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Gender Differences In Nonverbal Communication In Autistic Adults

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ABSTRACT

In this paper I will be exploring the effect gender has on understanding nonverbal communication in autistic adults. This data is extremely important for those working in the education field. Interpersonal relationships directly affect one's ability to succeed, and by better understanding this topic educators can better communicate with other professionals and students' parents. There is already lots of research on autistic kids but a lack of research on autistic adults. Specifically in this paper, I look at if adult autistic cisgender women have an advantage compared to adult autistic cisgender men and other genders, encompassing anyone's gender that did not fall within the binary, when it comes to understanding nonverbal communication. The research I conducted concluded that cisgender women do not have an advantage or disadvantage compared to other genders. The results concluded that the largest gender difference came when comparing cisgender men and other genders, though the majority of the data points still suggested no significant difference. There was only one point of significance when comparing cisgender women to cisgender men or others. The data was not what I was expecting based on the established research that repeatedly confirms non-autistic cisgender women are better at understanding and decoding nonverbal communication when compared to non-autistic cisgender men.

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Chapter 1

Background Information on Gender in Nonverbal Communication

It is important to look at the role of gender when evaluating how adults observe and understand nonverbal communication. This specific literature review will be looking at research and data concerning neurotypical adults. Its purpose is to serve as a baseline for my own research into autistic adults and how gender affects nonverbal communication. For this literature review I will be establishing that there is a difference between gender in the role of observing and understanding nonverbal communication in neurotypical adults. To do so I will be analyzing research conducted over the past few decades. Much of the data and research in this literature review comes from books and papers involving Judith A. Hall, who earned a PhD in social psychology from Harvard University's Department of Psychology and Social Psychology. Hall is an accomplished scholar in the field and has made important insights through her research.

Research Findings

Women communicate with and pay attention to different nonverbal communication than men do. It is important to understand those differences since it provides insight into how people communicate based on gender and how to communicate with them more effectively.

Men, when compared to women, have less knowledge of nonverbal cues and are less accurate when they decode nonverbal cues (Rosip & Hall, 2004). This can be traced to how men are socialized compared to how women are socialized. Hall theorizes that it is more

advantageous for women to be able to accurately decode and recognize nonverbal communication so subconsciously they are taught and exposed to it more (Hall, 1978). It is potentially more advantageous because, “allows them to read better the wishes of more powerful others. A person who has less than optimal social power may learn to act on and employ subtle cues in order to effect more social control” (Hall, 1978). In other words, it helps to survive and better navigate regular social situations where women are put at a disadvantage. It is also societally expected for women to be able to navigate social situations in more delicate and finite ways than men. If women are not able to navigate a social situation it is more likely for them to face criticism and judgment from others in the situation. Since men are not held to the same standard of nonverbal communication it is unsurprising that women will perform better when nonverbal cues are assessed. In a study published in the *Journal of Nonverbal Behavior*, Scherer and Scherer found that between men and women when taking a test on emotion recognition ability, “the difference is about 3 percentage points [75 vs ~72]” (Scherer & Scherer, 2011) favoring women. Based on those results it is more likely for women to recognize emotions from nonverbal communication than men making them able to better navigate social situations. The way men and women observe interacting partners also differs, which leads to a different amount of nonverbal communication processed during interaction.

Both genders pay attention and gaze at interacting partners differently. Gaze is an important part of social interactions. Where each person is gazing is directly tied to what they can communicate nonverbally as well as what they will notice in the other’s nonverbal cues. In general, it is found that women are more comfortable with gazing at whomever they are interacting with while men are more likely to break gaze or not gaze at whomever they are interacting with (Hall & Knapp, 2013). A phenomenon was observed by researchers when

studying the gazes of men and women. When the distance between the two or more people was under six feet the women were gazing more than the men, however when at six or more feet the men were gazing more than the women (Hall & Knapp, 2013). The reasons for this are more psychological and are difficult to understand, it is worth noting though because it could provide implications for nonverbal communication that is processed based on distance between people. What each gender gazes at also differs. Men are more likely to gaze at the mouth and nose of interacting partners, while women are more likely to gaze at the eyes of interacting partners (Hall & Knapp, 2013), the different locations of gaze offers an explanation for why there is a gender difference in the recognition of nonverbal communication. While gazing at their interacting partner men are more likely to terminate mutual gazing than women are (Hall & Knapp, 2013) meaning that women spend longer observing the face of their interacting partners. Due to the increased length of observation, they can observe more nonverbal communication than their male counterparts.

