Similarities and Differences in Sensory Processing Symptoms in Children with a Diagnosis of Attention Deficit Hyperactivity Disorder, Autism Spectrum Disorder, Cerebral Palsy, Down Syndrome, Hearing Deficits or Visually Impaired

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CHAPTER I

INTRODUCTION

Significance

Children regardless of age and gender can experience problems with sensory processing. Sensory processing occurs when the nervous system translates messages in the brain received from the senses and creates behavioral and motor responses (STAR Institute for Sensory Processing Disorder, 2018a). However, in children who have problems processing sensory information, the message is not properly translated which impacts motor and behavioral responses. One in every six children have sensory symptoms that effect their activities of daily living (STAR Institute for Sensory Processing Disorder, 2018a). Difficulties with sensory processing can also be related to other diagnoses such as Autism, Attention Deficit Hyperactivity Disorder, and Fragile X Syndrome. Additionally, Down Syndrome, Cerebral Palsy, Low Vision, and Hearing Loss may also cause sensory symptoms. Because so many children are impacted daily by sensory symptoms, it is important for parents, healthcare providers, and teachers to be aware of the common sensory processing symptoms that can occur in children.

Purpose

The purpose of this research study is to determine the similarities and differences in sensory processing symptoms that occur in children who have a diagnosis of Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Down Syndrome, Cerebral Palsy, Low Vision, or Hearing Loss.

Hypotheses

- The researcher's first hypothesis is that there will be more similarities in sensory processing symptoms that occur, than differences amongst all the diagnosis being assessed.
- The researcher's second hypothesis is that there will be similarities in sensory processing symptoms that occur based upon the gender of the child.
- The researcher's third hypothesis is that there will be similarities in sensory processing symptoms that are a result of the age of the child.
- The researcher's fourth hypothesis is that there will be similarities in sensory processing symptoms that are related only to a specific diagnosis.
- The researcher's fifth hypothesis is that there will be similarities in sensory processing symptoms between children who are diagnosed with Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder.
- The researcher's sixth hypothesis is that all children will have at least a T-score of sixty, identifying that there are "some problems" with sensory processing, based upon the *Sensory Processing Measure* assessment.

Assumptions

- The parent has a child with disability that has been medically diagnosed.
- The parent provided accurate information on the background screening.
- The parent provided accurate answers when completing the survey.
- The parent understood how to properly answer the survey questions.

Limitations

- Small sample size
- Parent response on an online survey
- Lacking a control group
- Single source assessment ratings

Summary

Diagnoses of Autism, ADHD, Down Syndrome, Cerebral Palsy, Low Vision, and Hearing Loss were selected for the study based upon correlation in symptoms with Sensory Processing Disorder. Additionally, the diagnoses researched in the study have a higher rate of experiencing sensory processing symptoms. Since sensory processing symptoms occur once in every six children, research in this field is vital (STAR Institute for Sensory Processing Disorder, 2018a). It is important for healthcare professionals, teachers, and parents to understand what and why sensory symptoms can occur in children. Additionally, research that measures if specific sensory symptoms occur in comorbidity with another diagnosis is needed. This research can help determine if the sensory symptoms are a results of a child's disability or due to the child having a comorbid diagnosis of Sensory Processing Disorder. The purpose of this study is to determine what similarities and differences in sensory processing symptoms occur in children with Autism, ADHD, Down Syndrome, Cerebral Palsy, Low Vision, or Hearing Loss. This study aims to set a foundation for future research to continue exploring if sensory processing symptoms correlate with other diagnoses.

Definitions

- Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder, which alters the development of the central nervous system and impacts the brain's ability to process information causing impaired motor, learning, speech, memory, and behavioral functioning (American Psychological Association, 2016).
- Attention-Deficit/Hyperactivity disorder (ADHD) is a condition that impacts one's ability to focus and can cause children to be defiant, aggressive, fidgety, loud, have difficulty adapting to change, and problems with appropriate social interaction (American Psychological Association, 2019).
- Cerebral Palsy is caused by abnormal development or damage to the brain, which impacts the ability to control one's muscles. (Centers for Disease Control and Prevention, 2018b)
- Down Syndrome is caused by having a trisomy, chromosome 21, which can cause developmental and intellectual delays, along with vision and hearing problems (Centers for Disease Control and Prevention, 2018a).
- Fragile X Syndrome is a genetic disorder caused by changes in the FMR1 gene, which can cause developmental delays, social and behavioral problems, and learning disabilities (Centers for Disease Control and Prevention, 2018c).
- Hearing Loss in children can occur because of birth complications, neurodevelopmental disorders, genetics, a perforated eardrum, exposure to loud noise, and numerous other reasons (Mroz, 2018).
- Low Vision occurs when a person's visual impairment cannot be corrected by glasses, contact lenses, surgery, or medication (American Academy of Ophthalmology, 2019).

CHAPTER II

REVIEW OF LITERATURE

Autism Spectrum Disorder

Children who are diagnosed with Autism Spectrum Disorder are also susceptible to experiencing symptoms that effect sensory processing. At least 75% of children with Autism also have a comorbid diagnosis of Sensory Processing Disorder because of the significant symptoms that are caused by the sensory systems (STAR Institute for Sensory Processing Disorder, 2018b). In 2007, a study conducted by Dr. Scott Tomchek and Dr. Winnie Dunn found that children with Autism Spectrum Disorder had more sensory processing dysfunction in the following categories Tactile Sensitivity, Under-responsive/ Seeks Sensation, and Auditory Filtering" (Tomchek and Dunn, 2007). Additionally, the study found that children with Autism had different results on 92% of the items, total score, and all sections of the assessment used, Short Sensory Profile, compared to children of the same age with typical development (Tomchek and Dunn, 2007). Autism Spectrum Disorder is a neurodevelopmental disorder, which alters the development of the central nervous system and impacts the brain's ability to process information causing impaired motor, learning, speech, memory, and behavioral functioning (American Psychological Association, 2016). Due to the brain being unable to accurately process and translate input from the nervous system, children with Autism have a strong correlation with sensory processing symptoms. Since motor, learning, speech, memory, and behavioral functioning are impaired, children with Autism Spectrum Disorder are more susceptible to encounter sensory processing symptoms.

Attention-Deficit/Hyperactivity Disorder

In addition to Autism, Attention-Deficit/Hyperactivity disorder (ADHD) is considered to be a neurodevelopmental disorder. ADHD is a condition that impacts one's ability to focus and can cause children to be defiant, aggressive, fidgety, loud, have difficulty adapting to change, and problems with appropriate social interaction (American Psychological Association, 2019). Additionally, 40% of children with ADHD also have sensory processing symptoms (STAR Institute for Sensory Processing Disorder, 2018b). In 2004, a study assessed what sensory symptoms are prevalent with children who have ADHD. In eleven out of the fourteen sections and six of the nine factors on the sensory assessment, children with ADHD had significant impairments compared to children with typical development (Yochman, Parush, and Ornoy, 2004). Additionally, the study found that children with ADHD had the greatest difficulty adapting their responses to changes in sensory events (Yochman, Parush, and Ornoy, 2004). In 2006, a research study using the *Sensory Processing Measure* found that in a group of children that had been diagnosed with Sensory Processing Disorder and/or ADHD, 60% of the group had symptoms of both Sensory Processing Disorder and ADHD (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). These finding correlate with one of the diagnosing symptoms of Attention-Deficit/Hyperactivity disorder, difficulty adapting to change.

Fragile X Syndrome

Along with children who have Autism and ADHD, Fragile X Syndrome also can produce sensory symptoms in children. Fragile X syndrome is caused by a mutation in the FMR1 gene, which is responsible for making the FMR protein that produces other proteins and has a role in synapse development (U.S. National Library of Medicine, 2019). Since the development of the synapses is impaired, nerve impulses are not properly relayed to the brain. This leads to speech delays, intellectual disabilities, anxiety, ADHD, autism, and seizures. One-third of individuals who have Fragile X

Syndrome also have a comorbid diagnosis with Autism Spectrum Disorder (U.S. National Library of Medicine, 2019). Often times sensory processing symptoms also occur in children with Fragile X Syndrome. Since the mutation effects the synapses ability to function, it causes the brain to be unable to produce appropriate responses to sensory stimuli. In 2002, a study was conducted to measure the correlation between sensory processing symptoms and Fragile X Syndrome. The study found that children with Fragile X syndrome were more susceptible to sensory processing symptoms related to hypo-responsive and hyper-responsive patterns (Baranek, Chin, Hess, Yankee, Hatton, and Hooper, 2002). Children with Fragile X Syndrome, ADHD, and Autism have a higher prevalence of sensory processing symptoms then children with typical development (STAR Institute for Sensory Processing Disorder, 2018c).

Down Syndrome

Although there are diagnoses that have a higher prevalence of having sensory processing symptoms, there are other conditions that also still experience sensory symptoms. Down Syndrome is caused by having a trisomy, chromosome 21. This additional chromosome can cause developmental and intellectual delays, along with vision and hearing problems (Centers for Disease Control and Prevention, 2018a). In 2011, a study was conducted to determine the correlation between Down Syndrome and sensory processing symptoms. The study found that children with Down Syndrome had significant challenges in the following factors compared to children of typical development: tactile sensitivity, auditory processing, low energy/weak, and under-responsive/seeks attention (Wuang and Su, 2011). The results of this study correlates with other health problems and symptoms that can be comorbid with Down Syndrome, which explains why sensory processing symptoms occur in children with Down Syndrome.

Cerebral Palsy

Additionally, in children with Cerebral Palsy sensory processing symptoms are also prevalent because abnormal development or damage to the brain impacts the ability to control muscles. Other conditions can also occur alongside of Cerebral Palsy such as seizures, intellectual disabilities, joint problems, speech delays, hearing loss, and vision problems (Centers for Disease Control and Prevention, 2018b). In 2017, a study found that children with Cerebral Palsy had deficits in sixteen out of the thirty categories of sensory processing symptoms, compared to children that were developing typically (Pavao and Rocha, 2016). Many of the deficits were related to visual, vestibular, modulation of sensory stimuli, appropriate behavioral and emotional responses, as well as with fine and gross motor movements (Pavao and Rocha, 2016). The sensory areas that were found to be a significant challenge to children also correlate with the symptoms that can occur with Cerebral Palsy. Although Down Syndrome and Cerebral Palsy are a result of two different causes, both diagnoses impact sensory processing in children.

Low Vision and Hearing Loss

Just as Cerebral Palsy and Down Syndrome can impact a child's sensory processing, children with Low Vision and Hearing Loss can also experience sensory processing symptoms. Low Vision is diagnosed when a person's visual impairment cannot be corrected by glasses, contact lenses, surgery, or medication (American Academy of Ophthalmology, 2019). Because sight is one of the main five senses, children with Low Vision have to rely on taste, touch, smell, and sound. In 2016, a study evaluated how Low Vision impacts sensory processing in children. The study found that children with Low Vision had deficits in touch, taste, and smell (Saleem and Al-Salahat, 2016). These results identify the importance for the need of sensory therapy because children with Low Vision are having to compensate for the loss of vision through smell, touch, and taste. Additionally, children who have

Hearing Loss also depend on taste, touch, smell, as well as sight. Hearing Loss in children can occur because of birth complications, neurodevelopmental disorders, genetics, a perforated eardrum, exposure to loud noise, and numerous other reasons (Mroz, 2018). In 2009, research measuring the effects of sensory processing in children who use a cochlear implant found that 70% of children with cochlear implants have some degree of sensory processing symptoms (Bharadwaj, Daniel, and Matzke, 2009). The results of this study conclude that even though hearing is improved by the cochlear implant, sensory processing symptoms can still occur. Whether a child has a diagnosis of Low Vision or Hearing Loss, the child's sensory processing can also be impaired.

Short Sensory Profile

The *Short Sensory Profile* (SSP) is a parental perception of their child's sensory functioning (McIntosh, Miller, Shyu, and Dunn, 1999). The SSP is a 38-item instrument that evaluates behaviors that are related to sensory functions. The instrument has seven sections, nine factors, and is scored on a Likert Scale. The internal reliability of the instrument is less then .95 based on a sample of typical developing children (McIntosh et al., 1999). A range of .70 to .90 occurred across three samples of children to develop the subscale reliability (McIntosh et al., 1999). Also, to test the convergent validity, the scores of the *Short Sensory Profile* were compared with assessments from physiological evidence. By comparing the SSP with other physiological assessments, researchers found that abnormal electrodermal reactivity highly correlates to the scores from the *Short Sensory Profile* in relationship with sensory stimuli responses (McIntosh et al., 1999). The study also tested for discriminant validity by comparing children of the same genders and age with typical development to children who have a diagnosis of sensory processing disorder. The children with sensory processing disorders scored notably lower on the *Short Sensory Profile* than those with typical development (McIntosh et al., 1999). Because

of the reliability and validity of this instrument, many of the studies used in the literature review section in this research study utilized the SSP as the testing assessment.

Sensory Processing Measure

The *Sensory Processing Measure* (SPM) is another assessment that measures parental perception of their child's sensory functioning. The SPM identifies "sensory processing difficulties and problems with sensory systems" (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). Additionally, the *Sensory Processing Measure* can be used to provide information and assist teachers, parents, and therapists in providing more individual instruction for children who have sensory processing symptoms (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). The SPM has various assessments based upon which care partner is completing the form such as a form for the classroom, school environment, and home form. The home form is completed by a child's parents and/or guardians and can be used to compare to results of the school form completed by the child's teacher. The home and school forms can then be compared to gain a better understanding of the similarities and differences in a child's performance at home and at school (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). The home form is designed for children between the ages of five and twelve years-old and takes approximately fifteen to twenty minutes to complete by the parent or guardian (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). The *SPM: Home Form* is a 75-item instrument that evaluates behaviors that are related to sensory functions (Parham and Ecker, 2007). The instrument has eight sections and is scored on a Likert Scale. To standardize the assessment, 1,051 parents who have children between the ages of five and twelve were used in the research study. The median internal consistency of the instrument is .85 and the median test-retest reliability was .97 (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). To find convergent validity the scores from the *Sensory Processing Measure*

assessment were compared to the *Sensory Profile* using Spearman's Rho statistical analysis. The convergent validity was .86< .01 (Brown, Morrison, & Stagnitti, 2010). The study also tested for discriminant validity by comparing children who are receiving clinical therapy and children with typical development. Children with disabilities scored notably higher on the SPM than those with typical development (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). Because of the reliability and validity of this instrument, the *Sensory Processing Measure* will be used for the research study.

Comparing the Sensory Processing Measure and the Sensory Profile

The *Sensory Processing Measure* and *Sensory Profile* (SP) are two assessments that are very similar and used to measure sensory processing symptoms in children. In a study researching these two assessments, thirty mothers completed the surveys (Brown, Morrison, & Stagnitti, 2010). A majority of the mothers had children that were in second grade and attended a private school. When analyzing the results, researchers found that Spearman's Rho were significantly correlated to each other at rho=86< .01 (Brown, Morrison, & Stagnitti, 2010). Additionally, the subscales in each assessment were compared and had significant correlations that ranged from 0.37 ($p<.05$) to 0.77 ($p<.01$) (Brown, Morrison, & Stagnitti, 2010). From this study it can be concluded that the convergent validity is reasonable between the two assessments. If the correlations were too high, the SPM and SP would be measuring exactly the same criteria. However if the correlations were too low, the assessments would be measuring different criteria. From this study, it can be concluded that the two studies both measure sensory processing symptoms with significant statistical correlations. In another study that tested the concurrent validity of the SPM utilizing the SP, found that the results showed "expected strong and consistent relationships" (Parham, Ecker, Miller Kuhaneck, Henry, & Glennon, 2007). From the data and information gained in these studies, future researchers have important information that is beneficial when selecting between using the *Sensory Processing Measure* and the *Sensory Profile*.

Theoretical Basis

The *Sensory Processing Measure* was selected for this research study due to the reliability and validity of the assessment. Additionally when obtaining approval of the use of assessment in a research project, Western Psychological Services granted permission for the *Sensory Processing Measure*. The SPM is user-friendly and allowed parents/guardians to complete the survey online. The SPM asks the parents to complete ten questions regarding their child's social participation. The second section is eleven questions and is related to the sensory system of vision. Hearing is the third section and is eight questions. The fourth section is touch and is comprised of eleven questions. Parents/guardians then are tasked with answering five questions related to their child's taste and smell. The next section, body awareness, is ten questions. Balance and motion is the next category and is eleven questions. The final section is planning and ideas, which is nine questions. Each question asks parents to select one of the following options: never, occasionally, frequently, always. Once the survey is completed and analyzed, each of the eight categories can be interpreted as typical, some problems, or definite dysfunction. The raw scores of the eight categories are then added to provide a "Total Sensory Systems" score, which can also be interpreted as typical, some problems, or definite dysfunction. By using the SPM, the data collected will provide better insight into similarities and differences in sensory symptoms in children with disabilities.

