Exploring speech and language skills in gifted children: A parent perspective

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Exploring speech and language skills in gifted children: A parent perspective

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Honors Research Project

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ABSTRACT

The purpose of this research study was to examine the speech and language skills of gifted students, and to further look into gifted students who have previously had speech or language therapy. Information pertaining to gifted children, typical speech and language development, and gifted children who have a delay in speech was evaluated. The information was used to develop a survey instrument that asked parents about their gifted child's speech and language. The overall results of this study confirmed many previously known characteristics of gifted students. It also showed that expressive language skills were less developed than receptive language skills. Only one out of 25 children had a history of speech and language difficulties. Therefore, this paper will serve as a review of the speech and language capabilities of gifted students and help parents and other professionals understand their unique development. It will also serve as a platform for future research on treatment plans for children who might be gifted but also have a speech or language delay.
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CHAPTER 1

Introduction

There has been very little research done on gifted children who have a delay in speech and language skills, and the few studies that have been done are case studies of children who have very significant delays. The reality is that most children who have a speech or language delay are not fully without language for years, but instead have mild to moderate delays in their skills. This lack of more broad research prompted this research pursuit to look at a sample of gifted children and examine their speech and language skills, while looking even more specifically at any children who have previously had speech or language therapy.

A gifted student is a child who excels in one or more of the areas of: cognitive ability, academic ability, creative thinking, and/or visual and performing arts (Karnes, 2000). The prevalence of gifted students is between six and ten percent of the total population of students in the country (Gifted education in the U.S., n.d.). This population is very limited due to the strict requirements of what constitutes a gifted student. These students process information and think differently from their typically developing peers. Gifted students have been extensively studied and through this research common characteristics have been identified in these children, including: perfectionism and high levels of concentration and curiosity, and lower social abilities (Winner, 1999).

While gifted children often show advanced speech and language skills early in the developmental process, the delayed or disordered development of these skills does happen and should not be a reason to rule out a student being gifted. However, because gifted children are defined by their high level cognitive abilities, it is unlikely that children who
are gifted would exhibit a receptive language disorder, meaning that they do not understand or comprehend language. Consequently, if a gifted child has a delay in speech or language, these delays are much more likely to occur in the expressive skills, including problems with speech and writing ("How does your child hear and talk?", 2014).

While no child follows the exact same developmental pattern, the American Speech-Language-Hearing Association (ASHA) publishes a list of milestones that help parents and practitioners know if their child’s speech and language is on track. They also give guidelines to help parents determine if there is a cause for concern. This list details receptive and expressive language targets from birth to age five, with supplemental information about communication development from Kindergarten through fifth grade.

Many parents may be extremely concerned that their child might have a speech or language delay. Fortunately, ASHA also has recommendations on ways that a parent can help promote the development of speech and language skills that are expected for the child’s age. Further, the National Association of Gifted Children (2010) has specific ways to encourage gifted children. These recommendations incorporate typical characteristics of gifted children with the prompting to engage the special way gifted children process information.
Qualities of Gifted Children

While most children grow up developing life skills at a typical rate, a few children acquire advanced abilities and develop at a faster rate than other children. “American psychologist Lewis Terman was the first to use the term "gifted." Terman defined giftedness as the top 1% level in general intelligence ability as measured by the Stanford-Binet Intelligence Scale” (Stephens & Karnes, 2000, p. 220). There are many early signs that a child may later be identified as gifted. According to Lewis Terman’s study from 1921, cited in Winner (1999), a parent may observe these signs before the child is five years old.

According to Winner (1999) the earliest signs for a parent that a child may be gifted include:

- attention and recognition memory- signs of alertness and long attention spans with caretaker recognitions;
- preference for novelty- infants who want to see something new;
- precocious physical development- infants sit, crawl, and walk several months earlier than typical infants;
- over reactivity- intense reactions to noise, pain, and frustration;
- and oral language- progressing from one word to sentences with a large vocabulary. (p. 27).

However, every child may not exhibit all of these or any of these characteristics and could still be identified as gifted when he/she gets older. These gifted children are “not just faster learners... they learn and think differently from other children” (Winner, 1999, p. 28). These children are likely also to have a learning style filled with curiosity, concentration, and obsessive interests. Winner indicates that they often excel in many school areas such
as reading, number relations, memory, and abstract reasoning. Another common aspect of gifted children, which is explored through several questions on this study’s survey instrument, is their tendency toward below-average social ability and likelihood to lean towards solitude (Winner, 1999).

Perfectionism is another trait often observed in gifted children, and is one which can impact the speech and language development progress of a child who is highly talented and afraid of not being good enough (Williams, 2008). Williams (2008) explains that perfectionism can lead to many other problems such as “fear, self-blame, procrastination, an inability to appreciate success, an overgeneralization of failure, and avoidance of challenges” (as cited in Williams, 2008, p.61). The effects of perfectionism on gifted students with a speech and/or language delay is exaggerated because language is seen as something that others can do easily and that child cannot. The National Association of Gifted Children (NAGC) states that “...[the gifted child] may even categorically refuse to participate in speech therapy as needing therapy is an admission that they are ‘imperfect’ and need help to do something that other children can do with apparent ease” (“Late speech in gifted children,” 2010, p. 3). These feelings of imperfection and needing help with what seems to be a simple task lead to feelings of failure and can delay the child’s progress in therapy.

Gifted children are extraordinarily intelligent, very curious, and process information in ways that are different from other children. While they may seem to be independent and not need developmental supports because they learn so readily, gifted children thrive in environments where they are encouraged in ways that align with how their brain learns and processes information.
Gifted Identification Standards

Each state has its own standards for what qualifies a student as gifted as well as its own rules about testing and identification. Ohio's standards are defined in Stephens & Karnes (2000) as:

Any child who meets the following requirements shall be determined to be a gifted child and shall be eligible for programs established by school district... is superior in one or more of the following types of ability: (a) superior cognitive ability; (b) specific academic ability; (c) creative thinking ability; and (d) visual or performing arts ability. (p. 232).

The four main qualities of a gifted child are broken down by the Ohio Department of Education in its fact sheet for parents. Superior cognitive ability is defined as scoring two standard deviations above the mean on an intelligence test, perform at or above the 95th percentile on an achievement test, or score an approved score on an above-grade level standardized test. Specific academic ability refers to the ability to score at or above the 95th percentile on a standardized test in a specific subject area. There are four areas in which a person can be gifted, and they can be gifted in more than one area, which are: mathematics, science, social studies, and reading/writing. Creative thinking ability requires the child to score 1 standard deviation above the mean on an intelligence test, and score the minimum required score, per the Ohio Department of Education (ODE), on a creative ability test or creative behavior checklist. The final area is visual/performing arts in which the person must attain an ODE accepted score through an audition, performance or exhibition, or a display of work (Facts for parents, 2014, p.1).

Each school district is required to do identification screenings for all students
during elementary school. Parents are permitted to request testing whenever desired as well (ODE Ohio Revised Code). Although the schools must identify students as gifted, they are “not required to provide gifted education services... It is recommended that districts provide a “continuum of services" to serve the diverse needs of gifted students” (Facts for parents, 2014, p.2). Options for gifted education include: a differentiated curriculum; advanced placement, accelerated, and honors courses; independent study; mentorships; and post secondary courses (Facts for parents, 2014, p.2; Identification of children who are gifted: Definitions and criteria, 2008).

