

Factors Influencing Perceptions of Individuals with Autism

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Approval Page

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Abstract

There has been an increase in media accounts of people with Autism Spectrum Disorder (ASD) being the targets of discriminatory attacks. With ASD being the most recognizable developmental disorder in North America, these attacks attract considerable attention. The current study investigated whether the age or sex of an individual with ASD influenced how negatively or positively he/she was perceived by others. It also examined whether perceptions were influenced by the presence of a diagnostic label. A 12-item questionnaire was created to measure how participants perceived an individual described in a brief scenario. The questionnaire was completed online by 286 participants with a mean age of 27.84 years. There was a significant main effect of the presence of a diagnostic label on perception scores; when no label was given, participants perceived the described individual significantly more negatively than when a label of autism was present. There was also a significant interaction between age and sex of character on perception scores. Specifically, there were no significant effects of age on perceptions when the individual described in the scenario was male. However, females were perceived significantly less negatively as children than as adults. These results can help us gain a better idea of which factors influence how others perceive those with ASD, and can be a first step towards eliminating negative perceptions.

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Factors Influencing Perceptions of Individuals with Autism

“Your son is a hindrance to everyone and will always be that way, his noise polluting wailing is scaring my normal children, do the right thing and move or euthanize him” (Visser, 2013). Imagine receiving a letter stating this about your child with autism. This was the sentiment expressed in a letter received by a family in Ontario, Canada from a neighbour about their 13-year-old son with autism. Would this have happened if the child was just a loud child *without* a disability? Would it have happened if the neighbour did not know the child had autism? What about if the child was a girl, or if it was an adult rather than a child? How one perceives a child with disabilities can have nasty results. This incident (and other similar ones involving children with autism) sparked the idea behind this thesis.

Autism has become the most recognizable and common developmental disorder in North America (Jensen & Spannagel, 2011). The prevalence of autism has increased by 657 percent from 1993 to 2003, and autism is now diagnosed in 1 in 88 children under the age of eight (Autism Epidemic: A Myth?, 2008). The term Autism Spectrum Disorder (ASD) encompasses a wide range of behavioural symptoms. The diagnostic criteria of ASD continue to change with each new edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). The DSM-5 states that when diagnosing someone with ASD, he/she must display a number of characteristics which include repetition of behaviours, actions or interests; and deficits in social communication and interaction (American Psychiatric Association, 2013). These repetitive behaviours include self-stimulatory movements (e.g., repetitive motor movements or humming, which serve as a type of calming mechanism to the individual), obsessive interests or compulsive

behaviour, increased or decreased reaction to sensory stimuli, and strict adherence to routine (American Psychiatric Association, 2013). Some specific symptoms of ASD associated with deficits in social communication and interactions include problems with having normal back-and-forth conversations, inability to develop relationships, and inability to share interests (American Psychiatric Association, 2013). These social impairments leave those with autism susceptible to negative perceptions; consequently, they often become socially isolated. In this thesis, I examine a number of factors that may affect public perceptions of autistic individuals. I begin by considering how people tend to perceive individuals with disabilities in general, and then consider the stigma of diagnostic labels, perceptions of children vs. adults, and, finally, perceptions of males vs. females with autism.

Perceptions of Individuals with Disabilities

Those with disabilities are often judged more harshly than their peers (Harnum, Duffy, & Ferguson, 2007). Further, individuals with mental illnesses and learning disabilities are often judged more harshly than those with other types of disabilities (Ditchman et al., 2013). Although many efforts have been made by the World Health Organization and various other organizations to shed light on the issue of mental health and to promote awareness and acceptance, there is still a large stigma associated with these types of disorders in general (Ditchman et al., 2013).

Ditchman et al. (2013) discuss how these negative perceptions of others with disabilities can have a long-lasting significant effect on the person being judged. These negative perceptions can affect his or her inclusion into society, decision making, health, sense of pride, and self-esteem (Ditchman et al., 2013). Teachers perceive children with

disabilities that affect their emotions and/or behaviours in a more negative way than children with intellectual disabilities (Hastings & Oakford, 2003). Huang and Diamond (2009) also found that the level of acceptance and openness to classroom inclusion by teachers depended on the type of disability described. Teachers had the lowest levels of acceptance of, and openness to, children that had a severe intellectual disability as compared to a physical-motor disability (Huang & Diamond, 2009).

Stigma of Diagnostic Labels

Although the creation of diagnostic labels for mental disorders has had a positive impact, it has made those suffering with psychological disorders susceptible to the stigma related to being labelled (Kite, Gullifer, & Tyson, 2013). Individuals with disabilities are commonly stigmatized by society (Paterson, McKenzie, & Lindsay, 2012). Aside from Asperger's Syndrome (a form of high-functioning autism), which is viewed relatively positively by society because of the stereotype attached to it of extreme intelligence and savant abilities, the label of autism tends to have a negative stigma attached to it (Kite et al., 2013). The mass media's treatment of autism has caused autistic children to be stereotyped as violent, volatile and impossible to teach how to behave (Kite et al., 2013). This idea was triggered by reports of children with autism being placed in cages in classrooms in order to protect them. This was said to protect them by making it impossible for them to run away and to shield them from bullying by others because of their unruly behaviour (Doherty, 2009, as cited in Kite et al., 2013).

The presence of diagnostic labels and their influence on how society perceives a person has been addressed in a variety of studies. In one study (Boccaccini, Murrie, Clark, & Cornell, 2008), it was found that labeling a young offender as a psychopath

caused jurors to perceive the offender in a negative way. It has also been found that the presence of the diagnostic labels of depression and schizophrenia has a negative influence on how individuals with these disorders are perceived by the public (Angermeyer, Matschinger, & Schomerus, 2013). Huang and Diamond (2009) discussed how diagnostic labels influence perceptions of disabled students. They reported that the presence of a diagnostic label influenced the amount of success a child would have in school, because of changes in the behaviour of their teachers and peers towards them. It was found that teachers responded to and treated students differently (e.g., had lower expectations and/or did not want them in their classroom) depending on whether a diagnostic label was present or not (Huang & Diamond, 2009). However, Swaim and Morgan (2001) found that children rated a described child with autism as less like them regardless of whether information about the child having autism was supplied or not. Because of the inconsistency in results regarding the impact of diagnostic labels on perceptions of autism, these effects need to be investigated further.

