An Evaluation of the Impacts of Neurotypical Sibling Interactions on Autistic Individuals' Expressive Communication Skills in the Asian Community

Sabrina Yeh

Dr. Angela Garbin

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Abstract

The purpose of this study was to investigate the effect of increased social interaction with neurotypical siblings on individuals with Autism Spectrum Disorder (ASD). Participants consisted of six verbal autistic children and adolescents aged 4 to 17, including three males and three females. Results of the study showed that the ASD participants' average expressive communication levels in terms of verbal expressiveness and application, emotional responsiveness, articulation, and initiation and inquisitiveness were higher when conversing with their neurotypical siblings than with an unacquainted adult. The participants particularly showed the largest communicative increase in their tone of voice when interacting with their siblings as opposed to an unacquainted adult. Analyses of the data collected support the idea that there is a positive relationship between increased social interaction with neurotypical siblings and the participants' expressive communication skills. Therefore, interacting with neurotypical siblings increases an autistic individual's expressive communication skills. The current study can serve as evidence for the benefits of neurotypical sibling interaction on ASD individuals.

Keywords: Autism Spectrum Disorder, sibling interactions, expressive communication, Asian

Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition that lasts a lifetime and interferes with a person's ability to communicate and relate to others (Elsabbagh et al., 2012). Autism Spectrum Disorder has become more prevalent in children in the past decades (Nevison & Zahorodny, 2019; CDC, 2014). In fact, a 2018 study showed that the corrected prevalence of ASD among American adolescents and children was about 2.47% of the total United States population in 2016, and this prevalence has a steady trend of rising each year (Xu, et al., 2018). ASD is characterized by constraints in social communication and social interaction, restricted interests, and excessively repetitive interests, behaviors, and/or activities (American Psychiatric Association, 2013). Around half of autistic individuals are estimated to lack adequate skills in their daily communication (Wing & Attwood, 1987). Previous research shows that social communication limitations and the presence of constrained and repetitive/stereotyped behaviors in autistic adolescents is associated with difficulties in comprehending other peoples' minds (Jones, et al., 2017). In other words, people diagnosed with ASD have limited communication and interests along with repetitive behaviors, which can affect their everyday life.

In regards to gender differences, ASD is more prolific in males than females. Specifically, there is approximately a 4:1 ratio of males to females (Fombonne, 2009).
A recent meta-analysis study concluded that autistic females show less severe characteristics of stereotyped and repetitive behaviors than autistic males. However, females and males do not differ in terms of communication nor social behavior. (Van Wijngaarden-Cremers PJ et al., 2014).

Therefore, Autism Spectrum Disorder affects how an individual communicates with others, and its prevalence continues to rise each year. More males have Autism Spectrum

Disorder than females, with females showing less symptoms of autism than males. Aside from gender differences, can increased interaction with neurotypical siblings have a significant impact on an autistic individual's expressive communication skills?

Literature Review

Fundamental social-communication skills are acquired during early childhood years. When growing, children develop more complex skills with maturation (Atkinson & Heritage, 1984). Starting from an early age, individuals with ASD have been identified with poorer social communication skills than their same age counterparts (Stronach & Wetherby, 2017). As a developmental disorder, ASD has a negative impact on both expressive and receptive communication, and there is not a major discrepancy between the expressive and receptive language skills of verbal autistic children (Kjelgaard & Tager-Flusberg, 2001). In other words, ASD negatively affects both an individual's expressive and receptive communication skills equally.

Additionally, research studies have demonstrated that neurotypical siblings of autistic children have been positively linked with characteristics such as being resilient and having closer bonds with family members (Bayat, 2007). Out of the three factors that are linked to improve social communication abilities in ASD children is having an older sibling. In addition, autistic children with siblings have more opportunities to engage in social interactions with peers and practice their communication skills due to various reasons including role modeling, explicit instruction, and training from older neurotypical siblings (Ben-Itzchak et al., 2016). Meanwhile, intervention training with younger neurotypical siblings potentially yields more beneficial outcomes as children with ASD seem to identify with behaviors of younger children, and these

autistic children tend to play the role of the younger child in sibling interaction (Brewton et al., 2012). In other words, it is beneficial for autistic children to communicate with younger neurotypical siblings because the sibling dynamic consists of the autistic child being led by the neurotypical sibling.

