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The attractiveness, trustworthiness and desirability of autistic males' online dating profiles

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Abstract

A lack of success through traditional, face-to-face dating has led some autistic adults to pursue relationships through online dating. Creating an online dating profile, however, is a process that requires a range of complex social skills, the ability to balance a number of social demands, and self- and other-awareness - all of which can be challenging for autistic people. This paper presents two studies investigating the perceived attractiveness, trustworthiness and desirability of autistic males' online dating profiles by females from the general population. In Study 1, 111 heterosexual females rated the autistic attributes and interests in an online dating profile as comparably attractive, trustworthy and desirable to date as an online dating profile comprising typical attributes and interests, but online dating profiles that mixed typical attributes with autistic interests were perceived to be less desirable to date. Study 2 investigated the impact of the wording of autistic characteristics and an explicit statement of a diagnosis of autism in 127 heterosexual females. Positive wording and an explicit statement of a diagnosis of autism enhanced perceived attractiveness and trustworthiness, but not desirability to date. The implications for the construction of autistic males' online dating profiles are discussed.

The attractiveness, trustworthiness and desirability of autistic males' online dating profiles

1. Introduction

Autism Spectrum Disorder (ASD, hereafter autism) is characterized by persistent deficits in social communication and interaction across multiple contexts combined with restricted, repetitive patterns of behaviour, interests, or activities (American Psychiatric Association, 2013). Recent estimates suggest 1 in 59 people have a diagnosis of autism, comprising 3 to 4 times as many males as females (CDC, 2018). A recent survey highlighted that the vast majority (93%) of autistic adults¹ desired to be in a romantic relationship (Strunz et al., 2017). However, autistic adults are more likely to experience difficulties when it comes to romantic relationships as they often lack social-emotional communication and interaction skills which are key to beginning and maintaining romantic relationships (Byers, Nichols & Voyer, 2013; Koegel, Detar, Fox & Koegel, 2014; Urbano, Hartmann, Deutsch, Bondi Polychronopoulos, & Dorbin, 2013). Consequently, compared to the general population, few autistic adults report having been in a romantic relationship (Eaves & Helena, 2008; Hellemans, Colson, Berbraeken, Vermeiren & Deboutte, 2007; Jennes-Coussens, Magill-Evans & Koning, 2006).

Much dating is now initiated online and many of the social-emotional deficits associated with autism can be alleviated in online communication (Brosnan & Gavin, 2015). Analysing the Facebook posts of autistic people, Brosnan and Gavin found that the affect-limited and time-delayed nature of online communication enabled autistic people to express empathy in their online conversations; a practice that is deficient in their offline communication (e.g., Sucksmith, Allison, Baron-Cohen, Chakrabarti, & Hoekstra, 2013). Online dating can therefore provide a promising environment for autistic people who seek a romantic partner (Roth & Gillis, 2015). Whilst 15% of adults from the general population report using online dating (Smith,

¹ We use the identity-first language, rather than person-first language as members of the autistic community have expressed a preference for this form of wording (Kenny et al., 2016)

2016), this is more than tripled in the autistic population (53%: Roth & Gillis, 2015). Autistic respondents highlighted several aspects of online dating that they find easier in comparison to face-to-face dating: control over self-presentation, fewer nonverbal cues to interpret, and more time to process information (Roth & Gillis, 2015). This suggests that online dating may offset some of the social communication deficits associated with autism. Consistent with this, Nichols (2009) argues that online dating offers a way of dating with reduced social demands.

Online dating, however, brings with it a new set of challenges for autistic people as it involves understanding and negotiating a range of unwritten social norms and customs. One particular challenge is writing an online dating profile (Roth & Gillis, 2015). Autistic respondents highlighted the aspects of online dating that they find challenging revolve around constructing a profile: how much information to include, how to word the profile, how to express personality, how honest to be, and whether to include their autism diagnosis. In addition, online dating also creates greater uncertainty and complications compared to other forms of relationship formation; in particular, it involves strangers with no prior relationship or shared history, coupled with a lack of shared physical context (Gibbs, Ellison & Lai, 2011), highlighting the salience of the profile in an online dating context.

An often cited benefit of computer-mediated communication is that it can increase control of self-presentation (Walther, 2007), and this applies especially to online dating which begins with the creation of an online profile. Within the parameters set by the specific online dating platform (such as compulsory sections, the balance between free-text and drop-down box answers, number and type of photos permitted), users have unlimited time and scope to create their profile. Creating an online dating profile involves selective self-presentation; that is, filtering out unflattering information, while highlighting positive attributes (Gibbs, Ellison & Lai, 2011). Whether face-to-face or online, successful relationships depend on a positive first impression (Fisk & Taylor, 1991) and in the online dating environment it is the profile that creates this first impression. In online dating, people often navigate between presenting themselves in a realistic yet complementary way when writing their online dating profiles (Ellison, Heino & Gibbs, 2006). As autistic people can often find it challenging to take on the perspective of others they can consequently

find it difficult to understand how others may react to certain information (Byers et al., 2013), and may misjudge which of their characteristics are the most flattering and positive to share on their profile. This may result in them presenting an unflattering first impression of themselves. Other aspects of creating a profile may also be challenging. For instance, when writing their profile, autistic people may face difficulties such as working out how much information they should share in order to keep their privacy whilst ensuring that they put enough information about themselves to differentiate themselves from others and to attract attention. Similarly, drawing the line between a realistic self-description, acceptable exaggeration, and outright lying could prove difficult for those with autism, particularly considering the propensity of people with autism to be truthful, even if doing so is to their detriment (Murrie, Warren, Kristiansson, & Dietz, 2002).