**Typical Language Development of Children**

The American Speech-Language-Hearing Association (ASHA) has established a set of milestones for typical speech and language development of children. Each child will naturally develop at a different pace; however, if the child deviates largely from the age guidelines he or she may have a speech or language delay. ASHA states on its website that:

Children typically do not master all items in a category until they reach the upper age in each age range. Just because your child has not accomplished one skill within an age range does not mean the child has a disorder. However, if you have answered no to the majority of items in an age range, seek the advice of an ASHA-certified speech-language pathologist or audiologist. ("How does your child hear and talk?,” 2014).

ASHA lists requirements for hearing/understanding and for talking from birth to 5 years. Hearing/understanding is referred to as receptive language, and talking/outward communication is referred to as expressive language (How does your child hear and talk?,...
2014). Gifted children are anticipated to have strong receptive vocabularies. If they struggle with some language skills, the difficulty will likely be with expressive language skills. Therefore, the expressive speech skills compared to the receptive speech skills will be discussed in this research.

According to the ASHA website, by one year a child should have developed all or most of the following skills, listed in order of increasing age up to 1 year: makes cooing sounds, cries differently for various needs, smiles when they see you, speech like sounds including p, b, and m, laughs, vocalizes happiness and unhappiness, gurgling sounds when playing, babbling gets more complex with long and short sounds, uses speech sounds to get attention, gestures to communicate, imitates speech, has one or two words around 1st birthday.

By the age of two a child should be using more expressive language according to the standards set by ASHA. There are a few skills a child should have by age two: using a few one or two-word questions and putting two words together, saying more words each month, and varying the consonant sounds at the beginning of words.

According to ASHA between two and three years old a child should make large progress in their expressive language. The child should be frequently using two and three words together. For sound production, the sounds k, g, f, t, d should be used appropriately. People who are close to the child should understand most of the child’s language, though the child may stutter on some sounds. Also, the child should be naming objects directly and asking “why?” questions.

The year between age 3 and 4 is a very important time in a child’s speech development. ASHA says that they should start to integrate many different syntactical,
sentence structure elements into their sentences. They should be able to tell about their day with several sentences in a row. The child should be able to answer “who” “where” and “what” questions, as well as ask “when” and “how” questions. Pronouns, plurals, and rhyming words should be emerging at this point. The child should use plenty of sentences with 4 or more words and talk easily with speech that is well understood by others.

ASHA indicates that by the age of 5 a child should have all of their speech sounds in words but still commonly make mistakes on harder sounds such as th, ch, s, sh, r, v, and l. They should not repeat words or sounds. Children at this age can tell stories and keep conversations going. Situational appropriateness is also learned, for example talking quieter inside than outside (How does your child hear and talk?, 2014).

Late Childhood/Adolescent Language Development

As most of the children studied in this research are between 9 and 11 years old, it is expected that all ASHA requirements for speech and language will have been met. The age of these children indicates the need for further knowledge on the language acquisition of children in late childhood. Berman (2004) discusses the differences between being a native speaker of a language and a proficient speaker of a language. In her study, children who were 9 and 10 years old used much different content, syntax, and lexicon in their narratives than adults. This difference shows that at the age of 9 or 10 a child is not yet fully proficient at his or her native language (Berman, 2004). Children lack this proficiency and thus may be judged on his or her language skills in two ways: 1. In comparison to the general population’s language abilities, or 2. Relative to children of the child’s own age and abilities. This discrepancy between judgments is likely to present itself in this study, as it will be
unclear if a parent will judge their child’s language based on general population or in comparison with children of his/her age.

Another factor of adolescent language development to consider is that several language skills do not develop until later in childhood, such as abstract and figurative language. Research by Liliana Tolchinsky explains that, “the mastery of figurative language is a landmark in later language development” (Tolchinsky, 2004, p. 238). Figurative language is important in helping to identify the success of later language development in adolescents. Because of this importance in later language development it can be a factor in assessing the strength of a child's language skills. Tolchinsky also states that abstract and figurative language do not fully develop until ages 10 to 12, and that, “there is a significant developmental gap between the ability to comprehend and produce figurative language” (Tolchinsky, 2004, p. 239). This age of development show that many children may have good language skills but will still lack the ability to fully use and understand figurative language until late in childhood. Tolchinsky also groups jokes into later language skills because jokes use language as a means of deception. This deceptive skill does not present itself until later in the child’s development of language.

**Indicators of Slow Language Development**

In her book *The Slow Speech Development of a Bright Child*, Weeks indicates that there are several characteristics, which she found in her case study, which may predict slow speech development. These characteristics are: “1. Small amount of babbling, 2. Strong and continued presence of velars, 3. Small amount of vocal response to verbal stimulation, and 4. Strong reliance on reduplication in early words” (Weeks, 1974, p. 138).
When these occurrences are seen in a child then it is likely that they have a speech delay. Low levels of babbling and lessened vocal response to verbal stimulation show directly the lack of speech because the child is not using vocalizations. Once speech does occur on a more frequent basis, extra reduplications or velar preferences show that a speech delay is continuing. It is impractical for this research design to assess a child’s previous or current velar presence or his/her reduplication as a child because of the parent’s inability to understand the terms, inaccuracy of memory of specific phoneme production, and because they are not easily assessed through paper. However, the study does contain questions that probe for childhood babbling and for a limited vocal response to stimulation.

Another indicator of slow speech and language development is if the guidelines for language development set by ASHA are not being met. ASHA says that the child should “still be doing new things with language at least every month” (“Late blooming or language problem?,” 2016). If a child has not made language progress within the past month, including adding new words or changing the purpose for which words are used, they may have a language delay (“Late blooming or language problem?,” 2016).

**Ways to Encourage Expressive Language in Children**

The American Speech-Language-Hearing Association (ASHA) makes several recommendations within each age category of ways a parents or caregiver can help a child’s language development in that particular stage. From birth to one year old, a parent can help develop an infant’s speech and language skills most effectively by repeating a child’s facial expressions and actions, talking while doing different activities, and encouraging intimate activities such as blowing kisses or clapping. Ages one to two
requires lots of speech sound over-exaggeration so that the child gets used to hearing speech sounds as individual sounds not just words. It also helps to talk continuously about the objects around the child and asking them to name an object, supplying the name until the child says it spontaneously. One of the most successful ways a caregiver can help a child who is two-three years old is to expand upon words the child says with new information that tells the child more about the object they pointed out. Another way parents can help is to overuse phonetics and allow the child to see the mouth shape and hear the isolated sound. Counting practice and asking choice-based questions are also good ways to engage a child of this age range. Around age four asking a child questions about objects, people, or places, helps a child expand his or her descriptive vocabulary. Reading books and talking about what happened in the story also helps language development by having the child tell about something he or she already heard about. By age five, role-playing and object explanation are major ways that a parent can help a child develop language. Also, giving the child full attention while he or she is talking will encourage speech and make the child feel important and willing to communicate (“How does your child hear and talk?,” 2014)

**Gifted Children with a Delay in Speech and Language**

One of the biggest struggles that gifted children face is learning how to express the highly intelligent thoughts that makes them who they are. In typical development receptive language skills exceed expressive language skills. However, in the case of gifted children who characteristically have high intelligence and understanding, this discrepancy between receptive and expressive skills may be greater than their normal peers. The *National Association of Gifted Children* explains the developmental issue of this gap by stating, “these
children are facing the enormous pressure of trying to communicate highly intelligent thought and observations within the restrictions of being a 2/3 year old!” (“Late speech and gifted children,” 2010, p. 3). While this restriction is not the same as a delay, the frustration of not being able to express themselves may cause gifted children to choose to avoid expressing themselves through language as a way to cope with this frustration.