CHAPTER III

METHODOLOGY

The purpose of this research study is to determine the similarities and differences in sensory processing symptoms that occur in children who have a diagnosis of Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Down Syndrome, Cerebral Palsy, Low Vision, or Hearing Loss. The researcher hypothesized that there will be more similarities in sensory processing symptoms that occur than differences amongst all the diagnosis being assessed. The second hypothesis is that there will be similarities in sensory processing symptoms that occur based upon the gender and age of the child. The researcher's fourth hypothesis is that there will be similarities in sensory processing symptoms that are related only to a specific diagnosis. The fifth hypothesis is that there will be similarities in sensory processing symptoms between children who are diagnosed with Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder. The last hypothesis is that all children will score at least a T-score of sixty, identifying that there are "some problems" with sensory processing, based upon the S*ensory Processing Measure* assessment.

The parent/guardian completed an online consent form before participation in the study was granted. After completing the consent form, parents/guardians were then asked to complete a background screening. The background screening was used to ensure that all criteria for participation was met. Based upon the information provided in the background screening, parents/guardians were then sent a link through email to complete the *Sensory Processing Measure*. The SPM assess sensory processing symptoms related to Social Participation, Vision, Hearing, Touch, body Awareness, Balance

and Motion, and Planning and Ideas. From these seven categories, a "Total Sensory Systems Score" is derived.

Criteria for Participation

The assessment chosen for this study is the *Sensory Processing Measure*, which assess sensory processing symptoms in children with typical and atypical development. Parents/guardians of children with Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Down Syndrome, Cerebral Palsy, Low Vision, or Hearing Loss were recruited for the study due to the comorbidity of these diagnoses and Sensory Processing Disorder. Recruitment of participants began in February of 2020 through a flyer, word of mouth, and Facebook. Parents/guardians who wanted to partake in the study first completed the consent form and background screening. In order to be eligible for participation, the following criteria had to be met.

- Parent/guardian 18 years or older
- Parent/guardian of a child with a medically diagnosed disability
- The child must have one or more of the following diagnoses: Autism, ADHD, Down Syndrome, Cerebral Palsy, Low Vision, and/or a Hearing Deficit
- The child must between the age of 5-12 years old

Participants

There were 36 parents/guardians who started the consent form and background screening. Out of the 36 parents/guardians who began the consent form and background screening, only 19 parents/guardians completed the forms entirely and correctly. The 19 parents/guardians met all of the

criteria to partake in the study. All 19 parents/guardians were sent an email with a link to complete the study survey. Those who completed the survey and were willing to participate in the research study will be included.

Study Design

This study used a survey research design as it investigated sensory processing symptoms parents/guardians believe their children with disability do and do not display. The study used cross-sectional design because data was only measured once for each participant. Since the research study focused on six specific diagnoses in children between specific ages, non-probability sampling was used. In order to recruit as many eligible participants as possible, purposive and volunteer response sampling occurred. Purposive sampling was needed in order to have participants who have children that meet the study criteria. However, volunteer sampling also occurred. The parents/guardians who participated in the study volunteered based upon reading information about the study through a flyer or social media post. To ensure all participants qualified to participate, the parents/guardians first had to complete a background screening before receiving the online survey.

Statistical Analysis

Descriptive statistics were used to describe the association between sensory processing symptoms and Autism, ADHD, Down Syndrome, Cerebral Palsy, Low Vision, and/or Hearing Deficit. The mean association was calculated for responses for question on the SPM. Additionally, raw and T-scores were used in statistical analysis. Range, variance, skewness, and kurtosis were also tested for statistical analysis. Because of the extensive data, other statistical analysis were not utilized for this specific research study.

CHAPTER IV

RESULTS

Introduction

The purpose of this research study is to determine the similarities and differences in sensory processing symptoms that occur in children who have a diagnosis of Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Down Syndrome, Cerebral Palsy, Low Vision, or Hearing Loss. The *Sensory Processing Measure* was selected as the assessment to be used in the study based upon background research and easy access for research participants. Out of the 36 parents/guardians that started the consent form and background screening, 19 respondents successfully completed the forms. The 19 participants were sent a link to the survey via email. Fifteen out of the 19 respondents, completed the *Sensory Processing Measure* survey. This study specifically utilized mean, range, raw scores, and T-scores to determine whether there was a correlation within of Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Down Syndrome, Cerebral Palsy, Low Vision, or Hearing Loss and sensory processing symptoms. Also the statistical analysis of mean, range, raw scores, and T-scores were used to determine if there is a relationship between age, gender, and diagnoses with the prevalence of sensory processing symptoms.

Sample Description

A total of 36 parents/guardians began the consent form and background screening. Nineteen respondents accurately completed both the consent form and background screening. The 19 respondents

were further contacted to continue to participate in this study. From those participants only 15, successfully completed the SPM. The children, of the parents/guardians who participated in the study, had diagnoses of Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Down Syndrome, Cerebral Palsy, Low Vision, or Hearing Loss. Table 1 provides the demographics of the children whose parents/guardians participated in this study. All the children have been diagnosed with a disability by a medical professional.

Table 1: *Demographics*

Participant #	Age	Gender	Diagnosis
1	12	Female	Autism, Down Syndrome
2	10	Male	ADHD
6	10	Female	Autism
8	5	Male	Cerebral Palsy
9	9	Female	Autism, ADHD
10	12	Male	Autism, ADHD
11	8	Male	ADHD, Autism
12	8	Male	Autism, ADHD
13	9	Male	ADHD
14	12	Male	Autism, Hearing Deficit/ Low Vision
15	5	Male	Autism
17	9	Female	Autism, ADHD
18	12	Female	ADHD
19	10	Male	Autism

Eight of the fourteen participants' children had two diagnoses that were requirements to partake in the study. Ten children were identified as having Autism; whereas, there were eight children with a diagnosis of ADHD. Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision each had one child identified with that diagnosis. Participants 3, 4, 5, and 16 did not complete the Sensory Processing Measure. Participant 7 did complete the survey. However, participant 7 is the father of the same child that participant 6 answered questions on the SPM form. Since participant 6 is the mother, her scores on

the SPM were used in the data analysis. The mother was chosen because thirteen of the other respondents were also mothers. However, one respondent's gender was not provided. The answers provided by participants 6 and 7 were also analyzed to determine if there is a statistical difference in which parent/guardian completes the survey. Four of the children whose parents/guardians completed the study identified them as the age 12. There were three children in each of the following categories, 10 year old's and 9 year old's. The age group of 8 year old's and 5 year old's, each only two respondents. Five children in the study are girls and nine are boys.

Parents/guardians were asked to complete the *Sensory Processing Measure: Home Form*. The questionnaire consisted of 75 questions. The respondents were asked to rank each item from one to four. The questions in the SPM are linked to one of the seven subscales: Social Participation, Vision, Hearing, Touch, Body Awareness, Balance and Motion, and Planning and Ideas. Raw scores from the subscales along with the Total Sensory Systems score for each participant's responses on the SPM can be found in table 2.

Table 2: *Raw Scores*

Raw Score	1	2	6	8	9	10	11	12	13	14	15	17	18	19
SOC	31	22	25	24	31	34	21	29	24	28	31	36	14	33
VIS	25	15	17	19	33	40	23	35	15	18	26	24	20	24
HEA	17	12	13	19	23	32	26	23	10	14	24	26	14	18
TOU	24	14	17	15	38	36	27	37	22	31	23	28	16	22
BOD	27	14	17	23	28	24	27	24	22	21	23	33	16	12
BAL	31	12	20	27	25	37	20	32	17	18	17	25	16	25
PLA	28	20	17	25	23	27	22	27	21	22	29	36	15	34
TOT	133	76	91	110	158	184	138	165	91	110	130	150	89	108

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 3 shows the T-scores for each subscale and total score for each respondent. The interpretive range is found in table 4. For a child to be classified as typical development, a T-score

between 40-59 is needed. T-scores between 60-69, are considered to have some sensory problems. Definite Dysfunction is any T-score between 70-80. Each of the seven subscales along with the Total Sensory Systems, are scored and then the interpretive range is determined based upon the T-scores. Since the SPM is extensive in length, many of the results in this study are calculated based upon the participants scores on the seven subscales and Total Sensory Symptom score. Table 5 shows the each of the fourteen responses not including participant 7. Participant 7 is not included in this table, but will be used in other analysis to compare with the scores from participant 6.

Table 3: *T-scores*

T Score	1	2	6	8	9	10	11	12	13	14	15	17	18	19
SOC	73	62	65	64	73	78	60	70	64	69	73	79	47	76
VIS	71	59	63	65	79	80	69	80	59	64	72	70	67	70
HEA	68	62	63	70	75	80	78	75	56	64	76	78	64	69
TOU	68	55	61	57	80	79	72	80	67	74	68	73	59	67
BOD	72	57	61	68	73	69	72	69	67	66	68	78	60	52
BAL	77	47	65	75	72	80	65	77	61	63	61	72	59	72
PLA	74	64	60	70	67	73	66	73	65	66	75	80	57	80
TOT	74	58	63	69	78	80	75	79	63	69	72	77	63	68

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 4: *Interpretive Range*

Interp Range	1	2	6	8	9	10	11	12	13	14	15	17	18	19
SOC	D	S	S	S	D	D	S	D	S	S	D	D	T	D
VIS	D	T	S	S	D	D	S	D	T	S	D	D	S	D
HEA	S	S	S	D	D	D	D	D	T	S	D	D	S	S
TOU	S	T	S	T	D	D	D	D	S	D	S	D	T	S
BOD	D	T	S	S	D	S	D	S	S	S	S	D	S	T
BAL	D	T	S	D	D	D	S	D	S	S	S	D	T	D
PLA	D	S	S	D	S	D	S	D	S	S	D	D	T	D
TOT	D	T	S	S	D	D	D	D	S	S	D	D	S	S

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms
Legend: D-Definite, S-Some, T-Typical

Table 5: *Participant Responses*

Question Number	1	2	6	8	9	10	11	12	13	14	15	17	18	19
1	3	2	3	2	3	4	3	3	2	3	3	4	2	4
2	3	2	2	2	3	2	2	3	3	2	3	3	1	3
3	3	3	2	2	4	4	3	3	3	3	3	3	2	3
4	4	1	3	3	4	4	2	3	3	4	4	4	2	3
5	3	2	3	3	2	4	3	3	2	3	3	3	1	4
6	3	2	3	3	3	4	2	3	3	4	4	4	2	4
7	3	3	2	2	3	3	2	2	2	3	4	4	1	4
8	3	3	2	2	3	3	1	3	2	2	2	3	1	2
9	3	2	2	3	3	3	1	3	2	2	3	4	1	2
10	3	2	3	2	3	3	2	3	2	2	2	4	1	4
11	2	2	1	2	4	4	3	4	1	1	2	1	3	2
12	3	2	1	2	3	4	4	3	3	2	3	3	4	3
13	1	1	1	2	3	4	2	2	1	1	1	2	1	4
14	2	1	1	2	4	4	1	4	1	4	3	3	2	1
15	2	1	2	1	2	4	1	2	1	1	1	2	2	3
16	2	1	2	2	1	4	1	2	2	2	2	3	1	1
17	3	3	2	2	3	3	4	4	1	3	3	1	1	3
18	3	1	2	2	3	3	3	3	2	1	2	3	2	2
19	3	1	1	1	3	3	1	4	1	1	4	2	1	1
20	2	1	2	2	4	4	2	4	1	1	3	1	2	1
21	2	1	2	1	3	3	1	3	1	1	2	3	1	3
22	1	2	2	3	4	4	4	3	1	1	4	4	2	1
23	1	2	1	3	4	4	4	3	1	1	4	3	2	2
24	3	1	1	2	1	4	3	2	2	3	3	3	2	1
25	2	2	2	1	2	4	1	3	1	1	2	3	1	2
26	2	1	1	3	3	4	3	3	1	1	3	3	1	3
27	3	1	2	3	3	4	4	3	2	1	2	4	3	3
28	4	1	3	1	2	4	4	4	1	3	3	3	1	4
29	1	2	1	3	4	4	3	2	1	3	3	3	2	2
30	1	1	1	1	3	4	2	2	2	3	1	1	1	1
31	3	1	2	1	3	1	2	2	2	1	1	3	1	1
32	2	2	2	2	3	4	1	4	1	3	1	1	3	2
33	1	1	2	2	4	2	4	4	3	3	3	3	1	1
34	3	1	1	2	3	4	3	4	1	2	1	3	1	4
35	2	1	1	1	4	4	3	4	2	3	3	1	1	2
36	2	2	1	1	4	3	1	4	1	2	1	1	1	3
37	4	1	2	2	4	4	4	2	4	4	4	4	1	3
38	2	2	1	1	3	4	1	4	3	4	3	3	1	2
39	2	1	2	1	3	2	2	3	1	3	3	4	2	2
40	2	1	2	1	4	4	4	4	2	3	2	4	3	1
41	2	2	1	1	1	2	4	2	1	1	4	1	1	1

42	1	3	1	1	2	4	4	4	1	2	3	4	2	2
43	2	1	2	2	4	2	4	2	1	1	4	3	1	1
44	1	2	2	1	3	4	2	3	1	1	3	3	2	1
45	3	1	1	2	1	3	1	3	1	3	3	3	1	2
46	3	1	1	2	1	3	2	3	3	1	1	4	1	1
47	2	1	3	4	4	1	4	3	4	4	3	4	3	1
48	3	1	1	2	3	3	1	2	1	2	1	4	2	1
49	2	1	1	2	2	2	1	2	2	1	2	1	1	3
50	3	1	2	2	3	4	3	3	2	2	3	4	1	1
51	2	1	2	4	3	1	4	3	4	4	3	4	1	1
52	3	1	1	2	3	2	3	2	1	2	2	4	1	1
53	2	1	3	2	3	1	2	2	2	1	3	4	2	1
54	4	4	1	1	3	4	4	2	1	2	3	2	3	1
55	3	2	2	2	3	3	3	2	2	2	2	2	1	1
56	3	1	1	3	1	4	1	2	1	1	1	1	1	1
57	3	2	3	3	4	4	3	3	1	1	1	2	2	2
58	3	1	1	3	2	4	1	3	1	1	1	3	1	4
59	2	1	1	2	2	3	2	3	2	1	1	2	2	2
60	3	1	2	3	2	4	3	3	3	1	2	3	1	2
61	3	1	3	1	3	2	1	2	1	4	3	4	2	4
62	3	1	2	3	3	1	3	4	1	4	2	4	1	3
63	2	1	1	1	1	3	1	3	1	1	1	1	1	1
64	4	1	3	3	4	4	3	3	2	1	3	1	2	4
65	2	1	1	2	1	4	1	2	1	1	1	1	1	1
66	3	1	2	3	2	4	1	4	3	2	1	3	2	1
67	3	2	2	2	2	1	3	3	3	2	4	4	2	3
68	3	4	3	3	4	4	2	4	3	2	4	4	3	4
69	3	3	1	3	3	4	4	3	3	3	3	4	2	4
70	3	2	2	3	2	3	3	3	3	2	3	4	1	4
71	3	2	2	4	3	3	2	3	3	3	4	4	2	3
72	3	1	2	2	1	4	1	3	1	2	2	4	1	4
73	3	1	1	3	2	1	3	1	1	2	2	4	1	4
74	3	2	2	2	3	3	1	4	2	3	4	4	2	4
75	4	3	2	3	3	4	3	3	2	3	3	4	1	4

*Scoring is reversed on items 1-10, 57
Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1)
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Results

Once the data from the fifteen participants was collected it was analyzed using the following descriptive statistics: mean, frequency, range, minimum and maximum statistic, standard error, standard deviation, variance, skewness, and kurtosis. Because the data is very extensive, not all statistics were

used for every data set. The first analysis ran determined the mean for each question based upon all participants answers. The average response for all questions in the survey is 2.345, which is considered option 2 in the survey. For the mean of each question see table 6.

Table 6: *Mean for Each Questions' Responses of Males and Females of All Diagnoses*

Question Number	Mean of All Dx
1	2.93
2	2.43
3	2.93
4	3.14
5	2.79
6	3.14
7	2.71
8	2.29
9	2.43
10	2.57
11	2.29
12	2.86
13	1.86
14	2.36
15	1.79
16	1.86
17	2.57
18	2.29
19	1.93
20	2.14
21	1.93
22	2.57
23	2.50
24	2.21
25	1.93
26	2.33
27	2.71
28	2.71
29	2.43
30	1.71
31	1.71
32	2.21
33	2.43
34	2.36
35	2.29
36	1.93

37	3.07
38	2.43
39	2.21
40	2.64
41	1.71
42	2.43
43	2.14
44	2.07
45	2.00
46	1.93
47	2.93
48	1.93
49	1.64
50	2.43
51	2.64
52	2.00
53	2.07
54	2.50
55	2.14
56	1.57
57	2.43
58	2.07
59	1.86
60	2.36
61	2.43
62	2.50
63	1.36
64	2.71
65	1.43
66	2.29
67	2.57
68	3.36
69	3.07
70	2.71
71	2.93
72	2.21
73	2.07
74	2.79
75	3.00

*Scoring is reversed on items 1-10, 57
Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1)
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

In the second analysis, the responses from all respondents were included. This data was tested to determine the response frequency for each question on the *Sensory Processing Measure*. Based upon the

questions that had 50% or more respondents select the same response, similarities and differences in sensory processing symptoms can be determined. In table 7, the questions that had frequencies that were at least 50% for all diagnoses responses are shown.