In terms of daily interactions and communication, it has been shown that neurotypical siblings have various opportunities to work with their ASD siblings on collaborative activities and shared goals, all of which are important components of the development of communication skills. This is the opposite of what is observed when individuals with autism do not have a sibling. Specifically, children with autism demonstrate social skills during interactions with their siblings, which is rarely reported with their peers (McGee, Feldman, & Morrier, 1997). In essence, autistic children with siblings showed increased social engagement and interest than autistic children without siblings. Thus, autistic children with siblings generally have better social skills than autistic children without any siblings. One supporting idea is that autistic children with siblings engage in free play based on imitation which promotes interaction. Additionally, this example reinforces the concept that these siblings "stage-manage" the relationship by adjusting it according to the actions of the autistic child (Knott et al., 2007; Abrams, 2009). According to a study conducted by Brewton et al. (2012), these neurotypical siblings were described as "fellow travelers through the life cycle." Specifically, they play a special role in improving the imitation and social interaction in autistic children. In fact, several studies have shown that neurotypical siblings have a meaningful impact on the prosocial development of their autistic brother or sister (Brewton et al., 2012).

Light et al. (1998) found that expressive communication skills are related to people's ability to express themselves and are related to an individual's ability to receive and comprehend

messages. Evidence of expression in terms of expressive communication skills includes being able to communicate effectively, efficiently, and appropriately using a wide range of communicative functions. This wide range of communicative functions includes asking questions to request information, initiating conversations, answering questions appropriately, expressing emotions, and sharing information (Light et al., 1998). Evidence of comprehension in terms of receptive communication skills includes understanding instructions, wordy sentences, questions, and verbal and nonverbal cues by responding appropriately. In terms of expressive disorders, ASD children's expressive skills (e.g. vocabulary, grammar and pronunciation) are below the level of typically developed peers (TD). In terms of receptive disorders, ASD children's abilities to decode information on sound, word, sentence and text levels are below the level of TD children (Grossman & Tager-Flusberg, 2012). Thus, autistic children have expressive communication skills (the ability to receive and comprehend messages) that are less developed than that of typically developing children.

Literature Review Conclusion

The current study aimed to determine if interacting with neurotypical siblings increases an autistic individual’s expressive communication skills. Specifically, the study examined the relationship of an autistic individual’s ability to communicate effectively (such as articulation, emotional responsiveness, and content of conversations) with an adult compared to his or her sibling. The study hypothesized that autistic individuals will be able to express themselves more clearly when communicating with their siblings compared to an unacquainted adult.

To date, the majority of current social communication research focuses on white, black, and hispanic populations (Stronach & Wetherby, 2017; Nevison & Zahorodny, 2019). However,

research proves that Asians have a higher rate of Autism Spectrum Disorder than other ethnic groups (Nevison & Zahorodny, 2019). This information presents a rationale to focus research on this population.

This research paper applies evaluation research that compares the effects of an autistic individual living with a neurotypical sibling on the autistic individual's expressive communication skills. In this study, autistic individuals in the Asian community in the United States were investigated, as research in the Asian community is an under-researched topic. This study will also fill the gap in previous research regarding communication skills of autistic individuals being affected by sibling interaction by incorporating older individuals with autism; the justification in completing this research paper is to provide information that is relevant to a broader and/or older age group of autistic individuals.

Methods

Participants

After the target population (individuals aged four to seventeen diagnosed with Autism Spectrum Disorder) was identified, forms were sent through email to the individual's parents or guardian asking them to participate in the study. These forms specified the participant's and guardian's availability and demographics, including age, gender, and age of diagnosis of ASD to allow a diverse sample and a smooth selection process. No incentive was given to the participants in the study. After ten parents or guardians demonstrated their willingness to participate in the study by responding to the email, convenience sampling was implemented to select six individual participants for this study.

Research was conducted in an indoor private enclosure at the Parsons Run Community Center located in Johns Creek, Georgia. Participants consisted of three autistic females and three autistic males, all of whom are Asian American. The participants' information is given in Table 1. In the first column, the names of each participant are given. In the second column, the gender of each participant is provided. The third column details the age of each participant. The fourth column provides the approximate age of the diagnosis of Autism Spectrum Disorder.

The sample size of this study consisted of six verbal autistic children and adolescents aged 4 to 17, including three males and three females. In other words, there was an even distribution of male to female participants.

Table 1. *Demographics of participants in the study, including gender, age and approximate age of ASD Diagnosis*

Name	Gender	Age	~Age of ASD Diagnosis
Samantha	female	17	7
Joyce	female	12	3
Chloe	female	17	10
Thomas	male	7	3
Frank	male	4	1.5
Kennith	male	9	3

Note: real names of the participants were not used; consent was given by the autistic individuals' guardians or parents in sharing data relevant to this study. See Appendix A for consent form.

Procedure

Data was collected first-hand over a 1-week period from July 25 to July 31 in 2021 for a total of 10 hours.

