Effects of Gender and ASD Diagnosis on Perceived Personality and Job Capability in Interviews

By

Darian J. Murray

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Faculty Advisor: Melissa Loria, Ph.D.

Executive Director of Honors: James B. Williams, Ph.D.

Abstract

Gender and disabilities have long been identified as factors that contribute to discrimination in society today. The current study explores the interaction between these two factors in the specific context of a hiring situation. In this study, participants were asked to read a resume and job interview notes and then answer questions regarding perception of social skill, job capability, and personality. The resume and job interview notes were identical except two were male and two were female, and one of each gender had a stated diagnosis of Autism Spectrum Disorder (ASD). There were 116 total participants (mean age=36.32, SD=10.94), of which 65.5% were male. No significant interaction effects were found; however, the results revealed a number of interesting main effects within the constructs studied, including the factors hiring recommendation, overall performance, absenteeism, 'bad' other characteristics, and job fit. Despite the lack of interaction effects, future research exploring the significant main effects observed in this study would likely contribute to the growing body of ASD literature by providing further avenues of research and insights into possible limitations that are found when studying this population in this regard.

Keywords: Autism Spectrum Disorder (ASD), discrimination, job interview, perception, gender

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Introduction

General information

Autism spectrum disorder (ASD) is a lifelong developmental disorder that is characterized by difficulties in social interaction and communication, as well as an assortment of distinctive and repetitive behaviours (Block, Block, & Halliday, 2006; Earl et al., 2017). Some individuals with ASD display fixations upon routines and 'sameness,' while others may fixate on certain colors or numbers, or show extreme interest in certain topics (Bryson & Smith, 1998). ASD's are not always the most exact diagnoses, as each person will display a variety of differentiating characteristics that fall somewhere along a spectrum (Block et al., 2006), hence the *spectrum* disorder label (Newschaffer, Falb, & Gurney, 2005). Some of the more common behaviours associated with ASD include unusual preoccupations, compulsions, rituals, complex mannerisms, and idiosyncratic language (Ruzzano, Borsboom, & Geurts, 2014). Specifically, individuals with an ASD may avoid eye contact, lack ability to maintain normal conversations, have unusual behaviours such as rocking, hand tapping, and echoing other people's words, as well as difficulty reading social cues and facial expressions (Wozniak, Leezenbaum, Northrup, West & Iverson, 2017). Additionally, individuals with ASD may show heightened sensory symptoms with increased sensitivity to sound, temperature, touch, and/or sight (Wozniak et al., 2017).

According to recent studies in the United States 16.8 out of 1,000 children aged eight years old have been diagnosed with ASD (Baio et al., 2018). Prior to 1985, the prevalence was estimated to be around 4-5 per 10,000 individuals (Bryson & Smith, 1998), which indicates a 3000% increase in diagnosis in the last three decades. The exact cause of ASDs are yet to be discovered, although it is now known that multiple genes are involved, and that environmental factors such as parental age and teratogenic environmental exposure (e.g., lead, methyl mercury,

thalidomide, etc) can influence the expression of traits as the individual develops (Landrigran, 2010; Myers & Johnson, 2007). It has also been shown that relatives of those with ASD (specifically siblings) are more susceptible to also having an ASD (Yuen et al., 2015) and that several disorders (e.g., Fragile X syndrome, Phenylketonuria, Fetal alcohol syndrome, etc) have been linked to ASD (Myers & Johnson, 2007). Although it has been invalidated many times since it first emerged, the theory that vaccines cause ASD is still common (Baker, 2008; Dubé, Vivion, & MacDonald, 2015).

While the prevalence of ASD diagnoses are increasing rapidly (Matson & Kozlowski, 2011), there is some controversy about whether the increase in diagnoses is due to a true increase in prevalence or merely a reflection of changes in the diagnostic criteria for autism (Barbaresi, Colligan, Weaver & Katusic, 2009; Bryson & Smith, 1998). In recent years there have been changes to the diagnostic criteria of autism; instead of separate diagnoses with subtle differences between them, a larger diagnosis (Autism Spectrum Disorder) is used (Gulati et al., 2019). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association [APA], 2013), in order for an individual to be diagnosed with an ASD, they need to display a lack of abilities across regarding social interaction and communication, restrictive repetitive behaviour, and impairment of daily functional activity, and will be diagnosed upon the severity of their symptoms (APA, 2013). When these changes in diagnostic criteria have been compared, it has been found that specificity (correctly identify those without the disorder) is high but sensitivity (correctly identify those with the disorder) is low, as one study showed that 22% of individuals diagnosed with either Asperger's or autistic disorder (previous diagnoses) did not meet new criteria required for ASD diagnosis (Murphy et al., 2018). These inconsistencies are alarming as even though these individuals have ASD traits, they are of insufficient severity to obtain an official diagnosis and therefore cannot receive the same assistance as diagnosed ASD individuals. Murphy et al.'s 2018 study found no evidence to

suggest that any particular demographic (i.e., age, race, gender) is more likely to be affected by the change in diagnostic criteria than any other.

There is no known genetic test that can be performed to diagnose an individual with ASD, and physicians instead rely on tests and observational techniques to determine a diagnosis (Filipek et al., 1999). When ASD symptoms first become apparent, they tend to appear in one of two ways; as early onset (symptoms appearing before 12 months and becoming more noticeable with time) or as regressive, where the child develops normally until around 24 months when ASD traits begin appearing (Ozonoff, Heung, Byrd, Hansen & Hertz-Picciotto, 2008). Even though symptoms of ASD can appear before age three (Filipek et al., 1999), the variability of ASD means that there is no exact age where a child receives a diagnosis as the child's environment plays a large role in which traits are noticeably expressed (Wozniak et al., 2017).

Variability of trait expression is not the only reason why a diagnosis may be delayed however, with some others including: parental concerns about stereotypical labels being applied to the child or the possibility of a diagnosis causing family distress, as well as some parents hoping the ASD symptoms in the child will disappear in time (Filipek et al., 1999). Parents are the largest influencer of when a child receives a diagnosis, and factors such as socioeconomic status, symptom severity, and parental concern about symptoms in particular all influence how early a child receives a diagnosis (Daniels & Mandell, 2014). It is far more beneficial for the individual to receive an early diagnosis, however, as support can be provided for the child and their family as well as allowing the early implementation of education and treatment (Filipek et al., 1999). The benefits of early intervention of ASD were shown in a 2010 study by Itzchak and Zachor, specifically in regard to adaptive skills and cognitive gains. It was found that cognitive gains were increased not only by early intervention, but also by the level of maternal education,

and that other factors, such as ASD severity and language ability influenced the success of early intervention in children (Itzchak & Zachor, 2010).

Gender differences in ASD

Interestingly, ASD is diagnosed much more often in males than females, at an estimated 3:1 ratio (Loomes, Hull, & Mandy, 2017). The controversy of whether it is ASD occurrence or diagnostic rates that are increasing can be extended to ASD in males and females specifically – does it actually occur more often in males or is it merely diagnosed more often? If it was actually the case that ASD occurs more often in males, a potential explanation could be that there are many male dominated genetic disorders caused by anomalies on the X chromosome (X-linked), of which ASD could be connected (Myers & Johnson, 2007; Rutter, 2005). As ASD also occurs in females, this is clearly not the only causal factor, but it could be a contributing one.

One theory that has been used to explain the vast behavioural differences associated with ASD is Baron-Cohen, Knickmeyer & Belmonte's (2005) 'extreme male brain' (EMB) theory. This suggests that male brains are more specialized for 'systemizing' while females are more specialized for 'empathizing'. For instance, males are usually better at tests relating to mental rotation (Shepard & Metzler, 1971), spatial navigation (Kimura, 1999), and targeting (Watson & Kimura, 1991), while females tend to be better at emotional recognition (McClure, 2000), social sensitivity (Baron-Cohen, O'Riordan, Stone, Jones & Plaisted, 1999), and verbal fluency (Hyde & Linn, 1988). The EMB theory then goes to state that the behavioural traits of ASD are caused by individuals possessing an extreme male brain pattern – decreased empathizing and increased systemizing – regardless of their gender (Baron-Cohen et al., 2005).

Unfortunately, early ASD diagnosis is often difficult for females as there are concerns that the current diagnostic process is biased towards males (Kirkovski et al., 2013). The bias is caused predominantly by the vast majority of research and subsequent literature about ASD

involving its presentation in males (Kirkovski, Enticott, & Fitzgerald, 2013). This leads to females requiring more severe ASD symptoms to get the same recognition as their male counterparts, which leads to diagnoses occurring later in life (Bargiela, Steward, & Mandy, 2016). Additionally, ASD traits tend to present differently between males and females (Mandy et al., 2018). One possible explanation for this is the female compensation hypothesis, which asserts that females learn to adapt to social situations better than males. This means that the distinctive behavioural traits associated with ASD are not noticed as often as they are more biased towards male ASD traits (Mandy, Pellicano, Pourcain, Skuse & Heron, 2018).

Similar to how females adapt to social situations, 'social camouflaging' is a technique used by many individuals with ASD and has been documented in a variety of studies and involves the disguising of distinctive ASD behaviours (Dean, Harwood, & Kasari, 2017; Lai et al., 2017; Ratto et al., 2017). This camouflaging involves imitating social interactions and behaviours and learning to adapt to social situations that would come intuitively to non-ASD individuals (Lai et al., 2017). Additionally, as social camouflaging can be seen in individuals with ASD of both genders, rather than specifically females, it is best conceptualized as a coping mechanism that females utilize more rather than a specific attribute of one gender (Lai et al., 2017)

Discrimination against individuals with ASD

The attempt at social camouflaging is not always fully effective, however, as many children with ASD experience victimization and segregation from their peers (Little, 2002). One study found that children with ASD were four times more likely to experience bullying (Little, 2002). As children with ASD have elevated difficulties with normal peer interaction and social customs, they struggle to create and sustain friendships with their peers. This ultimately increases the likelihood of being subject to victimization, or of victimizing other children

(Cappadocia, Weiss, & Pepler, 2011; Sterzing, Shattuck, Narendorf, Wagner & Cooper, 2012). Removing children with ASD from the standard classroom and putting them in special education classes could reduce the risk of victimization (Zablotsky, Bradshaw, Anderson & Law, 2014). However, this could also hinder the children from developing vital social interaction skills that will be needed later in life (Picci & Scherf, 2015).