Age Effects on Perceptions

There has been limited research done in this area. Most of the research looking at the effect of age on perceptions focuses on the age of the participant rather than on the age of the individual with the disability. To date, most of the work done on perceptions of autism has focused on perceptions of autistic children. Swaim and Morgan (2001) found that children reported having more negative attitudes towards another child displaying autistic behaviours than towards a control (a child who displayed no autistic behaviours). Similarly, in Harnum et al. (2007) children reported that they would dislike/avoid a child showing autistic symptoms more than a child showing symptoms of attention deficit

hyperactivity disorder (ADHD) or a child showing no behavioural symptoms (a 'control' child). However, when Harnum et al. (2007) surveyed adults, there was no significant difference in how positively or negatively they perceived the autistic child as compared to the child with ADHD or the control child. They also found that, among the three types of child protagonists, adults perceived the autistic child to be least like them.

Although most studies have looked at perceptions of children with autism, Nevill and White (2011) looked at perceptions of adults with autism. They suggested that adults have more positive attitudes towards children with disabilities because adults have been shown to be more empathetic towards children and tend to excuse their behaviour. However, when the described individual is relatively the same age they tend to compare their behaviour to their own behaviour or the behaviour of others they know. They found that students who had a relative with autism were significantly more accepting of the autistic person described (Nevill & White, 2011). They also found that the level of openness to the adult with autism varied depending on college major and gender. Engineering students were the most accepting compared to other majors, and males were generally more accepting than were females.

A handful of studies have directly examined age effects on perceptions of individuals with mental disabilities. Ahlborn, Panek and Jungers (2008) looked to see if the age of a described individual with disabilities influenced perceptions of readers. They found that the individual was judged slightly more positively at age 3 than at age 12, and slightly more positively at age 12 than at age 20. However, these findings were not statistically significant. Panek and Jungers (2008) also found no significant effect of age of a described individual with mental retardation. However, they suggest that this factor

may have been overlooked by participants because of the strong focus placed on the cause of the described individual's disorder.

Perceptions of Males vs Females with Autism

It is commonly known that many developmental disabilities, including autism, affect boys significantly more often than girls. The ratio of males to females diagnosed with autism is 4:1, and it increases to 10:1 when considering just high-functioning autistics (Dworzynski, Ronald, Bolton, & Happé, 2012). The majority of females with autism are found to be lower functioning than the majority of males with autism (Sipes, Matson, Worley, & Kozlowski, 2011). Males with autism seem to have more symptoms in the repetitive behaviours and adherence to routine category of diagnosis than do females (Sipes et al., 2011).

Being the minority, females may be judged more harshly when they have a developmental disorder. Hanna and Rogovsky (1991) state that women with disabilities are seen (and see themselves) as having at least two disabilities. One of these is their actual diagnosed disability and the other is the fact that they are a woman. These women feel that they are judged and discriminated against not only for being disabled, but also for being a woman (Hanna & Rogovsky, 1991). This is particularly concerning because females with disabilities are more likely than males with disabilities to develop depression and to have low self-esteem (Lunsky, 2003). It has been proposed that females may be judged more harshly also because of pre-existing gender roles in society (Oswald, Best, Coutinho, & Nagle, 2010). Many of the pre-existing gender roles society has for the preferred behaviour of females (e.g, listen intently, do as you are told, sit quietly and behave, and participate in polite small-talk, etc.) directly conflict with the

behaviour displayed by those with autism or other developmental disabilities (Oswald et al., 2010).

Goldman (2013) suggests that male and female stereotypical gender roles can influence the diagnosis of autism in some children. She says that in order for a female child to be considered autistic, she must exhibit more positive autistic symptoms (e.g., aggression or hyperactivity) or must lack verbal skills. Goldman suggests this is because these types of symptoms do not fit into the female child's gender role. This may be why there is such a large difference in males versus females diagnosed with high-functioning autism. Goldman (2013) suggests that the symptoms for high functioning autism are more in line with stereotypical female behaviours than male behaviours. For males, she suggests that autism is considered when they exhibit the more classic behavioural symptoms associated with autism (e.g., need for routine or lack of facial expressions) because these are outside of the male child's gender role. It was also suggested that many female children with autism may get overlooked because they appear to play normally and they play female-typical games (Kirkovski, Enticott, & Fitzgerald, 2013). However, this is proposed to be because female children with autism observe and analyze social interactions and imitate them through their own behaviour or play, without really understanding the social interactions (Kirkovski et al., 2013). Goldman (2013) also suggests that autistic symptoms are more commonly diagnosed in males than in females because it is a well known fact that autism is a male-dominated disorder. Because of this known bias, more information is given on male autism, and little is available on autism in females. Because of this, the public views autism as a male disorder, not a disorder associated with females (Goldman, 2013). Clinicians, parents and teachers are therefore

more likely to consider it as being the answer to why a male child, but not a female child, behaves in a certain way.

Ahlborn, et al. (2008) looked whether the sex of a described individual with disabilities (specifically mental retardation) influenced how the reader perceived him or her. They found no significant difference. However, there was no detailed description of the individuals given to participants. They were given just the individual's gender, age and the fact that he/she had an intellectual disability. The word 'intellectual disability' could have been interpreted in a number of ways by the participants. Therefore, their responses may reflect the intellectual disability they are most familiar with, and were therefore thinking of during the study, and not intellectual disabilities in general. Ahlborn et al. (2008) also suggest that the gender of the described individual may have been overlooked by the participant (just as age may have been), because their focus was on the origins of the disorder.

Current Study

Most of the studies to date which look at perceptions of people with disabilities focus only on how the age and sex of the perceivers influence their perception (as opposed to the age and sex of the individual with disabilities). The few studies that do address these factors, in regards to the individual with disabilities, looked at perception of those with disabilities in general, and not on any specific disabilities. Those studies resulted in inconclusive results. There has also been little work looking at the influence of the stigma accompanying the ASD label. Most of the work in this area has been focused on the stigma of the label 'psychopath' or 'schizophrenic.' Therefore, this study attempts

to address these three factors, age, sex, and diagnostic label, when looking at perceptions of individuals with autism.