Table 7: *Frequency of SPM Responses for All Diagnoses*

Question Number	All Diagnoses: Girls and Boys 14 total participants	All Diagnoses: Girls 5 total participants	All Diagnoses: Boys 9 total participants
1	7 people selected option 3 at 50%	3 people selected option 3 at 60%	
2	7 people selected option 3 at 50%	3 people selected option 3 at 60%	5 people selected option 2 at 55.6%
3	9 people selected option 3 at 64.3%		7 people selected option 3 at 77.8%
4		3 people selected option 4 at 60%	
5	8 people selected option 3 at 57.1%	3 people selected option 3 at 60%	5 people selected option 3 at 55.6%
6		3 people selected option 3 at 60%	
7			
8		3 people selected option 3 at 60%	5 people selected option 2 at 55.6%
9			
10		3 people selected option 3 at 60%	6 people selected option 2 at 66.7%
11			
12	7 people selected option 3 at 50%	3 people selected option 3 at 60%	
13	7 people selected option 1 at 50%	3 people selected option 1 at 60%	
14			
15		5 people selected option 2 at 100 %	6 people selected option 1 at 66.7%
16	7 people selected option 2 at 50%		5 people selected option 2 at 55.6%
17	7 people selected option 3 at 50%		5 people selected option 3 at 55.6%
18		3 people selected option 3 at 60%	
19	8 people selected option 1 at 57.1%		6 people selected option 1 at 66.7%

20		3 people selected option 2 at 60%	
21			5 people selected option 1 at 55.6%
22			
23			
24			
25		3 people selected option 2 at 60%	5 people selected option 3 at 55.6%
26	7 people selected option 3 at 50%		
27		3 people selected option 3 at 60%	
28			
29			
30	8 people selected option 1 at 57.1%	4 people selected option 1 at 80%	
31	7 people selected option 1 at 50%	3 people selected option 3 at 60%	6 people selected option 1 at 66.7%
32			
33			
34		3 people selected option 3 at 60%	
35		3 people selected option 1 at 60%	
36	7 people selected option 1 at 50%	3 people selected option 1 at 60%	
37	8 people selected option 4 at 57.1%	3 people selected option 4 at 60%	5 people selected option 4 at 55.6%
38			
39		3 people selected option 2 at 60%	
40			
41	8 people selected option 1 at 57.1%	4 people selected option 1 at 80%	
42			
43			
44			
45		3 people selected option 1 at 60%	
46	7 people selected option 1 at 50%	3 people selected option 1 at 60%	
47			
48			5 people selected option 1 at 55.6%
49	7 people selected option 2 at 50%	3 people selected option 1 at 60%	5 people selected option 2 at 55.6%

50			
51			
52			5 people selected option 2 at 55.6%
53			
54			
55	8 people selected option 2 at 57.1%		6 people selected option 2 at 66.7%
56	10 people selected option 1 at 71.4%	4 people selected option 1 at 80%	6 people selected option 1 at 66.7%
57			
58	7 people selected option 1 at 50%		5 people selected option 1 at 55.6%
59	8 people selected option 2 at 57.1%	4 people selected option 2 at 80%	
60			
61		3 people selected option 3 at 60%	
62			
63	11 people selected option 1 at 78.6%	4 people selected option 1 at 80%	7 people selected option 1 at 77.8%
64			
65	10 people selected option 1 at 71.4%	4 people selected option 1 at 80%	6 people selected option 1 at 66.7%
66		3 people selected option 2 at 60%	
67		3 people selected option 2 at 60%	
68	7 people selected option 4 at 50%	3 people selected option 3 at 60%	5 people selected option 4 at 55.6%
69	8 people selected option 3 at 57.1%		6 people selected option 3 at 66.7%
70	7 people selected option 3 at 50%		6 people selected option 3 at 66.7%
71	7 people selected option 3 at 50%		5 people selected option 3 at 55.6%
72			
73			
74			
75	7 people selected option 3 at 50%		6 people selected option 3 at 66.7%

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

From the results in table 7, there were 28 questions that had at least 50% of the respondents choose the same answer regardless of gender or diagnosis. For all diagnoses and only respondents who have a female child, there were 33 questions that had at least 50% of the same answer selected. The participants who have a male child had 26 questions that had 50% or more respondents chose the same answer. From the data collected in the survey, it can be concluded that there are more differences in individual responses to questions on the SPM than similarities.

Table 8, shows the mean for each subscale based upon diagnosis in both boys and girls. From this analysis, it can be determined that on average children with Autism scored higher than children with ADHD in every subscale along with the Total Sensory System score. Additionally, children with a diagnosis of Autism scored higher overall than children with Cerebral Palsy, Down Syndrome, and Hearing deficit/Low Vision on the Total Sensory System score. Hearing Deficit/Low Vision and Cerebral Palsy had the lowest total score on average at 110. Children with Down Syndrome scored the highest on average in the subscales of Social Participation, Body Awareness, Balance and Motion, and Planning and Ideas than the other diagnoses in the study. In tables 9 and 10, the raw and T-scores for both genders of all diagnoses were compared. Each variable in the table represents a subscale from the survey. From this analysis, the average raw Total Sensory Symptom scores for all diagnoses of males and females is 123.79. The average T-score of Total Sensory Symptoms is 70.57. From the mean of the Total Sensory Symptoms, the mean of the interpretive range can be calculated. On average the participants scores were in the range of definite dysfunction. In tables 9 and 10, the range, minimum and maximum statistics, standard deviation, and more can be viewed for each subscale as well as the final total score.

Table 8: *Raw Scores Means of Males and Females of All Diagnoses*

All Diagnoses Girls/ Boys	Autism 10 participants	ADHD 8 participants	CP 1 participant	DS 1 participant	HD/LV 1 participant	Mean of all Dx combined-14 participants
SOC	29.90	26.38	24	31	28	27.36
VIS	26.50	25.63	19	25	18	23.86
HEA	21.60	20.75	19	17	14	19.36
TOU	28.30	27.25	15	24	31	25.00
BOD	23.60	23.50	23	27	21	22.21
BOA	25.00	23.00	27	31	18	23.00
PLA	26.50	23.88	25	28	22	24.71
TOT	136.70	131.38	110	133	110	123.79

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 9: *Raw Scores of Males and Females of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00078	14	22.00	14.00	36.00	27.3571	1.60565	6.00778	36.093	-.668	.597	.260	1.154
VAR00079	14	25.00	15.00	40.00	23.8571	2.03231	7.60422	57.824	.874	.597	.068	1.154
VAR00080	14	22.00	10.00	32.00	19.3571	1.72763	6.46419	41.786	.334	.597	-.745	1.154
VAR00081	14	24.00	14.00	38.00	25.0000	2.18888	8.19005	67.077	.306	.597	-1.099	1.154
VAR00082	14	21.00	12.00	33.00	22.2143	1.55902	5.83331	34.027	-.146	.597	-.311	1.154
VAR00083	14	25.00	12.00	37.00	23.0000	1.89563	7.09279	50.308	.450	.597	-.466	1.154
VAR00084	14	21.00	15.00	36.00	24.7143	1.59128	5.95404	35.451	.340	.597	-.198	1.154
VAR00085	14	108.00	76.00	184.00	123.7857	8.70151	32.55806	1060.027	.311	.597	-.895	1.154
Valid N (listwise)	14											

Legend: (78) Social Participation, (79) Vision, (80) Hearing, (81) Touch, (82) Body Awareness, (83) Balance and Motion, (84) Planning and Ideas, (85) Total Sensory Symptoms

Table 10: T-score*s of Males and Females of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	14	32.00	47.00	79.00	68.0714	2.28099	8.53467	72.841	-1.028	.597	1.536	1.154
VAR00002	14	21.00	59.00	80.00	69.1429	1.87188	7.00392	49.055	.265	.597	-.743	1.154
VAR00003	14	24.00	56.00	80.00	69.8571	1.96076	7.33650	53.824	-.284	.597	-.991	1.154
VAR00004	14	25.00	55.00	80.00	68.5714	2.22798	8.33634	69.495	-.149	.597	-1.031	1.154
VAR00005	14	26.00	52.00	78.00	66.5714	1.85376	6.93613	48.110	-.623	.597	.224	1.154
VAR00006	14	33.00	47.00	80.00	67.5714	2.41723	9.04446	81.802	-.699	.597	.413	1.154
VAR00007	14	23.00	57.00	80.00	69.2857	1.84994	6.92186	47.912	-.030	.597	-.648	1.154
VAR00008	14	22.00	58.00	80.00	70.5714	1.86263	6.96932	48.571	-.284	.597	-1.085	1.154
Valid N (listwise)	14											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 11 shows the raw mean scores for girls broken down by each diagnosis. Cerebral Palsy and Hearing Deficit/Low Vision are not included in this section, due to not having any respondents with girls. Girls with Autism scored lower on the Total Sensory System score than the average for both genders. However, girls with ADHD scored higher on the Total Sensory System score than the average for both genders. The raw and T-scores statistical analysis for girls of all diagnoses can be found in Tables 12 and 13. There were a total of 5 respondents who have female children. The raw and T-scores of all participants, who have a girl, were calculated to find average scores for each subscale. The mean raw Total Sensory Symptoms for girls of all ages is 124.20, which is .41 higher than the average score for all genders and diagnoses. In the category of Body Awareness, females scored higher than the overall average of boys and girls of all diagnoses. Despite the difference in score, both are considered under the category of interpretive range of some problems. The average T-score for Total Sensory Symptoms for girls was 71, which is classified as definite dysfunction.

Table 11: *Raw Scores Means of Girls of All Diagnoses*

All Diagnoses Girls	Autism 4 participants	ADHD 3 participants	CP n/a No girls	DS 1 participant	HD/LV n/a No girls	Mean of all Dx combined- 5 participants
SOC	30.75	27.00		31		27.40
VIS	24.75	25.67		25		23.80
HEA	19.75	21.00		17		18.60
TOU	26.75	27.33		24		24.60
BOD	26.25	25.67		27		24.20
BOA	25.25	22.00		31		23.40
PLA	26.00	24.67		28		23.80
TOT	133.00	132.33		133		124.20

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 12: *Raw Scores of Girls of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	5	22.00	14.00	36.00	27.4000	3.77624	8.44393	71.300	-1.170	.913	1.364	2.000
VAR00002	5	16.00	17.00	33.00	23.8000	2.70924	6.05805	36.700	.770	.913	.828	2.000
VAR00003	5	13.00	13.00	26.00	18.6000	2.54165	5.68331	32.300	.484	.913	-2.236	2.000
VAR00004	5	22.00	16.00	38.00	24.6000	4.01995	8.98888	80.800	.786	.913	-.115	2.000
VAR00005	5	17.00	16.00	33.00	24.2000	3.30757	7.39594	54.700	-.171	.913	-2.370	2.000
VAR00006	5	15.00	16.00	31.00	23.4000	2.54165	5.68331	32.300	.006	.913	-.234	2.000
VAR00007	5	21.00	15.00	36.00	23.8000	3.81314	8.52643	72.700	.601	.913	-.763	2.000
VAR00008	5	69.00	89.00	158.00	124.2000	14.53754	32.50692	1056.700	-.288	.913	-2.958	2.000
Valid N (listwise)	5											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 13: T-score*s of Girls of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00018	5	32.00	47.00	79.00	67.4000	5.56417	12.44186	154.800	-1.426	.913	2.083	2.000
VAR00019	5	16.00	63.00	79.00	70.0000	2.64575	5.91608	35.000	.724	.913	1.229	2.000
VAR00020	5	15.00	63.00	78.00	69.6000	2.97658	6.65582	44.300	.400	.913	-2.448	2.000
VAR00021	5	21.00	59.00	80.00	68.2000	3.86523	8.64292	74.700	.388	.913	-1.331	2.000
VAR00022	5	18.00	60.00	78.00	68.8000	3.54119	7.91833	62.700	-.227	.913	-2.506	2.000
VAR00023	5	18.00	59.00	77.00	69.0000	3.14643	7.03562	49.500	-.596	.913	-.596	2.000
VAR00024	5	23.00	57.00	80.00	67.6000	4.27317	9.55510	91.300	.257	.913	-1.810	2.000
VAR00025	5	15.00	63.00	78.00	71.0000	3.33167	7.44983	55.500	-.441	.913	-3.142	2.000
Valid N (listwise)	5											

Legend: (18) Social Participation, (19) Vision, (20) Hearing, (21) Touch, (22) Body Awareness, (23) Balance and Motion, (24) Planning and Ideas, (25) Total Sensory Symptoms

Table 14 shows the raw mean scores of each subscale for boys of each diagnosis. In tables 15 and 16, the mean raw and T-scores for boys of all diagnoses can be found. On average boys with Autism scored higher on the Total Sensory System score than the average for both genders. However, boys with ADHD scored lower on the Total Sensory System score than the mean for both genders with ADHD. The average raw total score for males was 123.56, which is .23 lower than the average for both genders of all diagnoses. In the subscale of Planning and Ideas, the boys scored higher than the mean of girls and boys of all diagnoses for a difference of .93. Since the average T-score, for the subscale of Planning and Ideas, for boys only was 70.33, the interpretive range is definite dysfunction. Whereas, the T-score for subscale of Planning and Ideas of all genders and diagnoses was considered as having some sensory problems. In comparison with girls of all diagnoses, the boys also scored higher on the subscales of Vision, Hearing, and Touch. Additionally, on average boys of all diagnoses scored lower on the Total Sensory Systems score than the girls of all diagnosis did. The boys scored 123.56; whereas, the girls scored 124.20. The difference between the Total Sensory Systems is .64.

Table 14: *Raw Scores Means of Boys of All Diagnoses*

All Diagnoses Boys	Autism 6 participants	ADHD 5 participants	CP 1 participant	DS n/a No boys	HD/LV 1 participant	Mean of all Dx combined- 9 participants
SOC	34..00	26.00	24		28	27.33
VIS	40.00	25.60	19		18	23.89
HEA	32.00	20.60	19		14	19.78
TOU	37.00	27.20	15		31	25.22
BOD	27.00	22.20	23		21	21.11
BOA	37.00	23.60	27		18	22.78
PLA	34.00	23.40	25		22	25.22
TOT	139.17	130.80	110		110	123.56

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 15: *Raw Scores of Boys of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00078	9	13.00	21.00	34.00	27.3333	1.59861	4.79583	23.000	.077	.717	-1.604	1.400
VAR00079	9	25.00	15.00	40.00	23.8889	2.89849	8.69546	75.611	.938	.717	-.032	1.400
VAR00080	9	22.00	10.00	32.00	19.7778	2.38501	7.15503	51.194	.251	.717	-.671	1.400
VAR00081	9	23.00	14.00	37.00	25.2222	2.75771	8.27312	68.444	.149	.717	-1.090	1.400
VAR00082	9	15.00	12.00	27.00	21.1111	1.63677	4.91031	24.111	-1.153	.717	.412	1.400
VAR00083	9	25.00	12.00	37.00	22.7778	2.69659	8.08977	65.444	.601	.717	-.519	1.400
VAR00084	9	14.00	20.00	34.00	25.2222	1.50718	4.52155	20.444	.794	.717	.195	1.400
VAR00085	9	108.00	76.00	184.00	123.5556	11.51824	34.55471	1194.028	.563	.717	-.305	1.400
Valid N (listwise)	9											

Legend: (78) Social Participation, (79) Vision, (80) Hearing, (81) Touch, (82) Body Awareness, (83) Balance and Motion, (84) Planning and Ideas, (85) Total Sensory Symptoms

Table 16: T-scores *of Boys of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	9	18.00	60.00	78.00	68.4444	2.12205	6.36614	40.528	.222	.717	-1.371	1.400
VAR00002	9	21.00	59.00	80.00	68.6667	2.61406	7.84219	61.500	.331	.717	-.943	1.400
VAR00003	9	24.00	56.00	80.00	70.0000	2.69258	8.07775	65.250	-.494	.717	-.808	1.400
VAR00004	9	25.00	55.00	80.00	68.7778	2.89529	8.68588	75.444	-.393	.717	-.669	1.400
VAR00005	9	20.00	52.00	72.00	65.3333	2.16025	6.48074	42.000	-1.483	.717	1.331	1.400
VAR00006	9	33.00	47.00	80.00	66.7778	3.43502	10.30507	106.194	-.603	.717	.232	1.400
VAR00007	9	16.00	64.00	80.00	70.2222	1.80876	5.42627	29.444	.556	.717	-.660	1.400
VAR00008	9	22.00	58.00	80.00	70.3333	2.38048	7.14143	51.000	-.277	.717	-.357	1.400
Valid N (listwise)	9											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The next data that was analyzed tested the response frequency for each question on the *Sensory Processing Measure* for the diagnosis of Autism. Based upon the questions that had 50% or more respondents select the same response, similarities and differences in sensory processing symptoms in children with Autism can be determined. In table 17, the questions that had frequencies that were at least similar in 50% of the responses are shown.

