d* =0.28. All non-autistic participants scored below the recommended minimum cut-off of 26 on the Autism Spectrum Quotient (AQ-50), which measures levels of autistic traits (Baron-Cohen et al., 2001; see Woodbury-Smith, Robinson, Wheelwright, & Baron-Cohen, 2005). As expected, the autistic group’s AQ scores were significantly higher than those of the non-autistic group, *t*(40.10) =10.29, *p*<.001, *d* =2.95 (Table 1).

Table 1

Age, Wechsler Abbreviated Scale of Intelligence (WASI-II) and AQ scores by group (standard deviations are in parentheses)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Phase 1 | |  | Phase 2 | |
|  | Autistic adults  (N = 25) | Non-autistic adults (N = 25) |  | Autistic adults  (N = 21) | Non-autistic adults (N = 21) |
| Age (years) | 34.24 (12.95) range 18-59 | 34.24 (12.21); range = 18-60 |  | 35.81 (13.27); range = 18-59 | 32.71 (10.75); range = 18-51 |
| VCI | 107.12 (10.81); range = 85-128 | 108.44 (9.22); range = 79-125 |  | 106.33 (10.61); range = 85-128 | 108.33 (9.18); range = 79-119 |
| PRI | 106.84 (14.32); range = 82-131 | 110.76 (11.34); range = 92-136 |  | 107.14 (14.47); range = 82-131 | 109.38 (11.31); range = 92-136 |
| FSIQ | 107.88 (12.52); range = 89-132 | 110.92 (8.73); range = 88-124 |  | 107.57 (12.73); range = 89-132 | 110.10 (8.75); range = 88-123 |
| AQ-50 | 34.33 (9.16); range = 14-46 | 11.28 (6.17); range = 2-24 |  | 35.80 (7.63); range = 20-46 | 11.43 (6.62); range = 2-24 |

To better characterise our sample, information was collected on participants’ current education and work status, and their highest level of educational attainment. More non-autistic interviewees were in full-time work, otherwise both groups were comparable in terms of current education/employment status, and were similarly educated to a high level (Table 2).

Table 2

Autistic and non-autistic interviewees’ highest level of educational attainment and current education/employment status

|  |  |  |
| --- | --- | --- |
|  | % Autistic participants (*N)* | % Non-autistic participants (*N)* |
| *Previous work experience* | 87.5% (21) | 96% (24) |
| *Current work/education status (categories not mutually exclusive)* | | |
| Full-time work | 4.2% (1) | 44% (11) |
| Part-time work | 20.8% (5) | 24% (6) |
| Full-time education | 29.2% (7) | 28% (7) |
| Part-time education | 8.3% (2) | 8% (2) |
| Volunteering | 12.5% (3) | 8% (2) |
| Not working, looking for work | 4.2% (1) | 4% (1) |
| Not working, not looking for work  Yes, self-employed  Full time carer  Off sick | 33.3% (8)  12.5% (3)  8.3% (2)  4.2% (1) | 12% (3)  8% (2)  0% (0)  0% (0) |
| *Highest level of educational attainment* | | |
| Masters level or above | 16% (4) | 4% (1) |
| Undergraduate degree | 41.7% (10) | 44% (11) |
| A Level or equivalent (typically at age 16-18) | 28% (7) | 48% (12) |
| GCSEs or equivalent (typically at age 14-16)  Other | 12.5% (3)  0% (0) | 0% (0)  4% (1) |

*Employer raters.* Four independent employment professionals (three females, one male) were recruited via the researchers’ professional contacts (within the employment industry) to rate transcripts of participants’ answers. The raters worked in various roles for different companies (pharmaceuticals, banking, manufacturing, and strategic intelligence) and all had substantial experience in recruiting and interviewing. Their ages ranged from 38 to 52 years (*M* =45 years, *SD* =5.77). To provide an index of their knowledge, experience, and perceptions of autism, employers also completed brief scales. These demonstrated scores within the average range to those previously reported: Autism Awareness Scale (measuring knowledge of autism; Gillespie-Lynch et al., 2015) *M* =9.75, *SD* =5.06, range =4-16; Level of Contact Scale (measuring personal experience of autism; Morrison et al., 2019) *M* =5.25, *SD* =2.87, range =3-9; Social Distance Scale (measuring stigma against autistic people; Gillespie-Lynch et al., 2015) *M* =7.75, *SD* =2.06, range =6-10.