The current study has three hypotheses:

Hypothesis 1: Participants will perceive the individuals more negatively when they know they have autism than when they do not know (i.e., when a diagnostic label is provided versus when it is not). This is based on the research conducted on the negative influences of the diagnostic labels of psychopath and schizophrenic on public perception.

Hypothesis 2: Participants will perceive females displaying autistic behaviours more negatively than males displaying the same behaviours. This is based on the research, described above, on the low levels of information provided to the public about females with developmental disorders and the effects of gender stereotyping and gender roles.

Hypothesis 3: Participants will perceive adults displaying autistic behaviours more negatively than children displaying the same behaviours. This is based on the idea proposed by Nevill and White (2011) that adults are more empathetic towards children, which causes them to overlook children's behaviours, and to be more judgemental towards those who are a similar age to them.

Method

Participants

A convenience sample of 286 participants (216 women, 58 men and 12 others) volunteered to complete the survey online via Survey Monkey. Those who did not identify a gender or identified their gender as other, androgynous, non-binary a-gender or “fabulous” were placed in the ‘other’ category. The mean age of the participants was 27.84 years (ranging from 19-54 years). Eighteen students were discarded because they were underage or left more than one survey question blank. Before participating in the study participants read an informed consent form. This form briefly described the study and explained to the participants that their participation in the study was voluntary and that they could withdraw at any time. It also informed the participants that their answers would remain confidential and anonymous (see Appendix A for a copy of the informed consent).

Materials

The experimental materials consisted of eight different scenarios describing a scene in a restaurant. The description was of an individual with autism interacting with his or her mother over dinner. Once reading the informed consent, participants were presented with one of the eight scenarios and were asked to imagine they were observing the described interaction. The scenarios varied in a number of ways: they described either a child or adult displaying autistic behaviours, the child or adult described was either male or female, and the description of the individual either included a diagnostic label (e.g., this child/person has autism) or there was no label given (see Appendix B for a copy of the scenarios). The autistic behaviours described were reviewed by a

representative (Lannon, personal communication) of the Autistic Society of Newfoundland and Labrador and assessed for validity, in terms of how well they realistically described typical autistic behaviours.

The materials also included questionnaires that were designed to assess participants' attitudes toward the individual with autism described in the scenario. There were two questionnaires: participants who read a scenario describing a child received a child questionnaire, and those who read a scenario describing an adult received an adult questionnaire. Both versions contained eight questions that were identical across both questionnaires (e.g., This person/child would make me feel afraid). The child questionnaire also contained four questions that were specific to the scenario involving a child (e.g., If I were to adopt a child, I would choose a child who displayed these behaviours). Similarly, the adult questionnaire contained four questions that were specific to the scenario involving an adult (e.g., I would consider marrying a person who displayed these behaviours). Questions were answered on a 5-point Likert scale, where 1 was strongly agree and 5 was strongly disagree). At the end of the survey, participants were also asked to provide their age and gender.

The questionnaire was constructed by selecting and modifying questions from the 'Perceptions of Autism' questionnaire developed by Harnum et al. (2007), from questions that Nevill and White (2011) adapted from Harnum et al. (2007) to suit adults, and from questions constructed by Luedee (2008) for her honours thesis. Researchers from these studies provided permission for excerpts from their questionnaires to be used in this study (see Appendix C for copies of the questionnaires).

Procedure

The scenarios and surveys were uploaded to Survey Monkey, a website for creating and distributing surveys online. This particular way of collecting data has become an increasingly popular tool in the social sciences because of its ease and accessibility. Although there has been some skepticism regarding the validity of online surveys, studies have shown that online surveys are just as valid as paper surveys (e.g., Dolnicar, Laesser, & Matus, 2008). Not only are online surveys shown to be as reliable as traditional surveys, they are known to be superior to traditional surveys in that they have a lower drop-out rate (Dolnicar et al., 2008).

After ethical approval was obtained, a link to the survey was mass-emailed to the Grenfell Campus student body and a link was posted on Keats' Facebook site. Through posting this on Facebook, it could then be shared by other users and accessed by their Facebook friends. This allows for the survey to easily reach large numbers of people. Participants voluntarily completed the survey online. Upon going to the survey's web page, they were first presented with a section describing the study and asking for their informed consent. If the participant agreed to take part in the survey, they were then presented with one of the eight scenarios, which were chosen at random by Survey Monkey. The scenario was then followed by the corresponding questionnaire. The contact information for the Mental Health Crisis Line was provided in case their participation in the study raised any personal concerns. After they completed the questionnaire, the participant was thanked again for his or her participation.

Results

Variable Reduction

Out of the 12 items on the questionnaire, eight items were the same for both the child and adult questionnaires (Items 1, 3, 5, 6, 7, 8, 9, and 12). The remaining items (2, 4, 10 and 11) were specific to either the child or adult questionnaire and will be discussed later. For the eight identical items, I performed a Principal Components Analysis with a varimax rotation to see whether any of them were loading onto the same component. Three conventional criteria were used to decide on the number of components to retain: (a) the eigenvalue for a component had to be greater than 1 (i.e., the Kaiser criterion); (b) a component had to have at least three items loading onto it with a value of at least .4, and (c) Chronbach's alpha, which measures the interrelatedness among items in the component, had to be .7 or greater. According to these criteria, one component was extracted. As seen in Table 1, items 3, 5, 8, 9, and 12 loaded on this component, which accounted for 36.8% of the variance. Chronbach's alpha for this component was .78, suggesting strong interrelatedness among the items. Examining these five items suggests that this factor was tapping into participants' negative feelings towards the described individual. Items 6 and 7 loaded onto a second component; however, this component was discarded because it only included two items and because Chronbach's alpha for this component was very low (.25). In addition the correlation between these items was only .14. Item 1 was discarded because it did not load uniquely onto one component. The convention is that an item's value should be at least twice its value on the other component.