According to research women are better at noticing, decoding, and processing nonverbal communication when compared to their male counterparts (Hall & Matsumoto, 2004). This provides women an advantage when communicating. In addition, having an increased amount of gaze at interacting partners gives more time to notice nonverbal communication and put them into the context of the interaction. However, there are issues that have to be addressed and understood in order to take the information and move forward with it for future research.

Critiques

The findings are conclusive and inform readers that women are better at observing and understanding nonverbal communication. However, there is an issue with the research that needs to be addressed before applying the findings. The main issue is that these results do not apply to everyone. There are two main aspects of why the research does not apply to everyone. First, is that it does not take into account those not in the gender binary; second, it does not account for nonverbal differences in practice and expectation across cultures. Most of the research was conducted on people in the western world (Europe, North America, Australia, and New Zealand).

When considering research on gender it is important to note that there is a lack of data on those outside of the gender binary. Having data on people outside the binary is important because it can provide information on if transitioning from a certain gender causes different aspects of nonverbal communication to shift away from the person's gender at birth. That information allows for better interpretation and understanding of the person's nonverbal communication and better understanding of how interactions should be expected to happen based on that information. People being outside of the gender binary also points to a flaw in the research, that based on how people view themselves they may interact with others differently than what is expected. There is no information in the data if any of the individuals are outside the binary, due to that if there was a person who did not conform to the binary and emulated another gender's nonverbal communication (Heitzman et al., 2023) it could skew the data collected. It is important to have the base data on cisgender people, but it is also important to collect other data because not everyone expresses their gender in the same way.

The second flaw with the research is that it does not account for different cultures and nationalities affecting people's styles of nonverbal communication. Most of the research conducted was conducted on people from and/or living in the western world. Most of the research subjects being from a particular demographic or nationality causes issues with reliability for applying the results on a larger scale. Several of the papers had exclusively college students as participants, which also limits the generalizability of the findings. Being from a different demographic group can impact how people behave, which in turn affects their nonverbal communication. Culture is also another major factor that is not studied due to the location of most research participants. Different cultures have different forms of nonverbal communication (Cruz, 2001) and due to those differences not everyone in the world is going to be able to interpret others nonverbal communication. We should expect differences in nonverbal expectations and behaviors between cultures. Due to the location of where I am conducting my research I will be conforming to a similar demographic, so the results of the studies are beneficial to me, but being aware of the flaws and shortcomings is important for those looking at data from these papers.

Summary

Research on the differences between men and women in their nonverbal communication is plentiful and concludes that women are better at recognizing and understanding nonverbal communication in general when compared to men. The data shows that men and women also focus on different aspects of nonverbal communication and from that draw different conclusions from the same observed interaction. Women also spend more time looking at their interacting

partners, when compared to men, which allows for the observation of more nonverbal communication. The data is lacking though in understanding how nonverbal communication occurs and is observed by those outside of the gender binary as well as lacking data on those outside of the western world. My research will be conducted on a similar cultural group as the papers presented in this literature review, so they will be applicable. Based on the findings of the papers I expect to find that women who are autistic are better at understanding nonverbal communication when compared to their male counterparts. However, I will be considering people being outside of the gender binary so there may be discrepancies based on that.

Chapter 2

Issues of Gender in Research on Autism and Nonverbal Communication

Gender is a topic that is underrepresented in autism spectrum disorder (ASD) research in general and is lacking even further in research on adults with autism. When studies that explicitly discuss gender occur, such as the one done by Ankenman (Ankenman et al., 2014), the studies almost always focus their research on children. This lack of research on an adult population is an issue since adults with autism represent about 2.21% of the population in the US (CDC, 2020), which is 5.4 million people. Women represent about 50.7% of the US population (*World Population Prospects - Population Division - United Nations*, n.d.) meaning about 2.7 million of the 5.4 million are women. Errors in this data exist due to the UN lacking data on gender nonconforming people. But, to not have plentiful research into about 50.7% of a group means there is much work to be done. This paper will be critiquing the research done in six different studies, (Rump et al., 2009), (Smith & Matson, 2010), (Eack et al., 2015), (Cohen et al., 2022), (Mandy et al., 2018), and (Ankenman et al., 2014), based on how each study conducted the research, how the data is organized, and the issues with the studies.