Recently, Gavin, Rees-Evans, and Brosnan (In press) analysed the online dating profiles of autistic male adults, and consistent with the findings of Roth and Gillis (2015), found that the norms and expectations of dating profiles were not adhered to. Positive content is the norm in online dating profiles (Toma & Hancock, 2010; Whitty, 2008) and deviating from this norm generates negative judgements (Van der Heide, D'Angelo, & Schumaker, 2012). Gavin et al. report the two most common personality attributes within the online dating profiles of autistic males were geek or nerd, and gamer, with a common interest being technology. These three characteristics are strongly linked and not generally considered desirable. As an activity, online gaming is associated with a negative stereotype, associated with four key characteristics: unpopularity, unattractiveness, idleness, and incompetence (Kowert, Griffiths, & Oldmeadow, 2012). Moreover, the stereotype assumes social, physical and psychological shortcomings – although such stereotypes are not borne out in reality (Kowert, Festl, & Quandt, 2014). In addition, Gavin et al. also report that 'honesty' is also frequently reported as an attribute within autistic males' online dating profiles, which is seen as a positive attribute (Fletcher, Simpson, Thomas & Giles, 1999). Interestingly, whilst around a third of online daters from the general population report finding a significant long-term partner through online dating (Smith, 2016), this increases to 44% for the autistic population of online daters (Roth & Gillis, 2015). Thus, whilst autistic males' online dating profiles may use stereotypically

negative descriptors of personality attributes and interests, they may not be perceived negatively.

Research has demonstrated that perceived attractiveness is a construct made up of five key components; namely task attractiveness (McCroskey & McCain, 1974), social attractiveness (McCroskey, McCroskey & Richmond, 2006), physical attractiveness (McGloin & Denes, 2016), trustworthiness (McCroskey & Teven, 1999) and desirability to date (McGloin & Denes, 2016). People assess a prospective partner in regards to these factors when deciding whether to begin forming a romantic relationship with them, through a process of interpersonal attraction, which is conceptualised as an individual's tendency to evaluate another person in a positive or negative way, determining friendships and relationship formation (Berscheid & Walster, 1974). McCroskey and McCain (1974) proposed that interpersonal attraction is composed of three dimensions: social attraction, task attraction, and physical attraction. Social attraction relates to liking, and people's desire to spend time with someone (McCroskey & McCain, 1974). Task attraction is being attracted to someone based on their abilities and worthiness as a potential partner with whom to work with to achieve one's goals. Finally, physical attraction is based on dress and physical features. These three dimensions are often measured independently and are all key components to developing interpersonal attraction (McCroskey, McCroskey & Richmond, 2006).

In the online dating context, physical attraction is communicated via the profile photograph, whereas social and task attraction are most strongly influenced by the textual content of the profile (i.e., the written description). Online dating profiles will often request the user to provide a profile photo (physical attraction), which will not be manipulated in the present study (a consistent photo of an average face was presented in the present studies, see below). Online profiles present personality attributes (social attraction) to identify how likeable the individual is in social situations (McCroskey & McCain, 1974). The findings are consistent throughout the literature that more sociable profiles are perceived to be more attractive and desirable, with evidence that individuals place greater importance on such positive traits compared to negative traits (Fiore, Taylor, Mendelsohn & Hearst, 2008; Fletcher, Tither, O'Loughlin, Friesen, & Overall, 2004; Fletcher, et al., 1999). Task

attraction is also important as there are often task elements to romantic relationships related to whether the individual would be dependable and helpful in achieving goals or tasks (Finkel & Eastwick, 2015). Online profiles often ask for hobbies and interests (task attraction), and although users may not be able to identify another's work ethic, hobbies and interests outside of work can help inform task attraction (Men & Tsai, 2016).

Trust has been identified as a key factor for relationship formation with evidence indicating that trust has a significant effect on attraction (Singh et al., 2015; Wotipka & High, 2016). While trust develops over time, its formation is based on initial impressions of the credibility of a potential partner in the online dating context. Research suggests that individuals find online dating sites appealing as they allow users to strategically choose aspects of their identity to present, making it difficult for users to know whether the profile they are viewing is genuine (Wotipka & High, 2016). Trust often develops as a credibility judgement of the potential partner, and due to anonymity of online dating, not knowing who the individual is in real life can create suspicion. Often users will engage in strategies to confirm the information users are posting within their dating profiles to check for consistency and to increase their judgement of trust (Gibbs et al., 2011). Furthermore, cues in the free text wording can influence perceptions of trustworthiness. Research suggests that dating profiles perceived to be shorter and contain more inconsistent information are rated as less trustworthy (Toma & Hancock, 2012). Thus, within the online dating context, consistency within the dating profile is taken as an index of trustworthiness.

Social attraction, task attraction, physical attraction and trustworthiness tend to be treated as separate but related constructs, and it is unlikely that individuals' perceptions of the attractiveness of a dating profile are based on one aspect of a profile such as the free-text or the photo in isolation. Instead, users are more likely to examine the whole profile to determine whether the individual is a potential romantic partner (Brand, Bonatsos, D'Orazio, & Deshong, 2012; Fiore et al., 2008; Zhang, Zong, Kong, & Kou, 2014). The 'desire to date' is a construct influenced by multiple sections of the online dating profile, such as the profile photo and free text sections, assessments of physical attraction and trustworthiness of the individual depicted (McGloin & Denes 2016). The desire to date includes aspects such as the

willingness to exchange phone numbers in order to further the relationship and to say yes if asked on a date (McGloin & Denes, 2016) and provides a way of operationalising the overall perceived desirability of an online dating profile. Finally, familiarity with autism can impact upon how people respond to autistic-like behaviour, and was indexed through a simple questionnaire ranging from 0 (no knowledge of autism) through to 4 (expert: see Brosnan & Mills, 2016).

The aim of the first study, therefore, was to compare the relative impact of both typically-desirable and autistic attributes and interests upon perceived attractiveness (social, task, physical), trustworthiness and desire to date in online dating profiles (controlling for familiarity with autism).

2. Method

2.1. Participants.

Participants were 111 females who self-identified as heterosexual and 'seeking a man' through online dating. The mean age was 25 years (range = 18-57; sd=7). These respondents were recruited through an advertisement on Facebook and completed the survey online. Study 1 received ethical approval from the ethics committee of the Psychology Department which upholds the ethical standards of the British Psychological Society which are consistent with the Helsinki declaration (see also Gavin & Rodham, 2011).