When a child who is gifted does show a true delay in expressive language skills, the National Association of Gifted Children explains that “[they] are displaying a Specific Language Impairment ... these children have an excellent understanding of language, but have difficulty expressing themselves using language” (“Late speech and gifted children,” 2010, p. 1). This Specific Language Impairment (SLI) explains that gifted children typically have difficulties only in expressive language skills, and not in receptive language skills. This makes logical sense because the child’s intelligence is advanced for his or her age and thus his/her ability to understand language would also be above average.

This SLI does not explain or relate to gifted children who have strictly speech-related difficulties, such as articulation errors or voice disorders. Being gifted may prevent the occurrence of some types of language disorders such as receptive language impairment, but being gifted does not prevent any type of speech disorder from occurring. Articulation or voice disorders can occur in any individual regardless of the person’s intellectual capacity. Therefore, it can be expected that the percentage of gifted children who experience a speech disorder would be similar to the percentage of children across all intellectual ranges that experience a speech disorder.

Thomas Sowell published a book in which his research focused on children who were highly gifted but talked late, terming this phenomenon the Einstein Syndrome. His
work focuses on a very limited scope of children and adults with only the most significant delay in language who are also exceptionally bright. This type of child is extremely uncommon, but the basic principles and characteristics of these children and their families can be applied as a guide for looking at the characteristics of general gifted children and their language skills.

Sowell's book outlines some characteristics of the gifted children and adults whom he studied, as well as trends within the families. These characteristics were taken into account while developing questions for the survey instrument for use in this current research project. Sowell found that the parental occupations were “highly analytical” and that 86 percent of the children in his study had at least one parent in an analytical profession (Sowell, 2001). Another commonality within the families is that many of the subjects had relatives who played an instrument. This facet was extended into a question regarding the child’s preference for playing an instrument over participation in sports. A further trend seen within the families of the children was the above average education of the parents, with more than half of parents (59%) completing at least four years of college (Sowell, 2001). The final characteristic common among the families studied was the prevalence of late talking relatives of the late talking gifted children, with several of the families having an incidence of a relative who was late talking (Sowell, 2001). This trend was taken and used to ask if parents or siblings had received speech or language services in an attempt to show familial connection.

Sowell also explained patterns among the gifted children in his study. One pattern that emerged was the large majority of boys who were late talking children in his study (89%); however, there was no significant difference between the data for the boys and girls
in his study (Sowell, 2001). As expected, the children in his study showed high abilities in puzzle solving and in memory, insinuating that these highly intelligent children were likely gifted, though they were too young to be formally identified. Another trend among the children was falling at average or below average in social abilities (Sowell, 2001). This research finding overlaps with the research of gifted children by professor Ellen Winner, who provides the basis of information about gifted children presented above. Overall, Sowell provides a useful picture of the types of children who are highly intelligent but also delayed in language skills. This portfolio of characteristics, combined with those of Ellen Winner, give a large body of knowledge that will be applied to this further research.

**Encouraging Speech in Gifted Children**

There are many ways, according to the *National Association of Gifted Children* (NAGC), that gifted children can be engaged and encouraged in their speech if they are showing reluctance or difficulties. One main point made is that, “the key to engaging gifted late talkers into practicing speech is to get involved in what interests them. These children are often quirky and obsessed with particular things. Playing with your child whilst they are absorbed in what fascinates them is an ideal time to incorporate conversation” (“Late speech and gifted children,” 2010, p. 2). This shows the child that the person is taking the time to play with them in their environment and that they are not being taken away from what they enjoy to learn speech. This mindset could develop into a child thinking that learning speech means they don’t get to do what they enjoy and will associate learning speech with negative emotions.
The parent fact sheet from the NAGC suggests that parents “pay close attention to what your child is looking at when they are making a sound as this may well be their attempt at naming an object, and do resist the temptation to put words into their mouths before they have made a sound as this will put a gifted late talker off talking” (“Late speech and gifted children,” 2010, p. 3). If a parent puts words in the child’s mouth that are correct, they will not ever want to talk because they know their thought will be finished anyway.

Conversely, if a parent gets the words wrong then a child, especially one who is gifted, is likely to get very frustrated that their speech attempts are not being properly understood. This leads to a sense of failure to the gifted child and they would prefer not to talk than to be misunderstood and fail at communicating what they want people to know. After listening the parent should then “answer or respond to their attempt at speaking and talk about the topic, but do not make them feel as though they have said the wrong word” (“Late speech and gifted children,” 2010, p. 3). This goes back to the sense of failure, because if a child feels as if they have been incorrect then they may not try again next time in fear of being wrong. The conversation about the topic should continue so the child is encouraged to keep trying new words, without being directly corrected each time a word is not perfect. All young children are sensitive to being told they are wrong, but gifted students take that even more seriously because a gifted child understands so much that they fear being wrong and strive for perfection.
Purpose

The purpose of this research is to discover the language abilities of gifted children, in terms of parents’ perceptions of their child’s language skills, with special consideration for those children who have previously been or are currently enrolled in speech therapy. Researching the characteristics of gifted children in conjunction with their language skills can give insight into the abilities and shortcomings of these children who are ahead in many other areas. This research will show the language capabilities of a population that is highly advanced in many areas but may or may not always be advanced in speech and language. Learning about the characteristics of the gifted children allows for more information regarding gifted children’s speech and language as well as personality characteristics. There has been very little research done with children who have speech and language delays and who are also labeled as gifted. This study will help enlighten the language areas that these children may struggle with despite being gifted. The data collected could be used in the future to develop ideas for therapy with parents who believe their children are advanced in general learning and receptive language skills, but seem to display decreased expressive speech and language skills.

The two specific research questions that drove this project were, “What do the speech and language skills of the gifted population look like?” and “What do the speech and language skills of a child who is gifted but has also been in speech therapy look like?” It was expected that this research will show that gifted students as a whole will possess high levels of speech and language skills. It was also anticipated that gifted children who have previously participated in, or currently participate in, speech or language treatment would have a delay in expressive language skills but not in receptive language skills.
CHAPTER 3

Methods

The project included parents of students who were in fifth or sixth grade and also were in the gifted education program at the intermediate school of a local school district. This location was chosen because of their large gifted education program, which contains between 20-30 students per grade. The University of Akron’s Institutional Review Board (IRB) granted approval for this study. Parents were given a cover letter that informed them of the intentions of the study, details about the researcher and project, IRB and research site approval, and procedures.

The parents were given a packet containing the following materials that made up the survey instrument: 1) Parent cover letter (See Appendix A), 2) Informed Consent Form (See Appendix B), 3) The parental questionnaire about their child (See Appendix C), and 4) A self-addressed and stamped envelope for returning the completed materials. The teacher at the research site distributed the instrument packets to the students during their gifted education class. This method of instrument distribution was chosen because different grades levels had their specific gifted education program on different days of the week. The students were then responsible for taking home the instrument packets to their parents.