Research Findings

A quick summary of the results of the articles is necessary before continuing on to dissect the results. The papers in general found that those with autism had a lower understanding of social skills and ques compared to those without autism. Rump's research found that throughout the age groups measured all those with autism performed similarly when assessed on their understanding of nonverbal communication (Rump et al., 2009). Smith and Matson's research

was more focusing on intellectual disabilities and epilepsy and how their comorbidity with autism affected the understanding of participator's nonverbal communication. They found that those with autism had a much higher rate of "aberrant social behavior" (Smith & Matson, 2010). Eack's research focused on researching how those with Autism misinterpreted nonverbal facial cues. They found that when those with autism observed facial expressions, they were more likely to interpret it negatively. When looking at happy faces it was more likely for the face to be interpreted as neutral and neutral faces were more likely to be interpreted as negative (Eack et al., 2015). Cohens research was focused on assessing an intervention technique to try and improve those with Autism's ability to understand nonverbal communication. It found that the method that they used was effective in improving the participants understanding of nonverbal communication and "further support the use of self-management and textual cues as effective intervention strategies for improving nonverbal communication" (Cohen et al., 2022). Mandy's research focused on analyzing an interview to assess people for autism, they were trying to determine if it was a potential for future data collection for the DSM-5. They determined that the test did show promise to help diagnose and recognize autism in participants. It partially focused on nonverbal communication due to a lack of nonverbal communicative ability being a key part of autism (Mandy et al., 2018). Ankenman's paper discusses how in previous papers other researchers have found that boys have a higher understanding of nonverbal communication when compared to girls and that their study also found that result¹ (Ankenman et al., 2014). The research done by Ankenman also found that, as other papers had found before, the discrepancy between nonverbal understanding and verbal understanding evened out in later childhood (i.e.,

¹ Using terms "boys" and "girls" here due to the research being referenced, and the research being done, being in regard to children.

adolescent years), but attributes it to a rising verbal understanding rather than nonverbal increasing to match verbal.

Research Methods

Three of the six studies focused on determining if people with ASD perform poorly in emotional recognition when compared to a control group are Rump et al., 2009; Smith & Matson, 2010; and Eack et al., 2015. Both Rump and Eack used slides with faces displaying different emotions to assess the participants. Rump and Eack used established systems that had already been peer reviewed. Eack explored the same topic as Rump but expanded the research by including faces with neutral expressions to try and assess more factors. Both studies found that people with ASD performed worse than control groups in emotional recognition. The inclusion of neutral expressions found that people with ASD were more likely to attribute an emotion to a neutral face than those in the control group. Smith and Matson instead used the MESSIER test. The MESSIER test was designed for people with severe mental disabilities. Using the MESSIER test Smith and Matson found that participants who had two or more of the factors (intellectual disabilities, ASD, and epilepsy) the study was looking at would be less likely to understand nonverbal communication. In the research Smith and Matson found that ASD does significantly affect understanding as well, but combining the factors increased the lack of understanding further.

The other three studies all had different purposes. In a study lead by Cohen, (Cohen et al., 2022), the researchers had subjects undergo direct interventions where the subject worked with professionals to help them increase their understanding of cues relating to boredom and

confusion. Cohen, along with the other researchers, had the subjects interact on multiple occasions with trained volunteers and professionals to improve their skills by having each subject interact with a volunteer then review what the subject observed with a professional. Cohen found that the interventions were able to significantly improve the recognition of boredom and confusion in the volunteers. Another study, (Mandy et al., 2018), focused on reliably detecting ASD in adults for the purpose of helping adults get access to resources to help them along with a greater understanding of themselves. Mandy's team used the 3DI-Adult test, which is designed to test for autism, as the method for evaluating autism in the participants. The test is supposed to test for autism spectrum conditions (ASC), which can then be used to make a diagnosis. The goal was to ensure the validity and reliability of the test. The researchers gathered people who already knew they had autism along with people who were in the process of being assessed and compared them to a control group to see how the results differed. It was concluded that the 3DI-Adult test was reliable for detecting autism spectrum conditions in adults. The final study was the one initially mentioned in this paper, (Ankenman et al., 2014). The goal of the study was to see if gender had an impact on the effects of ASD and how the symptoms displayed themselves. For the study Ankenman's team used the DAS-II normative sample. The test is designed to assess cognitive abilities and find disabilities. It is a widely used test and is known for its reliability. It is a test designed for children between the ages of 2.5 and 17.99² years old (*Differential Ability Scales-II*, n.d.) to take. The researchers found that gender played a major role in how ASD presented itself and the amount it was diagnosed, with males typically being