Table 17: *Frequency of SPM Responses for Autism*

Question Number	Autism: Girls and Boys Total participants- 10	Autism: Girls Total participants- 4	Autism: Boys Total participants- 6
1	7 people selected option 3 at 70%	3 people selected option 3 at 75%	4 people selected option 3 at 66.7%
2	6 people selected option 3 at 60%	3 people selected option 3 at 75%	3 people selected option 2 50% 3 people selected option 3 at 50%
3	7 people selected option 3 at 70%	2 people selected option 3 at 50%	5 people selected option 3 at 83.3%
4	6 people selected option 4 at 60%	3 people selected option 4 at 75%	3 people selected option 4 at 50%
5	7 people selected option 3 at 70%	3 people selected option 3 at 75%	4 people selected option 3 at 66.7%
6	5 people selected option 4 at 50%	3 people selected option 3 at 75%	4 people selected option 4 at 66.7%
7		2 people selected option 3 at 50%	
8	5 people selected option 3 at 50%	3 people selected option 3 at 75%	3 people selected option 2 at 50%
9	5 people selected option 3 at 50%	2 people selected option 3 at 50%	3 people selected option 3 at 50%
10	5 people selected option 3 at 50%	3 people selected option 3 at 75%	3 people selected option 2 at 50%
11		2 people selected option 1 at 50%	
12	6 people selected option 3 at 60%	3 people selected option 3 at 75%	3 people selected option 3 at 50%
13		2 people selected option 2 at 50%	

14			3 people selected option 4 at 50%
15	5 people selected option 2 at 50%	4 people selected option 2 at 100%	3 people selected option 1 at 50%
16	5 people selected option 2 at 50%	2 people selected option 2 at 50%	3 people selected option 2 at 50%
17	6 people selected option 3 at 60%	2 people selected option 3 at 50%	4 people selected option 3 at 66.7%
18	6 people selected option 3 at 60%	3 people selected option 3 at 75%	3 people selected option 3 at 50%
19		2 people selected option 3 at 50%	3 people selected option 1 at 50%
20		2 people selected option 2 at 50%	
21	5 people selected option 3 at 50%	2 people selected option 2 at 50% 2 people selected option 3 at 50%	3 people selected option 3 at 50%
22	5 people selected option 4 at 50%	2 people selected option 4 50%	3 people selected option 4 at 50%
23		2 people selected option 1 at 50%	3 people selected option 4 at 50%
24	5 people selected option 3 at 50%	2 people selected option 1 at 50% 2 people selected option 3 at 50%	3 people selected option 3 at 50%
25	5 people selected option 2 at 50%	3 people selected option 2 at 75%	
26	6 people selected option 3 at 60%	2 people selected option 3 at 50%	4 people selected option 3 at 66.7%
27		2 people selected option 3 at 50%	
28	5 people selected option 4 at 50%	2 people selected option 3 at 50%	4 people selected option 4 at 66.7%
29		2 people selected option 1 at 50%	3 people selected option 3 at 50%
30	5 people selected option 1 at 50%	3 people selected option 1 at 75%	
31		3 people selected option 3 at 75%	4 people selected option 1 at 66.7%
32		2 people selected option 2 at 50%	
33			
34		3 people selected option 3 at 75%	3 people selected option 4 at 50%
35		2 people selected option 1 at 50%	3 people selected option 3 at 50%

36		2 people selected option 1 at 50%	
37	7 people selected option 4 at 70%	3 people selected option 4 75%	4 people selected option 4 at 66.7%
38		2 people selected option 3 at 50%	3 people selected option 4 at 50%
39	5 people selected option 2 at 50%	2 people selected option 2 at 50%	3 people selected option 2 at 50% 3 people selected option 3 at 50%
40	5 people selected option 4 at 50%	2 people selected option 2 at 50% 2 people selected option 4 at 50%	3 people selected option 4 at 50%
41	5 people selected option 1 at 50%	3 people selected option 3 at 75%	
42		2 people selected option 1 at 50%	3 people selected option 4 at 50%
43		2 people selected option 2 at 50%	
44		2 people selected option 3 at 50%	
45	6 people selected option 3 at 60%	2 people selected option 1 50% 2 people selected option 3 at 50%	4 people selected option 3 at 66.7%
46	5 people selected option 1 at 50%	2 people selected option 1 at 50%	3 people selected option 1 at 50%
47		2 people selected option 4 at 50%	
48		2 people selected option 3 at 50%	3 people selected option 1 50%
49	5 people selected option 2 at 50%	2 people selected option 1 at 50% 2 people selected option 2 at 50%	3 people selected option 2 at 50%
50	5 people selected option 3 at 50%	2 people selected option 3 at 50%	3 people selected option 3 at 50%
51		2 people selected option 2 at 50%	
52		2 people selected option 3 at 50%	4 people selected option 2 at 66.7%
53		2 people selected option 3 at 50%	3 people selected option 1 at 50%
54			

55	5 people selected option 2 at 50%	2 people selected option 2 at 50% 2 people selected option 3 at 50%	3 people selected option 2 at 50%
56	7 people selected option 1 at 70%	3 people selected option 1 at 75%	4 people selected option 1 at 66.7%
57		2 people selected option 3 at 50%	
58		2 people selected option 3 at 50%	3 people selected option 1 at 50%
59	5 people selected option 2 at 50%	3 people selected option 2 at 75%	
60		2 people selected option 2 at 50% 2 people selected option 3 at 50%	
61		3 people selected option 3 at 75%	
62		2 people selected option 3 at 50%	
63	7 people selected option 1 at 70%	3 people selected option 1 at 75%	4 people selected option 1 at 66.7%
64		2 people selected option 4 at 50%	3 people selected option 3 at 50%
65	7 people selected option 1 at 70%	3 people selected option 1 at 75%	4 people selected option 1 at 66.7%
66		2 people selected option 2 at 50% 2 people selected option 3 at 50%	3 people selected option 1 at 50%
67		2 people selected option 2 at 50%	3 people selected option 3 at 50%
68	6 people selected option 4 at 60%	2 people selected option 3 at 50% 2 people selected option 4 at 50%	4 people selected option 4 at 66.7%
69	5 people selected option 3 at 50%	2 people selected option 3 at 50%	3 people selected option 3 at 50% 3 people selected option 4 at 50%
70	5 people selected option 3 at 50%	2 people selected option 2 at 50%	4 people selected option 3 at 66.7 %
71	6 people selected option 3 at 60%	2 people selected option 3 at 50%	4 people selected option 3 at 66.7 %
72			
73			

74		2 people selected option 3 at 50%	3 people selected option 4 at 50%
75	5 people selected option 3 at 50%	2 people selected option 4 at 50%	4 people selected option 3 at 66.7 %

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

From the results in table 17, there were 29 questions that had at least 50% of the respondents choose the same answer regardless of gender. For all diagnosis of girls with Autism, there were 70 questions that had at least 50% of the same answer selected. The participants who have a male child had 52 questions that had 50% or more respondents choose the same answer. From the data collected in the survey, it can be concluded that there are more differences between question responses of girls and boys with Autism on the SPM than similarities. However, there are more similarities in responses of only girls with Autism than differences. Additionally, boys with Autism had more similarities in answers on the SPM than differences. In tables 18 and 19, the raw and T-scores for children of both genders diagnosed with Autism were compared. Each variable in the table represents a subscale from the survey. From this analysis, the average raw Total Sensory Symptom scores for all diagnoses of Autism in males and females is 136.70, which is higher than the average of girls and boys of all diagnoses by 12.91. The average T-score of Total Sensory Symptoms is 73.50, which is 2.93 higher than the average of children of all diagnoses. From the mean of the Total Sensory Symptoms, the mean of the interpretive range can be calculated. On average the participants scores were in the range of definite dysfunction. In tables 18 and 19, the range, minimum and maximum statistics, standard deviation, and more can be viewed for each subscale as well as the final total score. Based upon this data it can be concluded, that children with Autism on average have a higher Total Sensory Symptoms score than ADHD, Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision. Since children with Autism have a higher Total Sensory

Symptoms score, overall experience more sensory processing symptoms than children with other diagnoses that were tested in this study.

Table 18: *Raw Scores of Males and Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	10	15.00	21.00	36.00	29.9000	1.39403	4.40833	19.433	-.811	.687	.647	1.334
VAR00002	10	23.00	17.00	40.00	26.5000	2.32499	7.35225	54.056	.629	.687	-.319	1.334
VAR00003	10	19.00	13.00	32.00	21.6000	1.89268	5.98517	35.822	.062	.687	-.613	1.334
VAR00004	10	21.00	17.00	38.00	28.3000	2.24128	7.08755	50.233	.048	.687	-1.125	1.334
VAR00005	10	21.00	12.00	33.00	23.6000	1.87498	5.92921	35.156	-.581	.687	.694	1.334
VAR00006	10	20.00	17.00	37.00	25.0000	2.08700	6.59966	43.556	.571	.687	-.637	1.334
VAR00007	10	19.00	17.00	36.00	26.5000	1.82117	5.75905	33.167	.157	.687	-.278	1.334
VAR00008	10	93.00	91.00	184.00	136.7000	9.03948	28.58535	817.122	.012	.687	-.602	1.334
Valid N (listwise)	10											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 19: T-score*s of Males and Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	10	19.00	60.00	79.00	71.6000	1.85113	5.85377	34.267	-.768	.687	.330	1.334
VAR00002	10	17.00	63.00	80.00	71.8000	1.94251	6.14275	37.733	.171	.687	-1.042	1.334
VAR00003	10	17.00	63.00	80.00	72.6000	1.93333	6.11374	37.378	-.533	.687	-1.296	1.334
VAR00004	10	19.00	61.00	80.00	72.2000	1.99889	6.32104	39.956	-.233	.687	-.697	1.334
VAR00005	10	26.00	52.00	78.00	68.0000	2.28035	7.21110	52.000	-1.182	.687	2.045	1.334
VAR00006	10	19.00	61.00	80.00	70.4000	2.07739	6.56929	43.156	-.039	.687	-1.431	1.334
VAR00007	10	20.00	60.00	80.00	71.4000	2.05589	6.50128	42.267	-.271	.687	-.658	1.334
VAR00008	10	17.00	63.00	80.00	73.5000	1.73365	5.48229	30.056	-.708	.687	-.292	1.334
Valid N (listwise)	10											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The raw and T-scores statistical analysis for girls diagnosed with Autism can be found in Tables 20 and 21. There were a total of 4 respondents who have female children. The mean raw Total Sensory Symptoms score for girls of all ages with Autism is 133.00, which is higher than the average Total

Sensory Symptoms score of 124.20 by 8.8. However, the total score for girls with Autism is lower than the average score for all genders with Autism by 3.7. In the category of Social Participation, Body Awareness, and Balance and Motion females scored higher than the overall average of boys and girls with Autism. The mean T-score for Total Sensory Symptoms for girls with Autism is 73, which is 2 points higher than the overall average for girls of all diagnoses.

Table 20: *Raw Scores of Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	4	11.00	25.00	36.00	30.7500	2.25000	4.50000	20.250	-.332	1.014	1.561	2.619
VAR00002	4	16.00	17.00	33.00	24.7500	3.27554	6.55108	42.917	.227	1.014	1.413	2.619
VAR00003	4	13.00	13.00	26.00	19.7500	2.92617	5.85235	34.250	-.166	1.014	-2.786	2.619
VAR00004	4	21.00	17.00	38.00	26.7500	4.38511	8.77021	76.917	.473	1.014	.650	2.619
VAR00005	4	16.00	17.00	33.00	26.2500	3.35099	6.70199	44.917	-1.059	1.014	2.042	2.619
VAR00006	4	11.00	20.00	31.00	25.2500	2.25000	4.50000	20.250	.332	1.014	1.561	2.619
VAR00007	4	19.00	17.00	36.00	26.0000	4.02078	8.04156	64.667	.323	1.014	-.222	2.619
VAR00008	4	67.00	91.00	158.00	133.0000	14.93876	29.87753	892.667	-1.339	1.014	1.500	2.619
Valid N (listwise)	4											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 21: T-score*s of Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00018	4	14.00	65.00	79.00	72.5000	2.87228	5.74456	33.000	-.517	1.014	1.649	2.619
VAR00019	4	16.00	63.00	79.00	70.7500	3.27554	6.55108	42.917	.227	1.014	1.413	2.619
VAR00020	4	15.00	63.00	78.00	71.0000	3.39116	6.78233	46.000	-.282	1.014	-2.734	2.619
VAR00021	4	19.00	61.00	80.00	70.5000	4.01040	8.02081	64.333	.000	1.014	-.317	2.619
VAR00022	4	17.00	61.00	78.00	71.0000	3.58236	7.16473	51.333	-1.175	1.014	2.208	2.619
VAR00023	4	12.00	65.00	77.00	71.5000	2.46644	4.93288	24.333	-.600	1.014	1.701	2.619
VAR00024	4	20.00	60.00	80.00	70.2500	4.32772	8.65544	74.917	-.135	1.014	-1.394	2.619
VAR00025	4	15.00	63.00	78.00	73.0000	3.43996	6.87992	47.333	-1.658	1.014	2.690	2.619
Valid N (listwise)	4											

Legend: (18) Social Participation, (19) Vision, (20) Hearing, (21) Touch, (22) Body Awareness, (23) Balance and Motion, (24) Planning and Ideas, (25) Total Sensory Symptoms

In tables 22 and 23, the mean raw and T-scores for boys diagnosed with Autism can be found. On average, boys with Autism scored higher on the Total Sensory System score than the average for both genders with Autism. The average raw total score for males was 139.16, which is 15.6 higher than the average for both genders of all diagnoses. When comparing the mean raw score of boys with Autism to the average Total Sensory Symptoms of boys and girls with Autism, the boys scored 2.47 points higher. In the subscales of Vision, Hearing, Touch, and Planning and Ideas, the boys scored higher than the mean of girls with Autism.

Table 22: *Raw Scores of Males with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	6	13.00	21.00	34.00	29.3333	1.90904	4.67618	21.867	-1.249	.845	1.785	1.741
VAR00002	6	22.00	18.00	40.00	27.6667	3.35327	8.21381	67.467	.656	.845	-.802	1.741
VAR00003	6	18.00	14.00	32.00	22.8333	2.56147	6.27429	39.367	.002	.845	-.018	1.741
VAR00004	6	15.00	22.00	37.00	29.3333	2.61619	6.40833	41.067	.103	.845	-2.112	1.741
VAR00005	6	15.00	12.00	27.00	21.8333	2.12001	5.19294	26.967	-1.696	.845	3.481	1.741
VAR00006	6	20.00	17.00	37.00	24.8333	3.32081	8.13429	66.167	.700	.845	-1.287	1.741
VAR00007	6	12.00	22.00	34.00	26.8333	1.85143	4.53505	20.567	.490	.845	-.042	1.741
VAR00008	6	76.00	108.00	184.00	139.1667	12.36235	30.28146	916.967	.556	.845	-1.122	1.741
Valid N (listwise)	6											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 23: T-score*s of Males with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	6	18.00	60.00	78.00	71.0000	2.60768	6.38749	40.800	-.995	.845	1.193	1.741
VAR00002	6	16.00	64.00	80.00	72.5000	2.60448	6.37966	40.700	.198	.845	-1.290	1.741
VAR00003	6	16.00	64.00	80.00	73.6667	2.45855	6.02218	36.267	-.899	.845	-.289	1.741
VAR00004	6	13.00	67.00	80.00	73.3333	2.21610	5.42832	29.467	.132	.845	-1.874	1.741
VAR00005	6	20.00	52.00	72.00	66.0000	2.90975	7.12741	50.800	-2.043	.845	4.570	1.741
VAR00006	6	19.00	61.00	80.00	69.6667	3.20069	7.84007	61.467	.287	.845	-2.097	1.741
VAR00007	6	14.00	66.00	80.00	72.1667	2.21234	5.41910	29.367	.067	.845	-.793	1.741
VAR00008	6	12.00	68.00	80.00	73.8333	2.05616	5.03653	25.367	.133	.845	-2.034	1.741
Valid N (listwise)	6											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The next data that was analyzed tested the response frequency for each question on the *Sensory Processing Measure* for the diagnoses of Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision. Because each of these three diagnoses only had one participant, they were combined for the purpose of statistical analysis. Based upon the questions that had 50% or more respondents select the same response, similarities and differences in sensory processing symptoms in children with Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision can be determined. In table 24, the questions that had frequencies that were at least similar in 50% of the responses are shown.