A lack of skill in social interaction can have a much larger impact upon adult interactions than childhood ones. Rather than causing ostracization or bullying, this deficit could influence a person's chances of keeping a job, or being hired in the first place, as it has been demonstrated throughout multiple studies that first impressions in job interviews are vital (e.g., Barrick, Shaffer & DeGrassi, 2009; Doughtery, Turban, & Callender, 1994; Weiss, & Feldman, 2006). The same social camouflaging techniques displayed in children with ASD can be seen in adults trying to cope with workplace expectations in an attempt to avoid discrimination (Hull et al., 2017). Unfortunately, the extended use of social camouflaging techniques can have a negative impact on an individual's mental health by increasing the likelihood of depression and decreasing feelings of acceptance (Cage, Di Monaco, & Newell, 2018). It has been found that the highest number of discrimination charges are filed by young ASD individuals, which is unlike other disability groups from whom charges are usually filed by older individuals (Van Wieren, Reid & McMahon, 2008). This is potentially because they lack experience functioning in the workplace, and as such would benefit from being exposed to a work environment prior to being expected to function in one (Van Wieren, Reid, & McMahon, 2008).

Transition programs that focus on preparing high school students with ASD for employment have been shown to have enormous success in helping integrate youth with ASD into mainstream employment. Wehman et al. (2014) showed 87.5% of a treatment group for ASD individuals just having finished high school obtained employment, compared to 6.25%

employment for the control group. Transition programs are not the only way to help individuals with ASD gain and maintain employment. Studies have shown that factors such as assistive technology, multidisciplinary collaboration, supported employment, autism awareness training, and environmental modifications and accommodations were all effective in increasing the likelihood of successful employment of individuals with ASD (Chen, Leader, Sung & Leahy, 2015; Hedley et al., 2017; Müller, Schuler, Burton & Yates, 2003).

Even though individuals with ASD face difficulties in the workforce, females with ASD may struggle more than males. When studying the experiences and needs of adults with ASD in the workforce, it was found that 60% of women with ASD opposed to 40% of men with ASD, stated that social interaction was one of the top three difficulties in the workforce, and that 86% of unemployed women with ASD wished they were employed part-time, compared to 51% of men with ASD (Baldwin & Costley, 2016). Likewise, even though women with ASD tend to have better communication skills than men with ASD (i.e., maintaining eye contact, using appropriate body language and conversational skills), they still identify communication, social interaction, and stress as the biggest challenges they face at work (Hayward, McVilly, & Stokes, 2018). Specifically, a lack in communication skills such as reading between the lines in conversation, analyzing verbal information, and misunderstanding instructions were common (Hayward, McVilly, & Stokes, 2018; Müller et al., 2003).

In particular, navigating through hiring processes pose many difficulties for all individuals with ASD (Mai, 2018). The theory of social distance (Akerlof, 1997) asserts that employers often ignore the difference between social decisions and conventional economic decision-making in favor of hiring applicants who follow similar social codes, even though those codes might be unrelated to work performance (Bursell, 2007). One study has used this theory to explain why Swedish employees might favor applicants with Swedish sounding names over

foreign sounding ones, even though the qualifications were identical (Bursell, 2007). The Swedish employers were obviously familiar with the Swedish culture, its values and behaviours, and so when making a hiring decision, they favored the applicants that they were more familiar with, could understand more, and share more experiences with. The same idea can be extended to why individuals with ASD might face discrimination in the workplace as employers prefer applicants with the same social codes as themselves, which individuals with ASD lack.

First impressions are important tools in human interaction, and once made, they are difficult to change completely (Bhanji & Beer, 2013). These judgements are often made based on very little information (Ambady & Rosenthal, 1992), and behaviours that could be explained by one thing (e.g., an autism diagnosis) are often mistaken as another (e.g., rude behaviour) because of the lack of information (Sasson & Morrison, 2019). In an effort to better understand and decrease hiring discrimination, some studies have explored improving the interview skills of individuals with ASD and have shown positive results (Smith et al., 2014). Aspects of these studies included disclosure of diagnosis, specific training and instruction on how to present themselves, and running through simulations of possible questions and interview scenarios to better prepare responses (Smith et al., 2014; Whetzel, 2013). Many individuals with ASD are hesitant as to whether to disclose their ASD diagnosis to possible employers out of fear they may face discrimination because of it (Mai, 2018); in fact, for some individuals with ASD, disclosing their diagnosis was perceived to be as complex a decision as coming out is for LGBT (Lesbian Gay Bisexual Transsexual) people (Davidson & Henderson, 2010). Due to these fears, it was found that if an individual could conceal their disorder without negative repercussions, many would choose to do so rather than risk the possible consequences of disclosing (Davidson & Henderson, 2010). Nevertheless, a study of individuals with multiple sclerosis showed that even though the disclosure of their diagnosis was seen as very high risk, it actually increased their chancing of remaining employed after three years (Kirk-Brown, Van Dijik, Simmons, Bourne &

Cooper, 2014).. This was possibly because they were able to receive the support they needed from their employees and work environment, and so were helped rather than hindered by their disclosure (Kirk-Brown et al., 2014). Additionally, a recent study has shown that first impressions of individuals with ASD can be markedly improved if the observer is made aware of a diagnosis (Sasson & Morrison, 2019). As such, the current study aims to extend upon these findings in regard to specific hiring situations as well as investigate if gender is a factor. Focusing on hiring situations is especially important because it is an area where social skills tend to be heavily relied upon, and also an area where individuals with ASD struggle to fit societal standards. As such, any further information on how individuals with ASD can be assisted in hiring situations is both helpful and necessary.

The underpinning theory of the current study is Akerlof's (1997) theory of social distance. As mentioned previously, Akerlof theorizes that for many potential employers, social decisions will take precedence over economic decisions when considering applicants – that employers will choose the applicant who has similar social codes to themselves without factoring in work performance or experience (Akerlof, 1997; Bursell, 2007). This theory is important because it provides a possible explanation as to why individuals with ASD may be discriminated against in hiring situations. As individuals with ASD do not display normal social behaviours, the interviewer may prefer another applicant who displays similar social codes. If the ASD diagnosis is disclosed; however, then it would provide an explanation for the social differences and possibly combat the instinctual distance being created. While the Americans with Disabilities Act (ADA) ensures that an individual will never be forced to disclose a diagnosis until special recommendations are required (EEOC, 2002), some people might prefer to disclose prior to being legally required to do so, especially if they think accommodations could help them in the interview itself. Another theory was important to the development of the current study, as it facilitated the predicted results. This theory is the shifting standards model by Biernat &

Fuegen (2001), which states that when people are judged in stereotypical manners, they are judged using within-category reference points. This means that when an individual is doing something stereotypically they should be good at, they will be judged more strictly than someone else who is not stereotypically as good.

The purpose of this study was to determine whether people view individuals with Autism Spectrum Disorder (ASD) more negatively if the ASD diagnosis has not been disclosed, and whether gender plays a significant role in these perceptions. This is important because there are countless situations in life in which explanations for another person's actions are not given and as such people must make first impression judgements on the limited information available. However, when additional information is presented, initial judgements can be adjusted and allowances are made if it is believed there is adequate justification for it.

In this study, participants were asked to read through interview notes and assess the interviewee, then ultimately report whether the interviewee should be hired. There were four versions of the interview notes and all were identical except for whether the interviewee was male or female, and whether they had stated a diagnosis of ASD. Additionally, it has been established women face more discrimination than men in the workforce, both with and without an ASD diagnosis (Abrams, 1989; Bobbit-Zeher, 2011), and this study built upon that knowledge to determine whether the declaration of a diagnosis improved the way the ASD individuals were viewed. Therefore, this study had three primary hypotheses. Firstly, that gender and ASD diagnosis would interact to form a significant effect for the factors analysed. Secondly, that people who read the same resume and job interview notes will view women with ASD more negatively than men with ASD. As it has been established, women struggle against discrimination in the workplace more directly than men (Bobbit-Zeher, 2011), and so it was expected that women with ASD were viewed more negatively than men with ASD. The third

hypothesis focused more on the overall influence of the ASD diagnosis rather than the influence of gender, and was that people would make allowances for individuals with ASD and view them more positively than those without.

Methods

Participants

Participants were recruited using Amazon's Mechanical Turk (MTurk), which is an online service that crowdsources to provide participants for research studies, particularly in the social sciences (Amazon Mechanical Turk, Inc, 2018). It was decided to use MTurk as it was a better alternative to using a convenience sample of purely college students that are unlikely to have experience with hiring individuals. Using a service such as MTurk that accesses participants from a wide range of sources and ages would help create more generalizable results. There were no exclusion criteria regarding the participants, each of participants received monetary compensation ($0.50) for their participation, and the study itself was conducted using Qualtrics. A minimum sample size of 128 (to reach a power of 0.8, an effect size of 0.25, and an alpha level of .05) was determined using the G*Power calculator (Faul et al., 2009; see Appendix A). There were a total of 556 responses, however 440 were removed for various reasons: including, failing manipulation checks, failing all the attention checks, and if the time taken to complete the survey was two standard deviations above the mean (M=629 seconds, SD=442 seconds). This left a total of 116 participants in the final data. Participants ranged in age from 22-73 years (M=36.32; SD=10.94) and there were 40 female participants and 76 male, of which the majority (63.8%) identified as white.

Design and Procedure

The study was conducted online using MTurk and Qualtrics, so there was no direct contact between the participants and the researchers. Participants were presented with an informed consent document that briefed them about what the study would entail. Participants were told that they would be presented with a resume (Appendix B) and job interview notes (Appendix C), and then would be asked to answer questions regarding the personality and capability of the interviewee to assess their competence for the job.

After they consented, they continued to the next screen where they filled out basic demographic information including age, gender, and race, and then continued to the next screen where they read the resume and interview notes. Qualtrics was set up to randomly assign participants after they entered their gender; this helped separate male/female/other participants evenly between each condition. Participants were instructed to read the subsequent information carefully as there would be questions about the content afterwards.

The current study had two factors (gender and ASD disclosure) with two levels each. Thus, there were 4 total conditions, and each were identical other than two of the job interview notes were for a male (John Smith) and two were for a female (Jane Smith), and one of each gender included a sentence that stated the interviewee had been diagnosed with ASD (see Appendices B & C). Participants were randomly assigned to one of these four possible groups.

The job interview notes were created using Block et al. (2006) and Baron-Cohen's (2001) studies as a reference when deciding which ASD traits to include. A written transcript of the job interview was chosen rather than a video so that all four conditions could be exactly the same (excluding gender and ASD diagnosis) and so that possible confounds (i.e., race, clothing, individual preference of presentation, voice/tone, etc) could be avoided. The ASD traits had to be obvious enough that they could be picked up on by the reader, but subtle enough so that the participant could not very easily identify the individual as having ASD. It was decided that the job interview notes would include some of the more well-known ASD characteristics, (i.e., literal

answers, not making eye contact, stimming, and lack of ability making small talk). These are all common symptoms of ASD (Block et al., 2006), and are not so unusual that they cannot be otherwise explained.