² Specifically, it says 2 years and 6 months to 17 years and 11 months

diagnosed at higher rates. With the information on how each study conducted the research compiled it is important to now look at the data.

Issues

All the studies had many issues that need to be addressed in future research. All studies were gender biased toward men, and some research had no female participants. For the ones that did have multiple genders involved the studies did not differentiate the data from men and the data from women (Ankenman et al., 2014). Not differentiating the data is an issue because women make up just as large a portion of the population as men. Something that none of the studies did was examine gender non-conforming people with ASD. The lack of representation is also a major issue since people with ASD are already a minority, but gender non-conforming people are an even smaller community left out of the research process and findings. All the studies, except Ankenman's, had less than fifty participants with ASD or ASC. The most egregious was Cohen's study. The sample size was three. Having a sample size of three makes it difficult to apply the data to other situations, the study needs to be repeated with more participants. Another issue that was present was in Smith and Matson's study. The study used an old test that likely needs updating, that much can be determined just from reading the whole name of the test rather than its abbreviation. The whole name is: "[the] Matson evaluation of social skills for individuals with severe retardation," (Smith & Matson, 2010). It is also the test that Matson developed leading to a potential conflict of interest involving getting results from the test. Most of all participants in all of the studies were also white, leaving a large demographic of the population

underrepresented and under researched. There are many smaller issues that can also be nitpicked but are not large enough to cause significant critique of the respective studies.

Chapter 3

Research on Communication Based on Gender in Autistic Adults

Survey Methodology

To research this topic, I created and sent out a survey. The survey was available from November 3rd, 2023, to December 5th, 2023. I decided on a survey since it would be the best method to get a larger number of responses in a short period of time. A survey would allow participants to be more comfortable responding since they would not need to directly interact with anyone. I posted links to the survey online as well as putting up flyers with a QR code to the survey. I also included screening questions at the start to filter results based on if the participant has autism by asking if the participant has been diagnosed with autism and if not if they think they have autism. The study consisted of 42 questions, 3 of which were general information questions. Not everyone answered every question though since the survey would redirect people based on if they said they were or were not diagnosed with autism. Those with diagnosis were redirected to a portion asking questions about the diagnosis while those without continued until being asked if they thought they had autism. If they answered yes to that question, they were redirected to a set of questions asking why they think they are autistic. Those who answered that they did not think they had autism or were unsure were redirected to the main survey. The two groups that got redirected previously were directed to the main section after finishing their own respective sections. At the start of the main sections the study asks what impression the participants have of autism. The study is designed with 3 questions per topic (5 topics) and the answer choices of: never, rarely, sometimes, often, very often. There were a few more questions after that regarding

participants' own nonverbal communication. After completing those questions there were two questions for those with autism or who thought they had autism about being autistic. The full list of questions used can be found in [Appendix A](#).

Participants

Table 1 Gender of Participants Including Relation to Autism

Baseline Characteristics	Non-Autistic		Autistic		Full Sample	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Male	5	10.4	2	4.2	7	14.6
Female	9	18.8	6	12.5	15	31.3
Other	7	14.6	19	39.6	26	54.2
Total	21	43.8	27	56.3	48	100

The survey had a small reach in the communities I posted it to. The survey was completed by 48 individuals with all 48 consenting to their data being used in this paper. Of the participants 7 self-reported as being cisgender men, while 15 self-reported as being cisgender women. The other 26 reported not being cisgender or were unsure. Participants were allowed to write in their own gender if they felt an option present did not fit. Of the participants 38 self-reported as white, 5 as Asian, 2 as white/Hispanic/Latina, 1 black or African American, and 1 white/black or African American. Of the 48 participants, 38 were aged 18-24 and 10 were aged 25-24. 18 of 48 had been diagnosed with autism at some point in their life with an additional 9 reporting that they think they are autistic, and a further 10 reporting that they were unsure if they were autistic

or not. There was an anomaly with one of the participants who was diagnosed with autism leaving a note saying that they believe the doctor who diagnosed them messed up and that they are not actually autistic. Table 1 can be referenced for the comparative data of autism and its relation to gender in the survey participants.

