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# THE EFFECT OF COMMUNICATION DEFICITS ON IMPRESSIONS OF AN INDIVIDUAL WITH ASPERGER SYNDROME

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LISA A. SPIVEY

To the Graduate Council:

I am submitting herewith a thesis written by Lisa A. Spivey entitled "The Effect of Communication Deficits on Impressions of an Individual with Asperger Syndrome." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science with a major in Guidance and Counseling.

  
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The Effect of Communication Deficits on  
Impressions of an Individual with Asperger Syndrome

A Thesis

Presented for the

Master of Science

Degree

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Lisa A. Spivey

May, 2000



## DEDICATION

This thesis is dedicated to my son

Andy Spivey.

Without his cooperation and assistance, I would have  
been unable to complete this project.

## ACKNOWLEDGMENTS

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## ABSTRACT

This study examined the effects that communication deficits have on reactions to individuals with Asperger syndrome. Participants were undergraduates from psychology classes at Austin Peay State University. Each participant viewed one of two 15 minute videotaped interviews. The interviews featured an 8-year-old child with Asperger syndrome, but the participants were not aware of this diagnosis. One group of participants saw an interview that featured the child exhibiting appropriate communication skills, while the other group saw an interview that contained communication deficits such as inappropriate eye contact, frequent interruptions, and the inability to maintain the topic. After viewing the videotape, participants rated the child on the ability to maintain appropriate eye contact, the ability to limit interruptions, and the ability to maintain the topic. The participants also filled out a questionnaire that measured their perceptions of the child in the areas of maturity, aggressiveness, intelligence, social competence, academic ability, and popularity. It was hypothesized that the participants would form more negative impressions of the child when he exhibited inappropriate communication skills.



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# CHAPTER I

## INTRODUCTION

### Purpose

The ability to communicate effectively has an impact in many areas of a person's life. Poor communicative ability has been found to be related to lower social status (Black & Hazen, 1990; Black & Logan, 1995; Putallaz, 1983), decreased employment opportunities (Atkins & Kent, 1989; Burgoon, Manusov, Mineo, & Hale, 1985; Parsons & Liden, 1984; Peterson, 1997), lower levels of social acceptance (Hazen & Black, 1989; Kemple, Speranza, & Hazen, 1992), and increased levels of aggression (Dumas, Blechman, & Prinz, 1994). Since research has shown that individuals who have poor communication skills can be perceived more negatively in other areas of functioning (Becker, Place, Tenzer, & Frueh, 1991; Brooks, Church, & Fraser, 1986; Burroughs, 1990; Droney & Brooks, 1991; Geurro & Miller, 1988; Place & Becker, 1991; Wheeler, Baron, Michell, & Ginsburg, 1979), it would be important to document if individuals diagnosed with a disorder that hinders communication skills are perceived more negatively than individuals without this disorder.

### Description of Asperger syndrome

One such disorder, Asperger syndrome, is characterized by communication and social difficulties. This disorder was described in 1944 by a pediatrician named Hans Asperger (as cited in Wolff, 1991). He first called this syndrome "autistic psychopathology" since it described a group of children that exhibited such features as



solitariness, abnormalities of gaze or expression, insensitivity to social cues, lack of feeling for others, oversensitivity and insensitivity, educational delays, rage at pressure to conform, and an “autistic intelligence” with an interest in fields such as chemistry, math, or art. This disorder, now known as Asperger syndrome, is a developmental disorder that, like autism, falls under the category of pervasive developmental disorders.

The American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders, fourth edition (1994) describes the person with Asperger syndrome as having social interaction deficits such as impairment in nonverbal behaviors, inability to develop appropriate peer relationships, lack of social or emotional reciprocity, and a lack of shared enjoyment or interests with other people. The DSM-IV also requires that restricted repetitive and stereotyped behaviors, interests, and activities be evident before a diagnosis of Asperger syndrome is given. Although Asperger syndrome causes significant impairment in social, occupational or other areas of functioning, there is no significant delay in language, cognitive development, or self-help skills (DSM-IV). The fact that the DSM-IV says that there is no significant delay in language may confuse the reader because it fails to emphasize the verbal and nonverbal communication deficits that Asperger described (Wing, 1991). Attwood (1998) has noted that in his clinical practice, individuals with Asperger syndrome have difficulties in the pragmatic aspects of language such as repairing a conversation, making comments relevant to the conversation, and not interrupting others.

## CHAPTER II

### LITERATURE REVIEW

#### Relationship Between Employability and Communication Skills

Good communication skills can have a positive impact in many areas, including employability, throughout the lifespan. Bretz, Rynes, and Gerhart (1993) asked 54 campus recruiters to describe characteristics of applicants that they had interviewed that would be a good fit for their organization. The ability to communicate clearly was fifth in frequency of mention as an indicator of good fit. Peterson (1997) found that 98.3% of personnel interviewers agreed that communication skills played a significant part in their hiring decisions, although only 59.7% of the same interviewers thought that current job applicants possessed adequate communication skills. The interviewers also identified the most prominent communication skill deficits as lack of eye contact, topic relevance, response organization, listening skills, and response clarity.

In an investigation to determine factors considered in the hiring process, Atkins and Kent (1989) asked employers and college students to fill out a questionnaire about hiring individuals who displayed the communication characteristics listed. The college student respondents were divided into two groups. One group was comprised of speech and language pathology majors and the other was made up of miscellaneous majors. Atkins and Kent found that both the employer and student groups indicated that they would not hire an individual who possessed poor eye contact and poor grammar even if he or she fulfilled other job requirements. When the job-selection attributes were ranked in order

of importance, the employers ranked overall oral communication skills as the most important.