After reading the resume and interview notes, participants answered 40 survey questions scored with several versions of Likert-type scales (See Appendices D & E). After answering these questions, the participant moved on to a new page where they answered 3 open-ended questions about the job interview notes that served as attention checks and 1 open-ended question that served as a manipulation check (see Appendix F). They were unable to return to the notes while answering these questions.

In the final section, the participant answered whether they believed the person had a developmental or social disorder of any type, and if so, which on? As the conditions where the interviewee disclosed their diagnosis included the fact that ASD was a social developmental disorder, this question also served as a manipulation check. Participants then moved onto the next page where they were asked whether they had ever received an ASD diagnosis, or known anyone else that had received one. Participants were instructed to provide as little or as much information as they were comfortable and this question served to gather more information about the participants exposure to ASD behaviours prior to taking the study.

Participants then continued to a page thanking them for their participation. There was no debriefing of the true purpose of the study, as there was no risk of harm to the participant and no deceit in the introduction to the study. The study took an average of 10.48 minutes to complete with a standard deviation of 7.37 minutes.

Measures

Two pre-existing scales were used to create the survey questions used in this study; a subscale from Baron-Cohen's (2001) Autism-Spectrum Quotient (AQ) which measures social

skills, and scales from Cunningham & Macan's 2007 study which measures job capability. These scales include a hiring recommendation question, perceived qualification, absenteeism, turnover, feminine stereotypes, a 'good employee' measure, 'job fit,' and a number of other job-relevant personality characteristics.

Social skill. The first 10 questions were drawn from a subscale in Baron-Cohen's (2001) AQ that specifically measures social skill (e.g., "He/she would prefer to do things with others rather than on their own"). The AQ scale has been shown to have good test-retest reliability (r=0.7, p=0.02), as well as reasonable construct validity (α=.77) (Baron-Cohen, 2001). The questions were adapted so that they were phrased to assess another person, rather than the individual answering them. The 10 items included in the social skill subscale can be found in Appendix D. These questions were answered on a 4-point Likert-type scale, ranging from 1 (*Definitely Agree*) to 4 (*Definitely Disagree*) and were combined to create the measure 'ASD Total.'

Job capability. Eighteen questions were taken from Cunningham & Macan's (2007) study examining perceptions of pregnant women interviewing for jobs. This study used measures to generate a comprehensive understanding of how the participants perceived the interviewee's job capability to be. The subscales of the measures in this study included a hiring recommendation, perceived qualifications, absenteeism, turnover, feminine stereotypes, 'good employee' characteristics, and other job relevant characteristics.

Hiring recommendation. The hiring recommendation was answered on a five-point scale (see Appendix E), ranging from 5 (*Yes, I would definitely hire this person. This person is an extremely good candidate.*) to 1 (*No, I would definitely not hire this person. This person is not a good candidate*.).

Qualification. Interviewee qualifications were measured using two items which were rated on a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) and then

averaged together. These items were 'I would evaluate this applicant's qualification for this position favorably,' and 'I feel this candidate would be well suited for the job' (α=.83).

Overall performance. Interviewee overall performance was a rating of how well the participant thought the interviewee did overall, and was answered on a 5-point Likert-type scale ranging from 1 (*Extremely Poor*) and 5 (*Extremely Good*).

The next five sections of the survey were all preceded by the question 'How characteristic of the applicant do you believe each of the following to be,' and used the same scale response format of a 5-point Likert-type scale, ranging from 1 (*Not Characteristic*) to 5 (*Very Characteristic*).

Absenteeism. To measure absenteeism, two items (e.g., 'likely to miss work' and 'likely to need time off') were asked using the 5-point scale mentioned above and the scores were averaged together (α=.84).

Turnover. The item used to measure turnover was 'likely to quit,' and was rated using the scale mentioned above.

Feminine stereotypes. To measure the participants' perceptions of femininity, four adjectives were listed, to which the participant had to rate with the scale mentioned above and the scores were averaged together. These characteristics were: Feminine, Affectionate, Gentle, and Nurturing (α=.80).

Good Employee. There were seven items used to rate perceptions of a 'good employee' that the participant rated with the scale mentioned above and the scores were averaged together. The characteristics assigned to this measure were: demonstrates good work ethic, hardworking, self-reliant, successful, self-sufficient, self-confident, and ambitious (α=.84).

Other characteristics. To measure perceptions of personality traits, there were eleven additional items included that the participant rated using the scale mentioned above. These were: Committed, Dependable, Competent, Mature, Healthy, Aggressive, Intelligent, Physically

Limited, Verbal Communication, and Leadership Ability. These personality traits were split into two categories to be analyzed: 'good' other characteristics (i.e., committed, dependable, competent, mature, healthy, intelligent, verbal communication, and leadership ability) and 'bad' other characteristics (i.e., aggressive and physically limited). The scores of the traits in each category were averaged together to create final ratings for 'good' other and 'bad' other characteristics.

Job fit. The last question was a single one asking the participant to rate how well they thought the candidate 'fits with job,' and was rated on a 5-point Likert-type scale ranging from 1 (*Low Fit*) to 5 (*High Fit*).

The above items and their corresponding scales can be found in full in Appendix E.

As mentioned previously, there were 3 attention checks and 2 manipulation checks included in this study (Appendix F). The 2 manipulation checks were used to ensure that the participant paid enough attention that they recognised the gender of the participant and whether there had been a diagnosis stated while they answered the questions.

Preceding all other questions in this study were basic demographic questions that asked about the participants age, gender, and race. As mentioned, the ages of participants ranged from 22 to 73, with a mean of 36.3 and standard deviation of 10.9. The majority of participants identified as male (65.5%), and no participants identified as any gender other than male or female. The participants mostly identified as White (63.8%), followed by Asian (20.7%), then Black (9.5%), Other (3.4%) and American Indian or Alaska Native (2.6%). These demographic questions were chosen so that more information could be provided about the background of the participants in this study, and so that the results can be generalized.

Analyses

A 2x2 ANOVA analysis using SPSS (Statistical Package for the Social Sciences) was applied to examine the interaction effects between gender and ASD diagnosis disclosure. Main effects were also studied for the measures ASD Total (i.e., the average of the results found using Baron-Cohen's 2001 study), Hiring Recommendation, Qualification, Absenteeism, Feminine Stereotypes, Good Employee, 'Good' Other Characteristics (i.e., the positive 'other characteristics used in Cunningham & Macan's 2007 study: Committed, Dependable, Competent, Mature, Healthy, Intelligent, Verbal Communication, and Leadership Ability) and 'Bad' Other Charateristics (i.e., the negative 'other' characteristics used in Cunningham & Macan's 2007 study: Aggressive and Physically Limited). The measure 'ASD Total' was used to provide information about how the participant recognised ASD symptoms in the interviewee. The results from the measure 'Hiring Recommendation' was the main focus of the study as it answered, ultimately, whether the participant would hire the interviewee regardless of other perceptions. The results from the other measures was used to provide specific information regarding perceptions of males and females with or without an ASD diagnosis.

As the presence of a diagnosis was one of two vital aspects of this study, it was critical that participants recognised and remembered whether there was an ASD diagnosis when answering the questions. If the participants that were in the condition where the interviewee was diagnosed with ASD, and did not confirm that they saw the diagnosis, they were removed from analysis as their data did not necessarily represent responses sensitive to the interviewee's ASD diagnosis. Likewise, as gender was another important factor in this study, if a participant failed to correctly identify the gender of the interviewee their data was removed from the analysis. One of the attention checks served to support the gender manipulation check, as it asked about the name of the interviewee. The name given wasn't important, however, if it obviously was not of the same gender as that given then the participant was removed from analysis (i.e., participant identifies interviewee as male but says their name is Mary). The other two attention checks were

used to help remove participants who may be skipping through the questions and not giving valid answers. If a participant failed to answer or gave unrelated responses to all three of the attention checks then their data was not included in the analysis. Additionally, as it was mentioned before, participants were removed from analyses if the time taken to complete the study was two standard deviations above or below the mean. Prior to calculating these cut off figures, one participant was removed as their time was an extreme outlier.

Results

There were 53 participants who stated they did not have an ASD diagnosis, or know anyone that did, 22 participants who stated they either had an ASD diagnosis or knew someone that did, and 41 participants who did not answer the question. This means that only 19% of participants admitted to having prior knowledge of ASD and its characteristics, which is something to keep in mind when looking at results. A series of between-subjects, 2 (ASD Diagnosis Disclosure: disclosed versus undisclosed) X 2 (Interviewee Gender: male versus female) ANOVAs were conducted to examine a variety of personality and job capability traits after reviewing notes from a job interview.

ASD Total

'ASD Total' scores were created by the participant being asked to respond to how much they agreed with a variety of questions designed to measure ASD characteristics and social skill; a full list of these questions can be found in Appendix D. There was no significant interaction between ASD diagnosis and gender regarding the variable 'ASD Total' ($F(1,112)=.638$, $p=.426$). There was no main effect found between gender ($F(1,112)=3.44$, $p=.066$), with the male condition M=.69, SD=.23, female condition M=.77, SD=.20. There was also no main effect found in ASD diagnosis ($F(1,112)=1.93$, $p=.167$), with the non-ASD diagnosis condition M=.69, SD=.20, ASD diagnosis condition M=.75, SD=.24. All relevant means can be found in Appendix H.

Hiring recommendation

The effects of ASD diagnosis and gender can be seen in Figure 1. There was no significant interaction between ASD diagnosis and gender regarding the variable 'hiring recommendation' ($F(1, 112)=.574$, $p=.450$); however, there was a significant main effect observed for gender ($F(1,112)=6.13$, $p=.015$, $d=0.45$), male condition M=3.69, SD=1.04, female condition M=3.18, SD=1.23. There was no main effect found in ASD diagnosis ($F(1,112)=.574$, $p=.45$), non-ASD diagnosis condition M=3.59, SD=1.22, ASD diagnosis condition M=3.42, SD=1.06. As can be seen, male interviewees more often received an affirmative answer when the participant was asked 'would you hire this individual?' All relevant means can be found in Appendix H.