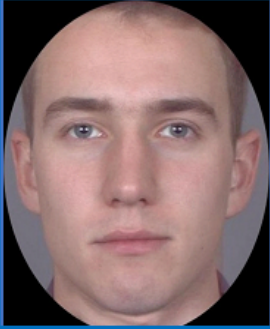
2.2. Design

As most people with a diagnosis of autism are male (CDC, 2018) and Gavin et al. (In press) identified that most autistic online dating profiles were males seeking females, this initial study explored the perceived desirability of females seeking a male romantic partner. A quasi-experimental design was used in which respondents were randomly assigned to view and respond to one of four profiles. Four online dating profiles were constructed based on the format of the world's most popular online dating site. All profiles shared generic average physical information such as body type, height and an image. The male image was created by combining two young adult white European male images posed under standardised lighting and with a neutral expression. Images were randomly drawn from a larger database of face

images. The composite image was made by averaging and then combining the shape and colour information of the two individual facial photographs using specialised software. The image was rated as 3.5 for attractiveness, the midpoint on a 0-7 scale (this technique follows previous studies, see e.g., Benson & Perrett, 1993; Little & Hancock, 2002; Tiddeman, Burt, & Perrett, 2001). The profiles were all identical except for two sections, '*My friends describe me as*' varied the attributes, and '*Interests*' varied the interests. The typical attributes (upbeat, confident, good sense of humour) and interests (bike riding, photography, kids and listening to music) were taken from those listed as desirable on the information page of the world's most popular online dating site. The autistic attributes (honest, shy and kind of nerdy) and interests (exercising, watching TV, technology and gaming) were taken from Gavin et al. (see Figure 1).

FIGURE 1 ABOUT HERE

Figure 1: Dating profile containing autism attributes in '*My friends describe me as*' and autism interests in '*Interests*'. All other text and images were kept constant.



Basic Information

Relationship: Never married

Faith: I'll tell you later

Have kids: None

Smoke: No way

Want kids: Someday

Drink: Social drinker

Ethnicity: White/Caucasian

Body type: Athletic and toned

Height: 5'11" (180m)

About me

I am a recent graduate, looking for someone to settle down with. After graduating from university, I moved back to my home town and have been living here happily ever since. I really love being around the place that I grew up. I've got an amazing network of 6 or 7 friends that I hang out with all the time.

The most influential person in my life has been

My grandfather. He lived until his 90s and was beloved by everyone he met. He gave me my curious nature and taught me to always think of others first. He and my grandmother were married for over 60 years until he died, and he always said she was the most precious and important part of his life. The way he treated her – with respect, kindness and gratitude – has really shaped the way I conduct myself in all my relationships – particularly with women.

My friends describe me as

Honest, shy and kind of nerdy

The one thing I wish people would notice about me

I can be forthright and direct when I need to be

Interests

I love exercising, watching TV, technology and gaming

Participants were randomly presented with one of the four following combinations:

- a) Autism Attributes, Autism Interests (AA-AI): n=28
- b) Typical Attributes, Typical Interests (TA-TI): n=31
- c) Autism Attributes, Typical Interests (AA-TI): n=26
- d) Typical Attributes, Autism Interests (TA-AI): n=26

Participants then completed a questionnaire, identifying their age (only females seeking a male were recruited). The questionnaire also consisted of 30 questions assessed the perceived attractiveness of the male in the profile. The questionnaire

was composed of five subscales taken from previously designed questions assessing:

2.2.1. Social attractiveness (McCroskey et al., 2006). Social attractiveness had 12 items such as “He would be sociable with me”. Six of these items were reversed scored. Likert scale response had 5 potential responses and so scores could range from 12 to 60. Chronbach’s alpha = .930 suggesting the scale, social attractiveness, has excellent internal consistency.

2.2.2. Physical attractiveness (McGloin & Denes, 2016). Physical attractiveness was measured through perceptions of the profile image with three items, such as “I find this person physically attractive”. The same scale was used as for social attractiveness and scores could range from 3 to 15. The scale has good internal consistency Chronbach’s alpha = .869.

2.2.3. Task attractiveness (McCroskey & McCain, 1972). Task attraction was measured via five items, such as “He would be a typical loser when assigned a job”. The response scale was as above and scores could range from 5 to 25. Chronbach’s alpha = .831 indicating good internal consistency.

2.2.4. Trustworthiness (McCroskey & Teven, 1999). This scale contained six items on a 5-point Likert scale, some of which were reversed scored, such as “I think he would be untrustworthy”. Scores could range from 6 to 30. Chronbach’s alpha = .865 indicating good internal consistency.

2.2.5. Desire to date (McGloin & Denes, 2016). Desire to date measured whether the respondent thought the individual was desirable and would want something to develop after viewing the profile. There were five items such as “This person would be a very desirable date”. The scores could range from 5 to 25. Chronbach’s alpha = .959 indicating excellent internal consistency.