Parsons and Liden (1984) collected data from interviewers who had screened prospective employees for a large amusement park. They found that there was a high correlation between the interviewers' perceptions of the applicants' eye contact, articulation, and overall qualifications for the job. Burgoon et al. (1985) found that a person who maintains a normal or high degree of eye contact is more likely to be hired by interviewers and is rated as more competent, sociable, composed, and extroverted. These studies illustrate the importance of effective communication skills in the job market.

#### Relationship Between Communication Skills and Social Status

In addition to causing decreased employment opportunities, communication skill deficits have been related to lower social status levels in children. Black and Logan (1995) examined the relationship between specific communication skills and social status, finding a significant link between the two. They evaluated communication patterns in children who were rated by their teachers as being popular, rejected, neglected, and controversial. The rejected group of children were more likely than popular children to display communication skill deficits such as more interruptions, more lengthy turns of conversation, and fewer incidents of cohesive discourse, which is the ability to make responses relevant to the conversation. Cohesive discourse was coded when the children were able to make at least three turns in the conversation that were relevant to the topic. The rejected children also made more noncontingent responses,



which meant that they failed to reply to requested information or ignored requests that were made during the conversation.

Putallaz (1983) found that the communicative ability of male children who entered a group of peers with whom they were unacquainted helped predict their social status four months later. Each child in this study entered into a room in which two unfamiliar children were playing a game. The communicative behaviors were recorded and coded for each participant during the interactions with these two confederates. Four months after this observation, the children in the subjects' first-grade classrooms rated their classmates on how much they liked to play with them. The ability of subjects to make relevant comments and fit in with the unfamiliar children was related to their sociometric status in the first grade. The subjects who were able to make more relevant comments were subsequently rated as more popular by their peers in first-grade classrooms.

Communication skills such as clearly directing statements to an intended recipient, making contingent responses, and accepting a peer's initiation have also been found to be related to social acceptance (Hazen & Black, 1989; Kemple et al., 1992). Kemple et al.'s data suggest that although certain communication deficits cause low social acceptance, other communication deficits can be caused by low social acceptance. For example, they found that low social acceptance seemed to cause communication deficits in directing statements to an intended recipient and making contingent responses, while accepting peer initiations seemed to cause higher social acceptance. Kemple et al. admitted that their data may not be able to definitively determine a causal relationship between these variables because their study used only 25 children.

Black and Hazen (1990) also attempted to see how communication skills are related to social status by comparing subjects who were interacting in unacquainted and acquainted peer groups. Contingency was measured by whether the child responded in an appropriate manner to requests or suggestions made to him or her during the conversation. The ability to take turns was measured by the proportion of the child's conversational turns that were not relevant to the current topic of conversation. The authors found that disliked children tended to display more noncontingent responses and irrelevant turns than popular peers whether they were interacting with unacquainted or acquainted peer groups, which seemed to indicate that these communication skills were the antecedents of lower social status. Again, deficits in cohesive discourse seemed to affect children's popularity. Black and Hazen also found that disliked children were more likely than higher social status peer groups to make initiations that were not directed to a particular listener when they were in the group of acquainted peers. When they were in the group of unacquainted peers, however, they made as many initiations that were directed to a particular listener as the higher status groups did, which indicates that level of social status affects the ability to direct initiations. Black and Hazen theorized that the ability to direct initiations to a particular listener was determined by social status because rejected children attempt to avoid further rejection by not making direct initiations to a particular listener. In summary, it seems that communication deficits can significantly affect others' impressions of a person in the areas of social status (Black & Hazen, 1990; Black & Logan, 1995; Putallaz, 1983), employability (Atkins & Kent, 1989; Parsons & Liden, 1984; Peterson, 1997), and social acceptance

(Hazen & Black, 1989; Kemple et al., 1992).

If unpopular children can be taught to communicate effectively, their lives may improve in several positive ways. King et al. (1997) implemented a social skills training program with children with physical disabilities. This training, which included instruction in verbal and nonverbal communication, initiating interaction with peers, and appropriate conversational skills, was found to help these children feel more socially accepted, but the improvement was not maintained at a six month follow up. The children did show a significant decrease in loneliness at the follow up.

### Effects of Communication Skills on Impression Formation

While ineffective communication skills can actually affect other aspects of an individual's life, other people may make false judgments regarding the individual's academic ability, intelligence, or personality characteristics based on the communication skills of that person. Specific areas of a person's perceived communicative competence can have a substantial impact on the way that others view his or her other attributes. Geurro and Miller (1988) found that instructors who engaged in more eye contact in videotapes of distance education courses were perceived as more competent teachers. Droney and Brooks (1991) discovered that people who demonstrate more eye contact are perceived by others as having a higher self-esteem. The subjects were exposed to videotapes depicting several models displaying varying amounts of eye contact with an interviewer. Even though the models did not speak or change their facial expression, the ones who had more eye contact with the interviewer were perceived as having higher self-esteem. Duration of eye contact has also been shown to effect judgments of



personality characteristics. Brooks et al. (1986) designed a study in which groups of students watched videotapes that included varying amounts of eye contact between the model and the interviewer. They found that as the models increased eye contact, they were rated as significantly more ambitious, assertive, competitive, independent, mature, decisive, efficient, dominant, aggressive, and strong. The participants also estimated that the models who displayed more eye contact had a higher GPA.

Wheeler et al. (1979) found a significant relationship between eye contact and perception of intelligence. The subjects in this study watched a 4-minute videotaped interview of 20 different individuals. These individuals were rated on nonverbal communication skills such as eye contact, eye shifts, eyebrow movement, head nods, hand gestures, and smiling. There were 30-second intervals between each interview so that subjects could then estimate the GPA of each individual. The interviewees who maintained longer durations of eye contact and exhibited fewer eye shifts were perceived as having a higher GPA than the interviewees who had shorter durations of eye contact and frequent eye shifts.