*Ethical considerations.* Participants provided informed written consent to take part in the study and were fully debriefed. Ethical approval was obtained from the Psychology Research Ethics Committee at the University of Bath.

**Design**

The study utilised a 2 (Group: autistic vs. non-autistic) x 2 (Phase: Phase 1 unadapted questions vs. Phase 2 adapted questions) mixed design, where Phase was within-participants. In Phase 1, all participants answered standard employment interview questions from one of two interview schedules (A or B). In Phase 2, the same participants returned to answer adapted interview questions from the interview schedule they did not receive at Phase 1. Dependent variables were employment professionals’ quantitative scale ratings of interviewees’ answers to each of the seven interview questions, as well as their overall impression of the interviewee measured on nine aspects of participants’ overall performance (see below for details). Qualitative feedback was also obtained from both employers and interviewees to inform the development of question adaptations for Phase 2 and provide a more in-depth exploration of the efficacy of the different question types.

**Materials**

**Interview schedules**

Two interview schedules (A and B) were developed, each with seven questions typical of standard employment interviews. Questions included those aimed at eliciting descriptions of experience and activity, personality characteristics, and self-evaluative information (e.g., “*What are some of your strengths?*”), as well as past job experience and situational judgements (e.g., *Tell me about a time you had to work with someone who was difficult to get along with – how did/would you handle it?*”; Campion, Palmer, & Campion, 1997; Janz, 1982; Salgado & Moscoso, 2002). Schedules A and B comprised different questions to avoid practice effects between Phases 1 and 2, but were each balanced with parallel questions aimed at eliciting descriptions of previous experience, descriptions of past behaviour, and self-evaluation (see Appendix A).

**Employer ratings of interviewees’ responses**

*Content of responses.* Employment professionals’ ratings of the quality of interviewees’ responses to each question were scored using an adapted form of the Interview Skills Rating Instrument (Strickland et al., 2013). The original scale was adapted from a four- to a five-point scale, ranging from 1 (very poor) to 5 (excellent) in order to provide a more fine-grained distinction between those who barely answered the question at all (e.g., with a single yes/no response, to receive a score of 1) and those who did respond, but poorly (e.g., with one or two sentences, to receive a score of 2). To inform the development of adaptations to questions for Phase 2, employers were also asked two optional open-ended questions relating to each interviewee’s response to each interview question in Phase 1: ‘*How could the interviewee improve their answer?’*, and *‘How could the question be adapted to support this?’* (see Appendix B for employer rating questions and scoring criteria).

*Overall impressions.* Employers’ ratings of their overall impressions of each interviewee were obtained after they had finished rating each interview on nine aspects of interviewees’ general performance: confidence, motivation, knowledgeability, conscientiousness, competence, intelligence, likeability, communication skills, and how easy they would be to work with, rated on a 5-point Likert scale ranging from ‘Not at all’ to ‘Extremely’. These constructs were identified in a review by Huffcutt (2011) as factors on which employers base their interview ratings2 (see also Salgado and Moscoso, 2002; Smith et al., 2014).

**Interviewee feedback survey**

At the end of each interview, interviewees completed an online Qualtrics survey about their experience of the interview. This included questions about their confidence in their performance and how clear the desired/required responses were from the questions (on a 5-point Likert scale ranging from ‘Not at all’ to ‘Extremely’), as well as which questions they found easy/challenging and why, and what would have made the interview easier for them. In addition, at Phase 2, interviewees were also asked if they used the print-out of the questions (details below) and how useful they found this, as well as how this second interview compared to the interview that they had received in Phase 1.

**Procedure**

*Phase 1.* Participants completed the mock employment interview in a quiet room at the University of Bath. All participants were interviewed by the second author (JNo) in the same room. Participants were not provided with a specific job description (for parity across participants with different levels of skills and experience), but were asked to answer the questions as though they were in a real employment interview. Participants were pseudo-randomly allocated to receive either schedule A or B at Phase 1, within the constraints of ensuring groups were matched on age and IQ (all *p*s > .760). Interviewees were asked each of the seven interview questions in the same order. In cases where participants could not provide an answer, they were given plenty of time, but the interviewer moved on to the next question if they were still unable to answer (they could not return to the unanswered question)3. The interviewer provided minimal verbal feedback throughout, but the question was repeated or clarified if requested (limited to rephrasing the question or using synonyms). After the interview, participants completed the online feedback survey asking them about their experience of the interview.