The survey instrument contained questions in various formats including multiple choice, yes/no, short response, and rating scales. There were questions regarding biographical information about the child, parents, and siblings. There were also questions about the parents’ age, occupation, whether or not they had received speech and language services, and whether or not they had been identified as gifted. Child questions ranged from age, number of siblings, and if they had ever received speech and language services.
There was an open-ended section available for the parent to list several of the child's favorite activities. The survey also asked if any siblings or other family members had received speech and language therapy. A large majority of the questions on the survey asked about speech and language characteristics and gifted characteristics of the child.

The middle portion of the survey instrument contained questions that asked about speech and language development. They were either fill in the blank or a rating scale. The parent was asked to recall the age of their child when s/he said his or her first word, what that word was, and the child's age when s/he said his or her first sentence. The parent was then asked to rate their child's ability to understand parts of language, the child's receptive language, and their child's ability to use parts of language, the child's expressive language. The questions asked about receptive and expressive language for seven aspects of language: stories, jokes, abstract language, syntax, new vocabulary words, sound production, and wh- questions. The responses were rated on a 10-point scale, with 1 meaning the parent views their child as not using/understanding that skill at all, and 10 meaning their child uses/understands that skill very well.

The final portion of the survey instrument asked rating scale questions regarding a variety of characteristics of gifted children or children with a speech or language delay. These questions assessed topics such as activities known-to-be-related to gifted children, perfectionism, and speech and language tendencies. The questions were rated on a scale of strongly agree, agree, neutral, disagree, and strongly disagree, which were turned into ratings between 1 and 5. One meant the parent strongly agreed with the statement presented, two meant they agreed, three signified feeling neutral, four signified disagreement, and five meant the parent strongly disagreed with the statement.
Twenty-five parents returned completed surveys and signed informed consent forms in the provided self-addressed and stamped envelopes. The informed consent forms and surveys were numbered. The forms were then separated from the surveys and were stored in separate locations to ensure confidentiality.

Frequency statistics were run for all variables. For the ratings scales the data were analyzed using the paired T-test statistical measure. The speech and language scales were split into receptive and expressive language skills. They were then paired within the skills, pairing each receptive aspect of language with all other receptive aspects of language and each expressive aspect of language with all other expressive aspects of language. They were also paired with the matching receptive and expressive aspects of language: understand/tell stories, understand/tell jokes, understand/use abstract language, understand/use syntax, understand/use new vocabulary words, understand/use sound production, and understand/use wh- questions. The questions regarding the characteristics of the child were also analyzed using the paired T-test (see Appendix B for questions). They were all paired so that each of the 13 questions was paired with each of the other 12 questions.

Demographics

There were approximately 55 to 60 questionnaires distributed, but the exact value is unknown because it depends on the exact number of students in class on the days the surveys were given out. Out of those surveys sent out 25 were returned, giving a response rate of around 42-46% response rate.
The study collected information about the parents, other family members, and the child. Information collected about the parents included education level, age, occupation, and if s/he was identified as gifted as a child.

Mother’s education level spanned the categories of high school, associates degree, bachelors’ degree, and masters’ degree. The most frequent level was a bachelors degree, and 76% of mothers had a bachelors degree or higher. The age range for all mothers in the study was between 35 and 55 years old, with an average age of 42. The occupations of the mothers spanned a wide range of jobs. Of this variety, seven of them work in a school setting, four are homemakers, and seven work in the business realm. Out of all the mothers surveyed, 6 (24%) were identified as gifted, while 18 were not identified.

The father’s education levels spanned the same categories, with the addition of a doctoral/professional degree recipient. Again, the most frequent level of education was the bachelors’ degree, and 68% of fathers had completed a bachelors degree or higher. The age range for fathers was 35-54 years old, with an average of 43 years. There was an even broader range of careers for fathers than for mothers, with the highest concentration of jobs being related to the field of business. Apart from the business and marketing aspect, there were not many similar jobs among the other vocations. Out of all fathers in the survey, again only 6 (24%) were identified as gifted as a child.

Another item on the survey questioned if either parent or another family member has ever had speech or language therapy. Three respondents indicated yes (12%), two mothers and one father. Articulation was the reported speech or language delay in all three cases, three for /r/ and one for /s/. A further question asked if any other children in the family have had speech or language therapy. Four surveys responded that another child
had attended speech therapy, 16%. For the siblings the speech areas were varied, with reasons listed including articulation and speech sound difficulties, low intelligibility, and stuttering. Only one of the children from the study had personally been seen by a speech language pathologist in the past, and this child received school speech therapy at 8 years old in 3rd grade for articulation issues with /s/.

The survey continued on with questions regarding the gifted child. The range of ages for the child was between 10 and 13 years of age, with a mean age of 11.5 years. The number of siblings the gifted child has ranged from 0 to 7, averaging 1.56. The most common number of siblings reported was one. In all cases but one the child is biologically related to both parents, with the biological relation being only to the father in this circumstance. None of the children in the survey are adopted. Twenty-one parents reported a definite age at which their child was identified as gifted, with a mean age of 8.90 years old. Two parents reported 3rd grade, and two parents did not give quantifiable answers. The age at which the child said his or her first word ranged from 4 months to 20 months, with six parents having no guess as to when the first word was said. Thirteen parents indicated that their child said their first word before 12 months of age. Four parents said that their child said his or her first word sometime after the child's 1st birthday. The most common first words included dad, mom, and the name of a sibling or pet. The range of ages for the child's first complete sentence was from 9 months to 28 months, with many parents not knowing or leaving the section blank.

Several spaces were available for the parents to list activities that their child enjoys doing. While not always listed in the first spot, an overwhelming 21 out of 25 children were reported to enjoy reading. There were 30 separate reports of different sports related
activities, with the most frequent sports being baseball, basketball, soccer, and swimming. There were 11 total reports of music activities, including singing, piano, flute, and other musical instruments. Creative arts, including art, writing, or drama comprised 9 favorite activities. The category of technological activities held 12 favorite activity positions. Intellectual activities such as brain teasers, puzzles, studying, or Legos were reported 11 times.
CHAPTER 4

Results

The questions for expressive and receptive language were rated on a scale from 1 to 10, with 1 meaning the parent views their child as not using/understanding that skill at all, and 10 meaning their child uses/understands that skill very well. The highest mean for receptive language occurred for the understanding of "WH" questions with an average of 9.60, and the highest average score for expressive language was for the category of speech sound usage at 9.56. The lowest mean for receptive language was an average of 8.88 for understanding jokes. Comparatively, the lowest mean for expressive language was for the use of abstract language with a score of 7.52, an entire point lower than the next lowest mean for usage.

Insert Table 1 here

There was a significant difference ($p = .05$) between 20 receptive and expressive scale pairings. The tests were paired in two types of combinations: both factors being expressive or receptive, or one expressive and one receptive factor. There was a large gap between the number of significances within the understanding of language and within the use of language.

There were only five receptive vs. receptive pairs that were significant. These types of comparisons paired the child's ability to understand one part of language with their ability to understand another part of language. Comparing understanding stories to understanding jokes was significant at ($M = .680, SD = 1.520, t(df)= 2.237(24), p = .035$) and comparing understanding stories to understanding abstract language was significant at
(M= .520, SD= 1.229, t(df)= 2.116(24), p= .045). The pairing of understanding jokes and understanding WH questions was significant at (M= -.720, SD= 1.458, t(df)= -2.469(24), p= .021). The understanding of abstract language was significant with the understanding of sound production (M= -.440, SD=.961, t(df)= -2.290(24), p= .031) and the understanding of WH questions (M= -.560, SD= 1.227, t(df)= -2.281(24), p= .032).