Communication skills other than eye contact can also have an effect on perceptions of personality characteristics. Burroughs (1990) examined the relationship between conversational skills and perceived personality characteristics. She examined Mean Turn Length, which measured the length of the children's conversational turns while participating in audiotaped conversations with an interviewer, and Turns per Topic, which measured how long the children stayed on one topic. Burroughs found that lower Turns per Topic and lower Mean Turn Length are related to adults' judgments of



negative personality characteristics such as inferiority, unintelligence, and below average. These two variables, however, were not related to perceived judgments regarding maturity, appeal, control, assertiveness, calmness, thoughtfulness, independence, and timidity. Frequent interruptions during conversation also have been found to affect impression formation. Robinson and Reis (1989) examined the impressions that are formed of people who interrupt during conversation and found that these people are seen as more assertive, but less sociable than people who do not interrupt.

Becker et al. (1991) had teachers listen to audiotaped interviews between a child and school librarian. In one of the interviews the child requested information, took turns during the conversation, responded when spoken to, and maintained the logic of the conversation. In the other four tapes, the child inappropriately used one of these skills at least three times. After viewing these tapes, the teachers rated the child on likeability, attractiveness, academic ability, future social competence, and future educational and career achievements. Results of this study showed that teachers viewed the girl as being significantly more likeable, more academically oriented, and more likely to reach a higher level of educational and career achievement when she used all pragmatic skills appropriately than when she did not take turns during the conversation, requested rudely, or did not make contingent responses. There was not a difference in ratings for the audiotape in which the girl did not respond promptly, so this did not have an effect on the teachers' impressions of these particular areas. The teachers indicated they would be significantly more willing to offer extra help to the girl and viewed her as more socially

competent when she used all pragmatic skills appropriately than when she interrupted, requested rudely, did not make contingent responses, or did not respond promptly. Pragmatic skills did not seem to have any effect on the teachers' impressions of the girl's attractiveness, as no significant differences were found in the ratings of attractiveness between the subject groups.

Place and Becker (1991) did a study similar to Becker et al. (1991), but the tapes were rated by 91 ten-year-old girls instead of teachers. The procedure was basically the same, as they used five audiotapes of a girl requesting assistance from a librarian. In one of the tapes, the girl properly used skills such as requesting, turn-taking, responding promptly, and maintaining the topic of conversation. In the other four tapes, she used one of these skills inappropriately three times. The subjects were randomly assigned to listen to one of the five scenarios. After listening to the audiotape, participants rated the girl on attractiveness, popularity, and academic ability. The girl was rated as significantly less likeable when she requested inappropriately, strayed from the topic of conversation, and failed to demonstrate appropriate turn-taking skills. As in Becker et al., there were no significant differences in likeability between the delayed response scenario and the scenario depicting pragmatic competence. In order to examine differences between impressions of attractiveness, academic ability, and popularity with peers, subjects were asked to describe the girl in each of these areas. Judges then rated these comments as positive, negative, or neutral. Although the difference was not significant, participants made more negative comments about the attractiveness of the girl when she displayed pragmatic incompetence. The participants made significantly

more positive comments regarding academic ability and popularity with peers when the girl used all pragmatic skills correctly. In summary, Becker et al. and Place and Becker found that appropriate topic maintenance, turn taking skills, and polite requests caused people to rate the child more favorably in several domains.

### Communication Deficits in Individuals with Asperger Syndrome

Although there has been little research which compares a group of individuals with Asperger syndrome and a control group on the dimension of communication skills, these individuals display the communication deficits discussed above. Tantam, Holmes, and Cordess (1993) compared individuals with Asperger syndrome to individuals with schizoid personality and a control group to determine if there were any differences in nonverbal communication during an interview. Individuals with Asperger syndrome tended to exhibit less eye contact than the control subjects or schizoid subjects when the interviewer was vocalizing but not when the interviewer was listening. This finding relates back to the findings of Kemple et al. (1992) because they found that the lack of eye contact when listening to another person is perceived as rejection of peer initiation, which will most likely cause the individual with Asperger syndrome to be less socially accepted. Tantam et al. also found, however, that there were a significantly larger number of interruptions in the group of individuals with Asperger syndrome than in the control group. The individual with Asperger syndrome would probably experience more rejection than the typical individual because the Black and Logan (1995) study showed that rejected children exhibited more frequent interruptions in the conversation.

Fine, Bartolucci, Szatmari, and Ginsberg (1994) compared cohesive discourse in a



group of children with autism, a group of children with Asperger syndrome, and a control group. Even though the group of children with Asperger syndrome was similar to the control group, there were some differences in how these children made cohesive links in the conversation. The group of children with Asperger syndrome tended to make significantly more unclear references than either the group of children with autism or the control group. Fine et al. used as an example of an unclear reference the statement, "John crossed the other river." (p.322) When stated in this manner, the listener does not know what other river the speaker is talking about because there is no specific reference to the first river. The group of children with Asperger syndrome tended to expect the listener to add information in order for the conversation to make sense.