Experimental data was collected by manipulating the type of individual the autistic person interacted with. Specifically, communicative styles were evaluated based on the interactions with his or her neurotypical sibling compared to one unacquainted adult. A trial run was conducted with one male autistic child and his sibling to determine if the categories in the rubric were feasible before considering the actual data set and to ensure the study was conducted properly with the right conditions and environments. After the conducted trial run was approved, participants were interviewed in two independent sessions through one-to-one conversations. In session one, autistic participants interacted with one unacquainted adult. In session two, the autistic participant interacted with his or her neurotypical sibling. In both sessions, interviews were conducted using the same questions listed on a Cue Card (see Appendix B). Each interview

lasted for 15 minutes. Communicative behavior was recorded by the primary investigator using a rubric (see Appendix C). The interviewers, consisting of one unacquainted adult and one sibling of the autistic individual, were trained to prompt communicative behaviors/actions (listed below). Data was collected using the above mentioned rubric, which was created from questions found on various websites that were used to evaluate expressive communication.

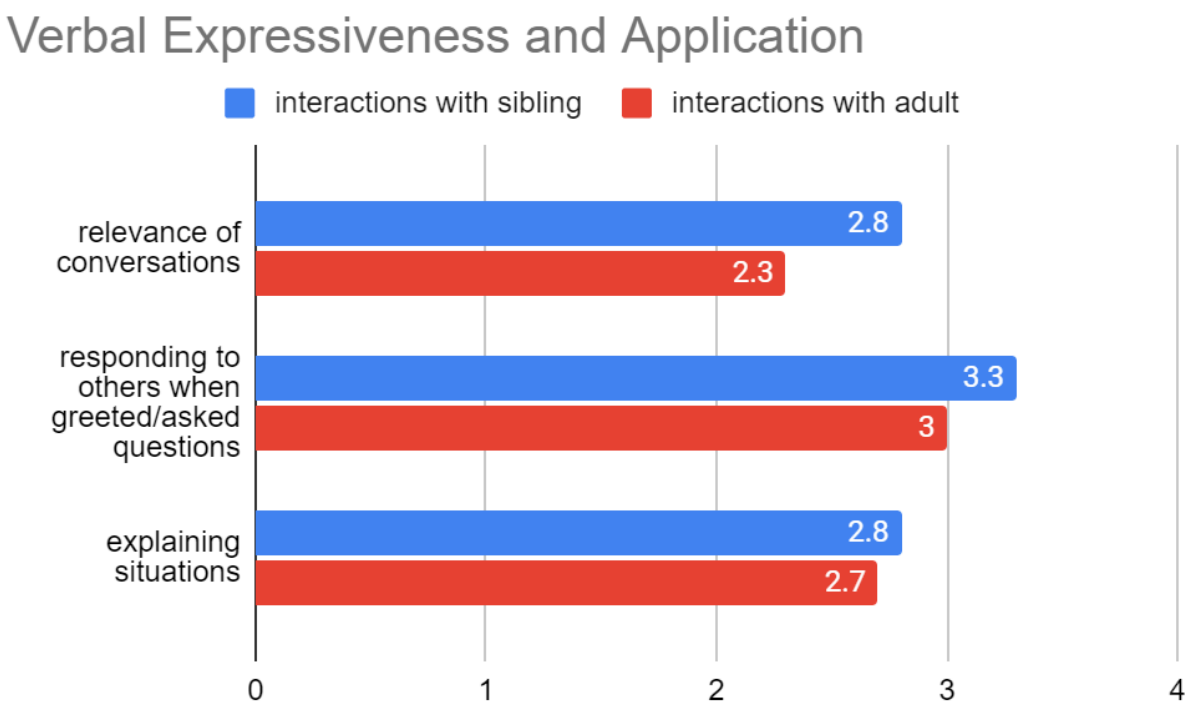
During the interviews, the principal investigator stood on the side to record the participant's communicative behaviors, using observational research by evaluating participants in their most natural settings to collect accurate data. These communicative behaviors were then scored using the degree of proficiency in various categories on the rubric (see appendix). The conversation was recorded using a black Samsung Galaxy S8 phone, and the participants were not aware that they were being observed. The same procedure was utilized in the second session, with the only difference being that the interviewer was the neurotypical sibling of the austistic participants. After the first group was evaluated, a brief five-minute intermission was held to allow the autistic participant to transition smoothly from interacting with an unacquainted adult to a familiar neurotypical sibling.

This correlational study utilized a within-subjects design. The main independent variable was the identity of the person conversing with the autistic individual. The dependent variable was the change in expressive communication skills of the autistic individual in both interviews. The control variables included the environment and the duration of the evaluation. Any extraneous variables that might influence this study's results include the participants' age, gender, family backgrounds, and severity of ASD. A mixed design was used, meaning that this research paper incorporates quantitative and qualitative data.