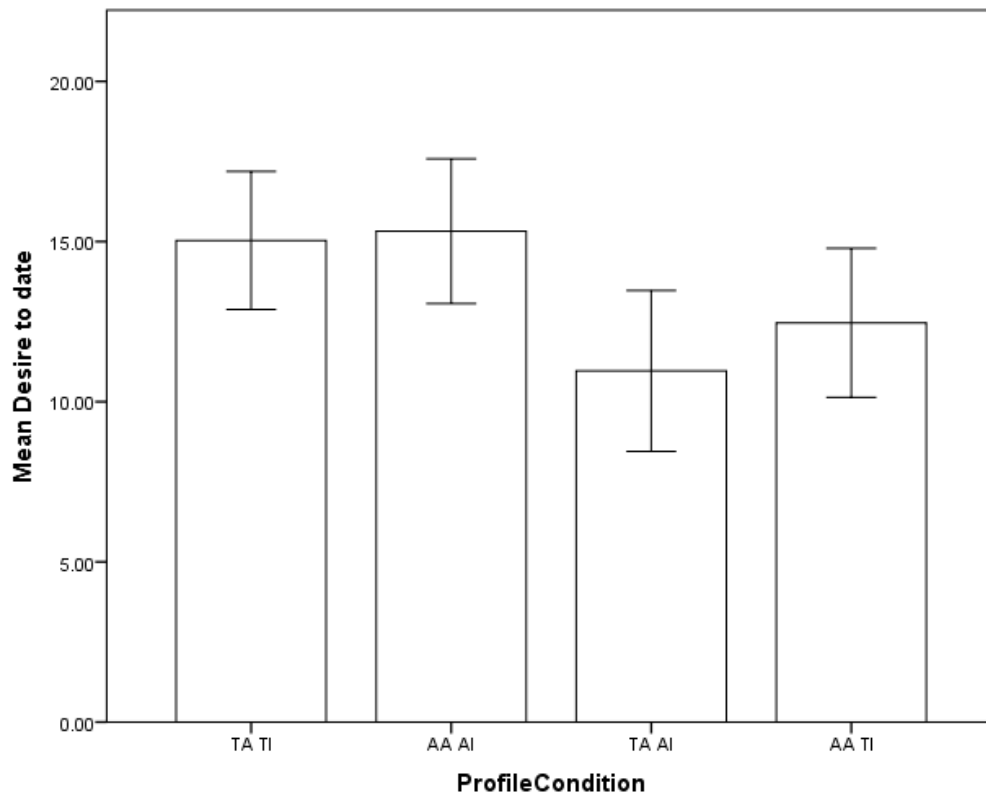
2.2.6. Knowledge of Autism (Brosnan & Mills, 2016). This was a simple 4 point scale from 1 (no knowledge) through to 4 (expert).

3. Results

Table 1 shows the means for each of the five variables by profile. Means could range from 1 through to 5. To explore the differences between the four dating profiles, a MANCOVA was conducted on social, physical and task attractiveness, trustworthiness and desire to date, controlling for knowledge of autism. The attractiveness variables and trustworthiness did not differ between profiles (all $p > .05$), but there was a significant main effect for profile on desire to date ($F(3,107)=3.44$, $p < .05$; see Figure 2). Post-hoc t-tests revealed that the two inconsistent profiles were less desirable than the two consistent profiles ($t(109)=3.09$, $p < .01$). Although not significant, it is interesting that the consistent autistic profile has the highest desire to date mean.

TABLE 1 ABOUT HERE

Fig. 2: Mean desire to date of the four profiles



Typical Attributes, Typical Interests (TA-TI); Autism Attributes, Autism Interests (AA-AI); Typical Attributes, Autism Interests (TA-AI); Autism Attributes, Typical Interests (AA-TI). Error bars are 95% CI.

4. Discussion of Study 1

Study 1 explored the relative perceived attractiveness, trustworthiness and desire to date of autistic and typical personality attributes and interests embedded within an online dating profile.

An autistic profile describing autistic attributes and interests was rated as being comparably desirable to date as a profile describing typically desirable attributes and interests. Whether autistic or typical, presenting attributes and interests that were consistent with each other resulted in higher desire to date ratings than inconsistent profiles. Previous research has suggested that this effect is driven by perceptions of trustworthiness (Toma & Hancock, 2012), but the present study does not fully support this, as trustworthiness did not significantly differ between the profiles. The

results would suggest that autistic online daters should have profiles consistent in their personality attributes and interests, and not embed profiles with typically desirable features. It should be noted that this is relative, the consistent profiles have a desire to date mean was at the midpoint of the scale (around 15). This is consistent with the image being used, which was selected to be of average attractiveness and was around the midpoint of the physical attractiveness scale (between 7 and 9).

Thus, whilst previous research has suggested that the autistic attributes and interests are not generally considered attractive (Kowert et al., 2012), no differences in desire to date between males' profiles consisting of typically-autistic attributes and interests and those consisting of typically-desirable attributes and interests were identified in this online dating context. This suggests that the autistic-like attributes and interests used within autistic online dating profiles identified by Gavin et al. are not perceived negatively *per se*. However, in Study 1, the attributes and interests were presented in a list. Gavin et al. also report that the autistic males' online dating profiles were characterised by negative wording, such as positive attributes being presented as flaws and the use of negative emotions words such as 'hate'. This negativity deviates from normative self-presentation in online dating (Toma & Hancock, 2010; Whitty, 2008), and is considered unappealing in other online settings (Van der Heide et al., 2012). Thus, it is possible that the potential of the desire to date of presenting autistic attributes and interests within an online dating profile, may be undermined by presenting within a context of negative wording (Human, Biesanz, Parisotto & Dunn, 2012; Orehek & Human, 2017). For example, Orehek and Human report that using a high number of negations (e.g., don't, couldn't, won't) led to the user being perceived more negatively, whereas using words that conveyed more certainty and confidence (e.g., every, always) led to the user being perceived in a more positive light.

In addition, when online dating, an autistic individual is also faced with the decision as to whether or not to label themselves as being autistic in their online dating profile. Brosnan and Mills (2016) report that students reacted more positively to their peers displaying autistic-like behaviours when they were informed that the individual had a diagnosis of autism than when they were unaware of their peer's diagnosis.

Other research, however, has suggested that awareness of an autism diagnosis can be associated with negative stereotypes, such as being impolite or dangerous (Huws & Jones, 2010; Johnson & Joshi, 2016). The second study, therefore, explored the relative desirability of autistic attributes and interests presented in a positive way compared to the same attributes and interests presented negatively. It also measured the relative desirability of online dating profiles with and without an explicit autism diagnosis being stated.