### Advantages of the Study

While people with Asperger syndrome have many strengths and abilities, their communication skill deficits can present lifelong challenges. In order that the individual with Asperger syndrome is perceived in a more positive manner, it is important to teach him or her the social norms and communication rules that are necessary for effective social interaction. Koegel and Frea (1993) trained two high functioning autistic adolescents in social communicative behaviors in order to reduce inappropriate eye gaze, nonverbal mannerisms, and perseveration of topic. These are communication deficits that are often found in both autism and Asperger syndrome. Koegel and Frea found that eye gaze, nonverbal mannerisms, and perseveration of topic were perceived as significantly more appropriate after training. Even though the adolescents were not trained in social skills such as voice volume, facial expression and affect, they showed



significant improvement in these areas as well. This study illustrates that when a few skills are emphasized, mastery of these skills can generate success in other areas. If the individual with Asperger syndrome can improve his or her communication skills, he or she may be able to be perceived in a more positive manner by others.

Although Becker et al. (1991) and Place and Becker (1991) investigated the effects that communication deficits had on people's impressions of children, the children in these audiotapes did not really have a pragmatic language disorder. Instead they had a script that was read in each situation that illustrated a specific communication deficit. There has been no research which examines how people perceive individuals with Asperger syndrome.

This study examined the impressions people formed of an individual with Asperger syndrome in several different areas of functioning ability. Instead of using audiotaped scripts, this study featured two videotapes of a child with Asperger syndrome. In one of these videotapes, the child exhibited communication deficits that are common with Asperger syndrome. The other videotape showed the same child when he was communicating appropriately. These videotapes captured more naturally occurring communication deficits that are found in people with Asperger syndrome, in addition to the nonverbal aspects of communication. If people are forming false negative impressions of individuals with Asperger syndrome because of their communication deficits, it is important that communication skills training become a part of the treatment strategies for these individuals. Since communication deficits comprise a large part of the social skills deficits seen in these individuals, the effects of these deficits need to be

examined in greater detail. Information regarding the type of deficits that may cause the most negative impressions will also give us an understanding of which communication skills we need to focus on. Topic maintenance, turn taking ability, eye contact, and cohesive discourse are included in the types of communication skills that are related to how individuals are perceived by others. Since individuals with Asperger syndrome have been shown to have difficulty in these particular skills, it was hypothesized that they will be judged more unfavorably when they are exhibiting these communication deficits. If they are taught more effective ways of communicating, it was further hypothesized that these individuals will be perceived in a more positive way in the areas of intelligence, popularity, social competence, aggressiveness, academic ability, and maturity.

## CHAPTER III

### METHODOLOGY

#### Participants

The participants were 54 students over the age of 18 from undergraduate psychology classes at Austin Peay State University. Participation was voluntary, and the students were able to get extra credit at the discretion of their instructor. Another participant was a child that completed two videotaped interviews with the researcher. This child was an eight-year-old male who was diagnosed with Asperger Syndrome at Vanderbilt University's Child Study Center.

#### Materials

A child with Asperger syndrome completed two videotaped interviews with the researcher. During the first interview, the child displayed inappropriate communication skills such as poor eye contact, frequent interruptions, and noncontingent responses. The researcher then showed this videotape to the child in order to help him improve his communication skills. The child practiced maintaining appropriate eye contact and refraining from interruptions. The researcher also reviewed the videotape with the child so that more appropriate and contingent responses could be utilized. After the child was able to master these skills, a second interview using the same questions was conducted in which the child exhibited appropriate communication skills such as maintaining appropriate eye contact, making contingent responses, and not interrupting the interviewer. Each interview lasted approximately 15 minutes, and the questions were

designed to elicit information regarding the child's interests (see Appendix A).

Reliability. Two speech-language pathologists independently coded both videotapes to determine the presence or absence of communication deficits. Each interval on the videotape was defined as the child's complete conversational turn. For each interval, the speech-language pathologists determined if the child was maintaining the topic of conversation, exhibiting appropriate eye contact, and refraining from interruptions. The child was considered to be straying from the topic of conversation if he did not respond in a relevant way to the interviewer's question or request. He would instead return to a previous topic or try to initiate a different topic. If he switched topics in the middle of his turn, this deficit was coded again. An interruption was coded if the child began his conversational turn before the interviewer stopped speaking. Inappropriate eye contact was coded if the child looked at the interviewer's eyes less than 50% of the time during the interval. For each videotape, the number of agreements between the two coders was divided by the total number of agreements and disagreements. This number was then multiplied by 100 in order to obtain the percent agreement between the two coders.

Manipulation checks. In order to determine if the independent variable was manipulated properly, a group of ten participants viewed both tapes and rated the child on his ability to maintain eye contact, maintain the topic of conversation, and refrain from interruptions. A t-test was done to ensure that the videotape illustrating poor communication skills received a significantly lower score on all three communication variables.



## Procedure

Students were randomly assigned to one of two groups. Group A, which consisted of 25 participating students at Austin Peay State University, viewed the videotape containing appropriate communication skills. The videotape containing inappropriate communication skills was shown to Group B, which consisted of a different group of 25 students at Austin Peay State University. Since the students were not given any information about the child in either condition, they did not know that he has been diagnosed with Asperger syndrome. The students were told that they should pay close attention to the communication patterns in the video, as they would have to answer some questions about this afterwards.

After the videotape of the child was shown, the participants were given a non-standardized bipolar adjective rating scale (see Appendix B), with instructions to rate the child based on opinions that were formed from watching their respective video. This rating scale was developed from the concept of the semantic differential (Osgood, Suci, & Tannenbaum, 1957), which consists of 7-point scales whose endpoints are defined by bipolar adjectives. Osgood et al. (1957) reports that reliability of their original scales is adequate because a shift of more than two scale units on repeated measures for an individual subject or more than one-half of a scale unit for group data is significant. The format for the instrument used in the current study was adopted from a rating scale developed by Burroughs and Tomblin (1990) and contains items designed to elicit the participants' perceptions of how academically competent the child is in school, how popular he is with his peers and teachers, and his level of social competence. The

investigator chose these particular items based on the research of Becker et al. (1991) and Place and Becker (1991), which showed that impressions of likeability, social competence, and academic ability were affected by communicative ability. The questions measuring perceptions of intelligence, maturity, and aggressiveness were added because research has also shown that perceptions of these characteristics can be affected by communication skills. For example, Brooks et al. (1986) found that as models increased eye contact, they are perceived by others as being significantly more aggressive and mature. Wheeler et al. (1979) found that individuals who maintain longer durations of eye contact with fewer eye shifts are perceived by others to have a higher GPA than individuals who exhibit poor eye contact. Burroughs (1990) found that children with poor conversational skills were perceived by others as being less intelligent.