Survey Results

My primary hypothesis was that autistic cisgender women would have less difficulty with understanding nonverbal communication when compared to autistic cis men and others³. My hypothesis was based on the literature review that I preformed that revealed that non-autistic women tended to perform better than non-autistic men in recognizing and decoding nonverbal communication. When discussing the data from results it should be noted that for statistical analysis purposes, I converted the answers to questions to numbers. I converted them as such: never is represented by 1, rarely is represented by 2, sometimes is represented by 3, often is represented by 4, and very often is represented by 5. For the analysis I compared cis men to cis women to others, others being all those who did not identify within the binary. Cis men are represented in the data by 1, cis woman by 2, and other by 3. I am not using data from the entire survey, but the complete survey is in [Appendix A](#), the numbers differ due to all questions being listed. For the below sections the question numbers being referenced are the ones from [Appendix B](#). For the analysis, unless otherwise stated, I used ANOVA and a Bonferroni test to perform post-hoc analysis.

³ Also autistic

*Autistic vs non-autistic***Table 2 Autistic vs Nonautistic One-Sided T-Test**

	<i>t</i>	<i>t(df) = t</i>	<i>p</i>
<i>Facial expression</i>	2.055	<i>t</i> (43) = 2.005	0.023*
<i>Gestures</i>	2.022	<i>t</i> (43) = 2.022	0.025*
<i>Posture</i>	1.069	<i>t</i> (43) = 1.069	0.146
<i>Eye contact/gaze</i>	1.969	<i>t</i> (43) = 1.969	0.028*
<i>Composite</i>	1.875	<i>t</i> (43) = 1.875	0.034*

Note. * = $p \leq .05$, ** = $p \leq .001$

The first thing that I did was compare autistic to non-autistic individuals to reestablish the difference between the two groups and to survey if there were categories where the two groups performed similarly. I analyzed this section using a one-sided T-Test, seen in table 1, and looking at the data with equal variances assumed, I used this here because only comparing based on whether the individual is autistic or not. In other tests it is also adding in gender so needs a multiple comparison test. When analyzing the data comparing autistic to non-autistic individuals of the four categories being analyzed⁴, excluding the fifth category which was composite, two of the four categories had 2/3 of their questions be considered statistically significant. Table 2 can be referenced for the general significance of the different categories. Most of the statistically significant questions were asking about facial expression and eye contact. In analysis roughly half all questions had statistical significance between the two groups. The data was significant in questions 1, 3, 4, 10, 11, 13, and 14. 1 and 3 were in asking about face expression and were

⁴Facial expression, gesture, posture, and gaze/eye contact

significant ($p < .05$). 4 was about gestures was considered significant ($p < .05$). 10 and 11 were about gaze/eye contact and were considered extremely significant ($p < .01$). 13 and 14 were composite questions and had an average significance of ($p < .05$). The most significant question was 10 with a significance of ($p < .001$). The average of the 10 and 11 reflects on the difficulty that autistic people have in regard to decoding the meaning of gaze/eye contact with their average being the most statistically significant of all of the data. Posture had no variables that were considered statistically significant, the average value of the questions in that category was above the point where it would be considered significant ($p > .05$). There is a lot of support for there being a statistical difference between the two groups based on the data that was gathered in this survey which fits with other available data.