Table 1

Rotated Component Matrix

	Component	
	1	2
Item 5	.784	.238
Item 12	.783	-.037
Item 8	.742	-.092
Item 3	.657	.190
Item 9	.640	-.105
Item 1	.506	.300
Item 7	.038	.747
Item 6	.014	.679

Perceptions of Autism

Some items asked about more positive attitudes (e.g., “I would feel comfortable around this person”), and others about more negative attitudes (e.g., “This person’s behaviour would irritate me”). To be consistent across items, the positive items were reverse coded to be equivalent with the negative items. Therefore, lower ratings on the 5 point scale indicated more positive attitudes. A 2 x 2 x 2 (Gender x Age x Label) between-groups ANOVA was conducted with the mean score on items 3, 5, 8, 9, and 12 as the dependent variable. (An alpha level of .05 was used for this and all of the subsequent analyses.) There was a significant interaction between sex and age of the described individual on perceptions of autism, $F(1, 278) = 5.032, p = .026, \eta^2 = .04$. No

other significant interactions were found (all p values $> .05$). As seen in Figure 1, there were no significant effects of age on perceptions when the individual described in the scenario was male, $t(18) = -.114, p = .910$. However, females were perceived less negatively as children than as adults, $t(142) = -3.385, p = .001$.

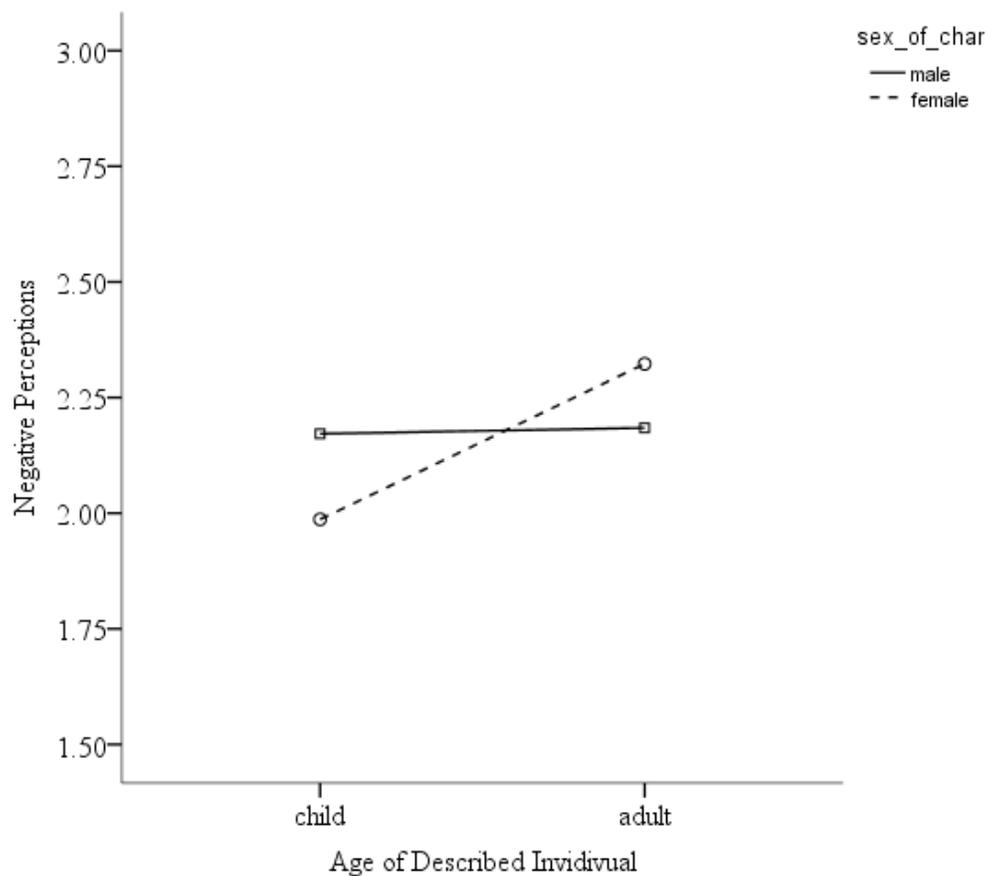


Figure 1. Interaction between age and sex of character on perception scores.

The main effect of the presence of a diagnostic label was also significant, $F(1, 278) = 11.166, p = .001, d = .97$. When no label was given, participants perceived the

described individual more negatively than when a label of autism was present (see Figure 2).