The participants were asked to rate their perceptions of the child in the areas of intelligence, popularity, social competence, maturity, aggression, and academic ability by using a 7-point rating scale. The mean score that Group A gave the child on each questionnaire item was compared to Group B's mean score in order to determine if differences in communication skills led to differences in the impressions that were formed of the child. The participants in each group were also asked to rate on a 7-point scale the child's ability to maintain appropriate eye contact, the ability to not interrupt others, and the ability to make responses relevant to the topic of conversation. Eye contact and topic maintenance were chosen for evaluation because individuals with Asperger syndrome were found to exhibit less eye contact (Tantam et al., 1993) and have

difficulty with some aspects of cohesive discourse (Fine et al., 1994) when compared to typical individuals. The ability to converse without interruption will be included because Attwood (1998) has noted that the individuals with Asperger syndrome in his practice also have a hard time refraining from interruptions during a conversation. In addition, the child participating in this study frequently exhibits each of these communication deficits.

It was hypothesized that the child with Asperger syndrome would be judged more unfavorably in the areas of intelligence, popularity, social competence, aggressiveness, academic ability, and maturity when he was exhibiting poor eye contact, interrupting, and not maintaining the topic of conversation.

## CHAPTER IV

### RESULTS

#### Reliability Measures

Two speech-language pathologists independently coded both videotapes to determine the presence or absence of communication deficits. For each communication skill on the two videotapes, the number of agreements between the two coders was divided by the total number of agreements and disagreements. This number was then multiplied by 100 in order to obtain the percent agreement between the two coders. The coders agreed 82% of the time as to whether the child was maintaining the topic, 72% of the time as to whether the child was maintaining appropriate eye contact, and 90% of the time as to whether the child was interrupting the interviewer. The reliability for eye contact was not as high as was desired because one of the speech therapists used a more lenient method of coding for this particular skill. She indicated on the response sheet that she was only coding for inappropriate eye contact if the child actually moved his head to break eye contact with the interviewer. She did, however, code for inappropriate eye contact more often on the tape containing poor communication skills. Because this shows that this therapist was able to see differences in eye contact between the two tapes, .72 was accepted as adequate agreement between the two speech therapists.

#### Manipulation Checks

In order to determine if the independent variable was manipulated properly, a group of 14 participants viewed both videotapes and rated the child on his ability to maintain



eye contact, maintain the topic of conversation, and refrain from interruptions. A t-test was done to determine if the videotape that illustrated poor communication skills would receive a significantly lower score on all three communication variables. The mean and standard deviation for each of the communication skills on both videotapes are shown in Table 1.

**Table 1**  
**Mean Ratings and Standard Deviations for Communication Skills in Each Condition**

	Appropriate Communication Skills		Inappropriate Communication Skills	
	Mean	s.d.	Mean	s.d.
Eye contact	6.36	.75	3.64	1.22
Interruptions	5.43	1.22	2.21	1.05
Topic Maintenance	6.21	.58	2.93	1.39

The child was viewed as having significantly better eye contact  $t(14) = -6.59$ ,  $p < .001$  on the videotape containing the appropriate communication skills. Participants also rated him significantly higher on the ability to maintain the topic  $t(14) = -7.73$ ,  $p < .001$  and the ability to refrain from interruptions  $t(14) = -6.83$ ,  $p < .001$  on the videotape illustrating more appropriate communicative ability. These results were obtained using Bonferroni probabilities.

### Impressions

In order to determine if there were differences in the impressions of the child between the two videotapes, 54 participants viewed one of two videotapes. Twenty-seven participants in Group A viewed the videotape containing appropriate

communication skills. Twenty-seven participants in Group B viewed the videotape containing inappropriate communication skills. The participants then rated their impressions of the child in the areas of intelligence, aggression, social competence, popularity, maturity, and academic competence. In order to further assess the differences in the communication skill ratings, these participants were also asked to assess the child's ability to maintain eye contact, maintain the topic, and refrain from interruptions. The means and standard deviations for the ratings of the impressions and communication skills are listed in Table 2.

**Table 2**

**Mean Ratings and Standard Deviations for Ratings of Communication Skills and Impressions in Each Condition**

	Inappropriate Communication Skills		Appropriate Communication Skills	
	Mean	s.d.	Mean	s.d.
Intelligence	4.30	1.20	4.48	1.34
Popularity	3.52	1.05	3.85	1.32
Social Competence	3.70	1.14	4.30	1.46
Aggression	4.82	1.08	4.22	1.31
Academic Competence	3.63	1.33	3.96	1.29
Maturity	3.33	1.27	3.67	1.27
Eye Contact	2.70	1.54	4.07	1.80
Interruptions	2.52	1.48	3.93	1.62
Topic Maintenance	2.41	1.08	4.78	1.69

There was a possibility that the differences in the communication skills between the two tapes were exaggerated due to the fact that the 14 original participants were able to see both tapes and compare the two. To ensure that this was not the case, the 54 other participants, who only saw one of the two tapes, were also asked to rate the child on communication skills. Group A, who viewed the videotape containing appropriate communication skills, gave the child significantly better ratings on eye contact  $t(54) = -3.010$ ,  $p < .05$ , ability to maintain the topic  $t(54) = -6.124$ ,  $p < .001$ , and the ability to refrain from interruptions  $t(54) = -3.34$ ,  $p < .01$ .