Autistic vs non-autistic with gender variables

This data was looking to see if there was a significance when comparing those with autism compared to those who are not autistic based on their self-reported gender using the previously mentioned categories. I analyzed this to establish a benchmark of gender effects to see if in one group compared to the other gender was a significant factor. Overall gender was not a significant factor. In the ANOVA section there were five questions that were statistically significant. The questions were 1, 2, 4, 7 and 11. In the multiple comparisons section there were only four instances where gender was significant when comparing autistic and non-autistic groups. Of the questions from ANOVA deemed significant, question 4 did not have significant data when broken down by gender, its significance was ($p = 0.049$) so barely significant. Of the four instances with significant gender data three of them were when comparing cis men to the other category and one being a comparison of cis men to cis women. The three instances came from questions 1, 2 and 11. Questions 1 and 2 were about facial expressions were significant

($p < .05$). Question 11 had a significance of ($p < .01$). The singular instance where cis men compared to cis women was significant was for question 7 which asked about posture, the significance for this question was ($p < .05$). There are a few instances where the data comes close to being significant for other questions but ultimately is not significant.

Gender in autistic individuals

The information in this section is what my thesis is looking at, the other two sections were to establish information before launching into the analysis of this data. When looking at the ANOVA data just under half the questions had significant differences reported. Seven of fifteen questions had significant data. The questions were 1, 2, 4, 5, 6, 8 and 14. In the multiple comparison section there were six questions that had statistically significant data. Question 8 was significant in ANOVA but not in multiple comparison. It had to do with posture and had a significance value of ($p = .05$). It was barely significant and when breaking it down via multiple comparison did not have a direct significance between any of the groups. When looking at the data the majority of the statistical significance came when comparing the answers between the cis men group and the other group with seven instances of significant data; there were zero instances of cis men compared to cis women being significant; and there was one instance of cis women compared to the other group being considered significant. Cis men when compared to the other group was significant in questions 1, 2, 4, 5, 6 and 14. Questions 1 and 2 were asking about facial expression and had an average significance of ($p < .05$). Questions 4, 5 and 6 were about gesture and had an average significance of ($p < .01$). The entire category of gestures was considered significant. Question 14 was a composite question and had a significance of ($p < .05$). Cis women compared to the other category was significant in question 5. Question 5 was about

gestures and had a significance of ($p < .01$). Overall gender was not a major factor when looking at the multiple comparisons test.

Analysis

My hypothesis of autistic cisgender women would have less difficulty with understanding nonverbal communication when compared to autistic cis men and others was not proven based on the data I collected. In the collected data there were zero points of significance when comparing cis women to cis men. There was also only one point where cis women when compared to the other category had any significance. Rather in from the data in this survey the data suggests that cis men have a semi-significant difference in difficulty understanding nonverbal communication when compared with the other category. This came as a surprise to me due to all the research that I had read about non-autistic individuals and gender showing a clear superiority of cis women compared to cis men when analyzing the ability to recognize and decode nonverbal cues. The difference between those two categories instead raises a question about why that difference is significant and what factors could be potentially responsible for this data shift. There was also not a significant amount of data when comparing autistic individuals to non-autistic individuals based on gender. This is surprising since gender often has a major effect on recognizing and decoding nonverbal cues. The data showing that between autistic and non-autistic individuals do have major differences in understanding nonverbal cues which is not surprising and falls in line with expected results, though only having 7/15 questions be significant was surprising to me rather than it being a majority. The explanation for such could come from how the questions were phrased or the method of delivery of the survey which will be

delved into in the next section. Across the two different comparisons in which gender was analyzed neither having most of the data have significance based on gender suggests that gender plays less of a role than expected in autistic individuals.

Issues With the Research

There are several issues that I would like to address in this section that could have potentially had an impact on the data I received as well as the reach of the survey in general. The first issue that needs to be addressed is a typo in one of the background questions. When asking the age of diagnosis for autistic individuals with a diagnosis had the options: 0-4, 5-9, 10-14, 15-19, 10-24 and 25+. The typo was 10-24 intending to be 20-24. It did not make a practical difference in the data I was looking at but is still misreported data and needs to be noted. Another issue with my survey is that in retrospect I gave too many options for gender. I was trying to be more inclusive to those who took the survey and because of that ended up with lots of data for specific gender identities which I had to lump into the other category when actually analyzing the data. The groups I shared the survey too as well impacted what gender identities responded. I shared it in circles I am active in along with having it posted in more general spaces. The circles I am active in have more people outside the gender binary than other spaces. At the same time these spaces also have more people who are autistic, so I deemed it necessary to share the survey there if I wanted to have a decent amount of respondents who are autistic. The next issue that this survey and the data collected from it has is the sample size. The sample size that I have was not nearly large enough to draw any true conclusion from the data that can be applied elsewhere without a repeat survey being done to a large audience. Due to that the survey and its data suffered from a

non-response bias issue that needs to be noted. There was also a large gap in the gender response with the majority falling into the other category and the cisgender woman group being double the number of the cisgender man group. The total number of autistic individuals was also low, and the other category was more than double the other two gender categories size for autistic individuals.