Results

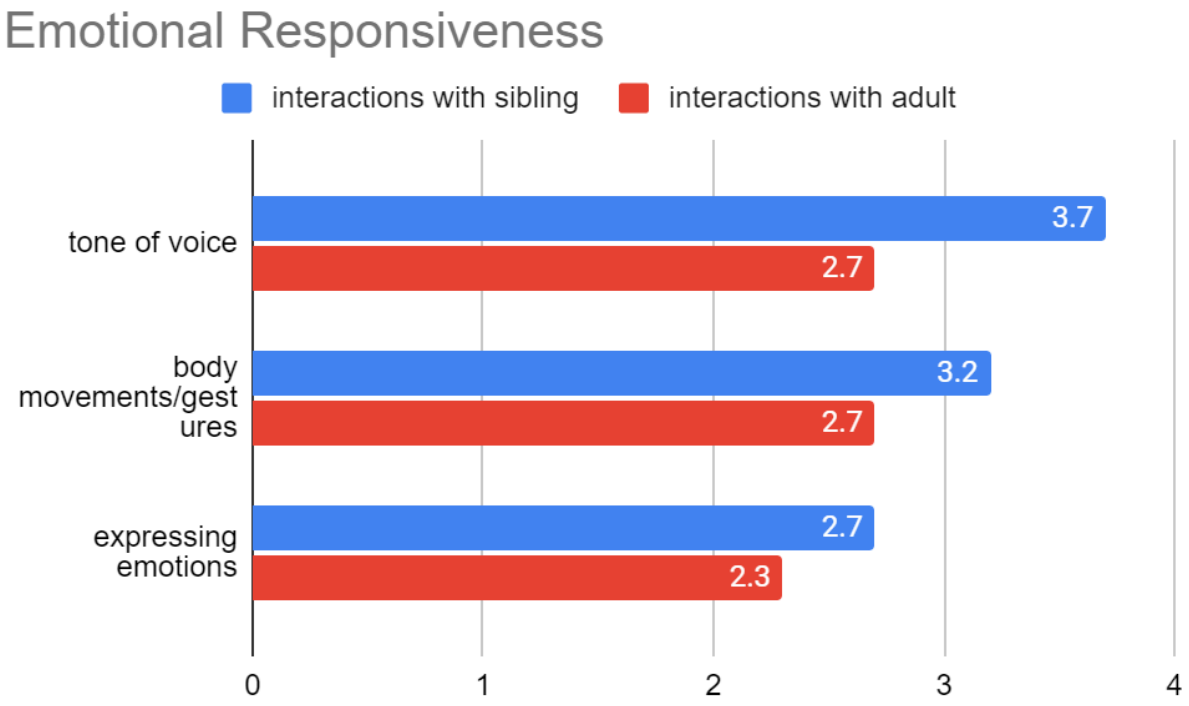
The participants' expressive communication skills in the recorded conversations were evaluated based on their articulation, emotional responsiveness, and initiation and inquisitiveness. As displayed in the rubric (see Appendix C), there are four levels of proficiency in each of the categories: level 1 being the least proficient and level 4 being the most proficient. All numbers in the four graphs were rounded to the nearest tenths digit for simplification.

Graph 1. *Average levels of Verbal Expressiveness and Application in interactions with siblings and adults*



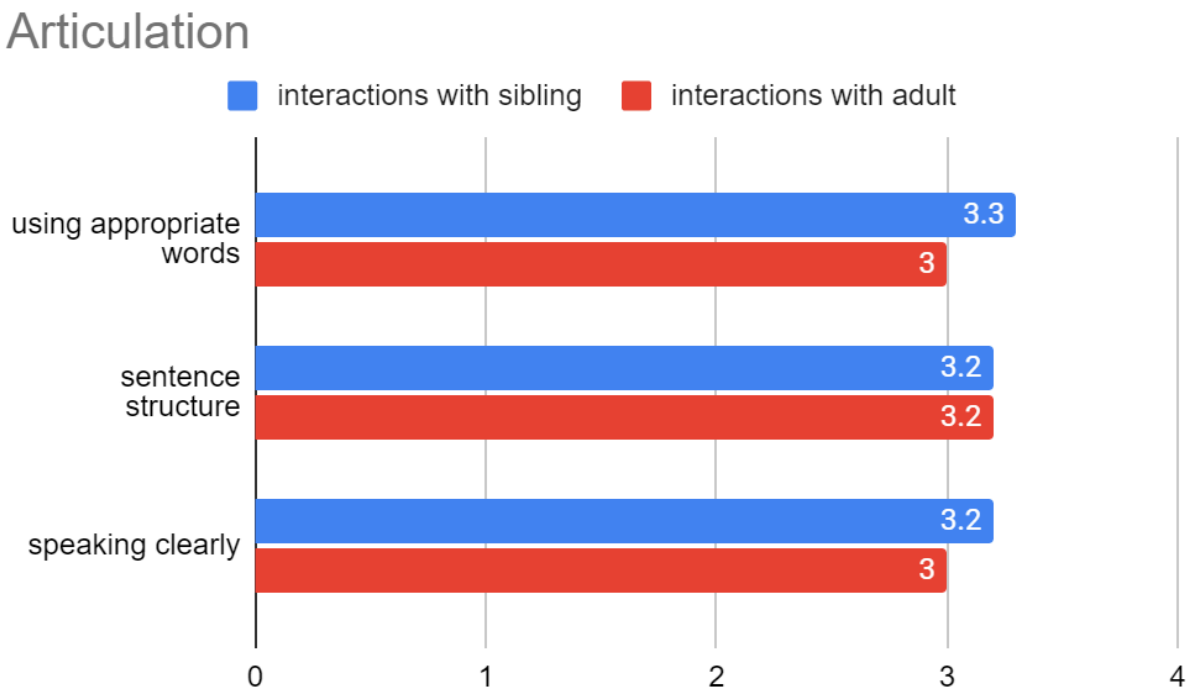
Graph 1 compares the levels of the participants' verbal expressiveness and application (including the subcategories of relevance of conversations, responding to others when greeted/asked questions, and explaining situations) when conversing to their siblings compared to an unacquainted adult. The numbers in this graph show the average of the data taken from interactions with a sibling and adult in every subcategory of verbal expressiveness and application.