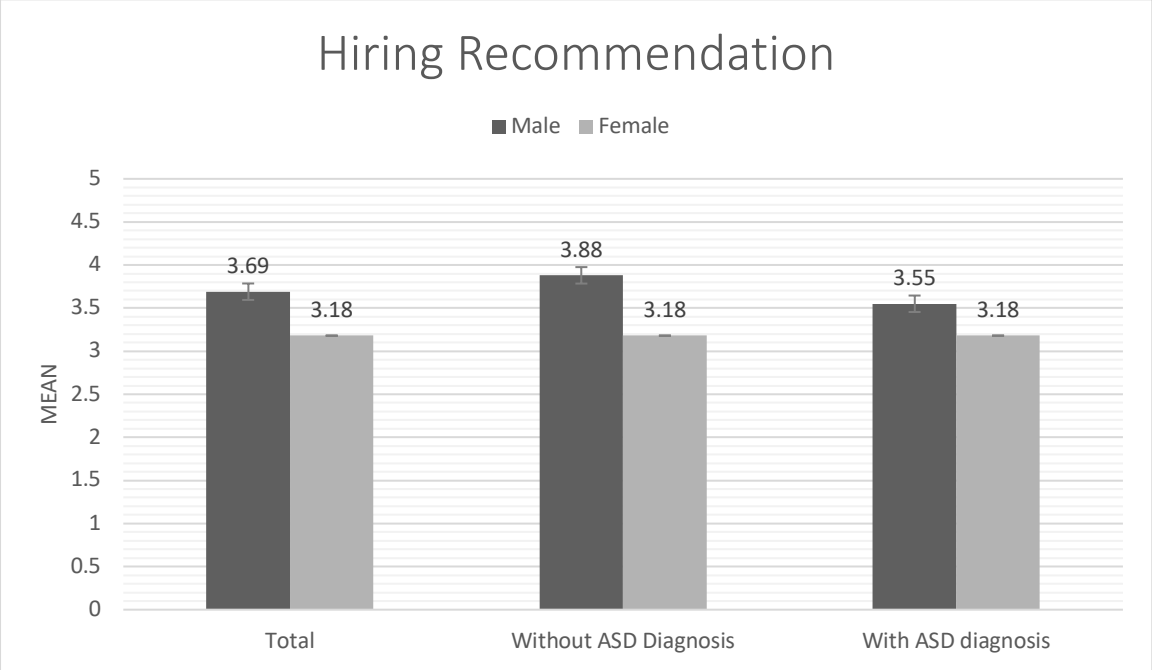

Figure 1. *Perception of Hiring Recommendation*

Qualification

There was no significant interaction between ASD diagnosis and gender regarding the variable 'Qualification' ($F(1,111)=.454$, $p=.502$). This measure included the averaged scores from the participant being asked whether they would 'evaluate this applicant's qualification for this position favorably' and whether they 'feel this candidate would be well suited for the job.

There was no main effect found between gender ($F(1,111)=.594$, $p=.443$), with the male condition M=2.48, SD=1.06, female condition M=2.65, SD=1.07. There was also no main effect found in ASD diagnosis ($F(1,111)=.117$, $p=.733$), with the non-ASD diagnosis condition M=2.60, SD=1.13, ASD diagnosis condition M=2.49, SD=1.01. All relevant means can be found in Appendix H.

Overall Performance

The effects of ASD diagnosis and gender can be seen in Figure 2. There was no significant interaction between ASD diagnosis and gender regarding the variable 'Overall Performance' ($F(1,112)=.639$, $p=.426$). There was a main effect found for gender ($F(1,112)=7.50$, $p=.007$, $d=0.48$), male condition M=3.44, SD=.933, female condition M=3.00, SD=.915. There was also a main effect found for ASD diagnosis ($F(1,112),=5.63$, $p=.019$, $d=0.45$), non-ASD diagnosis condition M=3.50, SD=.927, ASD diagnosis condition M=3.08, SD=.929. As shown, male interviewees were scored higher than females when asked 'how would you rate their overall performance?', and individuals without ASD diagnosis were scored higher than those with ASD diagnosis. All relevant means can be found in Appendix H.

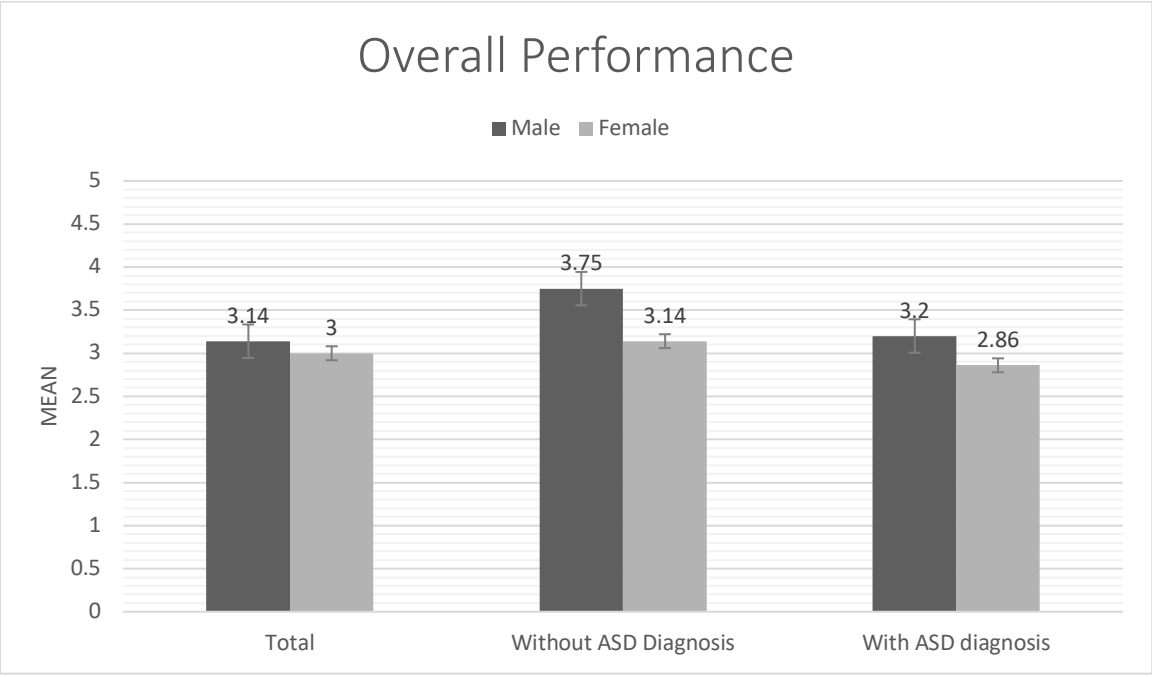

Figure 2. *Perception of Overall Performance*

Absenteeism

The effects of ASD diagnosis and gender can be seen in Figure 3. There was no significant interaction between ASD diagnosis and gender regarding the variable 'Absenteeism' ($F(1,112)=.820$, $p=.367$). There was a main effect found for gender ($F(1,112)=5.39$, $p=.022$, $d=0.40$), male condition M=2.14, SD=1.30, female condition M=1.66, SD=1.07. There was also a main effect found for ASD diagnosis ($F(1,112),=7.37$, $p=.008$, $d=0.47$), non-ASD diagnosis condition M=2.23, SD=1.34, ASD diagnosis condition M=1.66, SD=1.07. This measure included the averaged scores from the participant being asked how likely the interviewee was to 'miss work' and 'need time off.' As seen, male interviewees were perceived to be less characteristic to be absent, as were those interviewees who did not disclose their diagnosis. All relevant means can be found in Appendix H.

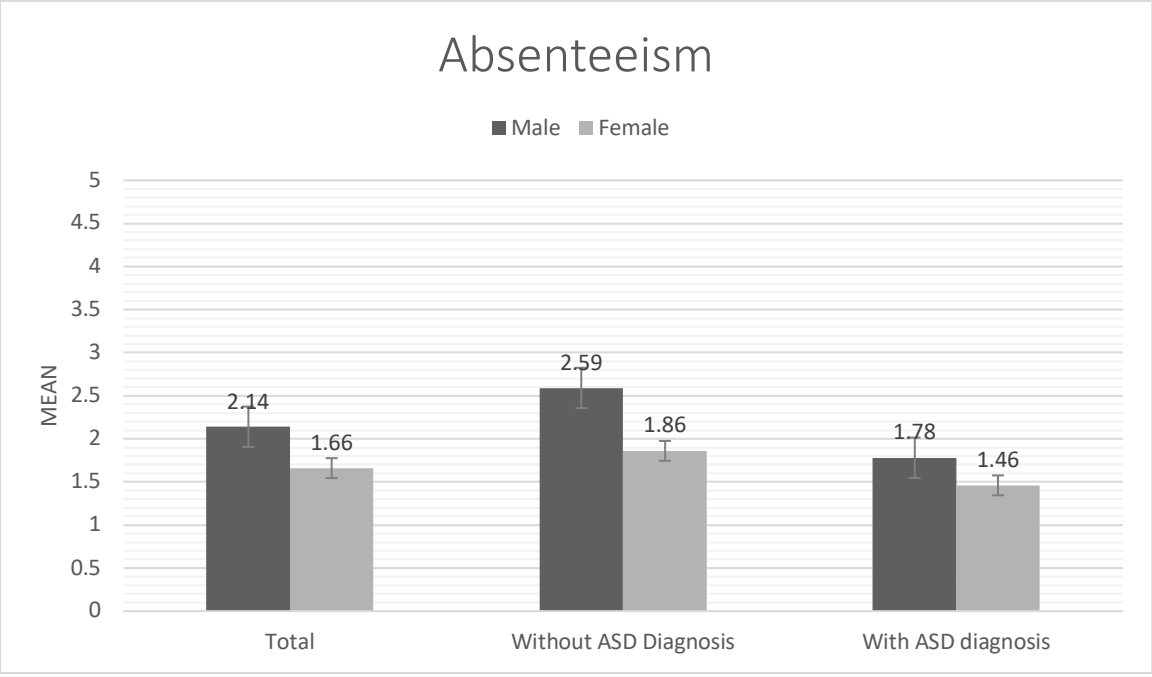

Figure 3. *Perception of Absenteeism*

Feminine Characteristics

There was no significant interaction between ASD diagnosis and gender regarding the variable 'Feminine Characteristics' ($F(1,112)=1.08$, $p=.300$). This measure was defined by the averaged scores from participant being asked how characteristic it was of the interviewee to be

'feminine,' 'affectionate,' 'gentle,' and 'nurturing.' There was no main effect found between gender ($F(1,112)=.029$, $p=.864$), with the male condition M=2.48, SD=1.02, female condition M=2.48, SD=1.00. There was also no main effect found in ASD diagnosis ($F(1,112)=3.50$, $p=.0.64$), with the non-ASD diagnosis condition M=2.69, SD=1.00, ASD diagnosis condition M=2.29, SD=.990. All relevant means can be found in Appendix H.

