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## The Presence of the Halo Effect in Individuals Diagnosed with Autism Spectrum Disorder and Neurotypical Individuals

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**The Presence of the Halo Effect in Individuals with Autism Spectrum Disorder and  
Neurotypical Individuals**

Margo Mainord

Undergraduate Honors Thesis

Communication Sciences and Disorders

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**The Presence of the Halo Effect in Individuals with Autism Spectrum Disorder and  
Neurotypical Individuals**

### **Abstract**

Individuals with Autism Spectrum Disorder (ASD) have difficulty perceiving subtle social cues such as tone of voice, facial expressions, body language, and physical boundaries. These difficulties are well-established in the literature and lead to the social communication challenges characteristic of the disorder. Although the detection of subtle social cues is critical to all human interaction, there are other processes at play as humans relate and interact on a day-to-day basis. One such principle that has been firmly established but seldom considered is a cognitive bias known as the Halo Effect (HE), which is the tendency to assign numerous traits to an individual based upon initial impressions. Although the HE has been recognized among neurotypical individuals (NI), it is not known if this bias is operative among persons with ASD. This project will add to the current knowledge base by comparing two groups on the tendency to assign values such as leadership, intelligence, trustworthiness, and kindness based on physical attractiveness and grooming. This research will contribute to the discussion of visual attention and whether individuals with Autism Spectrum Disorder give notice to the physical appearance of others and how outward appearance shapes their perception of other persons.

## **Introduction**

### **Autism Spectrum Disorder**

Difficulty in understanding and using social language, conforming to the expected rules of social behavior, and adapting to novel social situations affects young adults with Autism Spectrum Disorder (ASD) on a daily basis. According to the American Psychiatric Association (2013), ASD is a “class of neurodevelopmental disorders characterized by deficits in communication abilities and social interactions combined with the presence of repetitive and restrictive behaviors, activities and interests.” These characteristics all contribute to deficits in social interaction that is the hallmark of this disorder. (Speaks, 2011).

The cause of ASD is not established across the board. Some individuals have a known difference such as a genetic condition or neurological condition. The disorder is almost four times more common in boys than it is in girls (cdc.org). Others have no known cause for the disorder. There is no medical test or blood test that is used to diagnose the disorder. Rather, professionals or doctors examine the child for certain behaviors or characteristics that are present with the disorder. In order to meet diagnostic criteria for ASD, a child must display persistent deficits in each of the three social communication and interaction categories as outlined in the DSM-5. Children must also display at least two of the persistent and repetitive behaviors listed as well. Some of the deficits listed include “deficits in social-emotional reciprocity, in nonverbal communicative behaviors and developing, maintaining, and understanding relationships.” (cdc.org).

Overall, social interaction deficits are well established in the literature of the disorder. However, there is little research specifically addressing the social phenomenon known as the Halo Effect which is what this project aims to examine.

## **The Halo Effect**

The Halo Effect is an “error in reasoning in which an impression formed from a single trait or characteristic is allowed to influence multiple judgements or ratings of unrelated factors” (Neugaard, 2019, para. 1). Edward L. Thorndike coined the term in 1920 when his research revealed the presence of this effect in a group of soldiers. In his study, officers were asked to rate those below them in rank. The results showed that subordinates that were taller or more attractive were also described as more intelligent, kinder and just better soldiers overall by the commanders. This solidified Thorndike's idea that people tend to make unconscious assumptions about a person's whole personality based on one observable aspect of a person such as physical appearance (Neugard, 2019).

The Halo Effect is more prevalent in our lives than we realize, weaving its way into politics, marketing, the workplace, school, everyday social interactions and more. This idea has also been portrayed all throughout fairy tales and mythological stories. For example, the hero is often portrayed as beautiful, whereas the “bad guy” is typically scary or unattractive to the eye. This perception has long been recognized as both a hindrance in human thinking and a tool for marketing and business.

There have been numerous studies and experiments with this idea in NI. However, there has been little to no research about this effect in individuals with ASD. Visual attention in individuals with ASD has been studied frequently to examine the correlation between what is noticed and deficits in social functioning (Richard, et al., 2015). In this study, I want to focus on young adults with ASD to see if they give the same attention to physical appearance and whether that influences their perception of a person as a whole.

## **Research Questions**

- 1). Is the Halo Effect social phenomenon present in individuals with Autism Spectrum Disorder?
- 2). Does physical attractiveness influence decisions and behavior in individuals with Autism Spectrum Disorder?