Graph 2. *Average levels of Emotional Responsiveness in interactions with siblings and adults*



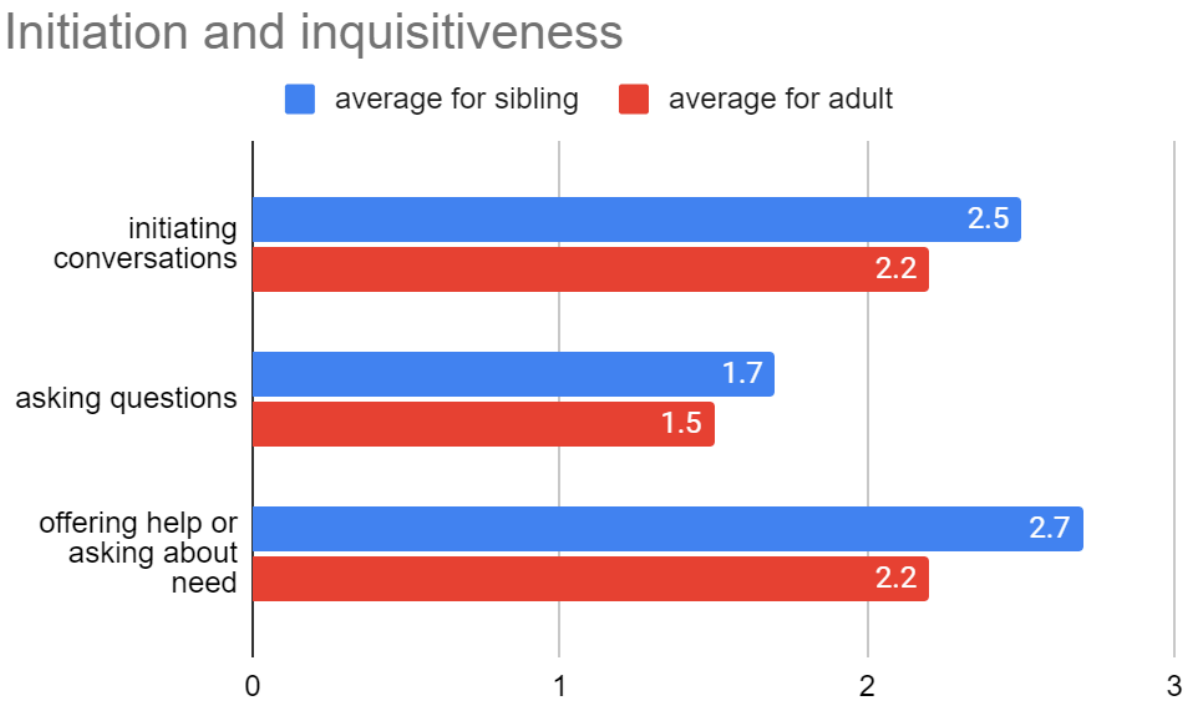
Graph 2 contrasts the degrees of the participants' emotional responsiveness (incorporating the subcategories of expressing emotions, tone of voice, and body movements/gestures) when conversing to their siblings compared to an unacquainted adult. The numbers in this graph demonstrate the mean of the data derived from interactions with a sibling and adult in every subcategory of emotional responsiveness.