5. Method

5.1. Participants.

Participants were 127 self-identified heterosexual females who were 'seeking a man' through online dating, with an average age of 20.4 years (range 18-25; $sd=1.56$). These respondents were recruited through an advertisement on social media and had not participated in Study 1. Study 2 received ethical approval from the ethics committee of the Psychology Department which upholds the ethical standards of the British Psychological Society which are consistent with the Helsinki declaration (see also Rodham & Gavin, 2011).

5.2. Design.

Consistent with Study 1, Study 2 explored female perceptions of male online dating profiles. A quasi-experimental design was used in which respondents were randomly assigned to view and respond to one of six profiles. The six profiles all featured the same profile photo and basic details, for instance height and ethnicity, as in Study 1. However, the profiles differed in regards to what was written in the 'About Me' section. Two variables were manipulated, the first being whether a diagnosis of autism was explicitly stated ('I'm autistic') or not, and the second being the wording used to describe the male's autistic-like attributes (positive, negative or neutral). For the neutrally worded profile, an example of a desirable profile from the world's most popular online dating site was used and there was no mention of any autistic attributes. The authors inserted five autism-relevant statements that were either negatively or positively worded (I do not find social situations easy vs I am happy in my own company; I'm not very good at multi-tasking vs when I do something I like to

give it my undivided attention; I don't like social chit-chat vs I like my conversations to have a point to them; I can tend to miss 'The Bigger Picture' vs I have good attention to detail; I'm not very imaginative vs I am a practical down-to-earth thinker – see Appendix for full profiles).

As in Study 1, the dependent variables were interpersonal attraction (physical, social and task attraction), trustworthiness and desire to date, and familiarity with autism was controlled for. Thus, participants were presented with one of the six following combinations:

- 1) Label present – positive wording: n=21
- 2) Label present – negative wording: n=16
- 3) Label present – neutral wording: n=17
- 4) No Label – positive wording: n=23
- 5) No Label – negative wording: n=23
- 6) No Label – neutral wording: n=27

6. Results

Table 2 highlights the means and standard deviations for all six conditions (2: label & no label x 3: neutral/positive/negative wording).

TABLE 2 ABOUT HERE

All the dependent variables significantly positively correlated with one another (all $p < .001$) and were entered into a MANCOVA with label (yes, no) and wording (positive, negative, neutral) as the independent variable, with familiarity with autism as a covariate. There was a significant main effect for label on physical attractiveness ($F(1,120)=6.87, p=.01$) and trustworthiness ($F(1,120)=5.00, p<.05$). Post-hoc independent t-tests identified that an explicit statement of a diagnosis of autism related to the image being perceived to be more physically attractive ($t(125)=2.44, p<.05$) and more trustworthy ($t(125)=2.33, p<.05$). As in Study 1, the physical attractiveness of the image was rated around the midpoint (8.6), with no ceiling or floor effects.

There was a significant main effect of wording on social attractiveness ($F(2,120)=3.75, p<.05$) and task attractiveness ($F(2,120)=4.21, p<.05$). Post hoc independent t-tests identified that positive wording was associated with a significantly higher social attractiveness rating than negative wording ($t(81)=3.04, p<.01$) and approached significance for neutral wording ($t(81)=1.83, p=.07$). In addition, negative wording was associated with a significantly higher task attractiveness rating than positive and neutral wording ($t(81)=2.05, p<.05$; $t(81)=3.29, p<.001$; respectively). There were no significant two-way interactions between label and wording (all $p>.05$).

7. Discussion of Study 2

This study investigated the impact of including an explicit statement of a diagnosis of autism in an online dating profile and the type of wording used to describe autistic attributes in the profile (negative, neutral or positive) had on the perceived attractiveness, trustworthiness and desire to date of the profile. These two factors were found to influence different aspects of the perceptions of the online dating profile.

The profiles that included an explicit statement of a diagnosis of autism were perceived as more trustworthy and physically attractive than those that did not. A plausible explanation for why respondents perceived the trustworthiness of these profiles to be higher is that these profiles contained a statement that was perceived to be honest and legitimate, therefore increasing the 'warranting value' of the profile. Warranting value alludes to validity and genuineness of the information concerning a person (Walther, 2011). As Woptika and High (2016) have suggested, people trust online dating profiles more when they contain information of a high warranting value and are more likely to make contact with the people in them. Similarly Berlin (2014) acknowledges that those who are most successful when online dating are the daters who choose to share the most intimate information in their profiles. In the present study, however, whilst an explicit statement about diagnosis related to greater trustworthiness, it did not significantly impact upon desire to date.

The finding that a label of autism increased perceived physical attractiveness is particularly interesting as exactly the same image was used in each profile (and participants only rated one profile each). The image was selected to be of average attractiveness and this was reflected in the ratings of the participants in the present study. One explanation for the increase in the perceived physical attractiveness of the profile when it included an explicit statement of a diagnosis of autism may be that it was related to the rating of higher perceived trustworthiness. As previous research such as that by Zhang et al. (2014) has suggested, personality can have an impact on how facially attractive someone is perceived to be, with positive personality attributes such as trustworthiness increasing the perceived physical attractiveness of an individual. This positive correlation was also found in the present study, as all the dependent variables correlated with each other.

When the profile was written using positive wording, it was perceived as being significantly more socially attractive than when it was written using negative wording, and approaching significance for neutral wording. This is consistent with research showing that in online dating, sending messages to a potential partner that contained strongly positive emotional words results in more favourable impressions than messages that containing fewer of these words (Rosen, Cheever, Cummings & Felt, 2008). These findings highlight the importance for autistic online daters to ensure they word their autistic attributes positively in an online dating profile if they wish to come across as socially attractive. In the positively worded profiles, the individual's strengths were the focus. In contrast, in the negatively worded profiles, the individual's weaknesses were the focus, therefore it was likely that more self-confidence was conveyed in the positively worded profile. This may be another reason why respondents perceived the positively worded profiles to be more socially attractive. For example, Brand et al. (2012) have shown that the more self-confidence is conveyed in a profile, the more attractive it is perceived as being. This study therefore suggests that focussing on the positive traits expressed as a result of having a diagnosis of autism in an online dating profile, such as preferring quiet dinners to loud parties, may increase the social attractiveness of the profile. The findings also indicate that the negatively worded profile was perceived as being more task attractive than the profile written using neutral wording. This may suggest that

being self-deprecating about task-oriented aspects can be viewed positively, such as being poor at DIY.