## **Participants**

For this study, there were two groups of participants between the ages of 18-26 that were surveyed. The first group was 25 NI that served as a control group or standard to compare to. The second group was 25 individuals that were diagnosed with Autism Spectrum Disorder. The two groups were asked the same questions in the same order in order to get the most accurate results. Participants were recruited from social media, email and through various university clubs and organizations. This research was conducted in compliance with the Institutional Review Board approval.

## **Methodology**

For this project, a survey was presented using Qualtrics Survey Software. The survey included five scenarios presented via short videos preceded by questions about the scenario to help determine the prevalence of the Halo Effect in each group of participants. Each scenario contained a video of a well-groomed person with attractive physical features (APF) and a corresponding video or picture of a disheveled person with less attractive physical features (LPF). The actors were all within the same age range as the participants (18-26) except for the actors portraying college professors. The APF actors were instructed to have impeccable

grooming and wear clean, pressed, and well-fitting clothing. The LPF actors were required to not shave or wear makeup, have uncombed hair, and be attired in wrinkled, ill-fitting clothing. Several acquaintances were recruited to serve as actors for this study and were the most enthusiastic about portraying the LPF person.

The following six scenarios were chosen based on perusal of the extant literature on this topic and after discussion. These scenarios were also chosen based on their relevance for individuals aged 18-26. For each scenario the APF and LPF actors will be of the same gender unless specified otherwise in order to limit other contributing factors.

## **Questionnaire**

The questions that were included in the online survey are described below.

1. Scenario One - This scenario involved the sale of a used car. The videos will have the exact same sales pitch being given in the same location with the same car, the only difference being the physical appearance of the salesperson. The questions that precede the videos were, "Who would you buy the car from?" and "Who is a more trustworthy salesman?" These questions were testing whether or not physical attractiveness is correlated with the perception of trustworthiness.
2. Scenario Two - This scenario involved asking for help in a grocery store. In this scenario, there was a video of two women shopping at the same grocery store. The question preceding the videos were, "Who would you most likely approach to ask for help?" This question was testing whether or not physical attractiveness is correlated with the perception of kindness and approachability.



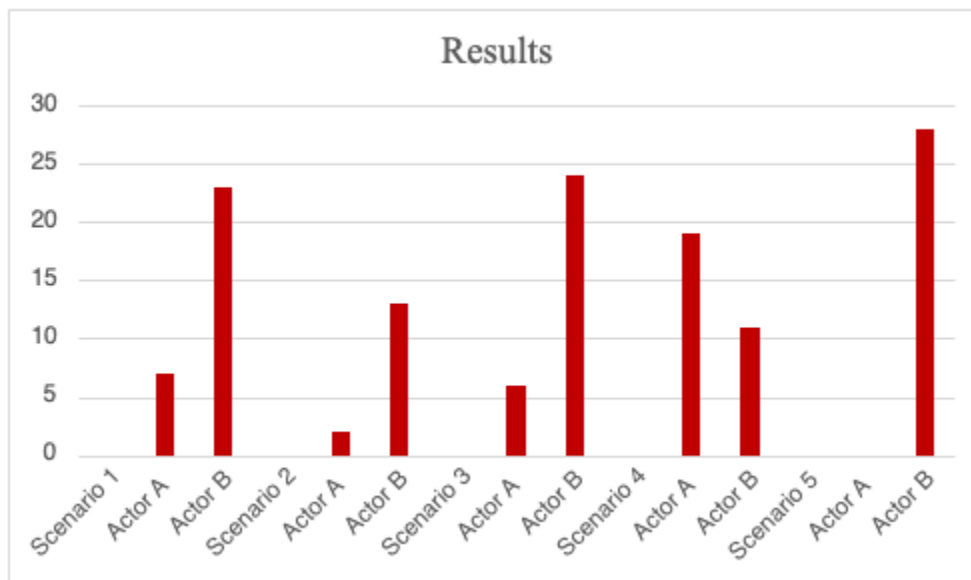
3. Scenario Three - presented videos of professors describing their courses. Their courses were the same and their scripts were identical as well. In this scenario, my mentor, Dr. Kimberly Frazier agreed to portray the LPF female professor and has recruited an APF male professor as her counterpart. This scenario will not only measure attractiveness but also gender. The questions that preceded the videos were, “Which class would you be more likely to take?” This question was testing whether or not physical attractiveness and gender is correlated with the perception of being an effective instructor.
4. Scenario Four - This scenario presented videos to determine perceived popularity. The two actors presented a video invitation for a graduation party. The two actors used the same script in the same tone and manner. The questions that followed the video were, “Whose party would you most likely attend?” and “Which person do you think has the most friends?” These questions measured whether or not physical attractiveness is correlated with the perception of popularity.
5. Scenario Five - In the last scenario, there were two people running for a position (election for a student body class president). The two actors were given the same speech in the same tone and manner. The questions after the videos asked, “Which candidate would you vote for class president?”, “Which candidate seems the most educated” and “Which candidate seems the most genuine?” These questions were testing whether or not physical attractiveness is correlated with the perception of leadership, intelligence, and honesty.