*Phase 2.* Participants returned around six months later (mean =27.2 weeks, SD =3.89, range =16-32 weeks) to receive adapted questions from the alternative interview schedule to that completed at Phase 1. Again, they were told that there was no specific job description and that they should answer the questions as though in a real employment interview. The interviews were conducted in the same way as at Phase 1 (following feedback from employers and interviewees), with three exceptions. First, in order to negate any potential increases in executive demands due to the multi-part nature of the adapted questions, participants were asked to respond to each part of the question in turn. Second, and relatedly, they were provided with a print-out of the questions, which remained in front of them throughout the interview. Third, interviewees were given more explicit instructions regarding the structure of the interview, such as the number of questions they were going to be asked and when they should provide an answer. At the end of the interview participants repeated the online feedback survey about their experience of the interview.

*Employer ratings.* After each phase of testing, the employer raters received anonymised and group-blinded transcripts of the interviews alongside a document providing operational guidance on how to provide the ratings. They were informed that participants were completing a mock employment interview as part of a psychological study. For Phase 2, employers were asked to rate participants’ answers independently of their ratings in Phase 1 (should they have remembered these).

**APPENDIX A. Interviewee instructions and Phase 1 (unadapted) and Phase 2 (adapted) questions for Schedule A and Schedule B** [Square brackets where modifications may be needed, e.g., if a participant did not have any work experience]

**General instructions**

**Phase 1:** This is a mock job interview, but there is no specific role in mind. Please do your best to answer as if this were a real job interview.

**Phase 2:** This is a mock job interview, but there is no specific role in mind. Please do your best to answer as if this were a real job interview, and don’t worry about repeating things from last time or telling me things you think I already know about you.

In this interview I am going to ask you about 7 work-related topics. For each topic I will first let you know what I am going to ask about (you don't need to provide a response to this bit). Then I will ask you between 1-3 specific questions in relation to that. Here is a print-out of the questions. I’ll let you know which question we are on each time so you can easily follow it on the print-out as well.

The print out is there just a reminder - I will ask each question before you should respond. Please take your time to think of responses to the questions.

**Interview schedule A**

**Q1 Phase 1 (unadapted):** Tell me a little bit about yourself.

**Q1 Phase 2 (adapted):** First, I’m going to ask you to give me a short introduction to yourself:

* What are your best personal characteristics?
* What are your educational qualifications?
* What work experience do you have?

**Q2 Phase 1 (unadapted):** What were your responsibilities in your last job [volunteering experience]?

**Q2 Phase 2 (adapted):** I’m going to ask you about your responsibilities in your most recent job [volunteering role]:

* What was your job title?
* What were your most important tasks?
* What did you enjoy about the role?

**Q3 Phase 1 (unadapted):** Do you work well as part of a team?

**Q3 Phase 2 (adapted):** I'm going to ask you to give me an example of a time you’ve worked in a team:

* What was your role in the team?
* How did you work with the other team members to solve problems?

**Q4 Phase 1 (unadapted):** Tell me about a time where you had to work with someone who was difficult to get along with – how did/would you handle it?

**Q4 Phase 2 (adapted):** Think about a time you’ve worked with someone who was difficult to get along with. Please tell me:

* What was the situation?
* What did *you* do to try to resolve the situation?

**Q5 Phase 1 (unadapted):** What is your biggest work or educational achievement?

**Q5 Phase 2 (adapted):** I’m going to ask you to tell me about your biggest work or educational achievement:

* What work or educational achievement are you most proud of?
* Why is that?

**Q6 Phase 1 (unadapted):** What have you learned from your mistakes?

**Q6 Phase 2 (adapted):** I’m going to ask you about what you’ve learned from your mistakes:

* Please give me an example of when you’ve made a mistake in a professional situation.
* How did you rectify the mistake?
* What did you learn from it?