8. Overall discussion

For the first time, two studies have explored the perceived attractiveness, trustworthiness and desire to date of autistic males' online dating profiles. Study 1 highlighted that it is not whether the personality attributes and interests expressed are typical or autistic, but whether the overall profile is consistent, that has greatest impact on desire to date. Although not significant, it is also interesting to note that the consistent autistic profile also had the highest desire to date rating. The second study highlighted that an explicit label of autism can have a positive impact upon both perceived trustworthiness and perceived physical attractiveness. Framing personality characteristics within positive wording was also related to higher perceived social attractiveness. Ultimately, therefore, key tips for autistic online daters would be:

- 1) Be consistent in your online profile (attributes and interests)
- 2) Be explicit about your autism
- 3) Frame your personality attributes and interests using positive wording

These are the first studies that have explored the perceived attractiveness, trustworthiness and desire to date of male autistic online dating profiles. A clear limitation is that only one profile was used per study, and different images may have different impacts across different online dating platforms. However, taken together, the findings are consistent with the existing literature. Similarly the profiles within Study 1 either had all autistic attributes/interests or all typical attributes/interests, while Study 2 contained profiles with either all negative wording or all positive wording. Future research can explore the impact of a profile containing both positive and negative wording, for example. This could be pertinent as Study 1 indicated that a more consistent profile was associated with a greater desire to date. Only exploring heterosexual females' rating of males was also a limitation and future research can explore male ratings and ratings of homosexual and non-binary

groups. Exploring what (male, female, non-binary) autistic online daters find attractive, trustworthy and desirable would also be an interesting avenue for future research.

Difficulties experienced by autistic daters in the online context may also occur at some later stage in the dating process. Future research could explore autistic daters' experiences and dating practices at these later stages, such as initiating contact or getting to know a potential partner. In particular, do autistic daters conform to dating norms at these more interpersonal levels of online dating, and how are their messages responded to by potential partners? Similarly, to what extent can adapting one's profile lead to comparable adaptations in subsequent face-to-face dates? Generalisability across contexts can be an issue in autism, yet as Roth and Gillis (2015) suggest, online dating can be successful for the autistic community.

By definition, online dating necessitates using digital technology, and it may be within this context specifically that attributes and interests of being 'kind of nerdy' or 'a gamer' are perceived to be more attractive. Most of the participants were also relatively young, aged between 18-25, which may also limit the generalizability of the findings. However, this is the first study to show that an online dating profile reflecting attributes and interests characteristic of autistic online daters can be perceived positively when constructed appropriately (see guidance above). This is another example of the online environment ameliorating the challenges faced by autistic people in face-to-face communication (Brosnan & Gavin, 2015; Roth & Gillis, 2015).

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Arlington, VA: American Psychiatric Publishing.
- Benson, P. J., & Perrett, D. I. (1993). Extracting prototypical facial images from exemplars. *Perception, 22*(3), 257-262.
- Berlin, R. (2014). The professional ethics of online dating: Need for guidance. *Child and Adolescent Psychiatry, 59*(3), 935-937.
- Berscheid, E., & Walster, E. (1974). Physical attractiveness. In L. Berkowitz (Ed.), *Advances in experimental social psychology, Vol. 7* (pp. 157-215). New York: Academic Press.
- Brand, R., Bonatsos, A., D'Orazio, R., & Deshong, H. (2012). What is beautiful is good, even online: Correlations between photo attractiveness and text attractiveness in men's online dating profiles. *Computers in Human Behavior, 28*(1), 166-170.
- Brosnan, M., & Gavin, J. (2015). Are 'friends' electric? Why those with an autism spectrum disorder (ASD) thrive in online cultures but suffer in offline cultures. In L. Rosen, N. Cheever, & M. Carrier (Eds.), *The Wiley handbook of psychology, technology and society*. London: Wiley.
- Brosnan, M., & Mills, E. (2016). The effect of diagnostic labels on the affective responses of college students towards peers with 'Asperger's Syndrome' and 'Autism Spectrum Disorder'. *Autism, 20*(4), 388-394.
- Byers, E. S., Nichols, S., & Voyer, S. D. (2013). Challenging stereotypes: Sexual functioning of single adults with high functioning autism spectrum disorder. *Journal of Autism and Developmental Disorders, 43*(11), 2617-2627.
- CDC (2018, November 5). Autism Spectrum Disorder (ASD): Data and statistics. Retrieved from <https://www.cdc.gov/ncbddd/autism/data.html>.

Eaves, L. C., & Helena, H. H. (2008). Young adult outcome of autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 38(4), 739–747.

Finkel, E. J., & Eastwick, P. E. (2015). Interpersonal attraction: In search of a theoretical Rosetta Stone. *Handbook of personality and social psychology: Interpersonal relations and group processes*. Washington, DC: American Psychological Association.

Fiore, A. T., Taylor, L. S., Mendelsohn, G. A., & Hearst, M. (2008, April). Assessing attractiveness in online dating profiles. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 797-806). ACM.

Fisk, S.T. & Taylor, S.E. (1991). *McGraw-Hill series in social psychology: Social cognition (2nd ed.)*. New York: McGraw-Hill.

Fletcher, G.J., Simpson, J.A., Thomas, G., & Giles, L. (1999). Ideals in intimate relationships. *Journal of Personality and Social Psychology*, 76(1), 72-89.

Fetcher, G.J., Tither, J.M., O'Loughlin, C., Friesen, M., & Overall, N. (2004). Warm and homely or cold and beautiful? Sex differences in trading off traits in mate selection. *Personality and Social Psychology Bulletin*, 30(6), 659-672.