The last couple of questions on the survey included age and ASD diagnosis related questions for data analysis purposes.

## Results

Data was collected and observed using Qualtrics survey software. Results from the survey participants varied for each question and were not unanimous across the board. There were a total of fifteen participants, four participants that were diagnosed with ASD and 11 NI individuals. The answers from the survey have been displayed in visual formats below.

Table 1.1



For each scenario, the total number of answers for either actor A or B was added together from the two questions following each video scenario. The results were then displayed in the figure above. In scenarios 1-3 and scenario 5, Actor A was considered an LPF actor and Actor B was considered APF. In scenario 4, actor A was considered the APF actor while Actor B was considered LPF. The results from the figure above display a pattern of APF actors preferred and correlated with characteristics such as trustworthiness, capability, kindness and approachability.

The next set of results aims to display a comparison between NI survey responses and the survey responses of individuals diagnosed with ASD to serve as a comparison. The following

table tallied the number of responses for each actor from each of the two groups in the study respectively.

Table 1.2

	NI Selected APF Actor	NI Selected LPF Actor	Person W/ ASD Selected APF Actor	Person W/ ASD Selected LPF Actor
<b>Scenario 1</b>	17	5	6	2
<b>Scenario 2</b>	9	2	4	0
<b>Scenario 3</b>	21	1	3	5
<b>Scenario 4</b>	14	8	5	3
<b>Scenario 5</b>	20	0	8	0

The survey responses displayed a similar pattern in that most survey participants of both groups selected the individual with APF to be correlated with the positive qualities such as being more kind, approachable, popular, qualified, etc. For the sample size of each group of participants the results are very similar with exception to scenario three. In this scenario, students were inviting students to their graduation party. In the group with neurotypical individuals, there was only one participant response that selected the LPF actor. However, in the group with individuals diagnosed with ASD, there were five survey responses for the LPF individual and only three for the APF individual.

## Discussion

The common theme among the scenarios emphasizes a difference between the research actors' physical attractiveness. The results from the questions in the scenarios serve as data for comparison between neurotypical young adults and young adults with ASD. The research project

aims to examine whether or not young adults with ASD give the same attention to appearance and whether they let their first impression of a person influence other impressions of that person (whether it be positive or negative). This raises a discussion about the difference of visual attention and social awareness between the two groups of participants in the study.

The results from the study are more scattered than originally hypothesized. Because the Halo Effect is so established in NI, it was guessed that survey responses would not be as scattered as they were. There were still a number of participants that selected the LPF actor to be correlated with positive characteristics in the NI group.

The survey responses from the survey participant group with ASD were also scattered with exception to scenario five and scenario two. In those scenarios, 100% of participant responses selected the APF actor to be more trustworthy, approachable and a better car salesman. Overall, the results of the study display that individuals with ASD do have attention to physical attraction and that it does influence their decisions and behavior.

Visual attention and abnormal visual attention has been studied frequently in people with ASD. Abnormal visual attention has been established to be an “abnormal development of social cognition and has been identified as a key neuropsychological finding in ASD. Better characterizing attention shifting in ASD and its relationship with social functioning may help to identify new targets for intervention and improve social communication in these disorders” (<https://pubmed.ncbi.nlm.nih.gov>). This study contributes to the conversation and research correlated to visual attention and whether or not physical attractiveness is noticed or relevant to decisions and behavior in individuals with ASD.

## **Limitations**

The results of this study should be examined in light of some potential limitations in the study. There was imbalance in the number of participants with ASD and NI which should be considered when analyzing the results of the study. A larger sample would have provided more accurate or reliable results from the study. The participants were from various places around the country but it would have been beneficial to have more participants overall. Another limitation that should be considered is the video quality of the camera that was used to record video scenarios. A higher quality camera would potentially decrease any other factors that may have distracted survey participants from the original goal of the survey. The last limitation that also should be evaluated is that a couple survey participants did not answer every question on the survey. This could have also had an influence in the results of the survey. This could have been easily fixed by making every question on the survey a forced response.

## **Conclusion & Future Direction**

Future Research of this topic should use a larger sample size to examine the correlation between the attention to physical attractiveness and whether that influences behavior or social functioning of individuals with ASD. The cognitive bias of the Halo Effect is prevalent in neurotypical individuals and future research should continue to examine whether this bias is prevalent in individuals with ASD as well.

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