**Q7 Phase 1 (unadapted):** Where do you see yourself professionally in 5 years?

**Q7 Phase 2 (adapted):** Finally, I want you to think about the next 5 years in terms of your career. Please tell me:

* What kind of role would you like to be in in 5 years’ time?
* What department, company, or institution would you like to be working in?

**Interview schedule B**

**Q1 Phase 1 (unadapted):** Tell me about any work or volunteer [or academic] experience that you have had

**Q1 Phase 2 (adapted):** First, I’m going to ask you about your work [volunteer] experience:

* What roles have you held previously?
* What responsibilities have you held previously?

**Q2 Phase 1 (unadapted):** What are some of your strengths?

**Q2 Phase 2 (adapted):** I’m going to ask about your strengths:

* What do you consider to be your main strengths (things that you are good at)?
* How have you used these strengths at work [in education]?

**Q3 Phase 1 (unadapted):** What are some of your weaknesses?

**Q3 Phase 2 (adapted):** Now I am going to ask about your weaknesses:

* What things do you find difficult or challenging in the context of your work [education/ volunteering]?
* How do you try to manage these weaknesses at work [education]?

**Q4 Phase 1 (unadapted):** Are you good at problem solving?

**Q4 Phase 2 (adapted):** Think of an example of a time you’ve solved a problem at work [education]. Please tell me:

* First of all, what the problem was
* What did you do to resolve that problem?
* What was the final result?

**Q5 Phase 1 (unadapted):** What experience do you have of managing high workloads?

**Q5 Phase 2 (adapted):** Think of an example of when you’ve had lots of tasks to complete in a limited amount of time. Please tell me:

* What the situation was
* What management strategies did you use?
* Were these strategies effective?

**Q6 Phase 1 (unadapted):** Tell me about a time you’ve disagreed with a colleague – how did/would you handle it?

**Q6 Phase 2 (adapted):** Think about a time you’ve disagreed with a colleague. Please tell me:

* What the disagreement was about
* What *you* did to resolve it?

**Q7 Phase 1 (unadapted):** What [would] makes you happy in a job?

**Q7 Phase 2 (adapted):** Finally, please think about what you consider to be the most important factors that make you happy in a job. Please tell me:

* What type of role would you like to be in?
* Why?

**APPENDIX B. Scoring criteria for individual responses to questions**

Please rate the content of the interviewee’s response for each question using the following criteria

* **1 – Very poor: Very limited response** (e.g., a single yes/no answer with little to no elaboration; completely off-topic without referring back to the question at all)
* **2 – Poor: Satisfied none-to-very little of the question** (e.g., highly off-topic; inappropriate content; negative content or references (e.g., about self, co-workers, peers, previous work, employers, teachers, school, etc.); limited or no conjecture regarding themselves; no evidence of experience or personal characteristics that are relevant for employment)
* **3 – Fair: Satisfied limited portion of the question** (e.g., incomplete response; some deviation off topic; limited examples and details to support response**;** mildly negative references (e.g., about self, co-workers, peers, previous work, employers, teachers, school, etc.); examples and details are somewhat negative and portray subject in a mildly unfavorable light; partially theorizes as to how they did/would respond if never in that situation; response reveals some ability/personal characteristic to apply self in that situation
* **4 – Good: Satisfied adequate portion of question** (e.g., complete response without deviation from topic;examples and details that are relevant to the question and employment**;** adequate detail and examples to support response**;** examples and details are positive and portray interviewee in a favorable light**;** reflects on a basic level as to how they did/would respond if never in that situation; describes situation with a positive outcome**;** response suggests that he /she demonstrates this behavior on a regular basis
* **5 – Excellent: Fully satisfied all aspects of the question and is relevant to employment** (e.g., examples and details are provided where appropriate are highly relevant to the question and to employment; examples and details are positive and portray interviewee in a highly favorable light**;** complete response without deviation from topic;reflects on an elaborate level as to how they did/would respond in that situation**;** describes situation with a positive outcome**;** complete response and (where applicable) includes description of the situation, the tasks related to the situation, the actions that the interviewee took to resolve the situation, and result of the situation; interviewee’sresponse suggests that he / she might demonstrate leadership in this area and will have significant practical experience).