Good Employee

There was no significant interaction between ASD diagnosis and gender regarding the variable 'Good Employee' ($F(1,112)=.056$, $p=.813$). This measure was the result of the averaged scores from when the participants were asked how characteristic it was of the interviewee to be 'hardworking,' 'self-reliant,' 'successful,' 'self-sufficient,' 'self-confident,' 'ambitious,' and 'demonstrates good work ethic.' There was no main effect found between gender ($F(1,112)=.002$, $p=.964$), with the male condition M=3.15, SD=.837, female condition M=3.51, SD=.945. There was also no main effect found in ASD diagnosis ($F(1,112)=.081$, $p=.776$), with the non-ASD diagnosis condition M=3.53, SD=.809, ASD diagnosis condition M=3.49, SD=.936. All relevant means can be found in Appendix H.

'Good' Other Characteristics

There was no significant interaction between ASD diagnosis and gender regarding the variable 'Good' Other Characteristics' ($F(1,112)=0.69$, $p=.793$). This measure was the result from the averaged scores when the participant was asked how characteristic it was of the interviewee to be 'committed,' 'dependable,' 'competent,' 'healthy,' 'intelligent,' 'have leadership ability,' 'verbal communication,' and 'mature.' There was no main effect found between gender ($F(1,112)=.041$, $p=.839$), with the male condition M=3.43, SD=.770, female condition M=3.41, SD=.729. There was also no main effect found in ASD diagnosis ($F(1,112)=1.50$, $p=.223$), with the non-ASD diagnosis condition M=3.51, SD=.705, ASD diagnosis condition M=3.34, SD=.787. All relevant means can be found in Appendix H.

'Bad' Other Characteristics

The effects of ASD diagnosis and gender can be seen in Figure 4. There was no significant interaction between ASD diagnosis and gender regarding the variable 'Bad Other Characteristics' ($F(1,112)=1.05$, $p=.308$). This measure was the result of the averaged scores when the participant was asked how characteristic it was of the interviewee to be 'aggressive,' and 'physically limited.' There was a main effect for gender ($F(1,112)=5.27$, $p=.025$, $d=0.42$), male condition M=2.35, SD=1.19, female condition M=1.93, SD=.767. There was no main effect found between ASD diagnosis ($F(1,112)=2.92$, $p=0.09$), non-ASD diagnosis condition M=2.39, SD=1.13, ASD diagnosis condition M=2.02, SD=.989. As shown, male interviewees were perceived to be more characteristic of displaying 'bad' other characteristics than females. All relevant means can be found in Appendix H.

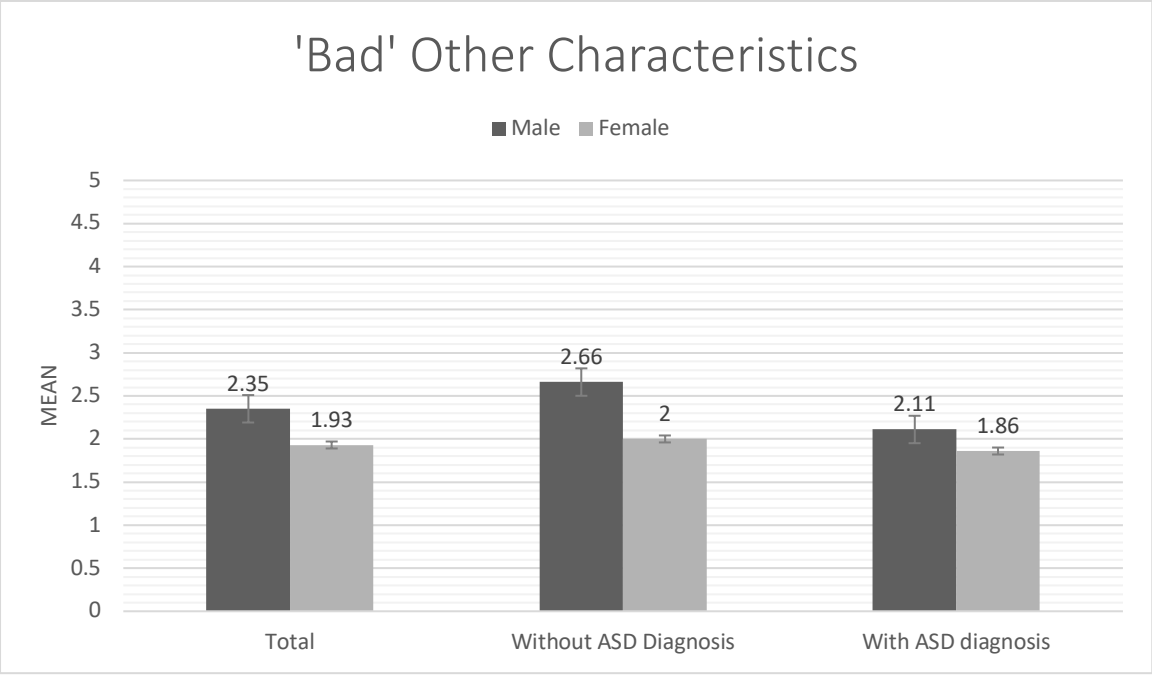

Figure 4. *Perception of 'Bad' Other Characteristics*

Job Fit

The effects of ASD diagnosis and gender can be seen in Figure 5. A 2x2 ANOVA showed no significant interaction effect for ASD diagnosis and gender regarding the variable 'Job Fit' ($F(1,112)=3.77$, $p=.541$). There was a main effect found for gender ($F(1,112)=7.82$,

p=.006, *d*=0.51), male condition M=3.47, SD=1.16, female condition M=2.82, SD=1.40. There was no main effect found for ASD diagnosis (*F*(1,112)=.980, *p*=.324), non-ASD diagnosis condition M=3.35, SD=1.28, ASD diagnosis condition M=3.11, SD=1.31. As can be seen, participants were more likely to provide a positive answer for male interviewees rather than female when asked how well they 'fit' with the job. All relevant means can be found in Appendix H.

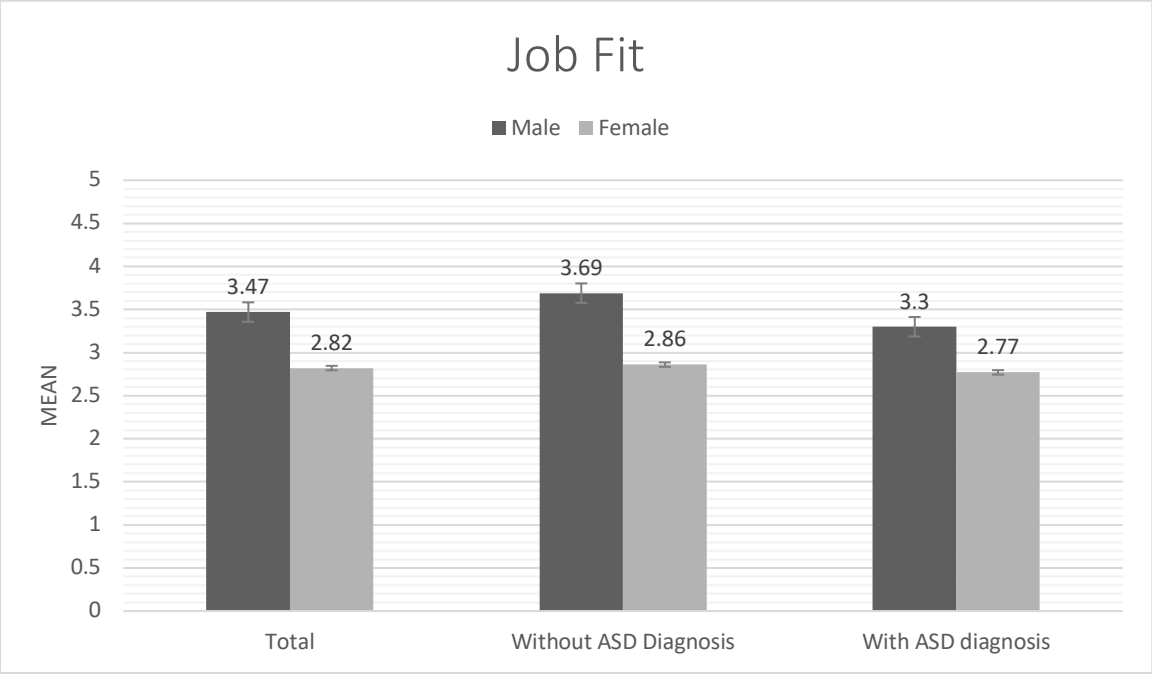

Figure 5. *Perception of Job Fit*

Discussion

There were two hypotheses being tested in the current study: first, that people who read the same resume and job interview notes would perceive men with ASD more positively than women with ASD, and second, that individuals with an ASD diagnosis of either gender were viewed more positively than those without a diagnosis. These hypotheses were not supported when looking at the interaction effect between gender and ASD diagnosis, however, multiple main effects showed significant results.

The primary goal of the current study was to better understand how a job candidate's gender and the decision on whether to disclose having an ASD diagnosis may impact people interviewing for jobs. While no interaction effects were observed between gender and ASD diagnosis, some significant main effects were found. In line with previous literature, men were viewed more positively in the factors of Hiring Recommendation, Overall Performance, and Job Fit. Interestingly, even though males were seen to be rated higher in most of the positive categories, they were also rated higher in the negative factors of Absenteeism and 'Bad' Other Characteristics (i.e. undesirable general characteristics; aggressive and physically limited). In summary, participants saw the male interviewees as both more likely to make good employees (they were viewed more positively across the board) and more likely to possess negative traits.

The results from the 'Feminine Characteristics' factor were of particular interest if the diagnostic bias of ASD in Kirkovski et al.'s (2013) literature review is considered. It is a natural assumption that females would receive higher ratings by participants in the 'feminine characteristics' factor, and yet even the total ratings of males and females (when non-diagnosis and diagnosis conditions were combined) did not see a difference in rating. A possible explanation for this finding could be that as the job interview notes in this study was designed to reflect the most common of ASD qualities, and these ASD qualities are possibly biased to portray male characteristics, it is feasible that the women who displayed such male characteristics were perceived more negatively. It was expected that women be more feminine than was portrayed, and as such scored lower on questions measuring their feminine characteristics. This is a prime example of the shifting standards model (Biernat & Fuegen, 2001), which was an underpinning theory for the predicted results of this study.