To assess the impact that improved communication skills had on the participants' impressions of the child, the effect size was calculated. The effect size for aggression was  $-.56$ , which means that the aggression ratings for the videotape containing appropriate communication skills were  $.56$  standard deviation below the mean of the ratings for the videotape containing inappropriate communication skills. The effect sizes for ratings of intelligence, popularity, social competence, academic competence, and maturity were  $.15$ ,  $.31$ ,  $.53$ ,  $.25$ , and  $.27$ , respectively. The effect sizes for the communicative ability ratings were larger than those for the impression formation ratings. The effect sizes for eye contact, interruptions, and topic maintenance were  $.89$ ,  $.95$ , and  $2.19$ , respectively. After the child's communication skills improved, there was a large effect on the ratings for communicative ability. For example, the mean rating for topic maintenance in the videotape containing appropriate communication skills was over two standard deviations higher than the mean rating for this communication skill in the videotape containing inappropriate communication skills.

## CHAPTER V

### DISCUSSION

The manipulation checks and reliability measures designed to ensure that there was truly a difference in the child's communication skills showed that the child was successful in improving his communicative ability. The agreement between the two speech-language pathologists who coded the tapes was adequate, and they noticed more communication deficits on the tape with inappropriate communication skills.

Fourteen participants who saw both tapes also noted a substantial difference in communicative ability between the two tapes. Eye contact, the ability to refrain from interruptions, and the ability to maintain the topic were rated much more favorably for the videotape that contained appropriate communication skills. Because this difference could have been magnified by seeing both tapes at one sitting, the fifty-four participants who rated their impressions of the child also rated the child on communicative ability. These participants only saw one of the two tapes, so they were able to judge the communicative ability of the child without being influenced by the other tape. Although the differences in the ratings of eye contact, the ability to refrain from introductions, and topic maintenance were not as large as those seen in the initial manipulation check, they were still significant. In summary, the researcher was successful in producing two tapes that were significantly different in terms of the communicative ability they portrayed. The child was repeatedly rated significantly less favorably in the tape in which he interrupted more, did not maintain the topic, and did not maintain adequate eye contact.



Since research has shown that individuals who have poor communication skills can be perceived more negatively in other areas of functioning (Becker, Place, Tenzer, & Frueh, 1991; Brooks, Church, & Fraser, 1986; Burroughs, 1990; Droney & Brooks, 1991; Geurro & Miller, 1988; Place & Becker, 1991; Wheeler, Baron, Michell, & Ginsburg, 1979), it was hypothesized that a person with Asperger syndrome would be perceived more negatively in areas such as intelligence, maturity, academic competence, social competence, popularity, and aggression due to the communication deficits that are common to the syndrome. This hypothesis was not fully supported in the areas of intelligence, academic competence, maturity, and popularity. The child was viewed as being more aggressive and less socially competent by Group B, who saw the videotape containing inappropriate communication skills.

Because a person has been perceived to be less intelligent when he or she exhibits poor topic maintenance (Burroughs, 1990), it was hypothesized that the child with Asperger syndrome would be viewed as less intelligent when he did not maintain the topic of conversation. Even though there was a clear difference between the two tapes regarding topic maintenance, there was not a strong difference in the mean ratings of intelligence between Group A and Group B. Participants in both groups rated the child's intelligence as slightly above average. There are other characteristics of Asperger syndrome which could mediate the effects that poor communication skills have on impression formation. One characteristic common to Asperger syndrome that could have affected the intelligence ratings is pedantic speech. The child in the videotape often exhibits this trait, and he occasionally uses vocabulary and speech patterns more

commonly used by adults. Even though the child with Asperger syndrome was seen as being less able to maintain the topic in one of the tapes, the pedantic speech style that he used in both videotapes could have reduced the effects of poor topic maintenance, thus resulting in the slightly above average rating of intelligence by Group A and Group B.

Perceptions of academic ability may be closely related to perceptions of intelligence, and the effect of pedantic speech could have affected academic ability ratings as well. People have been rated as having less academic ability when they exhibit less eye contact (Brooks et al., 1986; Wheeler et al., 1979). People are also seen as less academically competent when they interrupt more and are less able to maintain topic of conversation (Becker et al., 1991; Place and Becker, 1991). Although the child's academic competence was rated more favorably by the group seeing the videotape with appropriate communication skills, there was not a substantial difference between the two groups' ratings.

People are viewed as being more mature if they exhibit more eye contact (Brooks et al., 1986), so it was hypothesized that the child would be rated as being more immature when he exhibited less eye contact. Although the child's maturity was rated higher by Group A, who saw the videotape depicting appropriate communication skills, the difference between the two groups was not large. The child was rated slightly below average on both tapes in the area of maturity, so the improvement in communication skills did not substantially raise his maturity rating. Some of the behaviors that the child exhibited in both videotapes could have led participants to view him as slightly below average in maturity. He often spoke in a loud voice and may have exhibited behavior

that could have been categorized as impulsive. Even though the communication skills improved considerably in the second videotape, these other behaviors may have interfered with the participants' judgments of maturity and led to only a slight increase in the maturity rating.