Conversely, there were thirteen occurrences in which the difference was significant between two expressive factors of language. In these pairs the comparisons were between two aspects of language and how well the child used that aspect of language.

Telling stories was significant in two pairings: telling jokes (M= .640, SD= 1.411, t(df)= 2.268(24), p= .033) and using abstract language (M= 1.640, SD= 1.846, t(df)= 4.443(24), p= <.001). Telling jokes was significant in four pairings: using abstract language (M= 1.0, SD= 2.273, t(df)= 2.2(24), p= .038), using syntax (M= -.760, SD= 1.562, t(df)= -2.433(24), p= .023), using speech sounds (M= -1.040, SD= 1.744, t(df)= -2.982(24), p= .006), and using WH questions (M= -.960, SD= 1.881, t(df)= -2.551(24), p= .018).

Using abstract language was significant among six pairings, the remaining four comparisons as follows: using syntax (M= -1.760, SD= 2.278, t(df)= -3.863(24), p= .001), using new vocabulary (M= -1.360, SD= 2.099, t(df)= -3.239(24), p= .003), using speech sounds (M= -2.040, SD= 2.423, t(df)= -4.209(24), p< .001), and using WH questions (M= -1.960, SD= 2.3, t(df)= -4.261(24), p< .001).

The comparison of using syntax and using new vocabulary was significant at (M= .40, SD= .816, t(df)= 2.449(24), p= .022). The use of new vocabulary was also significant in the pairings of using speech sounds (M= -.680, SD= 1.108, t(df)= -3.070, p= .005) and using WH questions (M= -.60, SD= 1.291, t(df)= -2.324, p= .029).
Between the expressive and receptive pairs of the same language concept, only two pairs showed a significant difference between the receptive and expressive skills. There was a significant difference between the child understanding of abstract language and the child’s usage of abstract language (M= 1.520, SD= 1.711, t(df)= 4.442(24), p<.001). The understanding of new vocabulary was also significantly higher than the use of new vocabulary (M=.60, SD=.764, t(df)= 3.928(24), p<.001).

There were also several insignificant pairings of expressive and receptive language that were anticipated, especially those skills which children learn and master at an earlier age. With these pairings the means were closer together, indicating that the child exhibited similar levels of the skill both expressively and receptively. These insignificant pairs include understanding and using syntax, speech sounds, and "WH" questions. In comparison of receptive versus expressive of the same speech factors, receptive was rated higher than expressive in almost all cases. The two categories that were exceptions were with speech sounds and syntax. In these circumstances the parents rated the children as being better at using syntax and speech sounds than understanding them.

One of the main areas that had a large amount of significant difference was comparing the use of abstract language with the use of other parts of speech and language. The use of abstract language was significant all six times it was compared to other usage skills. It was also significant when the usage of abstract language was compared to the understanding of abstract language (M= 1.520, SD= 1.711, t(df)= 4.442(24), p< .001). The data showed that the use of abstract language had a significantly lower mean than any other language parameter. An aspect of this significance is the relationship between telling stories and using abstract language. This combination was significant with (p= .029),
showing that the inclination to tell stories appears significantly stronger than the inclination to use abstract language. Many of the other pairings with the use of abstract language that were extremely significant \((p = .01\) or lower) are sensible because they match developmental skills that children master at a young age with the developmental skill of abstract language which develops later in childhood. The pairing of using abstract language and using syntax was significant with \((p < .001)\). The combination of using abstract language and using new vocabulary was significant at \((M = -1.360, SD = 2.099, t(df) = -3.239(24), p = .003)\). Using abstract language and using speech sounds were a significant pair with \((M = -2.040, SD = 2.423, t(df) = -4.209(24), p < .001)\). The pairing of using abstract language and using WH questions was significant at \((M = -1.960, SD = 2.3, t(df) = -4.261(24), p < .001)\).

Within expressive language, telling jokes was another area of language that appeared significant many times, five out of the possible six. While most of the significant differences occur because telling jokes was a lower rated skill, for the comparison of jokes and abstract language the difference was significant because telling jokes had a higher average score than using abstract language.

The rating scale for the questions about the child’s characteristics was a 1 to 5 scale. One meant the parent strongly agreed with the statement presented, two meant they agreed, three signified feeling neutral, four signified disagreement, and five meant the parent strongly disagreed with the statement. The means of each question were taken to determine whether the parents agreed or disagreed with each statement. See Table 2 for means.
Some of the means reflected the anticipated responses based on the known characteristics and previous research about gifted children. As expected, _My child appeared gifted at an early age_ (mean= 1.80) showed a strong "agree" response. Most children begin to show advances over their peers from a young age, which is validated by this question. The question _My child excels at puzzles and brain teasers_ (mean= 1.80) affirmed the assumption that because the children qualify for gifted services based on advanced cognition they are likely to excel at brain teasers and puzzles. The mean value between 1 and 2 indicate that parents typically either "agree" or "strongly agree" with the statement, validating our assumptions based on previous research.

Other questions that proved previous research regarding the characteristics of a gifted child were _My child strives for perfection_ (mean= 1.72) and _My child becomes upset when things do not work out perfectly_ (mean=1.84). It has been shown previously that gifted children often struggle with perfection and with being accepting of situations that do not work out as anticipated. The means show a strong "agree" response for these items, confirming that parents feel their child works towards perfection.

The hypothesis expected the question _My child babbled frequently as a baby_ (mean= 2.20) to show an "agree" response because gifted children are typically assumed to be advanced in language capabilities which would begin appearing in the first year through babbling. The mean showed an "agree" response, which confirmed this prediction about the children’s babbling.
Further, it was expected the question *My child seemed to excel in general but appeared delayed in speech while growing up* (mean= 4.72) showed that gifted children are likely to be advanced not only in cognition but also in language while developing. The mean of 4.72 showed a very strong "strongly disagree" response that their child did not seem delayed in speech growing up.

Several of the resultant means remained more neutral than expected. The explanation for some of the neutral events lies in a large variance, suggesting that some parents rated that item "agree/strongly agree" while others rated that item "disagree/strongly disagree" leading the value to be neutral, when in reality parents had opinions about their child’s characteristics one way or another. These opinions cancelled out when the mean was taken but is reflected in the variance. The three cases which had variances about 1.5 and had means near 3, were: *My child would rather play a sport than an instrument* (mean= 2.92, variance = 2.077), *My child gives wordy descriptions of objects rather than directly naming them* (mean= 2.48; variance = 1.593), and *My child often talks continuously until the intent of their subject was understood* (mean= 2.96, variance = 1.623).

Surprisingly, a few of the questions yielded responses that were unexpected. The question *My child enjoys playing by him/herself more than with others* (mean= 3.28) shows a "neutral/disagree" response when it was originally anticipated that the gifted children to be more likely to play alone than normally intelligent children. However, upon further review, this expectation could only be proven with a comparison of data from gifted children versus typical children. Just because a child does not like to play alone more than with others, it could still be true that they like to play alone more than typically intelligent
children. As the question was posited, the gifted children enjoy playing with others more than alone, negating our original suspicion.

Another surprising mean was that of the question *My child would rather play a sport than an instrument* (mean = 2.92). The study hypothesized that the gifted children, being highly intellectual, would prefer to play an instrument over playing a sport. While the mean does show a slight tendency towards playing a sport, 2.92 is a very neutral score and this is also a question with a high variance, meaning that many parents answered they agree their child would rather play a sport and many others answered that they disagree and their child would rather play an instrument.