Gavin, J., Rees-Evans, A., & Brosnan, M. (In press). Shy geek, likes music, gaming and technology. An examination of autistic males' online dating profiles. *Cyberpsychology, Behavior, and Social Networking*.

Gavin, J., & Rodham, K. (2011). The ethics of online research: The new challenges of new media. In D. Vegros, & J. Saenz (Eds.), *Peer-to-peer networks and internet policies* (pp. 205-214). New York: Nova Science.

Gibbs, J.L., Ellison, N.B., & Lai, C.H. (2011). First comes love, then comes Google: An investigation of uncertainty reduction strategies and self-disclosure in online dating. *Communication Research*, 38(1), 70-100.

Hellemans, H., Colson, K., Verbraeken, C., Vermeiren, R., & Deboutte, D. (2007). Sexual behavior in high functioning male adolescents and young adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 37(2), 260-269.

Human, L. J., Biesanz, J. C., Parisotto, K. L., & Dunn, E. W. (2011). Your best self helps reveal your true self. *Social Psychological and Personality Science*, 3(1), 23-30.

Huws, J., & Jones, R. (2010). 'They just seem to live their lives in their own little world': Lay perceptions of autism. *Disability and Society*, 25(3), 331-344.

Jennes-Coussens, M., Magill-Evans, J., & Koning, C. (2006). The quality of life of young men with Asperger syndrome. *Autism*, 10(4), 403-414.

Johnson, T. D., & Joshi, A. (2016). Dark clouds or silver linings? A stigma threat perspective on the implications of an autism diagnosis for workplace well-being. *Journal of Applied Psychology*, 101(3), 430-449.

Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C., & Pellicano, E. (2016). Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism*, 20(4), 442-462.

Koegel, L. K., Detar, W. J., Fox, A., & Koegel, R. L. (2014). Romantic relationships, sexuality, and autism spectrum disorders. In *Adolescents and adults with autism spectrum disorders* (pp. 87-104). New York: Springer.

Kowert, R., Griffiths, M.D., & Oldmeadow, J.A. (2012). Geek or chic: Emerging stereotypes of online gamers. *Bulletin of Science, Technology, and Society*, 32(6), 471-479.

Kowert, R., Festl, R., & Quandt, T. (2014). Unpopular, overweight, and socially inept: Reconsidering the stereotype of online gamers. *Cyberpsychology, Behavior, and Social Networking*, 17(3), 141-146.

Little, A. C., & Hancock, P. J. (2002). The role of masculinity and distinctiveness on the perception of attractiveness in human male faces. *British Journal of Psychology*, 93(4), 451-464.

McCroskey, J. C., & McCain, T. A. (1974). The measurement of interpersonal attraction. *Speech Monographs*, 41, 261-266.

McCroskey, L. L., McCroskey, J. C., & Richmond, V. P. (2006). Analysis and improvement of the measurement of interpersonal attraction and homophily. *Communication Quarterly*, 54(1), 21.

McCroskey, J. C., & Teven, J. J. (1999). Goodwill: A reexamination of the construct and its measurement. *Communication Monographs*, 66(1), 90-103.

McGloin, R., & Denes, A. (2016). Too hot to trust: Examining the relationship between attractiveness, trustworthiness, and desire to date in online dating. *New Media and Society*, 20(3), 919-936.

Murrie, D.C., Warren, J.I., Kristiansson, M., & Dietz, P.E. (2002). Asperger's Syndrome in forensic settings. *International Journal of Forensic Mental Health*, 1(1), 59-70.

Nichols, S. (2009). *Girls growing up on the Autism Spectrum: what parents and professionals should know about the pre-teen and teenage years*. London: Jessica Kingley.

Orehek, E., & Human, L. J. (2017). Self-expression on social media: Do tweets present accurate and positive portraits of impulsivity, self-esteem, and attachment style? *Personality and Social Psychology Bulletin*, 43(1), 66-70.

Smith, A. (2016, February 11). '15% of American adults have used online dating sites or mobile dating apps'. *Pew Research Centre: Internet and Technology*.

Retrieved from <http://www.pewinternet.org/2016/02/11/15-percent-of-american-adults-have-used-online-dating-sites-or-mobile-dating-apps/>

Rosen, L. D., Cheever, N. A., Cummings, C., & Felt, J. (2008). The impact of emotionality and self-disclosure on online dating versus traditional dating. *Computers in Human Behaviour, 24*(5), 2124-2157.

Roth, M. E., & Gillis, J. M. (2015). "Convenience with the click of a mouse": A survey of adults with Autism Spectrum Disorder on online dating. *Sexuality and Disability, 33*(1), 133-150.

Singh, R., Wegener, D.T., Sankaran, K., Singh, S., Lin, P.K., Seow, M.X.,... Shuli, S. (2015). On the importance of trust in interpersonal attraction from attitude similarity. *Journal of Social and Personal Relationships, 32*(6), 829-850.

Strunz, S., Schermuck, C., Ballerstein, S., Ahlers, C. J., Dziobek, I., & Roepke, S. (2017). Romantic relationships and relationship satisfaction among adults with Asperger Syndrome and high-functioning autism. *Journal of Clinical Psychology, 73*(1), 113-125.

Sucksmith, E. C., Allison, C., Baron-Cohen, S., Chakrabarti, B., & Hoekstra, R.A. (2013). Empathy and emotion recognition in people with autism, first-degree relatives, and controls. *Neuropsychologia, 51*(1), 98-105.

Tiddeman, B. P., Burt, D. M., & Perrett, D. I. (2001). Prototyping and transforming facial texture for perception research. *IEEE Computer Graphics and Applications, 21*(5), 42-50.

Toma, C., & Hancock, J. (2010). Looks and lies: The role of physical attractiveness in online dating self-presentation and deception. *Communication Research*, 37(3), 335-351.