This shifting standards model asserts that when a person is judging another in a stereotype-relevant manner, they will use within-category reference points (Biernat & Fuegen,

2001). For example, assuming the stereotype that men are better at fixing things than women, if a person was asked how well a women fixed a shelf, they may rate her as 'very good,' but if a man fixed the shelf to the same level, then he may be rated as 'okay'. This is because men are held to a higher standard than women due to a pre-existing stereotype. Therefore, it can be seen that in subjective rating scales, stereotypes can alter perceptions of abilities dependent on who is perceived to be greater within a held stereotype (Biernat & Fuegen, 2001). This theory is important for the current study as it provides a possible explanation as to why women might be rated more negatively than men in an interview like the one in this study (i.e., because they are stereotypically held to a higher level of perceived warmth and approachability). The job interview notes in this study were designed to reflect common ASD traits, and as awkwardness and distance in social situations is common to individuals with ASD, that was reflected in the job interview notes. As women are expected to be more feminine, affectionate, nurturing and gentle (the four characteristics that made up the 'Feminine Characteristics' factor), the absence of such traits in the job interview would have been judged harsher by the participant when the interviewee was female rather than male.

The second goal of the current study was to determine whether participants would make allowances for individuals with ASD, specifically whether they would view the interviewee more positively if they self-disclosed their ASD diagnosis. Those with an ASD diagnosis were noticeably viewed more negatively in the factor Overall Performance, although, those with an ASD diagnosis were viewed more positively (had lower ratings) in the factor Absenteeism. These findings suggest that participants viewed interviewees who self-disclosed their diagnosis less positively in their overall performance; however, they were seen more positively when considering possible absenteeism. A study by Sasson & Morrison (2019) showed that first impressions of individuals with a label of ASD were seen more positively than individuals with ASD who were not labelled. While this was consistent with the hypotheses of the current study,

it was not consistent with the findings. The only factor that the presence of a diagnosis was found to have a significant positive influence was Absenteeism.

Additionally, Sasson & Morrison (2019) found that if the rater had previous knowledge of ASD, then the individual was seen even more positively. The final question of the current study was whether the participant themselves had been diagnosed with ASD, or knew anyone that was. The purpose of this question was to test the participants prior knowledge of ASD in a similar regard to Sasson & Morrison's (2019) study. In the current study, only 19.0% of participants disclosed that they either knew someone with ASD or had been diagnosed themselves; however, 35.3% of participants declined to answer the question so the true statistic could be higher. As Sasson & Morrison's (2019) findings found that more knowledge about ASD can be correlated with more positive views of individuals with ASD, it is possible that the participants' apparent lack of knowledge in the current study could have contributed to the results.

Limitations

There are several limitations to this study which could have influenced the results. The first of these limitations was the data collection method. Out of 556 total responses, only 116 were useable data. Many responses had to be dropped due to incompletion or null answers, which made gathering the data difficult. There are concerns that members of MTurk are less attentive to instructions than when other methods of gathering participants are used, however, some studies refute these concerns (Berinsky, Huber, & Lenz, 2012; Hauser & Schwarz, 2016). As such a large number of participants were removed from this study due to incomplete answers, it could be considered that this be due to overly restrictive attention checks. For a participant to fail the attention checks in this study, they had to not answer at all, or give an answer completely different to the correct response. There were several 'I don't remember' and 'not sure' responses

that were accepted, as it indicated the participant had thought about it and taken the time to respond. Likewise, when asked what the interviewee's name was, if the participant gave the interviewers' name instead their responses was accepted. With the above information on how an attention check was considered a 'fail', and as a participant had to fail all three attention checks to be removed from the study, it is unlikely that the attention checks were too restrictive. After the first batch of responses (and high percentage of incompletes), it was thought that the amount of monetary compensation for participation was possibly too low to incentivize completion and participation of the study. The participants were paid $0.50 for their participation in this study, and as it took an average of 10.5 minutes to complete the study, the participants were effectively working for $3.00 p/hour – not even half of minimum wage. Additionally, as there was such a large number of participants who were dropped from the study, it was difficult to keep the numbers in each condition relatively even; with 32 participants in condition 1 (Male, no ASD diagnosis), 40 participants in condition 2 (Male, ASD diagnosis), and 22 participants each in conditions 3 (Female, no ASD diagnosis) and 4 (Female, ASD diagnosis).

Another limitation to the study could have been the method of displaying ASD characteristics. Using a written transcript instead of other visual methods (e.g., video) could have contributed to the participant missing some of the ASD characteristics that were trying to be conveyed. Additionally, a written text is far less personable than a video and as such may reduce the full impact that a video could make. However, while the effect of the initial interview could have been stronger in video form, it is less likely that all of the conditions would have been identical except for the variables that were being manipulated and so could have been influenced by unknown confounds. This is less likely as the budget for this study was limited and so it is unlikely that a video could have been made and replicated well enough between conditions to be identical.

A third limitation could be the choice of job that the interviewee was applying for. 'Junior IT administrator' was chosen because it was believed that current societal perceptions see it as a field with low levels of gender bias. Upon further research, however, it can be seen that women earn computer science degrees at a far lesser rate than other STEM fields (Cheryan, Ziegler & Montoya, 2017). While it is unlikely to find a completely gender-neutral profession, more research could have been done prior to the creation of this study to find one that was more balanced. The reason why IT administrator was chosen was because, when compared to some other professions, it isn't based heavily on customer service and so it would be less likely that participants would take issue with the social skill deficits depicted in the interview notes. The idea was that if the participants properly considered the job, the low social skill requirement of the profession would counterbalance any possible gender discrimination that were also included.

Another possible limitation of the current study could be that the study population was made up on individuals who were most likely unused to making hiring decisions. Studies have shown that MTurk participants can be generalized to the US population with some accuracy (Berinsky, Huber & Lenz, 2012), and as the vast majority of US citizens haven't been trained to make hiring decisions, it is unlikely that the MTurk participants have been either. However, it is beneficial to the study that MTurk participants have been shown to be more representative of the general population than most convenience samples (Berinsky, Huber & Lenz, 2010). For this study to get most accurate results, a population sample of employers and individuals trained in making hiring decisions would be ideal. As this study was completed with limited funds and resources, the convenience sample would be college students and so the use of MTurk enabled there to be a higher likelihood of gathering older participants who did have experience with hiring decisions, rather than purely college students.

Additionally, there were no measures taken in the study that made sure the participant paid careful attention to the resume and job interview notes. An example of these measures could be a timing mechanism on the job interview notes to ensure the participants did not skip to the next page too quickly. While some participants may just wait the time out and still not pay attention, it would have been a proactive measure to try ensure that participants were carefully reading the information and not skipping through.

Lastly, an additional limitation to this study is that a few analyses suggested by readers could not be completed due to situational circumstances. It was planned to run Chi-square analyses on the manipulation checks, as well as assumption testing to ensure normality. Unfortunately, due to the recent COVID-19 outbreak and the subsequent world-wide lockdowns and border closures, these analyses were not able to be completed prior to returning to home countries and everything becoming remote and online. It is acknowledged that these analyses would have been beneficial to the overall validity of the study, however, current circumstances have made it difficult to do so.

Future Directions

As mentioned previously, future directions for this field of study could possibly include using a video as a better method of portrayal of ASD symptoms, rather than a written transcript. Another possible future direction that this research could take would be to look more closely at the differences between males and females who have been diagnosed with ASD. Likewise, further studies could investigate whether ASD traits decreased the perceived femininity of women with ASD, impacting hirability in roles where femininity may be desired (e.g., customer service positions). While this study was looking at the interaction between gender and ASD diagnosis, future research could possibly focus on either just ASD or gender, not both. Looking at one of these factors instead of an interaction between them could possibly bring forth interesting

findings that were missed in this study. Additionally, as there were some concerns about whether the job type used in the study (i.e., IT industry) may have influenced the results due to gender bias, future research could do a similar study using a different profession. Likewise, future studies could also assist in managing the concerns regarding the traits and attitudes of individuals gathered by MTurk by gathering participants who are used to making hiring decisions (i.e., employers).

Conclusion

Overall, while the current study did not reveal any significant interaction effects between gender and ASD diagnosis in an interview situation and the hypotheses were not supported, it was still able to highlight a handful of promising future research directions through the appearance of significant main effects within the data. The limitations of this study can help future researchers explore new ways of studying how individuals with ASD, and women in particular, are disadvantaged in hiring situations and the results were able to raise questions that future researchers could consider investigating (e.g., whether ASD characteristics reduces perception of femininity in women with ASD). The results of this study also have interesting implications into how men and women are perceived in job interviews, as men were seen to be viewed more positively when considering hiring recommendations, overall performance, and job fit, whilst concurrently being seen as possessing more 'bad' characteristics than women and more likely to be absent. This implication is interesting because it means that participants were still more likely to hire males even though they also thought they possess more negative characteristics than females. Furthermore, the results also had implications regarding the disclosure of an ASD diagnosis in interviews, as it was seen that while this may have caused the individuals to be viewed more negatively in some respects (i.e. overall performance), ultimately it did not appear to have an impact on hiring recommendation.

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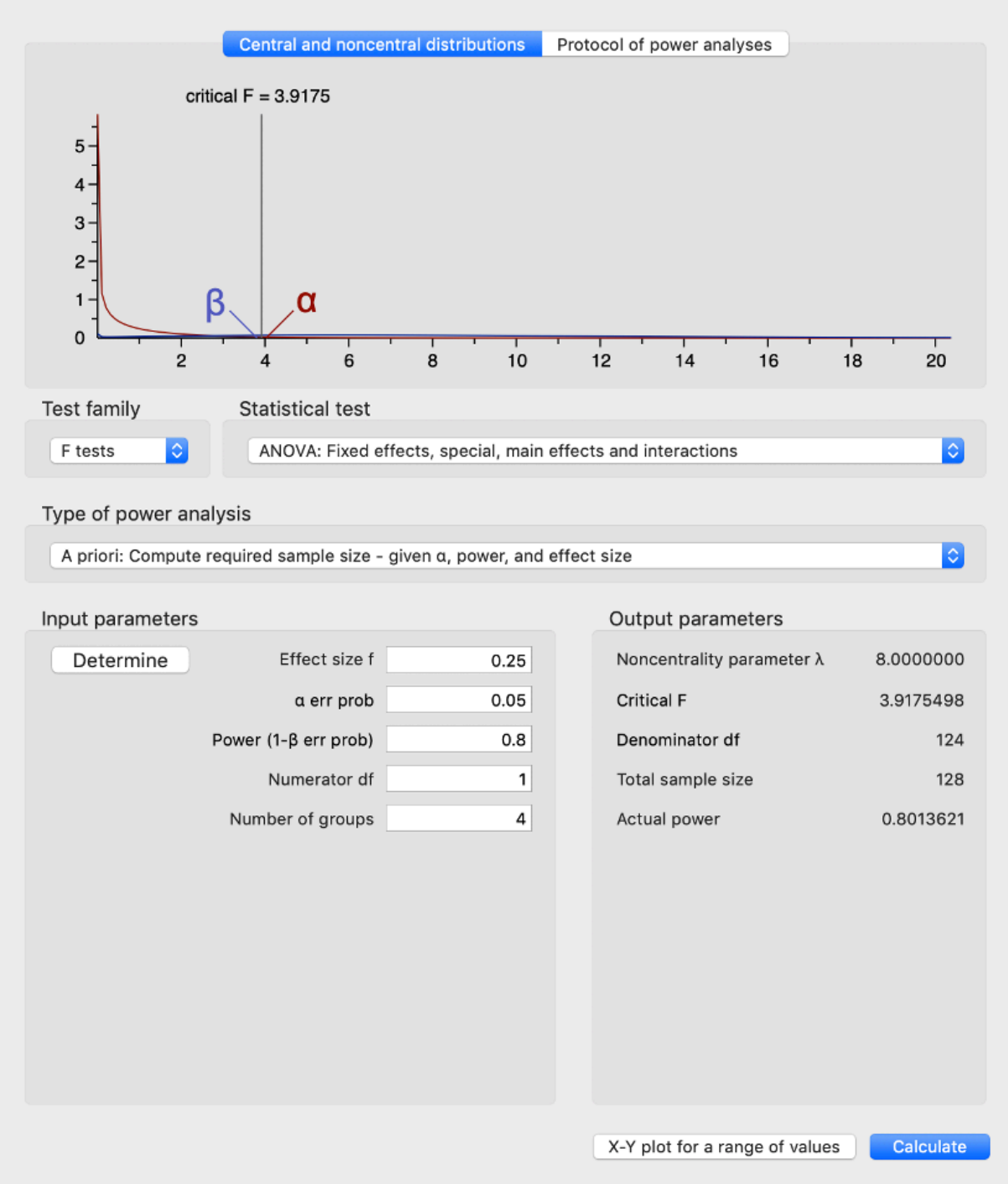
Appendices