Graph 3. *Average levels of Articulation in interactions with siblings and adults*



Graph 3 differentiates the levels of the participants' articulation (containing the subcategories of using appropriate word, sentence structure, and speaking clearly) when conversing to their siblings compared to an unacquainted adult. The numbers in this graph present the mean of the data acquired from interactions with a sibling and adult in every subcategory of articulation.

Graph 4. *Average levels of Initiation and Inquisitiveness in interactions with siblings and adults*



Graph 4 collates the degrees of the participants' initiation and inquisitiveness (including the subcategories of initiating conversations, asking questions, and offering help/asking about need) when conversing to their siblings compared to an unacquainted adult. The numbers in this graph show the average of the data obtained from interactions with a sibling and adult in every subcategory of initiation and inquisitiveness.

As shown in Graphs 1 through 4, the autistic individuals in this study demonstrated more advanced levels of verbal expressiveness and application, emotional responsiveness, articulation, and initiation and inquisitiveness when interacting with their neurotypical siblings compared to an unacquainted adult. In regards to the rubric's scale in Appendix C, the average difference between sibling and adult interactions is 0.3 in terms of verbal expressiveness and application, 0.63 in terms of emotional responsiveness, 0.17 in terms of articulation, and 0.33 in terms of initiation and inquisitiveness. The subcategory with the largest numerical difference between

sibling and adult interactions is the participants' tone of voice as observed from recorded conversations.

Discussion

Autistic individuals in this study demonstrated more advanced levels of expressive communication when conversing with their neurotypical siblings compared to an unacquainted adult, specifically in areas of verbal expressiveness and application, emotional responsiveness, articulation, and initiation and inquisitiveness. The participants showed the largest communicative increase in their tone of voice when interacting with their siblings as opposed to an unacquainted adult. This demonstrates that interactions with neurotypical siblings have a positive impact on an autistic individual's expressive communication skills.

This finding can also be placed into the context that neurotypical siblings have a meaningful impact on the prosocial development of their autistic brother or sister (Brewton et al., 2012). Specifically, having an older sibling is linked to improvement in social communication abilities in ASD children due to role modeling, explicit instruction, and training from older neurotypical siblings (Ben-Itzchak et al., 2016). On the other hand, it is also beneficial for autistic children to communicate with younger neurotypical siblings because the sibling dynamic consists of the autistic child being led by the neurotypical sibling (Brewton et al., 2012). In relation to this, social communication limitations and the presence of constrained and repetitive/stereotyped behaviors in autistic adolescents is associated with difficulties in comprehending other peoples' minds (Jones, et al., 2017). One reason for this is that participants are more familiar with their neurotypical siblings than an unacquainted adult and can therefore comprehend their siblings' minds easier, making it easier to interact with their siblings.

The research conducted in this study is necessary because the topic of autistic individuals in the Asian American community is under-researched, so this research paper adds more knowledge in the field. This study further incorporates participants that identify as younger autistic children and older autistic adolescents, which provides more comprehensive research than studies previously conducted with participants having a narrower range of ages. Therefore, this research paper contributes information that is relevant to a broader and/or older age group of autistic individuals.

Limitations and Improvements

The data presented in this study is based on a small group of participants who identify as Asian American, making it difficult to generalize the results to the overall American population of children or adolescents with ASD. Another limitation that must be pointed out is that the investigation presented here was not specifically designed to compare the participants' receptive and/or expressive language abilities. It should also be brought to attention that some autistic children have different speeds of expressing themselves, which could have swayed the actual results. Additionally, although there were an equal number of females and males in this study, female participants were older than the males, which can have an effect on the results of their communication abilities. Another possible limitation is that the results could have potentially been affected by significant bias due to non-probability sampling methods being used. Specifically, those who volunteered to take part in the study probably possessed different qualities than those who did not volunteer.

Future research studies should consist of more participants across a broader range of appropriate expressive and receptive tasks in order to determine whether these within- and

across-group qualitative differences for expressive measures remain consistent. Participants in future studies should come from different racial backgrounds and have differing ages. A larger number of participants should be incorporated into future studies, but the female to male ratio of participants should remain equal.

There were no unexpected results in this study, since all graphs showed that levels of expressive communication in ASD participants when interacting with their neurotypical siblings were equal to or higher than that of interacting with an unacquainted adult. Overall, this report demonstrates that children with ASD can benefit from interacting with neurotypical siblings.

Appendix A. *Parent Informed Consent Form*

In this study evaluating "The Impact of Siblings on an Autistic Individuals' Expressive Communication Skills," we assess the impact of siblings on the expressive communication skills of children with Autism Spectrum Disorder (ASD) who are between 4 and 17 years old.

We are offering the face-to-face (F2F) evaluation with precautions (i.e., social distancing, mask wearing, hand and surface cleaning). There will be two sessions at the same time of day over the course of two weeks. Each session will involve a 30-minute evaluation (15 minutes with the sibling and 15 minutes with a non-parent adult).