Conclusion

In this paper my research has found that cis women do not hold an advantage in nonverbal communication compared to cis men or others. Rather the data found that if there is a difference in nonverbal communication based on gender then it is between the cis male and other gender categories. This departure from established norms is important to be studied and expanded upon. If this data is upheld through multiple studies, it would revolutionize the way that nonverbal communication is seen in individuals with autism. Currently cis women are assumed to be naturally better at nonverbal communication and that has not been proven in the autistic field to be true. It is important to look at this data and expand on it if society is to better adapt to support those of us who are not within its established norms. Currently autistic cis men are focused on more than other groups who are autistic due to the increased population of them, however just because the population is larger does not mean that the other categories can be ignored. In all, even though my hypothesis was not proven I still believe that there was important data found in this research that other researchers should expand on in the future if society is to make meaningful progress in supporting autistic individuals in this world.

Appendix A

Complete List of Survey Questions⁵

1. Do you consent to your response being used anonymously in an undergraduate research paper?

Yes

No

2. How old are you?

Under 18

18-24

25-34

35-44

45-54

55-64

65+

3. What is your gender? Choose all that apply.

Cisgender Man

Cisgender Women

Non-binary

Transgender MtF

Transgender FtM

⁵ At points the survey would redirect based on answers, if answering yes to question 5 participants would be moved to question 8. If answering yes to question 7 participants would go to question 9. If answering no or unsure to question 7 participants would jump to question 10.

Transitioned from Female

Transitioned from Male

Other: _____

4. What race are you? Choose all that apply.

White

Asian

Black or African American

Native Hawaiian or Pacific Islander

Hispanic/Latina

Other: _____

5. Have you even been diagnosed with any type of Autism?

Yes

No

6. Have you ever requested a diagnosis for autism?

Yes

No

7. Do you think you are autistic?

Yes

No

Unsure

8. At what age were you diagnosed for autism?

0-4

5-9

10-14

15-19

10-24

25+

9. Why do you think you are autistic?

Short answer: _____

10. How often do you find it difficult to tell what someone's facial expression means?

- a. Very often
- b. Often
- c. Sometimes
- d. Rarely
- e. Never

11. How often are you confused by another's facial expression, in other words, how often do you misinterpret what someone's facial expressions mean?

- a. Very often
- b. Often
- c. Sometimes
- d. Rarely
- e. Never

12. How often do misunderstandings occur for you due to your misinterpretation of others facial expressions?

- a. Very often
- b. Often
- c. Sometimes
- d. Rarely
- e. Never

13. How often do you find it difficult to tell what someone's gestures mean?

- a. Very often
- b. Often
- c. Sometimes
- d. Rarely
- e. Never

14. How often are you confused by another's gestures, in other words, how often do you misinterpret what someone's gestures mean?

- a. Very often
- b. Often

- c. Sometimes
 - d. Rarely
 - e. Never
15. How often do misunderstandings occur for you due to your misinterpretation of others gestures?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
16. How often do you find it difficult to tell what someone's posture (how they are standing or sitting) means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
17. How often are you confused by another's posture (how they are standing or sitting), in other words, how often do you misinterpret what someone's posture means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
18. How often do misunderstandings occur for you due to your misinterpretation of others postures (how they are standing or sitting)?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
19. How often do you find it difficult to tell what someone's gaze/eye contact means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
20. How often are you confused by another's gaze/eye contact, in other words, how often do you misinterpret what someone's gaze/eye contact means?
- a. Very often
 - b. Often