Appendix A



Appendix B

John/Jane Smith*

111 Main st, Townsville, TV, 43234 | M: 123 456 7890 | jsmith@gmail.com

Summary

Skilled computer software technician with customer service and IT background. Enjoys troubleshooting to find solutions to technical issues. Seeking to benefit an IT department with complex technical knowledge and excellent organisation skills.

Highlights

- Hardware configurations
- Software and hardware installations
- Phone and online support
- Advanced TCP/IP knowledge
- LAN connectivity
- Applications troubleshooting
- Extensive windows experience
- Problem diagnosis
- Good presentation ability
- Excellent time manager
- Diligent and detail-orientation

Professional Experience

IT Help Desk at University of Townsville (2015-18)

- Utilise troubleshooting techniques in support work stations, networked printers, network hub/switches, routers, and circuits
- Responsible for providing desktop and network support for students and professors
- Provides both email, phone, and face-to-face support
- Keep track of inventory of equipment around campus
- Routinely install and configure software
- Remotely connect and diagnose PC/hardware problems

Clerk at Townsville library (2013-16)

- Assisted groups and individuals in locating materials
- Performed routine descriptive cataloguing of new book, journal, audio, and video acquisitions on the library computer system
- Verified bibliographic information on order requests
- Maintained book stacks to perfect order
- Inspected returned books for damage, verified due-dates, and computed and received fines

Education

Bachelor of Science: Computer Science

University of Townsville - Class of 2019
Graduated with a 3.8 GPA

Certifications

Cisco Certified Network Associate (CCNA)

Appendix C

Job Interview Notes
Date: 17th December, 2018
Interviewed by: Mike Brooks

Applicant name: John/Jane Smith*
Position requested: Junior IT Administrator
Date available: Begin in February

Interview notes:
Interviewer: Hello Mr/Ms.* Smith, thank you for coming in today. How are you?
Applicant: Hello, I am good. Thank you.
I: I trust the trip here went okay?
A: Yes, it was fine.
I: Alright, well I have looked over your resume, and it looks great, I just have some follow up questions for you today. I'll try to make things quick so we can get on with our days.

Notes: Interviewee did not make eye contact during greeting, however, did shake Mr. Brooks' hand. Interviewee is well dressed in professional clothing, clean pressed.

I: Okay so firstly, are you currently employed elsewhere? If so, why are you considering leaving?
A: I mow my neighbours lawn every Sunday. I am not considering leaving that job.
I: That's a pretty serious job you've got there, haha. Think you will be able to juggle both at once?
A: It will be fine.

N: Sits straight however taps leg repeatedly with hand and still won't make eye contact.

I: This is an entry level position, but tell me more about your employment history - your resume mentions you worked in a library and an IT Help Desk?
A: Yes, I worked in a library as a clerk for 3 years and 4 months. I liked working there. I liked the quiet and making sure the books were organised correctly, the filing system was intricate and interesting, and the librarians were very friendly. I have also worked at a cafe as a dish hand for 3 months. I did not like working there because it was loud and the chefs were always shouting. They didn't seem to care if I cleaned the plates properly, and got angry when I insisted on doing so. I have also worked at the IT help desk of my university for 3 years and 6 months years. I liked working there because I got to fix things around the campus, and I got to work with computers.

N: Unrelated work experience about cafe job that is not pertinent to this interview.

I: Tell me about a time you have faced a problem on the job, and how you resolved it.

A: Can you clarify what kind of problem?
I: A time when you dealt with an issue you weren't sure how to fix, or an angry customer?
A: I do not know how to fix angry customers. When customers were angry they usually asked to speak to my manager so I would ask them to wait, and I would get my manager.
I: How did you deal with the angry customer before the manager got there?
A: I would explain to them what the solution to their issue was and sometimes it helped but other times they got even angrier.
I: Why did they get angrier?
A: I don't know. I don't think they understood what I was explaining to them.
I: Can you give me an example?
A: One time a professor at the university came into the IT helpdesk and had trouble downloading Microsoft word due to account issues. I explained to him that we do not endorse or support Microsoft word, and suggest using Google Docs online. He did not seem to understand and grew frustrated that I could not help him, even though I explained that I was not able to as it is against policy. I suggested that he contact Microsoft office support, but this only seemed to make him more frustrated. In the end, I got my manager and he was able to handle the situation.

N: Lack of ability to handle troubled clients individually?

I: What do you consider to be your strengths?
A: I like math, and computers, and am good with data. I like learning new things and I am good at it. I am also good at understanding problems and finding solutions to them quickly. I really like puzzles, and I'm good at figuring things out. I also have very good time management and organisation skills, and good attention to detail.

I: What do you consider to be your weaknesses?
A: I feel anxiety in stressful situations, and if I feel pressured I cannot perform at my full capacity.
I: How have you overcome this in the past?
A: I take 5 deep breaths and count to ten until I feel better.
I: And this helps you work better?
A: Yes.

N: Applicant has identified personal issue and solution - self awareness

I: How well do you work in a team?
A: I am sufficient in working in a team. I have completed several group projects in my classes throughout the course of my degree. I like hearing other people's input and ideas on the project, however I do not it like when people do not do their fair share of work. I have worked as part of a team at the IT help desk.

I: Why would you fit well in this position?
A: I am qualified for the position with my degree in computer science, and am very interested in working in the IT department. I have worked in the IT department in my university throughout

my degree so I have experience in this regard. Even though I will now be dealing with working adults rather than students and professors, I believe the skills will transfer over well.

I: What are your professional goals in the next 5 years?
A: I would like to keep working in the IT department here.

N: No defined career goals

I: Okay, I think I've got everything I need on that end. Before we end for the day, tell me a little about yourself - any hobbies? What do you do in your free time?
A: I already told you that I really like puzzles, I do them in my free time.

I: I saw you attended University of Townsville, my friend's daughter goes there - did you like it?
A: It is a good school and met all of my requirements throughout the course of my degree.
I: It's not easy to get into is it? You have to have a pretty good SAT score right?
A: Yes, I had an above average SAT and ACT score.
I: And with a GPA of 3.8 I guess you did pretty well in school then
A: Yes, I did.

I: Well I think that is everything we need to know, is there anything you would like to add before we conclude this interview?
A: Yes, actually. I have been diagnosed with Autism Spectrum Disorder. This is a social developmental disorder that causes me to act differently than you might expect in certain social situations. If you would like more information about this, I would be happy to provide it.*

I: Thank you for your time, we will be in touch regarding this interview.
A: You're welcome. Have a pleasant day.

Further comments:

- *Did not maintain eye contact, but instead let eyes wander around the room constantly*
- *Very knowledgeable about computers*
- *Confident demeanour when talking about strengths and interests, less confidence is displayed when not answering a direct question.*
- *Not good at making small talk or talking about themselves*
- *Doesn't seem to have much leadership experience*
- *Constantly tapped their leg with their hand throughout the entire interview*
- *Seemed distracted by the air purifier in the room and kept glancing at it*

Appendix D

Autism-Spectrum Quotient (AQ) scale (Baron-Cohen, 2001)

1. He/she would prefer to do things with others rather than on their own
11. He/she would find social situations easy
13. He/she would rather go to a library than a party
15. He/she would find themselves drawn more strongly to people than to things
22. He/she would find it hard to make new friends
36. He/she would find it easy to work out what someone is thinking or feeling just by looking at their face
44. He/she would enjoy social occasions
45. He/she would find it difficult to work out people's intentions
47. He/she would enjoy meeting new people
48. He/she would be a good diplomat

4 point Likert-type scale

1 (Definitely Agree) 2 (Slightly Agree) 3 (Slightly Disagree) 4 (Definitely Disagree)

Items 1, 13, 22, and 45 score 1 point for 'Definitely Agree' or 'Slightly Agree' responses. Items 11, 15, 36, 44, 47, and 48 score 1 point for 'Definitely Disagree' or 'Slightly Disagree' responses.

Appendix E

Cunningham and Macan's (2007) job interview perception measures

Hiring recommendation
5 - Yes, I would definitely hire this person. This person is an extremely good candidate.
4 - Yes, I would hire this person with a few reservations.
3 - I'm not sure if I would hire this person.
2 - I don't think I would hire this person although I might consider taking a look at some additional information about them.
1 - No, I would definitely not hire this person. This person is not a good candidate.

Qualification
1. I would evaluate this applicant's qualification for this position favorably.
2. I feel this candidate would be well suited for the job.

5-point Likert scale
1 (Strongly Agree) 2 (Agree) 3 (Neither agree or disagree) 4 (Disagree) 5 (Strongly Disagree)

Overall rating of performance.

5-point Likert-type scale
1 (Extremely poor) 2 (Poor) 3 (Average) 4 (Good) 5 (Extremely Good)

The following items are all preceded by the question: 'How characteristic of the applicant do you believe the following to be'

Absenteeism
1. Likely to miss work.
2. Likely to need time off.

Turnover
1. Likely to quit.

Feminine stereotypes
1. Feminine.
2. Affectionate.
3. Gentle.
4. Nurturing.