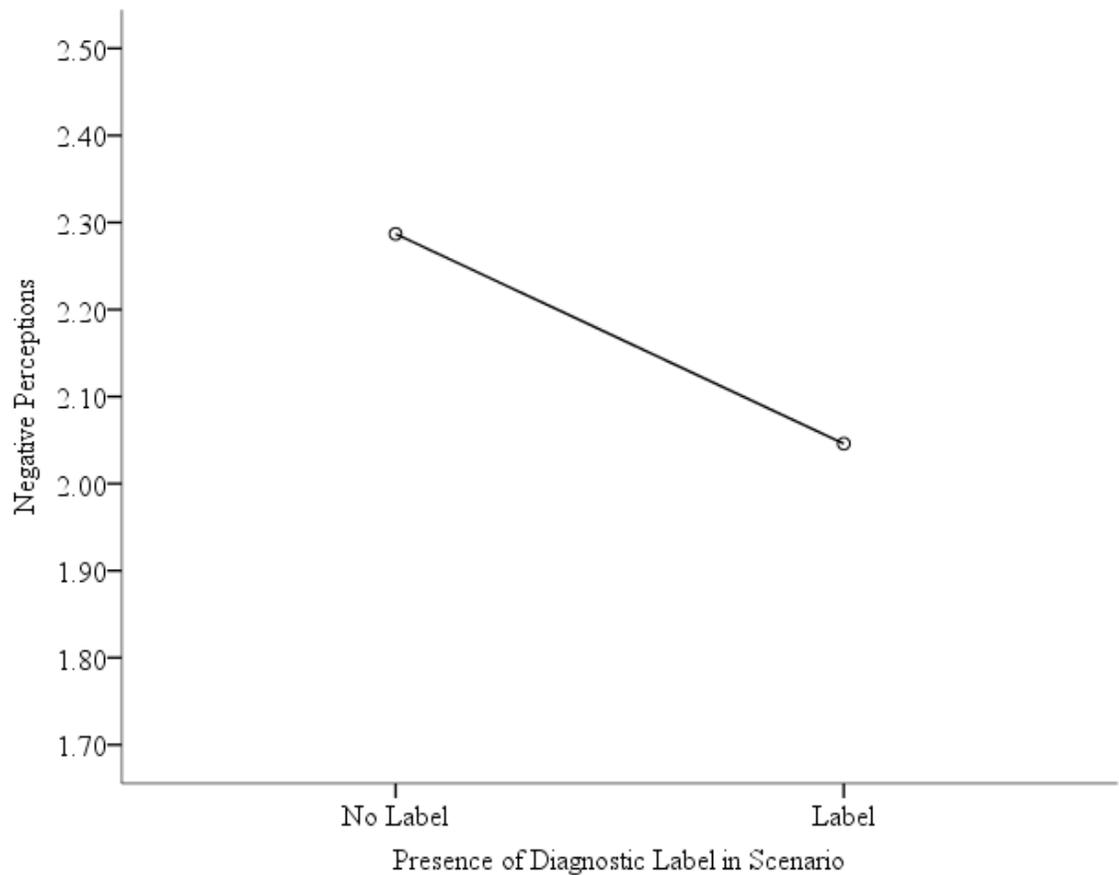


Figure 2. Main effects of diagnostic label on mean perception scores.

Child- and Adult-Specific Questions

As mentioned previously, four questions were specific to either the child questionnaire or the adult questionnaire. These questions included item 2 (“I would be okay with this child being in my child’s or future child’s classroom” / “I would be okay with this person attending the same class as me”), item 4 (“I would babysit this child” / “I

would hang out with this person”), item 10 (“If my parents were adopting a child, I would be okay if my potential new sibling displayed these behaviours” / “I would agree to go on a date with a person who displayed these behaviours”), and item 11 (“If I were to adopt a child, I would choose a child who displayed these behaviours” / “I would consider marrying a person who displayed these behaviours”). Item 2 was discarded from analyses because the questionnaire was originally designed for a student population but was instead completed online by the general public, making this question irrelevant for many participants. I performed two separate Principle Components Analyses, one on the four child-specific questions and one on the four adult-specific questions, using the same three criteria noted above. Only one component emerged for both sets of questions. The component from the adult-specific questions accounted for 72.77% of the variance and the component from the child-specific questions accounted for 70.02% of the variance. Mean scores were calculated and 2 x 2 x 2 ANOVAs were performed as before, but there were no significant interactions or main effects (all *p* values greater than .05).

Discussion

The results supported some of the proposed hypotheses and contradicted others. Hypothesis 1, that participants will perceive individuals more negatively when a diagnostic label is provided, was not supported. Conversely, the results showed that participants perceived the described individuals more positively when given a diagnostic label of autism than when no label was provided. Although past research shows that diagnostic labels for other disorders contribute to more negative perceptions (Angermeyer et al., 2013), this study suggests that the label of autism does not have such a strong negative connotation. One possible explanation for these findings is that people may excuse the behaviour of the described individual when a diagnosis is given. In a study by Ling, Mak and Cheng (2010) it was found that when a child displayed autistic behaviours and there was no known diagnosis, people perceived their behaviours as inappropriate and disobedient. They found that when a person knew a child had autism, they perceived the child more positively. Ling et al. (2010) suggested that this was because of the observers perception of controllability. When the observer thought that the child had a condition beyond his/her control, they tended to shift blame for the behaviour onto the condition and off the child (Ling et al., 2010). They found that when individuals were perceived to be in control of their behaviours, they evoked more negative emotions in the observers, such as anger and irritation (Ling et al., 2010). When individuals were perceived to not be in control of their behaviours, they evoked more positive emotional reactions in observers, such as sympathy and support (Ling et al., 2010). This may be a reason why, in the current study, those without a diagnostic label were perceived more negatively.

In addition, it has been found that many people have changed their opinions of children that they know after they were given a diagnosis of autism. Nissenbaum, Tollefson and Reese (2002) reported that before a diagnosis was given, observers looked at a child with autistic symptoms as unruly, misbehaving, and needing punishment. After a diagnosis was given, their opinions of the child ranged from feeling sorry for them, to being proud and impressed of their abilities despite having autism (Nissenbaum et al., 2002). Also, parents of children with autism have noticed that they are treated better when their child's condition is known than when it is not (Farrugia, 2009). Parents have reported that when in public with their child with autism, if they do not provide an explanation to those around, they are often subject to judgement, criticism, and unwanted advice (e.g., that they should smack their child to discipline him or her) (Farrugia, 2009). This has caused some parents to express a desire for their children with autism to wear a t-shirt or sign that says "I have autism," in order to decrease negative perceptions by others (Farrugia, 2009). If the general public judges children who do not have a diagnosis more harshly because they believe there is no excuse for their behaviour, then this may explain why those with a label of autism, in the current study, were perceived more positively. This would suggest that it would be beneficial for those with autism to share their diagnosis with the people that they interact with (e.g., teachers could disclose to their students that their peer has autism) in order for their behaviours to be perceived more positively.

Hypothesis 2 and 3 need to be interpreted in the context of the positive interaction found between age and sex. Hypothesis 2, that females with autism will be perceived more negatively than males with autism, was not supported. Hypothesis 3, that adults

with autism would be perceived more negatively than children with autism was only supported when the described individual was female. This may be because participants excused the behaviours of the female children because participants saw the mother in the scenario to be the one responsible for her daughter's behaviour (as opposed to the child being responsible for her own behaviour). Therefore, they would perceive adult females as being responsible and in control of their behaviour. Society also has a history of judging women harshly. Therefore, this could explain why adult females were perceived the most negatively. This finding may be related to the fact that the female child, in the scenario, was interacting with her mother, and the female adult was interacting with her mother. Participants may have viewed the female child's behaviour as an acceptable or typical when interacting with her mother, however that same behaviour was not acceptable for a female adult to exhibit when interacting with her mother.