Research has also shown that a child receives higher ratings on popularity or likeability when he or she exhibits appropriate communication skills such as topic maintenance and turn-taking skills (Becker et al., 1991; Place & Becker, 1991). This study did not support these findings because the child was rated only slightly higher on popularity by Group A, who saw the videotape with appropriate topic maintenance and turn-taking skills. Popularity ratings for both videotapes were slightly below average regardless of the level of communicative ability demonstrated. These ratings could be due to some other communication deficit exhibited in both videotapes. Children with Asperger syndrome often exhibit communication deficits in addition to poor eye contact, frequent interruptions, and poor topic maintenance. Frequently, a person with Asperger syndrome will exhibit unusual voice characteristics or odd prosody. Because this was a characteristic that could not be changed or improved, the child displayed these characteristics on both videotapes. Voice characteristics can greatly influence our perceptions of personality characteristics, so perceived negative voice characteristics could have led to a more negative impression of popularity.

Two of the impressions that seemed to be more favorable after the communication deficits were corrected were aggression and social competence. The improvement in social competence ratings supports the conclusions of Becker et al. (1991) because they



also found that a child was viewed as more socially competent when appropriate pragmatic skills were used. When the child with Asperger syndrome made poor eye contact, interrupted, and failed to maintain the topic, he was rated slightly below average in social competence. When he exhibited adequate eye contact, refrained from interruptions, and maintained the topic, he was rated slightly above average. The effect size for social competence was .53, which indicates that the mean social competence rating for the videotape containing appropriate communication skills was .53 standard deviation higher than the mean rating for the videotape which illustrated inappropriate communication skills.

The biggest difference in impression ratings between the two videotapes was in the area of aggression. Poor communication skills have actually been linked to increased levels of aggression (Dumas, Blechman, & Prinz, 1994), however, Brooks et al. (1986) found that as people decrease eye contact they are rated as less aggressive. The present study showed that the participants rated the child as being more aggressive in the videotape illustrating poor eye contact, frequent interruptions, and poor topic maintenance. The effect size for aggression was -.56, which indicated that the mean aggression rating in the videotape containing appropriate communication skills was .56 standard deviation below the mean aggression rating for the videotape illustrating inappropriate communication skills. While this may seem contrary to Brooks et al. in regard to eye contact, the child may have been rated as more aggressive because of the frequent interruptions and topic changes. It may have appeared to the participants that the child was trying to aggressively dominate the conversation by interrupting and failing



to attend to topics that the interviewer introduced.

The important advantage of this study was that the interaction of communication deficits found in Asperger syndrome and their resulting effects on impression formation could be examined. Even though Brooks et al. (1986) found that people with poor eye contact were judged to be less aggressive, this study showed that when additional communication deficits are present, as they are in Asperger syndrome, they can interact to produce different findings. Even though poor eye contact may result in impressions of passiveness, the combination of poor eye contact, poor topic maintenance, and frequent interruptions can lead to impressions of aggressiveness.

The many communication deficits that are seen in Asperger syndrome can affect impression formation, but all of the deficits need to be examined before definite conclusions can be made. This study did not include all the communication deficits seen in Asperger syndrome. Although impressions were more favorable in every area after the child with Asperger syndrome improved eye contact, topic maintenance, and the ability to refrain from interruptions, these impressions may have been further improved if other deficits had been corrected. For example, improvement of voice characteristics in the videotape containing appropriate communication skills may have further improved impressions that the participants had of the child. In order to further examine these effects, it is recommended that other communication deficits common to Asperger syndrome also be examined in future research. Voice characteristics and intonation would be difficult to change, but the participants should be asked to rate the child on these characteristics even if an improvement between tapes is impossible to achieve.

These ratings would show how the participants feel about the voice qualities.

Because the use of pedantic speech may also affect impression formation, it is recommended that the participants also rate the child on skills such as vocabulary and word knowledge. If the child could learn to eliminate pedantic speech in one videotape, it may illustrate what effect this type of speech has on impression formation.

Eliminating pedantic speech and improving voice characteristics could be difficult for the child with Asperger syndrome, so it may be more appropriate to use an actor to do the two tapes. This actor could observe the tape with poor communication skills in order to appropriately imitate the communication deficits, and then he would make the second videotape in which he would be able to adequately portray appropriate communication skills.

Since there has been little, if any, research in this area using a standardized instrument for impression formation, it is recommended that future researchers use a standardized instrument to measure impressions of personality characteristics. The results may be more valuable if a reliable, valid, standardized instrument is used to more adequately assess the impressions that participants form. If these recommendations are implemented, we could gain a better understanding of how the interactions among communication deficits found in Asperger syndrome could affect the impressions of other people.

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## **Appendix A**

### **Interview Questions**

- 1.) What is your favorite thing to do after school? Tell me why you like to do this.
- 2.) When was the last time you went somewhere with a friend? Tell me more about this outing.
- 3.) Do you play any sports after school? Tell me more about this.
- 4.) What is your favorite book? Tell me why you like this book. Describe what happens in the book.
- 5.) Where is your favorite place to go for vacation? What do you like about this place?

## Appendix B

## Questionnaire

What is your age? \_\_\_\_\_

What is your gender? (Circle) Male Female

What is your major? \_\_\_\_\_

**Directions: Rate this child by circling a number on each of the 7-point scales listed below. The rating you give for each scale should be based on the videotaped interview that you just saw. You are to pick the position on the scale that you feel would best describe the child. For example, if you think the child seems extremely intelligent, circle #7. If you think the child seems extremely unintelligent, circle #1. If you think the child is neutral with respect to intelligence, circle #4. The other scales are to be rated in the same manner.**

1	2	3	4	5	6	7
Unintelligent						Intelligent

1	2	3	4	5	6	7
Unpopular						Popular

1	2	3	4	5	6	7
Socially Incompetent						Socially Competent

1	2	3	4	5	6	7
Passive						Aggressive

1	2	3	4	5	6	7
Academically Incompetent						Academically Competent



1	2	3	4	5	6	7
Immature						Mature

**Directions: Rate this child on each of the communication skills listed below. Your rating should be based on the videotaped interview you just saw.**

1.) The ability to maintain appropriate eye contact with the interviewer

1	2	3	4	5	6	7
Poor			Average			Excellent

2.) The ability to **NOT** interrupt the interviewer

1	2	3	4	5	6	7
Poor			Average			Excellent

3.) The ability to make responses relevant to the conversation or maintain the topic

1	2	3	4	5	6	7
Poor			Average			Excellent

## Appendix C

### Informed Consent to Participate in Research

**Austin Peay State University**  
**Clarksville, TN 37043**

You are being asked to participate in a research study. This form is designed to provide you with information about this study and to answer any of your questions.