Table 24: *Frequency of SPM Responses of Cerebral Palsy, Down Syndrome, and Hearing Deficit / Low Vision*

Question Number	Cerebral Palsy, Down Syndrome, Hearing Deficit/Low Vision- Girls and Boys Total participants- 3	Down Syndrome- Girl Total participants- 1	Cerebral Palsy and Hearing Deficit/Low Vision- Boys Total participants- 2
1	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
2	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
3	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
4	2 people selected option 4 at 66.7%	1 person selected option 4 at 100%	HD/LV selected option 4
5	3 people selected option 3 at 100%	1 person selected option 3 at 100%	2 people selected option 3 at 100%
6	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
7	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
8	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
9	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP- selected option 3
10	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
11	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2

12	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
13	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	HD/LV selected option 1
14	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
15	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
16	3 people selected option 2 at 100%		2 people selected option 2 at 100%
17	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
18			
19	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
20	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
21	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
22	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	HD/LV selected option 1
23	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	HD/LV selected option 1
24	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
25	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
26			
27	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
28			
29	2 people selected option 3 at 66.7%		2 people selected option 3 at 100%
30	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	CP selected option 1
31	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
32	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
33			
34	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
35			
36	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	HD/LV selected option 2
37	2 people selected option 4 at 66.7%	1 person selected option 4 at 100%	HD/LV selected option 7

38			
39			
40			
41	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
42	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	CP selected option 1
43	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
44	3 people selected option 1 at 100%	1 person selected option 1 at 100%	2 people selected option 1 at 100%
45	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
46			
47	2 people selected option 4 at 66.7%		2 people selected option 4 at 100%
48	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
49	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
50	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
51	2 people selected option 4 at 66.7%		2 people selected option 4 at 100%
52	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
53	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
54			
55	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
56	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
57	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
58	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
59	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
60	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
61			
62	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
63	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
64			

65	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
66	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
67	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
68	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
69	3 people selected option 3 at 100%	1 person selected option 3 at 100%	2 people selected option 3 at 100%
70	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
71	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
72	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
73	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
74	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
75	2 people selected option 3 at 66.7%		2 people selected option 3 at 100%

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

From the results in table 24, there were 63 questions that had at least 50% of the respondents choose the same answer regardless of gender. For the section of girls there was only one participant who is diagnosed with Down Syndrome. The category for boys had two participants, one who is diagnosed with Cerebral Palsy and the other with Hearing Deficit/Low Vision. To gain a better understanding of the data, each of the diagnoses were compared to each other. The respondents for Cerebral Palsy and Hearing Deficit/ Low Vision had 26 questions that had the same answer selected. The two participants who have a child with Cerebral Palsy and Down Syndrome had 23 answers that were the same. The diagnoses of Down Syndrome and Hearing Deficit/ Low Vision had only 14 questions that the same answer was provided. From the data collected in the survey, it can be concluded that there are more similarities in question responses when combining the diagnoses of with Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision on the SPM than differences. However, there are more

differences between Cerebral Palsy and Hearing Deficit/ Low Vision, Cerebral Palsy and Down Syndrome, and Down Syndrome and Hearing Deficit/ Low Vision than similarities. In tables 25 and 26, the raw and T-scores for children diagnosed with Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision were compared. Each variable in the table represents a subscale from the survey. From this analysis, the average raw Total Sensory Symptom scores for the diagnoses is 117.67, which is lower than the average of girls and boys of all diagnoses by 6.12 points. The average T-score of Total Sensory Symptoms is 70.67, which is .10 higher than the average of children of all diagnoses. From the mean of the Total Sensory Symptoms, the mean of the interpretive range can be calculated. On average the participants scores were in the range of definite dysfunction. In tables 25 and 26, the range, minimum and maximum statistics, standard deviation, and more can be viewed for each subscale as well as the final total score. Based upon this data it can be concluded, that children with Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision on average have a lower raw Total Sensory System score on the SPM.

Table 25: *Raw Scores of Males and Females with Cerebral Palsy, Down Syndrome, and Hearing Deficit/ Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	7.00	24.00	31.00	27.6667	2.02759	3.51188	12.333	-.423	1.225	.	.
VAR00002	3	7.00	18.00	25.00	20.6667	2.18581	3.78594	14.333	1.597	1.225	.	.
VAR00003	3	5.00	14.00	19.00	16.6667	1.45297	2.51661	6.333	-.586	1.225	.	.
VAR00004	3	16.00	15.00	31.00	23.3333	4.63081	8.02081	64.333	-.371	1.225	.	.
VAR00005	3	6.00	21.00	27.00	23.6667	1.76383	3.05505	9.333	.935	1.225	.	.
VAR00006	3	13.00	18.00	31.00	25.3333	3.84419	6.65833	44.333	-1.056	1.225	.	.
VAR00007	3	6.00	22.00	28.00	25.0000	1.73205	3.00000	9.000	.000	1.225	.	.
VAR00008	3	23.00	110.00	133.00	117.6667	7.66667	13.27906	176.333	1.732	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 26: *T- Scores of Males and Females with Cerebral Palsy, Down Syndrome, and Hearing Deficit/ Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	9.00	64.00	73.00	68.6667	2.60342	4.50925	20.333	-.331	1.225	.	.
VAR00002	3	7.00	64.00	71.00	66.6667	2.18581	3.78594	14.333	1.597	1.225	.	.
VAR00003	3	6.00	64.00	70.00	67.3333	1.76383	3.05505	9.333	-.935	1.225	.	.
VAR00004	3	17.00	57.00	74.00	66.3333	4.97773	8.62168	74.333	-.837	1.225	.	.
VAR00005	3	6.00	66.00	72.00	68.6667	1.76383	3.05505	9.333	.935	1.225	.	.
VAR00006	3	14.00	63.00	77.00	71.6667	4.37163	7.57188	57.333	-1.597	1.225	.	.
VAR00007	3	8.00	66.00	74.00	70.0000	2.30940	4.00000	16.000	.000	1.225	.	.
VAR00008	3	5.00	69.00	74.00	70.6667	1.66667	2.88675	8.333	1.732	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The raw and T-scores statistical analysis for the children diagnosed with Cerebral Palsy and Down Syndrome can be found in Tables 27 and 28. The mean raw Total Sensory Symptoms score is 121.50, which is lower than the average Total Sensory Symptoms score for all diagnosis of 123.79 by 2.29 points. However, the total score for Cerebral Palsy and Down Syndrome is higher than the average score for Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision by 3.83. In the categories of Vision, Hearing, Body Awareness, Balance and Motion, and Planning and Ideas, the children with Cerebral Palsy and Down Syndrome scored higher than the overall average of the three diagnoses. The mean T-score for Total Sensory Symptoms for Cerebral Palsy and Down Syndrome is 71.50, which is .83 points higher than the overall average of the combination of all three diagnoses.

Table 27: *Raw Scores of Cerebral Palsy and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	7.00	24.00	31.00	27.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00002	2	6.00	19.00	25.00	22.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00003	2	2.00	17.00	19.00	18.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00004	2	9.00	15.00	24.00	19.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00005	2	4.00	23.00	27.00	25.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00006	2	4.00	27.00	31.00	29.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00007	2	3.00	25.00	28.00	26.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00008	2	23.00	110.00	133.00	121.5000	11.50000	16.26346	264.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 28: *T-scores of Cerebral Palsy and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	9.00	64.00	73.00	68.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00002	2	6.00	65.00	71.00	68.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00003	2	2.00	68.00	70.00	69.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00004	2	11.00	57.00	68.00	62.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00005	2	4.00	68.00	72.00	70.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00006	2	2.00	75.00	77.00	76.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00007	2	4.00	70.00	74.00	72.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00008	2	5.00	69.00	74.00	71.5000	2.50000	3.53553	12.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The raw and T-scores statistical analysis for the children diagnosed with Cerebral Palsy and Hearing Deficit/Low Vision can be found in Tables 29 and 30. The mean raw Total Sensory Symptoms score is 110.00, which is lower than the average Total Sensory Symptoms score for all diagnosis of 123.79 by 13.79 points. Additionally, the total score for Cerebral Palsy and Hearing Deficit/Low Vision

is lower than the average score for Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision by 7.67 points. In all subscales on the SPM, Cerebral Palsy and Hearing Deficit/Low Vision scored lower than the overall average of the three diagnoses. The mean T-score for Total Sensory Symptoms for Cerebral Palsy and Hearing Deficit/Low Vision is 69, which is 1.67 points lower than the overall average of the combination of all three diagnoses. Additionally, the mean of the Total Sensory Symptoms for the responses of Cerebral Palsy and Hearing Deficit/Low Vision are considered to have some sensory processing symptoms based upon the interpretive range scale of the SPM.

Table 29: *Raw Scores of Cerebral Palsy and Hearing Deficit/Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	4.00	24.00	28.00	26.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00002	2	1.00	18.00	19.00	18.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	5.00	14.00	19.00	16.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00004	2	16.00	15.00	31.00	23.0000	8.00000	11.31371	128.000	.	.	.	.
VAR00005	2	2.00	21.00	23.00	22.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00006	2	9.00	18.00	27.00	22.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00007	2	3.00	22.00	25.00	23.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00008	2	.00	110.00	110.00	110.0000	.00000	.00000	.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 30: *T-scores of Cerebral Palsy and Hearing Deficit/Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	5.00	64.00	69.00	66.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00002	2	1.00	64.00	65.00	64.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	6.00	64.00	70.00	67.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00004	2	17.00	57.00	74.00	65.5000	8.50000	12.02082	144.500	.	.	.	.
VAR00005	2	2.00	66.00	68.00	67.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00006	2	12.00	63.00	75.00	69.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00007	2	4.00	66.00	70.00	68.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00008	2	.00	69.00	69.00	69.0000	.00000	.00000	.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The raw and T-scores statistical analysis for the children diagnosed with Hearing Deficit/Low Vision and Down Syndrome can be found in Tables 31 and 32. The mean raw Total Sensory Symptoms score is 121.50, which is lower than the average Total Sensory Symptoms score for all diagnosis of 123.79 by 2.29 points. Additionally, the total score for Hearing Deficit/Low Vision and Down Syndrome is higher than the average score for Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision by 3.83 points. In the subscales Social Participation, Vision, Touch, and Body Awareness Hearing Deficit/Low Vision and Down Syndrome scored higher than the overall average of the three diagnoses. The mean T-score for Total Sensory Symptoms for Hearing Deficit/Low Vision and Down Syndrome is 71.50, which is .83 points higher than the overall average of the combination of all three diagnoses. Additionally, the mean of the Total Sensory Symptoms for the responses of Hearing Deficit/Low Vision and Down Syndrome are considered to have definite dysfunction in sensory processing symptoms based upon the interpretive range scale of the SPM.

Table 31: *Raw Scores of Hearing Deficit/Low Vision and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	3.00	28.00	31.00	29.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00002	2	7.00	18.00	25.00	21.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	3.00	14.00	17.00	15.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00004	2	7.00	24.00	31.00	27.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00005	2	6.00	21.00	27.00	24.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00006	2	13.00	18.00	31.00	24.5000	6.50000	9.19239	84.500	.	.	.	.
VAR00007	2	6.00	22.00	28.00	25.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00008	2	23.00	110.00	133.00	121.5000	11.50000	16.26346	264.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 32: *T- Scores of Hearing Deficit/Low Vision and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	4.00	69.00	73.00	71.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00002	2	7.00	64.00	71.00	67.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	4.00	64.00	68.00	66.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00004	2	6.00	68.00	74.00	71.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00005	2	6.00	66.00	72.00	69.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00006	2	14.00	63.00	77.00	70.0000	7.00000	9.89949	98.000	.	.	.	.
VAR00007	2	8.00	66.00	74.00	70.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00008	2	5.00	69.00	74.00	71.5000	2.50000	3.53553	12.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The next data that was analyzed tested the response frequency for each question on the *Sensory Processing Measure* for the diagnosis of ADHD. Based upon the questions that had 50% or more respondents select the same response, similarities and differences in sensory processing symptoms in children with ADHD can be determined. In table 33, the questions that had frequencies that were at least similar in 50% of the responses are shown.

Table 33: *Frequency of SPM Responses for ADHD*

Question Number	ADHD Girls and Boys Total participants-8	ADHD Girls Total participants-3	ADHD Boys Total participants- 5
1			
2	4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	3 people selected option 2 at 60%
3	5 people selected option 3 at 62.5%		4 people selected option 3 at 80%

4		2 people selected option 4 at 66.7%	
5			
6			
7			3 people selected option 2 at 60%
8	5 people selected option 3 at 62.5%	2 people selected option 3 at 66.7%	3 people selected option 3 at 60%
9			
10			3 people selected option 2 at 60%
11			
12	4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	
13			
14			3 people selected option 1 at 60%
15	4 people selected option 2 at 50%	3 people selected option 2 100%	3 people selected option 1 at 60%
16	4 people selected option 1 at 50%	2 people selected option 1 at 66.7%	
17		2 people selected option 1 at 66.7%	
18	5 people selected option 3 at 62.5%	2 people selected option 3 at 66.7%	3 people selected option 3 at 60%
19	4 people selected option 1 at 50%		3 people selected option 1 at 60%
20			
21	4 people selected option 1 at 50% 4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	3 people selected option 1 at 60%
22	4 people selected option 3 at 50%	2 people selected option 4 at 66.7%	
23			
24			
25			
26	4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	
27		2 people selected option 3 at 66.7%	
28			3 people selected option 4 at 60%
29			
30		2 people selected option 1 at 66.7%	3 people selected option 2 at 60%

31		2 people selected option 3 at 66.7%	3 people selected option 2 at 60%
32		2 people selected option 3 at 66.7%	
33			
34		2 people selected option 3 at 66.7%	
35		2 people selected option 1 at 66.7%	
36	4 people selected option 1 at 50%	2 people selected option 1 at 66.7%	
37	5 people selected option 4 at 62.5%	2 people selected option 4 at 66.7%	3 people selected option 4 at 60%
38		2 people selected option 3 at 66.7%	
39			
40	5 people selected option 4 at 62.5%	2 people selected option 4 at 66.7%	3 people selected option 4 at 60%
41	4 people selected option 1 at 50%	3 people selected option 1 at 100%	3 people selected option 2 at 60%
42	4 people selected option 4 at 50%	2 people selected option 2 at 66.7%	3 people selected option 4 at 60%
43			
44		2 people selected option 3 at 66.7%	
45	5 people selected option 1 at 62.5%	2 people selected option 1 at 66.7%	3 people selected option 1 at 60%
46		2 people selected option 1 at 66.7%	3 people selected option 3 at 60%
47	4 people selected option 4 at 50%	2 people selected option 4 at 66.7%	
48			3 people selected option 1 at 60%
49	4 people selected option 1 at 50% 4 people selected option 2 at 50%	2 people selected option 1 at 66.7%	3 people selected option 2 at 60%
50			
51			
52			
53	4 people selected option 2 at 50%		3 people selected option 2 at 60%
54		2 people selected option 3 at 66.7%	3 people selected option 4 at 60%
55	4 people selected option 2 at 50%		3 people selected option 2 at 60%

56	6 people selected option 1 at 75%	3 people selected option 1 at 100%	3 people selected option 1 at 60%
57		2 people selected option 2 at 66.7%	
58	4 people selected option 1 at 50%		3 people selected option 1 at 60%
59	5 people selected option 2 at 62.5%	3 people selected option 2 at 100%	
60	4 people selected option 3 at 50%		3 people selected option 3 at 60%
61			3 people selected option 1 at 60%
62	4 people selected option 1 at 50%		3 people selected option 1 at 60%
63	6 people selected option 1 at 75%	3 people selected option 1 at 100%	3 people selected option 1 at 60%
64			
65	6 people selected option 1 at 75%	3 people selected option 1 at 100%	3 people selected option 1 at 60%
66		2 people selected option 2 at 66.7%	3 people selected option 3 at 60%
67		2 people selected option 2 at 66.7%	3 people selected option 3 at 60%
68	5 people selected option 4 at 62.5%	2 people selected option 4 at 66.7%	3 people selected option 4 at 60%
69	4 people selected option 3 at 50%		3 people selected option 3 at 60%
70	4 people selected option 3 at 50%		4 people selected option 3 at 80%
71	4 people selected option 3 at 50%		3 people selected option 3 at 60%
72	5 people selected option 1 at 62.5%	2 people selected option 1 at 66.7%	3 people selected option 1 at 60%
73	5 people selected option 1 at 62.5%		4 people selected option 1 at 80%
74			
75	4 people selected option 3 at 50%		3 people selected option 3 at 60%

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

From the results in table 33, there were 35 questions that had at least 50% of the respondents choose the same answer regardless of gender. For all diagnosis of girls with ADHD, there were 38 questions that had at least 50% of the same answer selected. The participants who have a male child had

40 questions that had 50% or more respondents chose the same answer. From the data collected in the survey, it can be concluded that there are more differences between question responses of girls and boys with ADHD on the SPM than similarities. In tables 34 and 35, the raw and T-scores for children of both genders diagnosed with ADHD were compared. Each variable in the table represents a subscale from the survey. From this analysis, the average raw Total Sensory Symptom scores for all diagnoses of ADHD in males and females is 131.38, which is higher than the average of girls and boys of all diagnoses by 7.59. The average T-score of Total Sensory Symptoms is 71.63 which is 1.06 points higher than the average of children of all diagnoses. From the mean of the Total Sensory Symptoms, the mean of the interpretive range can be calculated. On average the participants scores were in the range of definite dysfunction. In tables 34 and 35, the range, minimum and maximum statistics, standard deviation, and more can be viewed for each subscale as well as the final total score. Based upon this data it can be concluded, that children with ADHD on average have a higher Total Sensory Symptoms score than Cerebral Palsy and Hearing Deficit/Low Vision. Since children with ADHD have a higher Total Sensory Symptoms score, overall experience more sensory processing symptoms than children with Cerebral Palsy and Hearing Deficit/Low Vision.