Several of the questions were extremely significant (p = .000), showing that the means were significantly far apart and logically made complete sense in terms of opposite ideas. One pairing that matched this trend was *My child gives wordy descriptions of objects rather than directly naming them* (mean = 2.48) and *My child often says one or two words and then waits to see if someone else will begin talking about their subject matter* (mean=3.96), (M= -1.480, SD= 1.447, t(df)= -5.115(24), p = .000). These opposing pairs make logical sense because if a child gives wordy descriptions of something then they are not likely to only say one or two words until someone else begins talking about their subject. Another similar pairing is the comparison of *My child often talks continuously until the intent of their subject was understood* (mean = 2.96) and *My child often says one or two words and then waits to see if someone else will begin talking about their subject matter* (mean=3.96). These statements are significant at (M= -1.000, SD= 1.581, t(df)= -3.162(24), p = .004), which makes sense because if a child talks continuously until their subject is understood they are not likely to wait until someone begins talking about their topic.
Similarly to several questions being completely opposite, three of the questions which relate to each other all had extremely similar or the same means. These comparisons were fully logical and followed the previously researched and known characteristics of gifted children. *My child appeared gifted at an early age* (mean = 1.80), *My child excels at puzzles and brain teasers* (mean = 1.80), and *My child becomes upset when things do not work out perfectly* (mean = 1.84). In the three comparisons with one another, the significance was (p = .000). Gifted children are often identified at an early age by advanced cognitive and language functions compared to their same-age peers. These advanced cognition skills remain evident throughout the child's life and show themselves through advanced skill at puzzles and brainteasers. Therefore, the p value of (p = 1.00) makes sense that parents would rate the two parameters similarly. Another factor proven true of gifted students is that they are likely to be perfectionists and become upset when something does not work out perfectly. As anticipated, comparing appearing gifted early and upset at imperfection also gives a p value of (p = 1.00), indicating that parents rated the two items similarly. Another logical conclusion from these three data points is the implication of the comparison between success at puzzles and brain teasers and being upset when things do not work out perfectly, meaning that because puzzles and brain teasers have one correct and logical answer that it is frustrating when these do not work out.
CHAPTER 5

Discussion

The original goal of the study was to look at the speech and language skills of all of the gifted students and then focus more directly on the language skills of the students who had previously attended speech and language therapy. However, among receipt of the survey instruments, the data showed that only one student had previously attended speech and language therapy. This child received articulation therapy that was targeted at the child’s misarticulation of the /s/ phoneme. The child’s therapy, according to the report of the parent, consisted of only one goal that focused on the /s/ phoneme error and did not show an indication that their child had any other goals for speech or language therapy. It can then be assumed that the child did not have a Specific Language Impairment. This is important because while the child did experience speech and language therapy, s/he did not show any difficulties in receptive or expressive language skills.

It is important to note that this child who had previously attended speech and language therapy had both a parent and a sibling who had also received speech and language therapy. The mother received articulation therapy for the /r/ phoneme, and a sibling received therapy for a stuttering disorder. Recent research has found that several speech and language disorder patterns, including speech sound disorders, can have genetic and hereditary influences (Lewis et al., 2006).

The reported data for the child who had previously attended speech and language therapy was compared against the mean for the children who had never received speech or language therapy, though these comparisons are not generalizable to the whole population of gifted children who also have received speech and language services. The child who had
speech and language therapy previously was rated one or more points differently on several measures. Understanding and telling jokes were both significantly lower than the groups' mean, and the use of abstract language was also lower than the group's average. These abilities are among the lowest rated abilities for all the children in the study, both in the means including this child's score and means with the child's scores removed, however the scores of this child are even lower than the group average. As these skills are some of the later skills to develop, it would not be surprising for a child who had a speech or language disorder in the past to be later in developing some of these advanced language skills than children who were not delayed in speech or language previously.

In the personality trait rating questions there was an interesting difference between the rating of the child who previously attended speech and language therapy and the mean rating for all of the children who had not received speech or language therapy. The child who had received therapy was rated “2 = agree” to the statement *My child seems to stumble over words frequently while explaining something*. The average of the remaining 24 children was 4.25, a rating that falls between disagree and strongly disagree, and the other children were only rated between 3, neutral, and 5, strongly disagree. This discrepancy is interesting because of the speech difficulty in the child’s background. It cannot be determined that the speech disorder specifically caused a higher likelihood for stumbling during speech, but it is important to note that this child seemed to have this difficulty whereas others did not.

Because of the lack of children who previously received speech and language therapy, the focus of the research and interpretation of the data was shifted to analyze and discuss the speech and language skills of all the children in the sample. The data were
analyzed to find patterns of what skills the children excelled at, what skills seemed to give
the most trouble, and general characteristics of the gifted children.

While there were only five receptive pairings that were significant, there were
thirteen expressive pairings that were significant. The difference between the number of
significant receptive vs. receptive pairings and expressive vs. expressive pairings is not
immensely surprising, but is important in the context of this study. Gifted children are
qualified as gifted by evidence of higher than average intellectual function ("Facts for
parents," 2014). Because of the presence of this above average level of cognitive
functioning, it can be expected that the receptive language skills of a child who is gifted
would be very high. Therefore, it was anticipated that the children would be rated higher
on the receptive language skills than on the expressive language skills. This prediction was
affirmed by the results of this study. When comparing the means of the ratings of all
expressive and receptive language skills, four of the five highest means were for receptive
language skills, and the three lowest means occurred for expressive language skills. The
one expressive language skill that appeared in the top five rated skills was the use of
speech sounds. This skill is a very fundamental unit of speech and language and was
expected to have the highest rating of all expressive language skills, so it is not surprising
that this skill was rated highly.

The data showed that the use of abstract language had a significantly lower mean
than any other language parameter. This finding is validated by research on childhood and
adolescent language development which shows that abstract and figurative language does
not fully develop until ages 10-12, and that “there is a significant developmental gap
between the ability to comprehend and produce figurative language” (Tolchinsky, 2004; p.
Since some of the children in this study were younger than 12, it cannot be assumed that they all will have mastered this skill, or that they could produce the figurative language even if they could understand the language. Another explanation of this low score could be that abstract language often presents itself more at school than in any other environment. Since the parents rated their child, the child’s language abilities were assessed more from a home standpoint, as this is where the parents see the child more often. Children may be using and analyzing the meaning of abstract language more at school than at home, so the low ratings for abstract use do not fully reflect the child’s abstract language abilities.

Out of the seven language skills, only two pairings of the same concept showed significant differences between the child’s use of receptive and expressive language. Parents rated their child’s use of abstract language significantly lower than their receptive abstract language. They also said that their child understood new vocabulary more than they used new vocabulary. These two occurrences show that receptive language does develop more quickly than expressive language (Kearns, 2010). It also should be considered that the day-to-day demand for a child to use new vocabulary or abstract language is much lower than the need to understand the meanings of new words or figurative thoughts.

There were many results that were expected and not surprising due to the age of the students in the survey. These areas included using and understanding WH questions, understanding stories, using and understanding speech sounds, and understanding new vocabulary. If a child between the ages of 9 and 12 like were not highly proficient in these language areas then they would likely be in speech and language therapy for a language disorder, which is not the case according to the results from the survey instruments. For
many of these areas ASHA indicates that they should be developed, though not perfect, by around age 5 ("How does your child hear and talk?,” 2014).