This study had some limitations that should be noted. One limitation of using online questionnaires and distributing them through Facebook and email is that every participant can be somehow connected back to you. However, this approach reaches more people, and a more diverse population, than when you pass out a paper survey to 1st and 2nd year students on one particular university campus. On the other hand, using an online survey means that you can only reach the online community. Therefore it may not be generalizable to the general public. Also, there are some general limitations with written descriptions (e.g., the participant may not be able to visualize the scenario) and using videos may have been more effective. Another limitation is that in all eight scenarios, the individual with autism was interacting with his or her mother. Participants may perceive that a child or adult may interact with his or her opposite sex parent differently than his or

her same sex parent. Also, participants may have different opinions about what is acceptable behaviours for a child to exhibit in the presence of his or her mother opposed to what is acceptable behaviours for an adult to exhibit towards his or her mother. These limitations can be addressed in future research.

The possibilities for future research in this area are numerous. First, this study suggests that many different factors can influence how the public perceives individuals with autism. Age, sex and presence of diagnostic label were the only factors assessed in this study, however, there may be other factors at play. There needs to be more research assessing which other factors of the individual with autism may influence perceptions of that individual (e.g., where on the autism spectrum they are, their level of verbal abilities, whether they possess savant abilities or not). Also, there needs to be more research on assessing which factors of the perceiver influence how they perceive different individuals with autism (e.g., age, sex, familiarity with ASD). With this knowledge, we can identify those who are at the highest risk of perceiving individuals with autism negatively, and target these individuals for education initiatives. Also, seeing that the presence of a diagnostic label significantly influenced perceptions, but in the direction opposite to that predicted, further research is needed to determine whether an ASD label is perceived more positively than other diagnostic labels and if so, why. This knowledge can then be used to decrease the negative stigma of other diagnostic labels.

Conclusion

In conclusion, the findings suggest that there are many factors that influence the public's perceptions of those with ASD. Knowing the factors can be increasingly helpful in making steps towards promoting more positive attitudes towards individuals with

ASD. With ASD becoming increasingly more prevalent, it is imperative that we learn more about it, and about how to make the lives of those with the disorder and those affected by a person with the disorder, better.

References

- Ahlborn, L. J., Panek, P. E., & Jungers, M. K. (2008). College students' perceptions of persons with intellectual disability at three different ages. *Research in Developmental Disabilities, 29*(1), 61-69. doi:10.1016/j.ridd.2006.11.001
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Angermeyer, M. C., Matschinger, H., & Schomerus, G. (2013). Attitudes towards psychiatric treatment and people with mental illness: Changes over two decades. *The British Journal of Psychiatry, 203*, 146-151. doi:10.1192/bjp.bp.112.122978
- Autism Epidemic: A Myth? (2008). *Current Science, 93*(14), 14. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,uid&db=aph&AN=31298500&site=ehost-live&scope=site>
- Boccaccini, M. T., Murrie, D. C., Clark, J. W., & Cornell, D. G. (2008). Describing, diagnosing and naming psychopathy: How do youth psychopathy labels influence jurors? *Behavioral Sciences and the Law, 26*, 487-510. doi:10.1002/bsl.821
- Ditchman, N., Werner, S., Kosyluk, K., Jones, N., Elg, B., & Corrigan, P. W. (2013). Stigma and intellectual disability: Potential application of mental illness research. *Rehabilitation Psychology, 58*(2), 206-216. doi:10.1037/a0032466
- Dolnicar, S., Laesser, C., & Matus, K. (2008). Online versus paper: Format effects in tourism surveys. *Journal of Travel Research, 47*, 295-316. doi: 10.1177/0047287508326506
- Dworzynski, K., Ronald, A., Bolton, P., & Happé, F. (2012). How different are girls and boys above and below the diagnostic threshold for autism spectrum disorders?

Journal of the American Academy of Child & Adolescent Psychiatry, 51, 788-797.

doi:<http://dx.doi.org.qe2a-proxy.mun.ca/10.1016/j.jaac.2012.05.018>

Farrugia, D. (2009). Exploring stigma: Medical knowledge and the stigmatisation of parents of children diagnosed with autism spectrum disorder. *Sociology of Health & Illness*, 31, 1011-1027.

Goldman, S. (2013). Opinion: Sex, gender and the diagnosis of autism—a biosocial view of the male preponderance. *Research in Autism Spectrum Disorders*, 7, 675-679.

doi:<http://dx.doi.org.qe2a-proxy.mun.ca/10.1016/j.rasd.2013.02.006>

Hanna, W. J., & Rogovsky, B. (1991). *Women with disabilities: Two handicaps plus*.

Carfax Publishing Company. Retrieved from [http://search.ebscohost.com.qe2a-](http://search.ebscohost.com.qe2a-proxy.mun.ca/login.aspx?direct=true&AuthType=ip,url,uid&db=aph&AN=14236)

[proxy.mun.ca/login.aspx?direct=true&AuthType=ip,url,uid&db=aph&AN=14236](http://search.ebscohost.com.qe2a-proxy.mun.ca/login.aspx?direct=true&AuthType=ip,url,uid&db=aph&AN=14236)

[043&site=ehost-live&scope=site](http://search.ebscohost.com.qe2a-proxy.mun.ca/login.aspx?direct=true&AuthType=ip,url,uid&db=aph&AN=14236)

Harnum, M., Duffy, J., & Ferguson, D. A. (2007). Adults' versus children's perception of a child with autism or attention deficit hyperactivity disorder. *Journal of Autism and Developmental Disorders*, 37, 1337-1343.

Hastings, R. P., & Oakford, S. (2003). Student teachers' attitudes towards the inclusion of children with special needs. *Educational Psychology: An International Journal of Experimental Educational Psychology*, 23(1), 87-94.