Table 34: *Raw Scores of Males and Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	8	22.00	14.00	36.00	26.3750	2.62500	7.42462	55.125	-.324	.752	-.708	1.481
VAR00002	8	25.00	15.00	40.00	25.6250	3.31629	9.37988	87.982	.368	.752	-1.360	1.481
VAR00003	8	22.00	10.00	32.00	20.7500	2.76941	7.83308	61.357	-.192	.752	-1.359	1.481
VAR00004	8	24.00	14.00	38.00	27.2500	3.32066	9.39225	88.214	-.243	.752	-1.558	1.481
VAR00005	8	19.00	14.00	33.00	23.5000	2.20389	6.23355	38.857	-.229	.752	-.354	1.481
VAR00006	8	25.00	12.00	37.00	23.0000	2.98807	8.45154	71.429	.496	.752	-.638	1.481
VAR00007	8	21.00	15.00	36.00	23.8750	2.20743	6.24357	38.982	.826	.752	1.489	1.481
VAR00008	8	108.00	76.00	184.00	131.3750	14.32522	40.51785	1641.696	-.293	.752	-1.738	1.481
Valid N (listwise)	8											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 35: *T- Scores of Males and Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	8	32.00	47.00	79.00	66.6250	3.76040	10.63602	113.125	-.681	.752	.264	1.481
VAR00002	8	21.00	59.00	80.00	70.3750	3.08184	8.71677	75.982	-.161	.752	-1.556	1.481
VAR00003	8	24.00	56.00	80.00	71.0000	3.17917	8.99206	80.857	-.761	.752	-1.152	1.481
VAR00004	8	25.00	55.00	80.00	70.6250	3.39610	9.60562	92.268	-.684	.752	-.935	1.481
VAR00005	8	21.00	57.00	78.00	68.1250	2.42338	6.85435	46.982	-.459	.752	-.244	1.481
VAR00006	8	33.00	47.00	80.00	66.6250	3.83097	10.83562	117.411	-.653	.752	.024	1.481
VAR00007	8	23.00	57.00	80.00	68.1250	2.48163	7.01911	49.268	.230	.752	.289	1.481
VAR00008	8	22.00	58.00	80.00	71.6250	3.10494	8.78208	77.125	-.667	.752	-1.671	1.481
Valid N (listwise)	8											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The raw and T-scores statistical analysis for girls diagnosed with ADHD can be found in Tables 36 and 37. There were a total of 3 respondents who have female children. The mean raw Total Sensory Symptoms score for girls of all ages with ADHD is 132.33, which is higher than the average Total

Sensory Symptoms score of 124.20 by 8.13 points. Additionally, the total score for girls with ADHD is higher than the average score for all genders with ADHD by .95. In the category of Social Participation, Vision, Hearing, Touch, Balance and Motion, and Planning and Ideas females scored higher than the overall average of boys and girls with ADHD. The mean T-score for Total Sensory Symptoms for girls with ADHD is 72.67, which is 1.67 points higher than the overall average for girls of all diagnoses.

Table 36: *Raw Scores of Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	22.00	14.00	36.00	27.0000	6.65833	11.53256	133.000	-1.373	1.225	.	.
VAR00002	3	13.00	20.00	33.00	25.6667	3.84419	6.65833	44.333	1.056	1.225	.	.
VAR00003	3	12.00	14.00	26.00	21.0000	3.60555	6.24500	39.000	-1.293	1.225	.	.
VAR00004	3	22.00	16.00	38.00	27.3333	6.35959	11.01514	121.333	-.271	1.225	.	.
VAR00005	3	17.00	16.00	33.00	25.6667	5.04425	8.73689	76.333	-1.116	1.225	.	.
VAR00006	3	9.00	16.00	25.00	22.0000	3.00000	5.19615	27.000	-1.732	1.225	.	.
VAR00007	3	21.00	15.00	36.00	24.6667	6.11919	10.59874	112.333	.690	1.225	.	.
VAR00008	3	69.00	89.00	158.00	132.3333	21.78940	37.74034	1424.333	-1.645	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 37: *T- Scores of Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	32.00	47.00	79.00	66.3333	9.82061	17.00980	289.333	-1.493	1.225	.	.
VAR00002	3	12.00	67.00	79.00	72.0000	3.60555	6.24500	39.000	1.293	1.225	.	.
VAR00003	3	14.00	64.00	78.00	72.3333	4.25572	7.37111	54.333	-1.415	1.225	.	.
VAR00004	3	21.00	59.00	80.00	70.6667	6.17342	10.69268	114.333	-.935	1.225	.	.
VAR00005	3	18.00	60.00	78.00	70.3333	5.36449	9.29157	86.333	-1.185	1.225	.	.
VAR00006	3	13.00	59.00	72.00	67.6667	4.33333	7.50555	56.333	-1.732	1.225	.	.
VAR00007	3	23.00	57.00	80.00	68.0000	6.65833	11.53256	133.000	.387	1.225	.	.
VAR00008	3	15.00	63.00	78.00	72.6667	4.84195	8.38650	70.333	-1.704	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

In tables 38 and 39, the mean raw and T-scores for boys diagnosed with ADHD can be found. On average, boys with ADHD scored lower on the Total Sensory System score than the average for both genders with Autism. The average raw total score for males was 130.80, which is 7.24 higher than the average for both genders of all diagnoses. When comparing the mean raw score of boys with ADHD to the average Total Sensory Symptoms of girls with ADHD, the boys scored 1.53 points lower. In the subscale of Balance and Motion boys scored higher than the mean of girls with ADHD.

Table 38: *Raw Scores of Males with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	5	13.00	21.00	34.00	26.0000	2.42899	5.43139	29.500	.889	.913	-.712	2.000
VAR00002	5	25.00	15.00	40.00	25.6000	5.13420	11.48042	131.800	.390	.913	-2.524	2.000
VAR00003	5	22.00	10.00	32.00	20.6000	4.19047	9.37017	87.800	-.088	.913	-2.184	2.000
VAR00004	5	23.00	14.00	37.00	27.2000	4.32897	9.67988	93.700	-.376	.913	-1.406	2.000
VAR00005	5	13.00	14.00	27.00	22.2000	2.20000	4.91935	24.200	-1.502	.913	2.828	2.000
VAR00006	5	25.00	12.00	37.00	23.6000	4.69681	10.50238	110.300	.397	.913	-2.103	2.000
VAR00007	5	7.00	20.00	27.00	23.4000	1.50333	3.36155	11.300	.411	.913	-3.041	2.000
VAR00008	5	108.00	76.00	184.00	130.8000	20.78317	46.47257	2159.700	-.152	.913	-2.397	2.000
Valid N (listwise)	5											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 39: *T- Scores of Males with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	5	18.00	60.00	78.00	66.8000	3.26190	7.29383	53.200	1.064	.913	.202	2.000
VAR00002	5	21.00	59.00	80.00	69.4000	4.69681	10.50238	110.300	.048	.913	-3.002	2.000
VAR00003	5	24.00	56.00	80.00	70.2000	4.73709	10.59245	112.200	-.662	.913	-2.178	2.000
VAR00004	5	25.00	55.00	80.00	70.6000	4.56727	10.21274	104.300	-.945	.913	.294	2.000
VAR00005	5	15.00	57.00	72.00	66.8000	2.57682	5.76194	33.200	-1.697	.913	3.342	2.000
VAR00006	5	33.00	47.00	80.00	66.0000	5.93296	13.26650	176.000	-.519	.913	-.575	2.000
VAR00007	5	9.00	64.00	73.00	68.2000	1.98494	4.43847	19.700	.494	.913	-3.165	2.000
VAR00008	5	22.00	58.00	80.00	71.0000	4.43847	9.92472	98.500	-.598	.913	-2.387	2.000
Valid N (listwise)	5											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Once the data was analyzed based upon the diagnoses and gender, it was then broken up into age divisions. However, only the raw and T-scores for each age group were analyzed. Gender was not studied in the age group analysis, due to the lack of statistical difference in gender amongst all diagnoses in previous analysis in this study. The participants in the study can be categorized in one of the following ages: 12, 10, 9, 8, and 5 year old's. Table 40 shows the diagnoses of the children in each age category. In table 41, the raw mean scores for each age group can be seen. From the data in table 41, the following conclusions can be made. On average, children who are in the 8 year old category scored the highest on Total Sensory Symptoms. The 10 year old's scored the lowest on the Total Sensory Symptoms with a mean score of 91.67. Although there was a range of 59.83 points in the raw means of all the age groups, the interpretive range for all age groups is definite dysfunction in sensory processing symptoms. In tables 42-51, the mean raw scores and mean T-scores for each age category are shown. For the 12 year old category, the subscales of Vision and Body Awareness had the second highest score compared to the other ages. The 10 year old's scored the lowest in Vision, Hearing, Touch, Body Awareness, and Balance and Motion. The age of 9 had the highest scores in the subscales of Social Participation and Body Awareness. The subscales of Vision, Hearing, Touch, and Body Awareness were the highest for the 8 year old age group. The 5 year old's in the study scored the highest on average in the Planning and Ideas category. From this data it can be concluded that there are differences in average means of raw and T-scores of the subscales in each age group. Additionally the age groups all had similar diagnoses, so diagnosis does not appear to be a contributing factor to the results. However, the severity of the diagnosis of the participants in the age group could contribute to why there is not a pattern of increase or decrease in Total Sensory Symptoms score from the oldest to the youngest age group.

Table 40: *Diagnoses of Each Age Groups (12, 10, 9, 8, 5 year old's)*

Age	12 year old's	10 year old's	9 year old's	8 year old's	5 year old's
Diagnosis of Child 1	Autism, Down Syndrome	ADHD	Autism, ADHD	ADHD, Autism	Cerebral Palsy
Diagnosis of Child 2	Autism, ADHD	Autism	ADHD	Autism, ADHD	Autism
Diagnosis of Child 3	Autism, Hearing Deficit/Low Vision	Autism	Autism, ADHD	n/a	n/a
Diagnosis of Child 4	ADHD	n/a	n/a	n/a	n/a

Table 41: *Raw Scores of Age Groups (12, 10, 9, 8, 5 year old's)*

Age: Girls/ Boys	12 year old's	10 year old's	9 year old's	8 year old's	5 year old's
SOC	26.75	26.67	30.33	26.25	27.50
VIS	25.75	18.67	24.00	29.00	22.50
HEA	19.25	14.33	19.67	24.50	21.50
TOU	26.75	17.67	29.33	32.00	19.00
BOD	22.00	14.33	27.67	25.50	23.00
BOA	25.50	19.00	22.33	26.00	22.00
PLA	23.00	23.67	26.67	24.50	27.00
TOT	129.00	91.67	133.00	151.50	120.00

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 42: *Raw Scores of 12 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	4	20.00	14.00	34.00	26.7500	4.42295	8.84590	78.250	-1.553	1.014	2.569	2.619
VAR00002	4	22.00	18.00	40.00	25.7500	4.97284	9.94569	98.917	1.516	1.014	2.149	2.619
VAR00003	4	18.00	14.00	32.00	19.2500	4.30842	8.61684	74.250	1.846	1.014	3.412	2.619
VAR00004	4	20.00	16.00	36.00	26.7500	4.34693	8.69387	75.583	-.401	1.014	-1.212	2.619
VAR00005	4	11.00	16.00	27.00	22.0000	2.34521	4.69042	22.000	-.543	1.014	-.153	2.619
VAR00006	4	21.00	16.00	37.00	25.5000	5.07445	10.14889	103.000	.260	1.014	-4.164	2.619
VAR00007	4	13.00	15.00	28.00	23.0000	2.97209	5.94418	35.333	-1.028	1.014	-.209	2.619
VAR00008	4	95.00	89.00	184.00	129.0000	20.41650	40.83299	1667.333	.936	1.014	.698	2.619
Valid N (listwise)	4											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 43: *T-scores of 12 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	4	31.00	47.00	78.00	66.7500	6.83587	13.67175	186.917	-1.572	1.014	2.692	2.619
VAR00002	4	16.00	64.00	80.00	70.5000	3.47611	6.95222	48.333	1.071	1.014	.883	2.619
VAR00003	4	16.00	64.00	80.00	69.0000	3.78594	7.57188	57.333	1.659	1.014	2.615	2.619
VAR00004	4	20.00	59.00	79.00	70.0000	4.30116	8.60233	74.000	-.572	1.014	-.428	2.619
VAR00005	4	12.00	60.00	72.00	66.7500	2.56174	5.12348	26.250	-.753	1.014	.343	2.619
VAR00006	4	21.00	59.00	80.00	69.7500	5.15388	10.30776	106.250	-.056	1.014	-4.869	2.619
VAR00007	4	17.00	57.00	74.00	67.5000	3.92641	7.85281	61.667	-.991	1.014	-.474	2.619
VAR00008	4	17.00	63.00	80.00	71.5000	3.61709	7.23418	52.333	.000	1.014	-.698	2.619
Valid N (listwise)	4											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 44: *Raw Scores of 10 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	11.00	22.00	33.00	26.6667	3.28295	5.68624	32.333	1.206	1.225	.	.
VAR00002	3	9.00	15.00	24.00	18.6667	2.72845	4.72582	22.333	1.390	1.225	.	.
VAR00003	3	6.00	12.00	18.00	14.3333	1.85592	3.21455	10.333	1.545	1.225	.	.
VAR00004	3	8.00	14.00	22.00	17.6667	2.33333	4.04145	16.333	.722	1.225	.	.
VAR00005	3	5.00	12.00	17.00	14.3333	1.45297	2.51661	6.333	.586	1.225	.	.
VAR00006	3	13.00	12.00	25.00	19.0000	3.78594	6.55744	43.000	-.670	1.225	.	.
VAR00007	3	17.00	17.00	34.00	23.6667	5.23874	9.07377	82.333	1.521	1.225	.	.
VAR00008	3	32.00	76.00	108.00	91.6667	9.24362	16.01041	256.333	.187	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 45: *T-scores of 10 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	14.00	62.00	76.00	67.6667	4.25572	7.37111	54.333	1.415	1.225	.	.
VAR00002	3	11.00	59.00	70.00	64.0000	3.21455	5.56776	31.000	.782	1.225	.	.
VAR00003	3	7.00	62.00	69.00	64.6667	2.18581	3.78594	14.333	1.597	1.225	.	.
VAR00004	3	12.00	55.00	67.00	61.0000	3.46410	6.00000	36.000	.000	1.225	.	.
VAR00005	3	9.00	52.00	61.00	56.6667	2.60342	4.50925	20.333	-.331	1.225	.	.
VAR00006	3	25.00	47.00	72.00	61.3333	7.44610	12.89703	166.333	-1.176	1.225	.	.
VAR00007	3	20.00	60.00	80.00	68.0000	6.11010	10.58301	112.000	1.458	1.225	.	.
VAR00008	3	10.00	58.00	68.00	63.0000	2.88675	5.00000	25.000	.000	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 46: *Raw Scores of 9 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	12.00	24.00	36.00	30.3333	3.48010	6.02771	36.333	-.492	1.225	.	.
VAR00002	3	18.00	15.00	33.00	24.0000	5.19615	9.00000	81.000	.000	1.225	.	.
VAR00003	3	16.00	10.00	26.00	19.6667	4.91031	8.50490	72.333	-1.493	1.225	.	.
VAR00004	3	16.00	22.00	38.00	29.3333	4.66667	8.08290	65.333	.722	1.225	.	.
VAR00005	3	11.00	22.00	33.00	27.6667	3.17980	5.50757	30.333	-.271	1.225	.	.
VAR00006	3	8.00	17.00	25.00	22.3333	2.66667	4.61880	21.333	-1.732	1.225	.	.
VAR00007	3	15.00	21.00	36.00	26.6667	4.70225	8.14453	66.333	1.615	1.225	.	.
VAR00008	3	67.00	91.00	158.00	133.0000	21.12660	36.59235	1339.000	-1.639	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 47: *T-scores of 9 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	15.00	64.00	79.00	72.0000	4.35890	7.54983	57.000	-.586	1.225	.	.
VAR00002	3	20.00	59.00	79.00	69.3333	5.78312	10.01665	100.333	-.298	1.225	.	.
VAR00003	3	22.00	56.00	78.00	69.6667	6.88799	11.93035	142.333	-1.610	1.225	.	.
VAR00004	3	13.00	67.00	80.00	73.3333	3.75648	6.50641	42.333	.230	1.225	.	.
VAR00005	3	11.00	67.00	78.00	72.6667	3.17980	5.50757	30.333	-.271	1.225	.	.
VAR00006	3	11.00	61.00	72.00	68.3333	3.66667	6.35085	40.333	-1.732	1.225	.	.
VAR00007	3	15.00	65.00	80.00	70.6667	4.70225	8.14453	66.333	1.615	1.225	.	.
VAR00008	3	15.00	63.00	78.00	72.6667	4.84195	8.38650	70.333	-1.704	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 48: *Raw Scores of 8 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	8.00	21.00	29.00	25.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00002	2	12.00	23.00	35.00	29.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00003	2	3.00	23.00	26.00	24.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00004	2	10.00	27.00	37.00	32.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00005	2	3.00	24.00	27.00	25.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00006	2	12.00	20.00	32.00	26.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00007	2	5.00	22.00	27.00	24.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00008	2	27.00	138.00	165.00	151.5000	13.50000	19.09188	364.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 49: *T-scores of 8 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	10.00	60.00	70.00	65.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00002	2	11.00	69.00	80.00	74.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00003	2	3.00	75.00	78.00	76.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00004	2	8.00	72.00	80.00	76.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00005	2	3.00	69.00	72.00	70.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00006	2	12.00	65.00	77.00	71.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00007	2	7.00	66.00	73.00	69.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00008	2	4.00	75.00	79.00	77.0000	2.00000	2.82843	8.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 50: *Raw Scores of 5 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	7.00	24.00	31.00	27.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00002	2	7.00	19.00	26.00	22.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	5.00	19.00	24.00	21.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00004	2	8.00	15.00	23.00	19.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00005	2	.00	23.00	23.00	23.0000	.00000	.00000	.000	.	.	.	.
VAR00006	2	10.00	17.00	27.00	22.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00007	2	4.00	25.00	29.00	27.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00008	2	20.00	110.00	130.00	120.0000	10.00000	14.14214	200.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 51: *T-scores of 5 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	9.00	64.00	73.00	68.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00002	2	7.00	65.00	72.00	68.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	6.00	70.00	76.00	73.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00004	2	11.00	57.00	68.00	62.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00005	2	.00	68.00	68.00	68.0000	.00000	.00000	.000	.	.	.	.
VAR00006	2	14.00	61.00	75.00	68.0000	7.00000	9.89949	98.000	.	.	.	.
VAR00007	2	5.00	70.00	75.00	72.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00008	2	3.00	69.00	72.00	70.5000	1.50000	2.12132	4.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

The next data that was analyzed compared the SPM responses from the mother and father of a girl who is 10 years old with Autism. The data tested the response frequency for each question's answers from participant 6 (mother) and participant 7 (father). Based upon the questions that had 50% or more respondents select the same response, similarities and differences in the perspective of parents can be determined. In table 52, the questions that had frequencies that were at least similar in 50% of the responses are shown. Additionally on questions where the same response was not selected, each participants answer is provided. In table 52, the question numbers that are bolded (14, 24, 28, 37, 39, 61, 67, 69, and 75) had a difference of 2 points on the Likert-scale. All other questions that had different responses selected were within 1 point on the scale. Tables 53-55 show the individual raw and T-scores as well as the interpretive range of participant 6 and 7.