The sample of children in the study showed a strong affiliation with previously researched characteristics of gifted children. High levels of perfectionism, achievement at brainteasers and puzzles, frequent babbling as a child, an early display of above average intelligence, and a strong interest and enjoyment in reading were evident in many of the children in the study (Williams, 2008; Winner, 1999).

As mentioned in the results, several of the questions did not yield the expected answers. One of these was the result that My child enjoys playing by him/herself more than with others (mean= 3.28) shows a "neutral/disagree" response. Research has stated that gifted students have a lower social ability and lean towards solitude (Winner, 1999). While the response was fairly neutral, it does show that children do not overwhelmingly score that they would rather play alone. However, upon further review, this expectation could only be proven with a comparison of data from gifted children versus typical children. Just because a child does not like to play alone more than with others, it could still be true that they like to play alone more than typically intelligent children. As the question was posited, the gifted children enjoy playing with others more than alone, negating our original suspicion.

Research has also indicated that gifted children often have an inclination towards musical instruments. The survey results slightly indicated that children preferred to play a sport rather than play an instrument. The parents listed 30 sports related activities and only 11 music related activities in the favorite activities section of the survey instrument. However, it is interesting that the mean was only 2.92, showing very little deviation away
from neutral. When looking at the data, 5 parents indicated that they strongly agree that their child prefers a sport, and 5 indicated that they strongly disagree with the statement, indicating that their child prefers an instrument. This means that the neutral rating is likely due to averaging the opinionated responses and not that children are neutral in preferring one or the other. However, this contradiction makes sense in the context of other answers given by the parents about their children. It makes sense that the children prefer to play with others and they also prefer to play a sport, as sports are very interactional activities.

**Limitations**

Though the study was conducted with lengthy consideration as to what were the most effective and practical procedures to collect this information, there were some inherent limitations due to the nature and process of the study.

One limitation was that the students were responsible for taking home the instrument packets to their parents. This indirect method of transportation of the survey from the researchers to the parents allowed for error in the distribution of the instrument packets as parents may not have even received the instrument from their child. This reliance on the students to transport the packet from their teacher at school to their parent at home was the only logical method for this study design through a public school. However, this design with the children being in control of the instrument packet transportation may account for some of the surveys that were not returned, as they did not make it home in the first place.

Another limitation is the small sample size of 25 gifted students used in this study. Because the prevalence of giftedness is not high, the sample pool is already small. Further, the number of school districts with specific gifted education programs is limited, making
this available pool even smaller. The sample was a sample of convenience, not a random sample. The researchers chose to limit the study to only one school district and only two grades within their gifted education program to control for age, location, and socioeconomic status, as these factors could play a part in language development. Further studies would benefit from using multiple school districts and gifted programs to have a larger sample size so that the results are more generalizable to the whole gifted population.

One possible way to increase participant numbers is to create an online survey that parents can log into and perform at home. This means of survey instrument dissemination could eliminate the potential of lost paper survey instruments and keep error out of the transfer between multiple people.

Another limitation was that the parents filled out the survey and rated their children. This was a subjective rating of the student's speech and language skills because it took judgment from the parents and not objective data to create the rating. Many parents rated their child's receptive and expressive language skills as "10- very well" in every category. This poses the question of: are the children actually that good at understanding and using language, or is there a rater bias in the parent's rating causing the ratings to not being an accurate representation of the child's skills? The parent could rate their child more favorably than deserved or more negatively than what is accurate. Because it is unknown if the child's skills accurately match the ratings given by their parent, this presents a limitation within the current study. Perhaps a future study could also include a teacher ratings instrument to then compare and contrast the parent's ratings.
Future Considerations

Previous studies have shown that late talkers are typically boys and the current study did not choose to ask on the survey instrument about the gender of the children. A future study could benefit from selecting a gifted population and doing an analysis on the differences between the language skills of males and females. This study could compare the general language skills of each gender to the speech and language skills of gifted males and females who might have had a history of speech and/or language delays.

Another area of study could be the adaptation of the survey instrument used for this study to be a tool in a comparative study between the language skills of typically developing students and their gifted peers. This study could provide a baseline of “normality” upon which to compare the gifted group. It would be interesting to look into the likelihood or unlikelihood of all positive ratings given among all parents versus the parents of gifted children, to see if perceptions of their child’s intelligence play into the given ratings of speech and language skills.

The information gathered from this study could be used to develop a speech and language plan to be implemented by parents who suspect their child is developmentally accelerated but seems delayed in the speech and language skills. While the children would not be clinically identified as gifted, as this testing does not occur until later than the speech difficulties are likely to appear, it could help the language skills of children who meet certain set criteria for advanced cognitive functioning. This speech and language plan would be one of the first of its kind, focusing specifically on children who seem extraordinarily bright whose language skills do not match their other cognitive abilities. Such a plan could then help parents facilitate the speech and language of their gifted child.
in ways that have been proven work with strengths and limitations that are specific to the population of gifted children.
References


Sowell, Thomas (2001). The Einstein syndrome: Bright children who talk late. New York:
Basic Books.


Table 1

Receptive and Expressive Language Means

<table>
<thead>
<tr>
<th>“How well does your child...”</th>
<th>Mean</th>
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</tr>
<tr>
<td>Understand stories</td>
<td>9.56</td>
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<tr>
<td>Use speech sounds</td>
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<td>Understand new vocabulary</td>
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<tr>
<td>Understand sound production</td>
<td>9.48</td>
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<td>Use “WH” questions</td>
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<tr>
<td>Use syntax</td>
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## Table 2

Child Characteristics Means

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<td><em>My child appeared gifted at an early age</em></td>
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</tr>
<tr>
<td><em>My child enjoys playing by him/herself more than with others</em></td>
<td>3.28</td>
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<td><em>My child would rather play a sport than an instrument</em></td>
<td>2.92</td>
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<tr>
<td><em>My child excels at puzzles and brain teasers</em></td>
<td>1.80</td>
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<td><em>My child gives wordy descriptions of objects rather than directly naming them</em></td>
<td>2.48</td>
</tr>
<tr>
<td><em>My child becomes upset when things do not work out perfectly</em></td>
<td>1.84</td>
</tr>
<tr>
<td><em>My child seems to stumble over words frequently while explaining something</em></td>
<td>4.16</td>
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<tr>
<td><em>My child gets sidetracked and switches topics spontaneously</em></td>
<td>3.36</td>
</tr>
<tr>
<td><em>My child strives for perfection</em></td>
<td>1.72</td>
</tr>
<tr>
<td><em>My child seemed to excel in general but appeared delayed in speech while growing up</em></td>
<td>4.72</td>
</tr>
<tr>
<td><em>My child often talks continuously until the intent of their subject was understood</em></td>
<td>2.96</td>
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<tr>
<td><em>My child babbled frequently as a baby</em></td>
<td>2.20</td>
</tr>
<tr>
<td><em>My child often says one or two words and then waits to see if someone else will begin talking about their subject matter</em></td>
<td>3.96</td>
</tr>
</tbody>
</table>
Appendix A

Parent Cover Letter

Dear Parent/Guardian of OASIS student,

    Hello! My name is Amanda Brewer and I am a junior undergraduate student at the University of Akron, majoring in speech language pathology. I am currently working on my senior honors research project, which looks at parent perspectives on the speech of gifted children in the 5th and 6th grades. My project consists of a questionnaire to be filled out by a parent/guardian that will take only 15-20 minutes to complete. The University of Akron's research board has approved this project, as well as the Stow-Munroe Falls School District's Director of Academic Achievement and the Gifted Services Coordinator. All participation is completely voluntary and all information gathered will remain completely confidential.