Please complete the following Informed Consent Form to participate in the evaluation.

PARENTAL PERMISSION TO PARTICIPATE A RESEARCH STUDY

Title of Study: Sibling's Impact on Expressive Communication Evaluation
Principal Investigator: Sabrina Yeh
Professor: Dr. Angela Garbin
* Required

Email *

_____

KEY INFORMATION
Important aspects of the study you should know about first:
• Purpose: The purpose of the study is to evaluate whether having a sibling has an impact on your child's expressive communication skills.
• Procedures: Your child with Autism Spectrum Disorder will be one of 8 children (4 male and 4 female) who will participate in this study with their siblings. If your children are interested in participating in this study, we will invite your two children (one autistic child and one neurotypical sibling) to the same setting. The sibling will be provided the Cue Card to ask questions for 15 minutes. Then, a non-parent adult will use the same Cue Card to ask questions for 15 minutes. The principal investigator will evaluate and record data.
• Duration: The F2F evaluation will take 30 minutes to complete. Each pair of participants will be evaluated in the same setting and same time slot of the day for three times over the course of 2 weeks.

• Risks: There are no risks associated with the study.
• Benefits: There are no direct benefits from participation in this study.
• Alternatives: There are no known alternatives available to your child other than not taking part in this study.
• Costs and Compensation: There is no compensation for the study process.
• Participation: Allowing your child to take part or not in this research study is your decision. You can complete or decide not to allow your child to participate in the study. You can also change your mind at any point. Please carefully read the entire document. You can ask any questions you may have before deciding If you agree to complete the study.

PURPOSE OF THE STUDY
The purpose of the research study is to determine whether having a sibling has an impact on your child's expressive communication skills. We will ask you several questions about your child's basic background, medical history, and current level of expressive communication skills.

WHO IS BEING ASKED TO PARTICIPATE?
• Individuals between 4 and 17 years of age
• Individuals having a diagnosis of Autism Spectrum Disorder.

CONFIDENTIALITY:
Your information will be kept confidential and will only be accessible to the researchers on the study team. Your child's confidentiality will be maintained through the following methods:
• The informed consent information belonging to your child will be assigned an identification number.
• Electronic records of your child's information will be stored on password-protected/encrypted.
• Hard copies of the evaluation will be kept in securely locked cabinets in the PI's home office.
• Access to information will be restricted to the research staff working on the project.

USE OF DATA COLLECTED FROM YOUR CHILD IN FUTURE RESEARCH:
Identifiers about your child will not be removed from the identifiable private information, the collected information could be used for future research studies.

COSTS AND COMPENSATION
• The study procedures will be provided at no cost to you. You will receive no compensation for participating in this portion of the study.

WHAT IF YOUR CHILD IS INJURED DURING PARTICIPATION IN THE STUDY?
• There is no risk of injury associated with completion of the study as the volunteer adult is nearby.

CONTACT INFORMATION
If you have any questions about the purpose, procedures, or any other issues/concerns related to this research study, you may contact the Principal Investigators:

I have read and understood the information in this permission form for participation. I agree to take part in this research study. I understand that I will be given a copy of this form for my records.

Full Name of Parent/Guardian *

_____

Signature (to be completed at first visit) *

_____

Date *

_____

Child's Full Name (to be completed at first visit) *

_____

Child's Age *

_____

Approximate Age of Child at the time of ASD diagnosis

_____

Appendix B. *Cue Cards to prompt conversations*

Before we begin, do your best to answer all questions and remarks made by the child. Try to transition into the next question/topic like a normal conversation instead of interviewing the child. Thank you so much for your time and participation!

1. Greet the child and wave. (**Hi** *insert name*! Wait a few seconds for a response. **How old are you? Wait** for a response. **How are you doing today?** Wait a few more seconds for a response.)

2. Ask the child, "**How are you feeling? Are you sad, happy, or shy?** Respond appropriately to the child depending on the emotion.

   Tell the child **you are feeling sad today**. Make a sad face and look down. Wait a few seconds for a response. If the child does not respond, say you are feeling sad because the grocery store did not have your favorite ice cream.

3. Ask the child, "**What do you like to do in your free time?**" Make a comment about the activities like "**that's so cool! Would you like to share more about it?**"

   After the child responds, elaborate on the **activities you like to do** in your free time and wait a few seconds for a response. If the child is interested, share some more about the topic.

4. Ask the child, "**What did you do yesterday?**" Make a comment about the response and share what you did yesterday as well. Wait a few seconds for a comment from the child. Ask the child, "**What are we doing right now?**" Say, "**That's right! Good job**." Tell the child you enjoy talking with him/her. Wait a few seconds for a response.
   Ask the child, "**What are you going to do tomorrow?**" Make a comment about the response and share what you will do tomorrow as well.