Table 52: *Frequency of SPM Responses for Participant 6 and 7*

Question Number	Participant 6 and 7	Participant 6- Mother	Participant 7- Father
1		Selected option 3	Selected option 2
2	Both selected option 2		
3		Selected option 2	Selected option 3
4		Selected option 3	Selected option 2
5		Selected option 3	Selected option 2
6	Both selected option 3		
7		Selected option 2	Selected option 3
8		Selected option 2	Selected option 1
9		Selected option 2	Selected option 3
10		Selected option 3	Selected option 2
11		Selected option 1	Selected option 2
12		Selected option 1	Selected option 2
13	Both selected option 1		
14		Selected option 1	Selected option 3
15		Selected option 2	Selected option 1
16		Selected option 2	Selected option 1
17		Selected option 2	Selected option 3
18	Both selected option 2		
19	Both selected option 1		
20		Selected option 2	Selected option 1
21		Selected option 2	Selected option 1
22	Both selected option 2		

23	Both selected option 1		
24		Selected option 1	Selected option 3
25		Selected option 2	Selected option 1
26	Both selected option 1		
27		Selected option 2	Selected option 3
28		Selected option 3	Selected option 1
29		Selected option 1	Selected option 2
30		Selected option 1	Selected option 2
31	Both selected option 2		
32	Both selected option 2		
33	Both selected option 2		
34		Selected option 1	Selected option 2
35		Selected option 1	Selected option 2
36	Both selected option 1		
37		Selected option 2	Selected option 4
38		Selected option 1	Selected option 2
39		Selected option 2	Selected option 4
40		Selected option 2	Selected option 3
41	Both selected option 1		
42		Selected option 1	Selected option 2
43		Selected option 2	Selected option 1
44	Both selected option 2		
45	Both selected option 1		
46	Both selected option 1		
47		Selected option 3	Selected option 2
48	Both selected option 1		
49		Selected option 1	Selected option 2
50	Both selected option 2		
51		Selected option 2	Selected option 3
52	Both selected option 1		
53	Both selected option 3		
54	Both selected option 1		
55	Both selected option 2		
56	Both selected option 1		
57	Both selected option 3		
58	Both selected option 1		
59	Both selected option 1		
60		Selected option 2	Selected option 1
61		Selected option 3	Selected option 1
62		Selected option 2	Selected option 1
63	Both selected option 1		
64		Selected option 3	Selected option 2
65	Both selected option 1		
66		Selected option 2	Selected option 1
67		Selected option 2	Selected option 4
68	Both selected option 3		

69		Selected option 1	Selected option 3
70	Both selected option 2		
71		Selected option 2	Selected option 3
72	Both selected option 2		
73		Selected option 1	Selected option 2
74	Both selected option 2		
75		Selected option 2	Selected option 4

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 53: *Individual Raw Scores for Participant 6 and 7*

Raw Scores	Participant 6	Participant 7
SOC	25	23
VIS	17	18
HEA	13	14
TOU	17	26
BOD	17	18
BAL	20	14
PLA	17	25
TOT	91	97

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 54: *Individual T- Scores for Participant 6 and 7*

T Scores	Participant 6	Participant 7
SOC	65	63
VIS	63	64
HEA	63	64
TOU	61	71
BOD	61	63
BAL	65	54
PLA	60	70
TOT	63	65

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 55: *Individual Interpretive Range Scores for Participant 6 and 7*

Interpretive Range	Participant 6	Participant 7
SOC	some	some
VIS	some	some
HEA	some	some
TOU	some	definite
BOD	some	some
BAL	some	typical
PLA	some	definite
TOT	some	some

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

From the results in table 52, there were 32 questions that had at least 50% of the same answer selected. There were 34 questions that had a response that was different by 1 point and 9 questions that differed by two points. From the data collected in the survey, it can be concluded that there are more differences between question responses between participant 6 and 7 on the SPM than similarities. This concludes that parent perspective can impact how the SPM is scored. In tables 56 and 57, the raw and T-scores for the responses of the mother and father were compared. Each variable in the table represents a subscale from the survey. From this analysis, the average raw Total Sensory Symptom scores is 94.00, which is lower than the average of girls and boys of all diagnoses by 29.79. The average T-score of Total Sensory Symptoms is 64, which is 6.57 points lower than the average of children of all diagnoses. From the mean of the Total Sensory Symptoms, the average of the interpretive range can be calculated. On average the parents' scores were in the range of some sensory processing problems. In tables 56 and 57, the range, minimum and maximum statistics, standard deviation, and more can be viewed for each subscale as well as the final total score.

Table 56: *Mean Raw Scores for Participant 6 and 7*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	2.00	23.00	25.00	24.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00002	2	1.00	17.00	18.00	17.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	1.00	13.00	14.00	13.5000	.50000	.70711	.500	.	.	.	.
VAR00004	2	9.00	17.00	26.00	21.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00005	2	1.00	17.00	18.00	17.5000	.50000	.70711	.500	.	.	.	.
VAR00006	2	6.00	14.00	20.00	17.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00007	2	8.00	17.00	25.00	21.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00008	2	6.00	91.00	97.00	94.0000	3.00000	4.24264	18.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 57: *T- Scores for Participant 6 and 7*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	2.00	63.00	65.00	64.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00002	2	1.00	63.00	64.00	63.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	1.00	63.00	64.00	63.5000	.50000	.70711	.500	.	.	.	.
VAR00004	2	10.00	61.00	71.00	66.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00005	2	2.00	61.00	63.00	62.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00006	2	11.00	54.00	65.00	59.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00007	2	10.00	60.00	70.00	65.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00008	2	2.00	63.00	65.00	64.0000	1.00000	1.41421	2.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Based upon this data it can be concluded, that in the subscales of Social Participation, Vision, Hearing, and Body Awareness both parents' interpretive range scores were some sensory processing problems. In the subscale of Touch and Planning and Ideas the responses of participant 7 were in the range of definite; whereas, the mother's responses were only some sensory problems. However, in the category of Balance and motion participant 6 scored in the interpretive range of some sensory problems,

but the father scored the child as typical development. Additionally, the difference in raw score between the participants was only 6 points, which is not enough to change to interpretive range. Although there are 3 differences in the subscales interpretive range, the Total Sensory Systems score was the same interpretive range for both parents. From this data it can be concluded, that each parents' perspective can be different resulting in the questions on the SPM being answered differently. However, the difference is not great enough to say that one parent could have a skewed perspective on their child's sensory processing symptoms.

The last data set analyzed compared the means between respondents who had children with Autism to participants with children with ADHD. Table 58 shows the means for each question response on the SPM. From the data in table 58, there were 38 similarities in responses on questions that had the same mean from the average taken from responses for participants who have children with Autism and the respondents who have children with ADHD. From this data, it can be concluded that children with Autism have more similarities in sensory processing symptoms than differences.

Table 58: *Mean of SPM Question Responses for Autism and ADHD*

Question Number	Autism Girls and Boys Total Participants- 10	ADHD Girls and Boys Total participants-8
1	2.4000	2.8750
2	2.6000	2.3750
3	2.9000	3.1250
4	2.4000	2.8750
5	2.9000	2.5000
6	2.1000	2.8750
7	2.7000	2.5000
8	2.0000	2.3750
9	2.0000	2.3750
10	2.9000	2.5000
11	2.5000	2.7500

12	2.3000	3.2500
13	2.4000	2.0000
14	2.3000	2.5000
15	2.8000	1.8750
16	2.7000	1.8750
17	2.4000	2.5000
18	2.2000	2.5000
19	2.6000	2.0000
20	2.9000	2.3750
21	3.4000	2.0000
22	2.6000	3.0000
23	1.9000	2.8750
24	1.9000	2.2500
25	2.3000	2.1250
26	2.7000	2.3750
27	2.8000	3.0000
28	2.7000	2.5000
29	2.2000	2.6250
30	3.5000	2.0000
31	2.7000	1.8750
32	2.6000	2.3750
33	3.0000	2.7500
34	1.9000	2.5000
35	2.7000	2.5000
36	2.5000	2.1250
37	2.3000	3.0000
38	2.3000	2.6250
39	2.0000	2.2500
40	2.9000	3.2500
41	2.1000	1.7500
42	1.7000	3.0000
43	2.8000	2.2500
44	2.7000	2.5000
45	2.3000	1.7500
46	2.2000	2.2500
47	2.6000	3.0000
48	2.3000	2.1250
49	1.6000	1.5000
50	2.6000	2.6250
51	2.3000	2.6250
52	1.9000	2.1250
53	2.5000	2.1250
54	2.9000	2.8750
55	2.9000	2.2500
56	1.5000	1.5000
57	3.0000	2.6250

58	1.5000	2.0000
59	2.3000	2.1250
60	2.7000	2.5000
61	3.4000	2.0000
62	3.2000	2.2500
63	2.9000	1.5000
64	3.0000	2.5000
65	2.6000	1.5000
66	2.3000	2.5000
67	3.1000	2.5000
68	3.3000	3.5000
69	2.4000	3.2500
70	2.6000	2.6250
71	2.9000	2.7500
72	2.4000	2.0000
73	2.9000	1.7500
74	2.1000	2.6250
75	2.7000	2.8750

Summary

Fifteen participants using the SPM: home form rated sensory processing symptoms that their child may or may not experience. The survey is comprised of seven subscales: Social Participation, Vision, Hearing, Touch, Body Awareness, Balance and Motion, and Planning and Ideas. The seven subscales are then calculated to determine the Total Sensory System Score. Typical development, some sensory processing symptoms, and definite disfunction in sensory processing is determined based upon the subscales and Total Sensory System. The means, raw scores, T-scores, and other statistics were utilized to determine if there was a correlation between diagnoses, gender, and/or age with the prevalence of sensory processing symptoms. From analyzing the data the following conclusions can be made. For the category of all diagnoses there were more differences in participants responses on the SPM than similarities. However, the average interpretive range for all children in the study was definite dysfunction in sensory processing. When comparing the raw scores of girls and boys with all diagnoses, the boys had less sensory processing symptoms as evidenced by their overall score being lower. When

comparing each diagnosis to one another, the overall combined Total Sensory Symptoms score for both girls and boys with Autism was higher than children with ADHD, Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision.

Since children with Autism have a higher Total Sensory Symptoms score, on average will experience more sensory processing symptoms than children with other diagnoses that were tested in this study. For the diagnosis of Autism, respondents who have girls answered 70 of the question on the SPM the same. Parents/guardians of boys with Autism only answered 52 questions with the same response. However when comparing the answers selected for girls and boys with Autism, only 29 questions had the same answer choice selected. This supports that gender can influence sensory symptoms experienced in children with Autism. Additionally boys with Autism scored higher on the SPM than girls; however, the difference was not significant.

Children with Cerebral Palsy, Down Syndrome, and Hearing Deficit/ Low Vision combined had 63 questions with the same answer selected. The respondents for Cerebral Palsy and Hearing Deficit/ Low Vision had 26 questions with the same response. The two participants who have a child with Cerebral Palsy and Down Syndrome had 23 answers that were the same. The diagnoses of Down Syndrome and Hearing Deficit/ Low Vision had only 14 questions that the same answer was provided. From the data collected in the survey, it can be concluded that there are more similarities in question responses when combining the diagnoses of with Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision on the SPM than differences. However, there are more differences between Cerebral Palsy and Hearing Deficit/ Low Vision, Cerebral Palsy and Down Syndrome, and Down Syndrome and Hearing Deficit/ Low Vision than similarities. Children with Cerebral Palsy and Hearing Deficit/Low Vision on average have a lower raw Total Sensory System score on the SPM than other diagnoses in this study.

For all diagnosis of girls with ADHD, there were 38 questions that had at least 50% of the same answer selected. The participants who have a male child had 40 questions that had 50% or more respondents chose the same answer. From the data collected in the survey, it can be concluded that there are more differences between question responses of girls and boys with ADHD on the SPM than similarities. On average the participants with children with ADHD scores were in the range of definite dysfunction. However, boys with ADHD had a mean 1.53 points less than girls with ADHD on the Total Sensory Symptoms score.

The next analysis, focused on age group, found that on average children who are in the 8 year old category scored the highest on Total Sensory Symptoms, while 10 year old's scored the lowest. When comparing the raw means of all the age groups, the interpretive range was definite dysfunction in sensory processing symptoms. Additionally the age groups all had similar diagnoses; however, the severity of the diagnosis of the participants was not considered in this study. From this data it can be concluded that there are differences in average means of raw and T-scores of the subscales in each age group.

In this study a mother and father both completed the survey, so the researcher could gain insight on how parents' perspective may or may not influence the questionnaire. There were 32 questions that the same answer was selected and 34 questions that had a response that was different by 1 point. From the data collected in the survey, it can be concluded that there are more differences between question responses between participant 6 and 7 on the SPM than similarities. However, the difference in the Total Sensory Symptoms score is not great enough to say that one parent could have a skewed perspective on their child's sensory processing symptoms. The last data analyzed compared the means for each question on the SPM for the diagnoses of Autism and ADHD. There were 38 questions that had the

same overall response, which can conclude that children with Autism and ADHD have more similarities in sensory processing symptoms than differences.

CHAPTER V

DISCUSSION

Since one in every six children have sensory symptoms that effect their activities of daily living, this study was designed to measure the correlations between sensory symptoms and diagnoses, age, and gender (STAR Institute for Sensory Processing Disorder, 2018a). This study only analyzed diagnoses of Autism, AHDH, Down Syndrome, Cerebral Palsy, Hearing Deficit/ Low Vision. Participants in the study had children between the ages of 5 to 12 years old who had at least one of the diagnoses required to partake in the study. The results in this study did not confirm that there were more similarities in sensory processing symptoms than differences amongst all diagnoses. However, the results did confirm that there are more similarities in sensory processing symptoms in gender than differences. The third hypothesis was confirmed due to results finding there are more similarities in sensory processing symptoms based upon the age of the child. The specific cause of why the 8 year old age group scored the highest and the 10 year old's the lowest on the Total Sensory Symptoms score is difficult to determine. The results confirm that children in different age groups experience different sensory symptoms. However, there is not a steady increase or decrease in the Total Sensory Symptoms amongst the age groups. The results found in this study also confirm that there are more similarities in sensory symptoms than differences in each specific diagnosis. This can be seen by the various raw and T-scores for each diagnoses. Additionally, the results support that there are more similarities in symptoms in children diagnosed with ADHD and Autism. However, the results do not confirm the researcher's last hypothesis. All participants, except one, had a T-score of at least sixty identifying that there are "some

problems" with sensory processing based upon the SPM. When the data from all participants was averaged, the interpretive range was classified as definite dysfunction. This supports that most children with Autism, ADHD, Cerebral Palsy, Down Syndrome, and Hearing Deficit/ Low Vision experience sensory processing symptoms.