    Please consider taking the time to fill out this short questionnaire and return it, along with the enclosed consent form, in the provided envelope as soon as possible. Thank you in advance for your help with my project, and I am so excited to learn about your child's language skills as a gifted student!

    Sincerely,

    Amanda Brewer
Appendix B

Informed Consent Form

Exploring speech and language skills in gifted children: A parent perspective

INFORMED CONSENT

Introduction: You are being invited to participate in a study pertaining to speech and language development of a gifted child. The study will be conducted by undergraduate student Amanda Brewer, under the advising of Dr. Scott Palasik this spring in the Department of Speech-Language Pathology and Audiology at The University of Akron. The goal of the study is to explore the relationships between gifted children and speech and language development. The study has a specific focus on what speech and language delays are common among these children, but gifted children of all speech and language development patterns will be explored.

Participants: A parent or guardian of a student who has been identified as gifted and participates in the gifted program.

Exclusionary Criteria: Parents who do not have children that have been identified as gifted will not be able to participate.

Procedures: This study will involve filling out a questionnaire at home and returning the questionnaire in the provided self-addressed envelope to Dr. Palasik. If you choose to participate, please sign this form below and return it in the envelope with the completed questionnaire.

The questionnaire asks questions about your gifted child including their interests, milestones in their language development, and how well certain aspects of language are used by your child. It also asks for basic questions about your family.

The questionnaire should take no more than 15-20 minutes.
**Contact:** For any questions or concerns regarding this questionnaire, please e-mail Scott Palasik at: spalasik@uakron.edu or Amanda Brewer at: akb50@zips.uakron.edu

**Risks and Benefits:** There are no anticipated risks to this study. You can benefit by adding to our research pertaining to the speech and language development of gifted children.

**Payment / Costs:** Participation in this study is voluntary; there will be no financial payment for participating.

**Confidentiality:** Your personal information will be kept confidential. Results will be reported, but your child’s name and identifying information will not be collected. No identifying information, other than your name on the consent form, will be collected. The consent form will be kept separate from the survey, to insure your anonymity.

**Questions:** If you have any more questions you can contact Scott Palasik at 330-972-8185 (spalasik@uakron.edu). This project has been reviewed and approved by The University of Akron Institutional Review Board. If you have any questions about your rights as a research participant, you may call the IRB at (330) 972-7666.

**Consent:** I understand that this study is being conducted for the purpose of undergraduate research at the University of Akron. Through this document the researcher has explained how the study will be completed, what I will have to do, and how long my participation is required. I am aware that my full participation in this study is voluntary. I am fully aware that identifying information of myself, my child, or other family members will not be released or used in any manner. I am aware that no compensation will be provided for completing this questionnaire. By signing this form I consent my participation in the study and will fill out the questionnaire to the best of my ability.

_________________________________________________                     ________________
Participant Signature (Consent to Participate)                     Date
Appendix C

Parental Questionnaire

**Parent Information:**

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<thead>
<tr>
<th>Mother</th>
<th>Father</th>
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<tbody>
<tr>
<td>Education Level:</td>
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<td>(Please indicate highest level completed)</td>
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<td>☐ High School Degree</td>
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<td>Other: ________________________________</td>
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<td>Age: ___________</td>
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<td>Occupation:</td>
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Identified as a gifted Child: YES NO

Did either parent or a close family member attend speech and language therapy during their childhood (Birth-18 years old)? (Please Circle)  YES NO

If yes, which parent(s) or family member(s)? ________________________________

If yes, which speech and language areas were worked on in therapy?

____________________________________________________________________

____________________________________________________________________

Have any other of your children attend speech and language therapy? YES NO

If yes, for what areas did they receive speech and language services?

____________________________________________________________________

Child Information:

Child’s Age: ___________
Number of siblings: __________

Is your child biologically related to both parents? (Please Circle)  YES  NO

If not biologically related to both parents, please indicate to which parent the child is biologically related: ________________________________________________________________

If not related to either parent, was your child adopted? (Please Circle)  YES  NO

At what age was your child identified as gifted by his/her school district? _______

Please list several of your child’s favorite activities- both home and extracurricular:

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

At what age (in months) did your child say his/her first word and what was the word?

____________________________________________________________________________

At what age (in months) did your child say his/her first complete sentence? __________

Has your child ever been seen by a speech-language pathologist? (Please Circle)  YES  NO

If your child has never attended speech or language therapy please skip to next page.

At what age and grade did your child begin speech therapy? ______________

What was the setting of the speech therapy? (Please Circle)

    School   Private Practice   Hospital   Other: ______________

What was your child’s official speech and language diagnosis?

_____________________________________________________________________________________________

What were your child’s goals in therapy?

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________

_________________________________________________________________________________________________________
UNDERSTANDING LANGUAGE AND SPEECH
(Please circle the number that represents the most appropriate answer that relates to your child in the following questions)

How would you rate your child's ability to UNDERSTAND the following parts of language?

1. UNDERSTANDING stories

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very well</th>
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<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
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2. UNDERSTANDING jokes

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<tr>
<th>Not at all</th>
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<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
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</table>

3. UNDERSTANDING Abstract language (e.g., “A taste of your own medicine” doesn’t actually have anything to do with taking medicine)

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4. UNDERSTANDING Syntax (sentence structure/ how a sentence is put together)

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<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
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5. UNDERSTANDING new vocabulary words

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<th>Very well</th>
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<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
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6. UNDERSTANDING production of sounds

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7. UNDERSTANDING wh-questions (what, where, why, who, how, when)

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</table>
USING LANGUAGE AND SPEECH

(Please circle the number that represents the most appropriate answer that relates to your child in the following questions)

How would you rate your child’s ability to USE the following parts of language?

1. TELLING stories

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2. TELLING Jokes

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3. USING Abstract language (Expressions such as “a taste of your own medicine”, “as white as a snowflake”, “spilled the beans”, “slow as a snail”)

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4. USING Syntax (forming sentences in the proper order with correct word placement and grammar)

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5. USING new vocabulary words

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6. USING speech sounds correctly (correct pronunciations)

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7. USING wh-questions (what, where, why, who, how, when)

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</table>
Please circle the most appropriate answer relating to your child.

1. My child appeared gifted from an early age.
   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

2. My child enjoys playing by him/herself more than with others.
   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

3. My child would rather play a sport than an instrument.
   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

5. My child often gives wordy descriptions of objects rather than directly naming them.
   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

6. My child becomes upset when things do not work out perfectly.
   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

7. My child seems to stumble over words frequently while explaining something.
   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

8. My child gets side tracked while talking and switches topics spontaneously.
   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

   **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

10. My child seemed to excel in general but appeared delayed in speech while growing up.
    **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

11. My child often talks continuously until the intent of their subject was understood.
    **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

12. My child babbled frequently as a baby.
    **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**

13. My child often says one or two words and then waits to see if someone else will begin talking about their subject matter.
    **Strongly Agree**   **Agree**   **Neutral**   **Disagree**   **Strongly Disagree**