Urbano, M. R., Hartmann, K., Deutsch, S. I., Bondi Polychronopoulos, G. M., & Dorbin, V. (2013). Relationships, sexuality, and intimacy in Autism Spectrum Disorders: Recent advances in Autism Spectrum Disorders. In M. Fitzgerald (Ed.), *Recent Advances In Autism Spectrum Disorders, Volume I* (pp. 427-451). London: InTech.

Van der Heide, B., D'Angelo, J.D., & Schumaker, E.M. (2012). The effects of verbal versus photographic self-presentation on impression formation in Facebook. *Journal of Communication*, 62(1), 98-116.

Walther, J. (2007). Selective self-presentation in computer-mediated communication: Hyperpersonal dimensions of technology, language, and cognition. *Computers in Human Behavior*, 23(5), 2538-2557.

Walther, J. B. (2011). Theories of computer-mediated communication and interpersonal relations. In M. L. Knapp, & J. A. Daly (Eds.), *The handbook of interpersonal communication (4th ed.)*, (pp. 443-479). Thousand Oaks, CA: Sage.

Whitty, M.T. (2008). Revealing the 'real' me, searching for the 'actual' you. Presentations of self on an internet dating site. *Computers in Human Behavior*, 24(4), 1707-1723.

Wotipka, C. D., & High, A. C. (2016). An idealized self or the real me? Predicting attraction to online dating profiles using selective self-presentation and warranting. *Communication Monographs*, 83(3), 281-302.

Zhang, Y., Zong, Y., Kong, F., & Kou, H. (2014). Personality manipulations: Do they modulate facial attractiveness ratings? *Personality and Individual Differences*, 70, 80-84.

Appendix

The wording that varied between the profiles is underlined below, but was not underlined in the study.

Label, negative wording (no label omitted 'I am Autistic' at the end):

About me

I am a recent graduate, looking for someone to settle down with. After graduating from university, I moved back to my home town and have been living here happily ever since. I really love being around the place that I grew up. I do not find social situations easy.

The most influential person in my life has been: *My grandfather. He lived until his 90s and was beloved by everyone he met. He gave me my curious nature and, like him, I'm not very good at multi-tasking. He and my grandmother were married for over 60 years until he died, and he always said she was the most precious and important part of his life. The way he treated her – with respect, kindness and gratitude – has really shaped the way I conduct myself in all my relationships – particularly with women.*

My friends would say: *I don't like social chit-chat*

The one thing I wish people would notice more about me: *I can tend to miss 'The Bigger Picture'*

I am autistic. I am not very imaginative, but I love to have adventures and I want someone to enjoy them with.

Label, positive wording (no label omitted 'I am Autistic' at the end):

About me

I am a recent graduate, looking for someone to settle down with. After graduating from university, I moved back to my home town and have been living here happily ever since. I really love being around the place that I grew up. I am happy in my own company.

The most influential person in my life has been: *My grandfather. He lived until his 90s and was beloved by everyone he met. He gave me my curious nature and, like him, when I do something I like to give it my undivided attention. He and my grandmother were married for over 60 years until he died, and he always said she was the most precious and important part of his life. The way he treated her – with respect, kindness and gratitude – has really shaped the way I conduct myself in all my relationships – particularly with women.*

My friends would say: *I like my conversations to have a point to them*

The one thing I wish people would notice more about me: *I have good attention to detail*

I am autistic. I am a practical down-to-earth thinker, but I love to have adventures and I want someone to enjoy them with.

Label, neutral wording (no label omitted 'I am Autistic' at the end):

About me

I am a recent graduate, looking for someone to settle down with. After graduating from university, I moved back to my home town and have been living here happily ever since. I really love being

around the place that I grew up. I've got an amazing network of 6 or 7 friends that I hang out with all the time.

The most influential person in my life has been: *My grandfather. He lived until his 90s and was beloved by everyone he met. He gave me my curious nature and taught me to always think of others first. He and my grandmother were married for over 60 years until he died, and he always said she was the most precious and important part of his life. The way he treated her – with respect, kindness and gratitude – has really shaped the way I conduct myself in all my relationships – particularly with women.*

My friends describe me as: warm, generous and caring

The one thing I wish people would notice more about me: I can be forthright and direct when I need to be.

I am Autistic. Music and the outdoors are my passion. I love to have adventures and I want someone to enjoy them with.

Table 1: Mean attraction, trustworthiness and desire to date by profile type

Profile		Social Attraction	Physical Attraction	Task Attraction	Trust-worthiness	Desire to date
TA TI	mean	36.39	8.32	13.94	19.48	15.03
	sd	2.64	1.47	2.29	2.03	5.87
AA AI	mean	36.18	7.82	14.14	19.79	15.32
	sd	2.54	1.19	1.58	1.62	5.82
TA AI	mean	35.77	8.58	14.08	19.46	10.96
	sd	2.45	1.17	1.57	2.10	6.22
AA TI	mean	35.31	8.38	14.00	18.62	12.46
	sd	2.22	1.55	1.57	1.72	5.76

Typical Attributes, Typical Interests (TA-TI); Autism Attributes, Autism Interests (AA-AI); Typical Attributes, Autism Interests (TA-AI); Autism Attributes, Typical Interests (AA-TI).

Table 2: Mean and standard deviation of ratings for the six conditions

Profile		Social Attraction	Physical Attraction	Task Attraction	Trust-worthiness	Desire to date
Neutral	mean	42.88	9.94	18.88	24.65	12.53
	sd	7.30	2.93	4.091	3.30	4.08
Negative	mean	41.31	9.63	19.50	24.63	11.19
	sd	8.491	2.90	3.27	2.83	3.78
Positive	mean	46.10	8.71	19.81	23.62	12.62
	sd	7.60	2.87	3.04	3.87	4.27

- Two studies exploring the attractiveness of autistic males' online dating profiles led us to develop 3 key tips for autistic online daters
- Be consistent in your online profile (attributes and interests)
- Be explicit about your autism
- Frame your personality attributes and interests using positive wording

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