Huang, H.-H., & Diamond, K. E. (2009). Early childhood teachers' ideas about including children with disabilities in programmes designed for typically developing children. *International Journal of Disability, Development and Education*, 56(2), 169-182. doi:10.1080/10349120902868632

- Jensen, V. K., & Spannagel, S. C. (2011). The spectrum of Autism Spectrum Disorder: A spectrum of needs, services, and challenges. *Journal of Contemporary Psychotherapy, 41*, 1-9. doi:10.1007/s10879-010-9161-1
- Kirkovski, M., Enticott, P. G., & Fitzgerald, P. B. (2013). A review of the role of female gender in autism spectrum disorders. *Journal Of Autism And Developmental Disorders, 43*, 2584-2603. doi:10.1007/s10803-013-1811-1
- Kite, D. M., Gullifer, J., & Tyson, G. A. (2013). Views on the diagnostic labels of Autism and Asperger's Disorder and the proposed changes in the DSM. *Journal of Autism and Developmental Disorders, 43*, 1692-1700. doi:10.1007/s10803-012-1718-2
- Ling, C. Y., Mak, W. W., & Cheng, N. S. (2010). Attribution model in stigma towards children with autism in Hong Kong. *Journal of Applied Research in Intellectual Disabilities, 23*, 237-249.
- Luedee, M. (2008). *How children and adults perceive children with autism* (Unpublished honours thesis). Grenfell Campus, Memorial University of Newfoundland, Corner Brook, NL.
- Lunsky, Y. Y. (2003). Depressive symptoms in intellectual disability: Does gender play a role? *Journal of Intellectual Disability Research, 47*, 417-427.
doi:10.1046/j.1365-2788.2003.00516.x
- Nevill, R. E., & White, S. W. (2011). College students' openness toward Autism Spectrum Disorders: Improving peer acceptance. *Journal of Autism and Developmental Disorders, 41*, 1619-1628.

- Nissenbaum, M. S., Tollefson, N., & Reese, R. M. (2002). The interpretative conference: Sharing a diagnosis of autism with families. *Focus on Autism and Other Developmental Disabilities, 17*, 30-43.
- Oswald, D. P., Best, A. M., Coutinho, M. J., & Nagle, H. A. (2010). Trends in the special education identification rates of boys and girls: A call for research and change. *Exceptionality: A Special Education Journal, 11*, 223-237.
doi:10.1207/S15327035EX1104_3
- Panek, P. E., & Jungers, M. K. (2008). Effects of age, gender, and causality on perceptions of persons with mental retardation. *Research in Developmental Disabilities, 29*, 125-132. doi: <http://dx.doi.org.qe2a-proxy.mun.ca/10.1016/j.ridd.2007.01.002>
- Paterson, L., McKenzie, K., & Lindsay, B. (2012). Stigma, social comparison and self-esteem in adults with an intellectual disability. *Journal of Applied Research in Intellectual Disabilities, 25*, 166-176. doi:10.1111/j.1468-3148.2011.00651.x
- Sipes, M., Matson, J. L., Worley, J. A., & Kozlowski, A. M. (2011). Gender differences in symptoms of autism spectrum disorders in toddlers. *Research in Autism Spectrum Disorders, 5*, 1465-1470. doi:<http://dx.doi.org.qe2a-proxy.mun.ca/10.1016/j.rasd.2011.02.007>
- Swaim, K. F., & Morgan, S. B. (2001). Children's attitudes and behavioral intentions toward a peer with autistic behaviors: Does a brief educational intervention have an effect? *Journal of Autism and Developmental Disorders, 31*(2), 195-205.
- Visser, J. (2013, August 20). Letter telling Ontario family to 'euthanize' autistic son not a hate crime: Police. *National Post*. Retrieved from

<http://news.nationalpost.com/2013/08/20/letter-telling-ontario-family-to-ethanize-autistic-son-not-a-hate-crime-police/>

Appendix A

Informed Consent

This study is designed to investigate your perceptions of described social behaviours. This study is being conducted by Kayla Keats, a student at Grenfell Campus, Memorial University of Newfoundland, as part of the requirements for her honours degree in Psychology. Kayla is under the supervision of Dr. Carla Krachun. By participating in this study, your consent is assumed. It is also assumed that you are 19 years of age or older. You will read a scenario and complete a questionnaire. There are no right or wrong answers; we are only interested in your opinions. You may omit any questions you do not wish to answer. This study will take approximately 10 minutes. There are no obvious risks or benefits associated with participating in this study. Individual responses will not be identified because all information gathered from this study will be analyzed as a group. The results of this study will be used to write an honours thesis, presented, and may be published in the future. Participation in this study is completely voluntary and you are free to withdraw from the study at any time. If you have any questions, concerns or are interested in the results of this study, please feel free to contact Kayla Keats at kkeats@swgc.mun.ca or Dr. Carla Krachun at 639-2557 or ckrachun@grenfell.mun.ca. If this study raises any personal concerns please contact the toll free, 24 hour adult Mental Health Crisis Line: (709) 777-3200 or 1-888-737-4668.

By clicking 'Next' you are consenting to participate in the study.

Appendix B

Scenarios

Child, Male, No Label Scenario

One day, you are having lunch in a restaurant and you see a young boy sitting at a nearby table with his mother. You recognize the boy from your neighbourhood. He appears to be about 5 years old, you know that he spends a lot of time indoors and doesn't seem to socialize with other children, but you don't know anything else about him. The mother is trying to get the boy's attention and talk to him, but the boy seems to be mostly ignoring what his mother is saying. The boy only rarely looks at his mother, and when his mother smiles at him, the boy doesn't smile back but just looks away. The boy seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what his mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the boy repeat what his mother said word for word. When the waiter comes over to take their order, the boy appears to become very anxious.

Child, Male, Label Scenario

One day, you are having lunch in a restaurant and you see a young boy sitting at a nearby table with his mother. You recognize the boy from your neighbourhood. He appears to be about 5 years old and you know that he has autism. You know he spends a lot of time indoors and doesn't seem to socialize with other children. The mother is trying to get the boy's attention and talk to him, but the boy seems to be mostly ignoring what his mother is saying. The boy only rarely looks at his mother, and when his mother smiles at him, the boy doesn't smile back but just looks away. The boy seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what his mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the boy repeat what his mother said word for word. When the waiter comes over to take their order, the boy appears to become very anxious.