#### **1. TITLE OF RESEARCH STUDY**

The Effects of Communication Skills on Adults' Impressions

#### **2. PRINCIPAL INVESTIGATORS**

Lisa Spivey, Graduate Student, Psychology Department  
Austin Peay State University, Clarksville, TN, (931) 648-7229

Dr. LuAnnette Butler, Ed.D., Psychology Department  
Austin Peay State University, Clarksville, TN, (931) 648-7229

#### **3. THE PURPOSE OF THE RESEARCH**

People with communication problems can experience problems in life. This study will examine how communication skills affect our perceptions.

#### **4. PROCEDURES FOR THIS RESEARCH**

You will be asked to watch two 10-minute videotaped interviews of a child. After watching the interview, you will be asked to code the tape for appropriateness of eye contact, topic maintenance, and refraining from interruptions. You will be able to ask questions about the study after completing the questionnaire.

#### **5. POTENTIAL RISKS TO YOU**

There are no known risks from participation in this study.

#### **6. POTENTIAL BENEFITS TO YOU OR OTHERS**

Your benefits from participation in this study are minimal. Your participation may help us better understand how communication skills affect perceptions by others.

## 7. INFORMED CONSENT STATEMENT

I agree to participate in the present study being conducted by Lisa Spivey, a graduate student of the Department of Psychology at Austin Peay State University. This study is being conducted under the supervision of Dr. LuAnnette Butler, a faculty member of the Department of Psychology at Austin Peay State University. I have been informed, orally and in writing, of the procedures to be followed and about any discomfort which may be involved. Lisa Spivey has offered to answer any further inquiries that I may have regarding the procedures, and she can be contacted by phone at (931) 648-7229.

I understand that I am free to terminate my participation at any time without penalty or prejudice and to have all data obtained from me withdrawn from the study and destroyed. I have also been told of any benefits that may result from my participation.

---

**NAME (please print)**

---

**SIGNATURE**

---

**DATE**

## Appendix D

### Informed Consent to Participate in Research

Austin Peay State University  
Clarksville, TN 37043

Your child is being asked to participate in a research study. This form is designed to provide you with information about this study and to answer any of your questions.

#### 1. TITLE OF RESEARCH STUDY

The Effects of Communication Skills on Observers Impressions

#### 2. PRINCIPAL INVESTIGATORS

Lisa Spivey, Graduate Student, Psychology Department  
Austin Peay State University, Clarksville, TN, (931) 648-7229

Dr. LuAnnette Butler, Ed.D., Psychology Department  
Austin Peay State University, Clarksville, TN, (931) 648-7229

#### 3. THE PURPOSE OF THE RESEARCH

People who have difficulty communicating can experience problems in life. This study will examine how communication deficits impact our impressions.

#### 4. PROCEDURES FOR THIS RESEARCH

Your child will be asked to talk to the interviewer for approximately 30 minutes regarding favorite books, favorite recreational activities, and favorite events that he has recently attended. He may also answer questions about the emotions of others. The interview will be videotaped and shown to approximately 100 undergraduate students at Austin Peay State University. After completion of this study, your child's videotape will be erased. You will be able to ask questions about the study after completion of the interview.

#### 5. POTENTIAL RISKS TO YOUR CHILD

There are no known risks from participation in this study.

#### 6. POTENTIAL BENEFITS TO YOUR CHILD OR OTHERS



Your participation may help us better understand how people with communication deficits are perceived by others. Your child will also receive a five dollar gift certificate from Blockbuster Video.

## 7. INFORMED CONSENT STATEMENT

I give permission for my child to participate in the present study being conducted by Lisa Spivey, a graduate student of the Department of Psychology at Austin Peay State University. This study is being conducted under the supervision of Dr. LuAnnette Butler, a faculty member of the Department of Psychology at Austin Peay State University. I have been informed, orally and in writing, of the procedures to be followed and about any discomfort which maybe involved. Lisa Spivey has offered to answer any further inquiries that I may have regarding the procedures, and she can be contacted by phone (931) 648-7229.

I understand that I am free to terminate my child's participation at any time without penalty or prejudice and to have my child's videotape withdrawn from the study and destroyed. I have also been told of any benefits that may result from my child's participation.

\_\_\_\_\_  
NAME OF CHILD (please print)

\_\_\_\_\_  
SIGNATURE OF PARENT

\_\_\_\_\_  
NAME OF PARENT (please print)

\_\_\_\_\_  
SIGNATURE OF PARENT

\_\_\_\_\_  
DATE

## VITA

Lisa Ann Williams Spivey was born in Kingsport, Tennessee on September 17, 1964. She attended elementary school in Scott County, Virginia and graduated from Gate City High School in June, 1982. The following August she entered Clinch Valley College at Wise, Virginia, and later transferred to Old Dominion University, where she received a Bachelor of Science degree in Human Services Counseling in August, 1986.