'Good Employee'
1. Demonstrates good work ethic.
2. Hardworking.
3. Self-reliant.
4. Successful.
5. Self-sufficient.
6. Self-confident.
7. Ambitious.

Other characteristics

1. Leadership ability.
2. Committed.
3. Dependable.
4. Competent.
5. Mature.
6. Healthy.
7. Aggressive.
8. Intelligent.
9. Physically limited.
10. Verbal communication.
11. Leadership ability.

5-point Likert-type scale

1 (not characteristic) 2 (sometimes characteristic) 3 (Neither) 4 (often characteristic) 5 (very characteristic)

Job fit

1. Fits with job.

5-point Likert-type scale

1 (Low Fit) 2 (Somewhat Fit) 3 (Neither) 4 (Mostly Fit) 5 (High Fit)

Appendix F

Attention checks + Manipulation check

1. What university did the interviewee attend?
2. What was the name of the interviewee?
3. What gender does the interviewee identify as?
4. What score do you estimate the interviewee received on their SAT?

Open ended

Manipulation check

1. Does this person have a developmental disorder of any type, if so, which one? Feel free to expand on your answer.

Open ended

Further information

1. This question is optional to respond to. If you choose to not respond, please move onto the next page.

Have you ever been diagnosed with Autism Spectrum Disorder, or do you know anyone who has received a diagnosis? You may provide as much or as little information as you are comfortable with.

Open ended

Appendix G

CITI PROGRAM

Completion Date 21-Sep-2018
Expiration Date 20-Sep-2020
Record ID 28757510

This is to certify that:

Darian Murray

Has completed the following CITI Program course:

Human Subjects Research (HSR) (Curriculum Group)
Group 3: Non-Health Related Research (Course Learner Group)
1 - Basic Course (Stage)

CITI
Collaborative Institutional Training Initiative

Under requirements set by:

University of Indianapolis

Verify at www.citiprogram.org/verify/?w104b5cdc-c3b2-4e3c-bf5b-8b87e4fd09c7-28757510

CITI PROGRAM

Completion Date 21-Sep-2018
Expiration Date 20-Sep-2023
Record ID 28757511

This is to certify that:

Darian Murray

Has completed the following CITI Program course:

Responsible Conduct of Research (RCR) (Curriculum Group)
Group 8: Responsible Conduct of Research (Course Learner Group)
1 - Basic Course (Stage)

CITI
Collaborative Institutional Training Initiative

Under requirements set by:

University of Indianapolis

Verify at www.citiprogram.org/verify/?wdbceb276-8950-4c70-b3bb-4d472b85ffe2-28757511

Appendix H

Means and Standard Deviations of All Factors

	Male total			Female total			Non-ASD diagnosis			ASD diagnosis		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N
ASD total (out of 1)	0.69	.23	72	0.77	.20	44	.69	.20	54	.75	.24	62
Hiring recommendation (out of 5)	3.69	1.04	72	3.18	1.23	44	3.59	1.22	54	3.42	1.06	62
Qualification (out of 5)	2.48	1.06	71	2.65	1.07	44	2.60	1.13	54	2.49	1.01	61
Overall Performance (out of 5)	3.44	.933	72	3.00	.915	44	3.50	.927	54	3.08	.929	62
Absenteeism (out of 5)	2.14	1.30	72	1.66	1.07	44	2.23	1.34	54	1.66	1.07	62
Feminine Characteristics (out of 5)	2.48	1.02	72	2.48	1.00	44	2.69	1.00	54	2.29	.990	62
Good Employee (out of 5)	3.51	.837	72	3.51	.945	44	3.53	.809	54	3.49	.936	62
‘Good’ Other Characteristics (out of 5)	3.43	.770	72	3.41	.729	44	3.51	.705	54	3.34	.787	62
‘Bad’ Other Characteristics (out of 5)	2.35	1.19	72	1.93	.767	44	2.39	1.13	54	2.02	.989	62
Job Fit (out of 5)	3.47	1.16	72	2.82	1.40	44	3.35	1.28	54	3.11	1.31	62
	Male without ASD diagnosis			Male with ASD diagnosis			Female without ASD diagnosis			Female with ASD diagnosis		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N
ASD total (out of 1)	0.64	.21	32	0.73	.24	40	0.75	.15	22	0.78	.24	22
Hiring recommendation (out of 5)	3.88	1.04	32	3.55	1.04	40	3.18	1.37	22	3.18	1.10	22
Qualification (out of 5)	2.59	1.17	32	2.39	.976	39	2.61	1.09	22	2.68	1.06	22
Overall Performance (out of 5)	3.75	.842	32	3.20	.939	40	3.14	.941	22	2.86	.889	22
Absenteeism (out of 5)	2.59	1.35	32	1.78	1.15	40	1.86	1.23	22	1.46	.872	22
Feminine Characteristics (out of 5)	2.79	1.06	32	2.23	.931	40	2.56	.913	22	2.40	1.10	22
Good Employee (out of 5)	3.52	8.20	32	3.51	.861	40	3.55	.811	22	3.46	1.08	22
‘Good’ Other Characteristics (out of 5)	3.50	.753	32	3.37	.787	40	3.52	.646	22	3.30	.804	22
‘Bad’ Other Characteristics (out of 5)	2.66	1.33	32	2.11	1.02	40	2.00	.577	22	1.86	.928	22
Job Fit (out of 5)	3.69	1.06	32	3.30	1.22	40	2.86	1.42	22	2.77	1.41	22

Appendix I

[The Office of Human Research Protections Program will add the study identification information AFTER the study is approved and will remove this note. The study identification information must appear on hard copies and online.]

UNIVERSITY of INDIANAPOLIS.

Minimal Risk UIndy Study #
Study Version:
Study Version Date:
Informed Consent Form (ICF) Version:
ICF Version Date:

Ron and Laura Strain Honors College

KEY INFORMATION FOR POTENTIAL RESEARCH PARTICIPANTS

We would like to invite you to be a participant in a research study. This study is designed to analyse how individuals assess job applicants when presented with a resume and notes from their job interview. Participation in this research is voluntary; you don't have to take part if you don't want to. If you do decide to take part, you will read a resume and job interview notes, then answer a collection of questions regarding the information you just read. Participation in the study will be for 20 minutes; 10 to read the information and 10 to answer the questions. There are no potential risks or benefits regarding your participation in this research study.

CONSENT TO PARTICIPATE IN RESEARCH STUDY

Perceived Personality and Job Capability in Interviews

Study Principal Investigator (PI): Melissa Loria
UIndy Email: loriam@uindy.edu
UIndy Telephone: 317-788-3222

Melissa Loria, Ph.D, from the Psychology department at the University of Indianapolis (UIndy) is conducting a research study.

Why is this study being done?

This study is designed to see how people who read an example of a job interview script, rate the applicants' personality and characteristics. Some description of the applicants appearance will be provided, but there are no visual aids of the applicant to assist the assessment.

What will happen if I take part in this research study?

If you volunteer to participate in this study, the researcher will ask you to do the following:

- Fill out basic demographic information including age, gender, and race. This will be kept completely anonymous.
- Read a resume and set of notes from a job interview
- Respond to 45 survey questions answering questions assessing the applicant's personality and characteristics. Most of these survey questions are of a 'select the best fit' format, however some are open-ended.
- This study is 100% online and there will be no face-to-face interaction between yourself and the researcher.

How long will I be in the research study?

[The Office of Human Research Protections Program will add the study identification information AFTER the study is approved and will remove this note. The study identification information must appear on hard copies and online.]

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Participation will take a total of about 20 minutes to complete – 10 minutes to read the information and 10 minutes to respond to the survey questions.

Are there any potential risks or discomforts that I can expect from this study?

There are no foreseeable risks or discomforts predicted as a result of participating in this study.

Are there any potential benefits if I participate?

You will not directly benefit from your participation in the research, however you will contribute to the field of study this research falls under.

Will I be paid for participating?

You will receive US$0.50 for your participation in this study.

Will information about me and my participation be kept confidential?
The results of this study may be published in a scholarly book or journal, presented at professional conferences or used for teaching purposes. However, only aggregate data will be used. Personal identifiers will not be used in any publication, presentation or teaching materials.
Will the data from my study be used in the future for other studies?
Your data will not be used or distributed for future research studies even if there is no way for your data to be linked with any information that could identify you.
What are my rights if I take part in this study?

- You can choose whether or not you want to be in this study, and you may withdraw your consent and discontinue participation at any time.
- Whatever decision you make, there will be no penalty to you, and no loss of benefits of which you were otherwise entitled to.
- You may refuse to answer any question/s that you do not want to answer and still remain in the study.

Who can I contact if I have questions about this study?

- **The Research Team:**

  If you have any questions, comments or concerns about the research, you can talk to one of the researchers. Please contact:

  Melissa Loria at 317-788-3222 or loriam@uindy.edu

- **The Director of the Human Research Protections Program (HRPP):**

  If you have questions about your rights as a research participant, or you have concerns or suggestions and you want to talk to someone other than the researchers, you may

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contact the Director of the Human Research Protections Program, by either emailing hrpp@uindy.edu or calling 1 (317) 781-5774 or 1 (800) 232-8634 ext. 5774.

How do I indicate my informed consent to participate in this study?

If you consent to participate in this study, then you affirm that you satisfy inclusion criteria and your consent is voluntary. To indicate your voluntary consent and proceed with the questionnaire, click 'begin' to continue to the next page and begin the study.

Appendix J

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Human Research Protections Program (HRPP)

1400 East Hanna Ave
Sease, Room 201L
Indianapolis, IN 46227

1 (317) 781-5774
http://irb.uindy.edu
hrpp@uindy.edu

August 5, 2019

NOTIFICATION OF EXEMPTION DETERMINATION

Study Number: 01104
Study Title: ***Effects of Gender and ASD Diagnosis on Perceived Personality and Job Capability in Interviews***
Exemption Determination Date: July 31, 2019

Principal Investigator: Melissa Loria, PhD
Psychology

The above-referenced protocol has been reviewed in accordance with the US Department of Health & Human Services (DHHS), Office for Human Research Protections (OHRP) regulations, specifically 45 CFR 46.104. Based on these criteria, this study is exempt from IRB Review.

This exemption is valid unless changes in the project may impact the eligibility for exemption under the federal regulations. If you need to make any changes to the study, please contact the HRPP office hrpp@uindy.edu for guidance on whether additional review is required.

Please submit all personnel changes through IRBManager as a *Modification of Approved Protocol*.

Upon completion of your study, please submit a closure report through the IRBManager system.

Yvonne Wakeford, Ph.D.
Director: Human Research Protections Program (HRRP)

HRPP Jan 2019