Child, Female, No Label Scenario

One day, you are having lunch in a restaurant and you see a young girl sitting at a nearby table with her mother. You recognize the girl from your neighbourhood. She appears to be about 5 years old, you know that she spends a lot of time indoors and doesn't seem to socialize with other children, but you don't know anything else about her. The mother is trying to get the girl's attention and talk to her, but the girl seems to be mostly ignoring what her mother is saying. The girl only rarely looks at her mother, and when her mother smiles at her, the girl doesn't smile back but just looks away. The girl seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what her mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the girl repeat what her mother said word for word. When the waiter comes over to take their order, the girl appears to become very anxious.

Child, Female, Label Scenario

One day, you are having lunch in a restaurant and you see a young girl sitting at a nearby table with her mother. You recognize the girl from your neighbourhood. She appears to be about 5 years old and you know that she has autism. You know she spends a lot of time indoors and doesn't seem to socialize with other children. The mother is trying to get the girl's attention and talk to her, but the girl seems to be mostly ignoring what her mother is saying. The girl only rarely looks at her mother, and when her mother smiles at her, the girl doesn't smile back but just looks away. The girl seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what her mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the girl repeat what her mother said word for word. When the waiter comes over to take their order, the girl appears to become very anxious.

Adult, Male, No Label Scenario

One day, you are having lunch in a restaurant and you see a man sitting at a nearby table with his mother. You recognize the man from your neighbourhood. He appears to be in his early 20s, you know that he spends a lot of time indoors and doesn't seem to socialize

with friends, but you don't know anything else about him. The mother is trying to get the man's attention and talk to him, but the man seems to be mostly ignoring what his mother is saying. The man only rarely looks at his mother, and when his mother smiles at him, the man doesn't smile back but just looks away. The man seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what his mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the man repeat what his mother said word for word. When the waiter comes over to take their order, the man appears to become very anxious.

Adult, Male, Label Scenario

One day, you are having lunch in a restaurant and you see a man sitting at a nearby table with his mother. You recognize the man from your neighbourhood. He appears to be in his early 20s and you know that he has autism. You know he spends a lot of time indoors and doesn't seem to socialize with friends. The mother is trying to get the man's attention and talk to him, but the man seems to be mostly ignoring what his mother is saying. The man only rarely looks at his mother, and when his mother smiles at him, the man doesn't smile back but just looks away. The man seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what his mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the man repeat what his mother said word for word. When the waiter comes over to take their order, the man appears to become very anxious

Adult, Female, No Label Scenario

One day, you are having lunch in a restaurant and you see a woman sitting at a nearby table with her mother. You recognize the woman from your neighbourhood. She appears to be in her early 20s, you know that she spends a lot of time indoors and doesn't seem to socialize with friends, but you don't know anything else about her. The mother is trying to get the woman's attention and talk to her, but the woman seems to be mostly ignoring what her mother is saying. The woman only rarely looks at her mother, and when her mother smiles at her, the woman doesn't smile back but just looks away. The woman

seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what her mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the women repeat what her mother said word for word. When the waiter comes over to take their order, the woman appears to become very anxious.

Adult, Female, Label Scenario

One day, you are having lunch in a restaurant and you see a woman sitting at a nearby table with her mother. You recognize the woman from your neighbourhood. She appears to be in her early 20s and you know that she has autism. You know she spends a lot of time indoors and doesn't seem to socialize with friends. The mother is trying to get the woman's attention and talk to her, but the woman seems to be mostly ignoring what her mother is saying. The woman only rarely looks at her mother, and when her mother smiles at her, the woman doesn't smile back but just looks away. The woman seems absorbed in arranging and rearranging the cutlery and other items on the table. You can't hear what her mother is saying but at one point you make out the words "I think I'll order a hamburger," and then you hear the women repeat what her mother said word for word. When the waiter comes over to take their order, the woman appears to become very anxious.

Appendix C

*Adult Questionnaire***Perception of Social Behaviours Questionnaire**

Please answer the following questions as honestly as possible, as if you had just witnessed the event described. Do not be concerned about whether your responses would be considered socially acceptable. Your name will not be on this questionnaire and nobody (not even the researcher) will be aware of how you responded.

1. This person would make me feel afraid.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

2. I would be okay with this person attending the same class as me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

3. I would be okay with this person living next door to me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

4. I would hang out with this person.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

5. I would feel comfortable around this person.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

6. I believe people who display these behaviours should be in treatment.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

7. I would feel sympathy for this person.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

8. I try to avoid situations that would involve interacting with people who display these behaviours.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

9. This person's behaviour would irritate me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

10. I would agree to go on a date with a person who displayed these behaviours.

1	2	3	4	5
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Strongly Disagree Disagree Undecided Agree Strongly Agree

11. I would consider marrying a person who displayed these behaviours.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

12. Overall, I think I would like this person.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

13. Age: _____

14. Gender: _____

*Child Questionnaire***Perception of Social Behaviours Questionnaire**

Please answer the following questions as honestly as possible, as if you had just witnessed the event described. Do not be concerned about whether your responses would be considered socially acceptable. Your name will not be on this questionnaire and so nobody (not even the researcher) will be aware of how you responded.

1. This child would make me feel afraid.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

2. I would be okay with this child being in my child's (or future child's) classroom.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

3. I would be okay with this child living next door to me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

4. I would babysit this child.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

5. I would feel comfortable around this child.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

6. I believe children with these behaviours should be in treatment.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

7. I would feel sympathy for this child.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

8. I try to avoid situations that would involve interacting with children who display these behaviours.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

9. This child's behaviour would irritate me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

10. If my parents were adopting a child, I would be okay if my potential new sibling displayed these behaviours.

1	2	3	4	5
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Strongly Disagree Disagree Undecided Agree Strongly Agree

11. If I were to adopt a child, I would choose a child who displayed these behaviours.

1 2 3 4 5

Strongly Disagree Disagree Undecided Agree Strongly Agree

12. Overall, I think I would like this child.

1 2 3 4 5

Strongly Disagree Disagree Undecided Agree Strongly Agree

13. Age: _____

14. Gender: _____