5. Ask the child, "**What is your favorite color?**" After the response, say "**that's great! How come ___ is your favorite color?**" If the child does not ask you what your favorite color is, say "Is there anything you'd like to ask me about?"

6. **Pretend your stomach hurts** and put your hands on your stomach. Wait a few seconds for the child's response. Ask the child, "**Can you help me please? I need some water.**" If the child does not respond, point at the water bottle nearby. Tell the child, **thank you so much for your help!**

7. Tell the child, "**It was so nice talking to you today!** Wait for a response. **I hope we can talk more in the future.** Wait for a response. **Have a great day!"** Wait for a response.

Appendix C. *Rubric used to evaluate expressive communication skills of participants*

	1	2	3	4
Relevance of conversations	Constantly gets distracted and may only talk about his/her own interests	Sometimes stays on topic and talks about his/her own interests most of the time (10-50% of the time off topic)	Frequently stays on topic and is able to talk about topics that seem uninteresting (51-95% of the time off topic)	Always stays on topic even when he/she is not interested and talks about a broad range of topics
Responding to others when greeted or asked questions	Does not return greetings and respond to questions appropriately	Sometimes returns greetings and responds to questions appropriately (does not return 3-5 times)	Frequently returns greetings and responds to questions appropriately (does not return 1-2 times)	Always returns greetings and responds to questions appropriately
Explaining situations	Is not able to describe past, present, and future events	Can describe some past, present, and future events	Gives the main idea of past, present, and future events with not many details.	Gives plenty of details about past, present, and future events
Tone of voice	Tone of voice is not appropriate for conversation (excessively loud, soft, mad, etc.)	Tone of voice sometimes fits context of conversation (3-5 times out of context)	Tone of voice fits context of conversation most of the time (1-2 times out of context)	Tone of voice fits context of conversation
Body movements and gestures	Does not make appropriate body movements/gestures or does it too excessively	Sometimes makes appropriate body movements/gestures (1-2 appropriate body gestures)	Frequently makes appropriate body movements/gestures (3-5 appropriate body gestures)	Always makes appropriate body movements/gestures (more than 5 appropriate body gestures)
Expressing emotions	Does not express emotions at all/always	Sometimes expresses emotions	Frequently expresses emotions	Always expresses emotions appropriately

	expresses emotions inappropriately	appropriately (shows emotions 1-2 times)	appropriately (shows emotions 3-5 times)	(shows emotions more than 5 times)
Using appropriate words	Rarely/never uses appropriate words when talking to others (more than 5 times)	Sometimes uses appropriate words when talking to others (3-5 times not appropriate)	Frequently uses appropriate words when talking to others (1-2 times not appropriate)	Always uses appropriate words when talking to others
Sentence structure	Talks using 1-2 words at a time	Talks mostly using shorter phrases (3-5 words)	Talks mostly using phrases and sometimes in complete sentences	Consistently talks in complete sentences
Speaking clearly	Speaks softly and is hard to understand	Can be understood sometimes (3-5 times not understood)	Can be understood most of the times (1-2 times not understood)	Speaks loud and clear. Easy to understand
Initiating conversations	Always needs prompting to start a conversation	Frequently needs prompting (at least 3 times)	Sometimes needs prompting (less than 3 times)	No prompting necessary
Asking questions	Does not ask any questions	Asks 1-2 questions	Asks 3-5 questions	Asks plenty of questions (more than 5)
Offering help or asking about need	Never offers help or asks about need	Sometimes offers help or asks about need (asks 1/4 or 2/4 times)	Frequently offers help or asks about need (does asks 3/4 times)	Always offers help or asks about need

Groupings for rubric above:

Verbal expressiveness and application

Emotional responsiveness

Articulation

Initiation and inquisitiveness

Appendix D. *Questions used to create rubric*

How to assess expressive communication:

How well does the individual initiate conversations appropriately (without prompting)?

How well does the individual return greetings and respond to questions?

How well does the individual ask for what he/she wants and needs?

How well does the individual explain situations clearly?

How well does the individual talk about a broad range of topics?

How well does the individual use appropriate words and speak clearly?

How well does the individual talk and listen for approximately the same amount of time during a conversation?

How well does the individual stay on topic?

How well does the individual apologize in a sincere way for hurting someone?

How well does the individual offer to comfort others when they are hurt or upset?

How well does the individual ask questions?

How well does the individual express emotions appropriately?

How well does the individual offer help or ask about need?

How well does the individual make appropriate body movements or gestures?

How well does the individual speak in an appropriate tone of voice during interactions?

How much prompting or support does the individual need to communicate effectively?

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