- c. Sometimes
 - d. Rarely
 - e. Never
21. How often do misunderstandings occur for you due to your misinterpretation of others gaze/eye contact?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
22. How often do you find it difficult to tell what someone's body language (combination of facial expressions, gestures, posture, and gaze/eye contact) means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
23. How often are you confused by another's body language (combination of facial expressions, gestures, posture, and gaze/eye contact), in other words, how often do you misinterpret what someone's body language means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
24. How often do misunderstandings occur for you due to your misinterpretations of others body language (combination of facial expressions, gestures, posture, and gaze/eye contact)?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
25. How often do others comment on your facial expression?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
26. How often do others comment that your facial expression confused them?
- a. Very often

- b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
27. How often do you feel that your facial expressions did not match a situation?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
28. How often do others comment on your gestures?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
29. How often do others comment that your gestures confused them?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
30. How often do you feel your gestures did not match a situation?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
31. How often do others comment on your posture (how you are standing or sitting)?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
32. How often do others comment that your posture (how you are standing or sitting) confused them?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never

33. How often do you feel that your posture (how you are standing or sitting) did not match a situation?
- Very often
 - Often
 - Sometimes
 - Rarely
 - Never
34. How often do others comment on your gaze/eye contact?
- Very often
 - Often
 - Sometimes
 - Rarely
 - Never
35. How often do others comment that your gaze/eye contact confused them?
- Very often
 - Often
 - Sometimes
 - Rarely
 - Never
36. How often do you feel that your gaze/eye contact did not match a situation?
- Very often
 - Often
 - Sometimes
 - Rarely
 - Never
37. How often do others comment on your body language (combination of facial expressions, gestures, postures, and gaze/eye contact)?
- Very often
 - Often
 - Sometimes
 - Rarely
 - Never
38. How often do others comment that your body language (combination of facial expressions, gestures, posture, and gaze/eye contact) confused them?
- Very often
 - Often
 - Sometimes
 - Rarely
 - Never
39. How often do you feel that your body language (combination of facial expressions, gestures, posture, and gaze/eye contact) did not match a situation?

- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
40. For people with autism or who think they have autism, how does it affect your social life? Everyone else, please choose N/A
- a. Positive
 - b. Mostly Positive
 - c. Neutral
 - d. Mostly Negative
 - e. Negative
 - f. N/A
41. For people with autism or who think they have autism, what are people's reaction if/when you tell them that you are autistic? Everyone else, please choose N/A
- a. Positive
 - b. Mostly Positive
 - c. Neutral
 - d. Mostly Negative
 - e. Negative
 - f. N/A
42. Would you be interested in potentially being contacted in the future to complete another survey?
- a. Yes
 - b. No
 - c. Unsure

Appendix B

Relevant Survey Questions

1. How often do you find it difficult to tell what someone's facial expression means?
 - a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
2. How often are you confused by another's facial expression, in other words, how often do you misinterpret what someone's facial expressions mean?
 - a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
3. How often do misunderstandings occur for you due to your misinterpretation of others facial expressions?
 - a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
4. How often do you find it difficult to tell what someone's gestures mean?
 - a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
5. How often are you confused by another's gestures, in other words, how often do you misinterpret what someone's gestures mean?
 - a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
6. How often do misunderstandings occur for you due to your misinterpretation of others gestures?
 - a. Very often
 - b. Often

- c. Sometimes
 - d. Rarely
 - e. Never
7. How often do you find it difficult to tell what someone's posture (how they are standing or sitting) means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
8. How often are you confused by another's posture (how they are standing or sitting), in other words, how often do you misinterpret what someone's posture means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
9. How often do misunderstandings occur for you due to your misinterpretation of others postures (how they are standing or sitting)?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
10. How often do you find it difficult to tell what someone's gaze/eye contact means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
11. How often are you confused by another's gaze/eye contact, in other words, how often do you misinterpret what someone's gaze/eye contact means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
12. How often do misunderstandings occur for you due to your misinterpretation of others gaze/eye contact?
- a. Very often
 - b. Often

- c. Sometimes
 - d. Rarely
 - e. Never
13. How often do you find it difficult to tell what someone's body language (combination of facial expressions, gestures, posture, and gaze/eye contact) means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
14. How often are you confused by another's body language (combination of facial expressions, gestures, posture, and gaze/eye contact), in other words, how often do you misinterpret what someone's body language means?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
15. How often do misunderstandings occur for you due to your misinterpretations of others body language (combination of facial expressions, gestures, posture, and gaze/eye contact)?
- a. Very often
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never

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