Limiting Factors

The biggest limiting factor in this study is the small sample size. Because of the small sample size, it is difficult to draw general conclusions for each diagnoses. Additionally, by having a limited sample size it was challenging to compare data. The diagnoses of Cerebral Palsy, Down Syndrome, and Hearing Deficit/Low Vision each had one respondent. The lack of participants from these diagnoses are contributing factors to the some of the lack of statistical significance in the study. Another limiting factor in the study was that parents/guardians were not asked the severity of their child's diagnoses. This factor could potentially influence the results and statistical significance. Another factor that could limit the study is that parents/guardians completed an online survey. If the participants had questions or were confused on the survey, the respondents may have just selected a random response. Additionally a medical professional did not complete the assessment, so responses were based upon the respondents perspective. Since the research study only utilized a parents perspective, the answers on the survey could be skewed. The research study also did not have a control group to compare the data for the respondents to. However, the SPM is a standardized assessment that utilized a control group when testing for reliability and validity. Lastly the SPM is only a single rated assessment, which could impact the functionality of the survey. In conclusion any of these limiting factors could impact or have impacted the data and statistical significance found in this research study.

Recommendations for Future Research

For future researchers who are interested in studying sensory processing symptoms in children with disabilities, the following suggestions could be beneficial in finding statistical significance. A larger sample size that includes a wider range of diagnoses that are impacted by sensory processing symptoms, would allow the researchers to collect more date. Additionally, researchers should have respondents provide the severity of their child's diagnoses in order to gain better understanding on what could be impacting sensory processing symptoms. Also, each question on the SPM could be analyzed to determine how the individual questions impact the subscales. Future researchers could also implement a control group in order to compare data from typical and atypical developing children. Future studies should research if sensory symptoms occur as a result of other diagnoses or if a child has a comorbid diagnosis of Sensory Processing Disorder. Because there are few studies that measure similarities in sensory symptoms in children with different diagnoses, this study can be used as a foundation to aid future researchers regardless of whether all results are supported by statistical significance.

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Tables

Table 1: *Demographics*

Participant #	Age	Gender	Diagnosis
1	12	Female	Autism, Down Syndrome
2	10	Male	ADHD
6	10	Female	Autism
8	5	Male	Cerebral Palsy
9	9	Female	Autism, ADHD
10	12	Male	Autism, ADHD
11	8	Male	ADHD, Autism
12	8	Male	Autism, ADHD
13	9	Male	ADHD
14	12	Male	Autism, Hearing Deficit/ Low Vision
15	5	Male	Autism
17	9	Female	Autism, ADHD
18	12	Female	ADHD
19	10	Male	Autism

Table 2: *Raw Scores*

Raw Score	1	2	6	8	9	10	11	12	13	14	15	17	18	19
SOC	31	22	25	24	31	34	21	29	24	28	31	36	14	33
VIS	25	15	17	19	33	40	23	35	15	18	26	24	20	24
HEA	17	12	13	19	23	32	26	23	10	14	24	26	14	18
TOU	24	14	17	15	38	36	27	37	22	31	23	28	16	22
BOD	27	14	17	23	28	24	27	24	22	21	23	33	16	12
BAL	31	12	20	27	25	37	20	32	17	18	17	25	16	25
PLA	28	20	17	25	23	27	22	27	21	22	29	36	15	34
TOT	133	76	91	110	158	184	138	165	91	110	130	150	89	108

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 3: *T-scores*

T Score	1	2	6	8	9	10	11	12	13	14	15	17	18	19
SOC	73	62	65	64	73	78	60	70	64	69	73	79	47	76
VIS	71	59	63	65	79	80	69	80	59	64	72	70	67	70
HEA	68	62	63	70	75	80	78	75	56	64	76	78	64	69
TOU	68	55	61	57	80	79	72	80	67	74	68	73	59	67
BOD	72	57	61	68	73	69	72	69	67	66	68	78	60	52
BAL	77	47	65	75	72	80	65	77	61	63	61	72	59	72
PLA	74	64	60	70	67	73	66	73	65	66	75	80	57	80
TOT	74	58	63	69	78	80	75	79	63	69	72	77	63	68

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 4: *Interpretive Range*

Interp Range	1	2	6	8	9	10	11	12	13	14	15	17	18	19
SOC	D	S	S	S	D	D	S	D	S	S	D	D	T	D
VIS	D	T	S	S	D	D	S	D	T	S	D	D	S	D
HEA	S	S	S	D	D	D	D	D	T	S	D	D	S	S
TOU	S	T	S	T	D	D	D	D	S	D	S	D	T	S
BOD	D	T	S	S	D	S	D	S	S	S	S	D	S	T
BAL	D	T	S	D	D	D	S	D	S	S	S	D	T	D
PLA	D	S	S	D	S	D	S	D	S	S	D	D	T	D
TOT	D	T	S	S	D	D	D	D	S	S	D	D	S	S

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms
Legend: D-Definite, S-Some, T-Typical

Table 5: *Participant Responses*

Question Number	1	2	6	8	9	10	11	12	13	14	15	17	18	19
1	3	2	3	2	3	4	3	3	2	3	3	4	2	4
2	3	2	2	2	3	2	2	3	3	2	3	3	1	3
3	3	3	2	2	4	4	3	3	3	3	3	3	2	3
4	4	1	3	3	4	4	2	3	3	4	4	4	2	3
5	3	2	3	3	2	4	3	3	2	3	3	3	1	4
6	3	2	3	3	3	4	2	3	3	4	4	4	2	4
7	3	3	2	2	3	3	2	2	2	3	4	4	1	4

8	3	3	2	2	3	3	1	3	2	2	2	3	1	2
9	3	2	2	3	3	3	1	3	2	2	3	4	1	2
10	3	2	3	2	3	3	2	3	2	2	2	4	1	4
11	2	2	1	2	4	4	3	4	1	1	2	1	3	2
12	3	2	1	2	3	4	4	3	3	2	3	3	4	3
13	1	1	1	2	3	4	2	2	1	1	1	2	1	4
14	2	1	1	2	4	4	1	4	1	4	3	3	2	1
15	2	1	2	1	2	4	1	2	1	1	1	2	2	3
16	2	1	2	2	1	4	1	2	2	2	2	3	1	1
17	3	3	2	2	3	3	4	4	1	3	3	1	1	3
18	3	1	2	2	3	3	3	3	2	1	2	3	2	2
19	3	1	1	1	3	3	1	4	1	1	4	2	1	1
20	2	1	2	2	4	4	2	4	1	1	3	1	2	1
21	2	1	2	1	3	3	1	3	1	1	2	3	1	3
22	1	2	2	3	4	4	4	3	1	1	4	4	2	1
23	1	2	1	3	4	4	4	3	1	1	4	3	2	2
24	3	1	1	2	1	4	3	2	2	3	3	3	2	1
25	2	2	2	1	2	4	1	3	1	1	2	3	1	2
26	2	1	1	3	3	4	3	3	1	1	3	3	1	3
27	3	1	2	3	3	4	4	3	2	1	2	4	3	3
28	4	1	3	1	2	4	4	4	1	3	3	3	1	4
29	1	2	1	3	4	4	3	2	1	3	3	3	2	2
30	1	1	1	1	3	4	2	2	2	3	1	1	1	1
31	3	1	2	1	3	1	2	2	2	1	1	3	1	1
32	2	2	2	2	3	4	1	4	1	3	1	1	3	2
33	1	1	2	2	4	2	4	4	3	3	3	3	1	1
34	3	1	1	2	3	4	3	4	1	2	1	3	1	4
35	2	1	1	1	4	4	3	4	2	3	3	1	1	2
36	2	2	1	1	4	3	1	4	1	2	1	1	1	3
37	4	1	2	2	4	4	4	2	4	4	4	4	1	3
38	2	2	1	1	3	4	1	4	3	4	3	3	1	2
39	2	1	2	1	3	2	2	3	1	3	3	4	2	2
40	2	1	2	1	4	4	4	4	2	3	2	4	3	1
41	2	2	1	1	1	2	4	2	1	1	4	1	1	1
42	1	3	1	1	2	4	4	4	1	2	3	4	2	2
43	2	1	2	2	4	2	4	2	1	1	4	3	1	1
44	1	2	2	1	3	4	2	3	1	1	3	3	2	1
45	3	1	1	2	1	3	1	3	1	3	3	3	1	2
46	3	1	1	2	1	3	2	3	3	1	1	4	1	1
47	2	1	3	4	4	1	4	3	4	4	3	4	3	1
48	3	1	1	2	3	3	1	2	1	2	1	4	2	1
49	2	1	1	2	2	2	1	2	2	1	2	1	1	3
50	3	1	2	2	3	4	3	3	2	2	3	4	1	1
51	2	1	2	4	3	1	4	3	4	4	3	4	1	1
52	3	1	1	2	3	2	3	2	1	2	2	4	1	1
53	2	1	3	2	3	1	2	2	2	1	3	4	2	1

54	4	4	1	1	3	4	4	2	1	2	3	2	3	1
55	3	2	2	2	3	3	3	2	2	2	2	2	1	1
56	3	1	1	3	1	4	1	2	1	1	1	1	1	1
57	3	2	3	3	4	4	3	3	1	1	1	2	2	2
58	3	1	1	3	2	4	1	3	1	1	1	3	1	4
59	2	1	1	2	2	3	2	3	2	1	1	2	2	2
60	3	1	2	3	2	4	3	3	3	1	2	3	1	2
61	3	1	3	1	3	2	1	2	1	4	3	4	2	4
62	3	1	2	3	3	1	3	4	1	4	2	4	1	3
63	2	1	1	1	1	3	1	3	1	1	1	1	1	1
64	4	1	3	3	4	4	3	3	2	1	3	1	2	4
65	2	1	1	2	1	4	1	2	1	1	1	1	1	1
66	3	1	2	3	2	4	1	4	3	2	1	3	2	1
67	3	2	2	2	2	1	3	3	3	2	4	4	2	3
68	3	4	3	3	4	4	2	4	3	2	4	4	3	4
69	3	3	1	3	3	4	4	3	3	3	3	4	2	4
70	3	2	2	3	2	3	3	3	3	2	3	4	1	4
71	3	2	2	4	3	3	2	3	3	3	4	4	2	3
72	3	1	2	2	1	4	1	3	1	2	2	4	1	4
73	3	1	1	3	2	1	3	1	1	2	2	4	1	4
74	3	2	2	2	3	3	1	4	2	3	4	4	2	4
75	4	3	2	3	3	4	3	3	2	3	3	4	1	4

*Scoring is reversed on items 1-10, 57
Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1)
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 6: *Mean for Each Questions' Responses of Males and Females of All Diagnoses*

Question Number	Mean of All Dx
1	2.93
2	2.43
3	2.93
4	3.14
5	2.79
6	3.14
7	2.71
8	2.29
9	2.43
10	2.57
11	2.29
12	2.86
13	1.86
14	2.36
15	1.79

16	1.86
17	2.57
18	2.29
19	1.93
20	2.14
21	1.93
22	2.57
23	2.50
24	2.21
25	1.93
26	2.33
27	2.71
28	2.71
29	2.43
30	1.71
31	1.71
32	2.21
33	2.43
34	2.36
35	2.29
36	1.93
37	3.07
38	2.43
39	2.21
40	2.64
41	1.71
42	2.43
43	2.14
44	2.07
45	2.00
46	1.93
47	2.93
48	1.93
49	1.64
50	2.43
51	2.64
52	2.00
53	2.07
54	2.50
55	2.14
56	1.57
57	2.43
58	2.07
59	1.86
60	2.36
61	2.43

62	2.50
63	1.36
64	2.71
65	1.43
66	2.29
67	2.57
68	3.36
69	3.07
70	2.71
71	2.93
72	2.21
73	2.07
74	2.79
75	3.00

*Scoring is reversed on items 1-10, 57
Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1)
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 7: *Frequency of SPM Responses for All Diagnoses*

Question Number	All Diagnoses: Girls and Boys 14 total participants	All Diagnoses: Girls 5 total participants	All Diagnoses: Boys 9 total participants
1	7 people selected option 3 at 50%	3 people selected option 3 at 60%	
2	7 people selected option 3 at 50%	3 people selected option 3 at 60%	5 people selected option 2 at 55.6%
3	9 people selected option 3 at 64.3%		7 people selected option 3 at 77.8%
4		3 people selected option 4 at 60%	
5	8 people selected option 3 at 57.1%	3 people selected option 3 at 60%	5 people selected option 3 at 55.6%
6		3 people selected option 3 at 60%	
7			
8		3 people selected option 3 at 60%	5 people selected option 2 at 55.6%
9			
10		3 people selected option 3 at 60%	6 people selected option 2 at 66.7%
11			
12	7 people selected option 3 at 50%	3 people selected option 3 at 60%	
13	7 people selected option 1 at 50%	3 people selected option 1 at 60%	

14			
15		5 people selected option 2 at 100 %	6 people selected option 1 at 66.7%
16	7 people selected option 2 at 50%		5 people selected option 2 at 55.6%
17	7 people selected option 3 at 50%		5 people selected option 3 at 55.6%
18		3 people selected option 3 at 60%	
19	8 people selected option 1 at 57.1%		6 people selected option 1 at 66.7%
20		3 people selected option 2 at 60%	
21			5 people selected option 1 at 55.6%
22			
23			
24			
25		3 people selected option 2 at 60%	5 people selected option 3 at 55.6%
26	7 people selected option 3 at 50%		
27		3 people selected option 3 at 60%	
28			
29			
30	8 people selected option 1 at 57.1%	4 people selected option 1 at 80%	
31	7 people selected option 1 at 50%	3 people selected option 3 at 60%	6 people selected option 1 at 66.7%
32			
33			
34		3 people selected option 3 at 60%	
35		3 people selected option 1 at 60%	
36	7 people selected option 1 at 50%	3 people selected option 1 at 60%	
37	8 people selected option 4 at 57.1%	3 people selected option 4 at 60%	5 people selected option 4 at 55.6%
38			
39		3 people selected option 2 at 60%	
40			
41	8 people selected option 1 at 57.1%	4 people selected option 1 at 80%	
42			

43			
44			
45		3 people selected option 1 at 60%	
46	7 people selected option 1 at 50%	3 people selected option 1 at 60%	
47			
48			5 people selected option 1 at 55.6%
49	7 people selected option 2 at 50%	3 people selected option 1 at 60%	5 people selected option 2 at 55.6%
50			
51			
52			5 people selected option 2 at 55.6%
53			
54			
55	8 people selected option 2 at 57.1%		6 people selected option 2 at 66.7%
56	10 people selected option 1 at 71.4%	4 people selected option 1 at 80%	6 people selected option 1 at 66.7%
57			
58	7 people selected option 1 at 50%		5 people selected option 1 at 55.6%
59	8 people selected option 2 at 57.1%	4 people selected option 2 at 80%	
60			
61		3 people selected option 3 at 60%	
62			
63	11 people selected option 1 at 78.6%	4 people selected option 1 at 80%	7 people selected option 1 at 77.8%
64			
65	10 people selected option 1 at 71.4%	4 people selected option 1 at 80%	6 people selected option 1 at 66.7%
66		3 people selected option 2 at 60%	
67		3 people selected option 2 at 60%	
68	7 people selected option 4 at 50%	3 people selected option 3 at 60%	5 people selected option 4 at 55.6%
69	8 people selected option 3 at 57.1%		6 people selected option 3 at 66.7%
70	7 people selected option 3 at 50%		6 people selected option 3 at 66.7%
71	7 people selected option 3 at 50%		5 people selected option 3 at 55.6%

72			
73			
74			
75	7 people selected option 3 at 50%		6 people selected option 3 at 66.7%

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 8: *Raw Scores Means of Males and Females of All Diagnoses*

All Diagnoses Girls/ Boys	Autism 10 participants	ADHD 8 participants	CP 1 participant	DS 1 participant	HD/LV 1 participant	Mean of all Dx combined- 14 participants
SOC	29.90	26.38	24	31	28	27.36
VIS	26.50	25.63	19	25	18	23.86
HEA	21.60	20.75	19	17	14	19.36
TOU	28.30	27.25	15	24	31	25.00
BOD	23.60	23.50	23	27	21	22.21
BOA	25.00	23.00	27	31	18	23.00
PLA	26.50	23.88	25	28	22	24.71
TOT	136.70	131.38	110	133	110	123.79

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 9: *Raw Scores of Males and Females of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00078	14	22.00	14.00	36.00	27.3571	1.60565	6.00778	36.093	-.668	.597	.260	1.154
VAR00079	14	25.00	15.00	40.00	23.8571	2.03231	7.60422	57.824	.874	.597	.068	1.154
VAR00080	14	22.00	10.00	32.00	19.3571	1.72763	6.46419	41.786	.334	.597	-.745	1.154
VAR00081	14	24.00	14.00	38.00	25.0000	2.18888	8.19005	67.077	.306	.597	-1.099	1.154
VAR00082	14	21.00	12.00	33.00	22.2143	1.55902	5.83331	34.027	-.146	.597	-.311	1.154
VAR00083	14	25.00	12.00	37.00	23.0000	1.89563	7.09279	50.308	.450	.597	-.466	1.154
VAR00084	14	21.00	15.00	36.00	24.7143	1.59128	5.95404	35.451	.340	.597	-.198	1.154
VAR00085	14	108.00	76.00	184.00	123.7857	8.70151	32.55806	1060.027	.311	.597	-.895	1.154
Valid N (listwise)	14											

Legend: (78) Social Participation, (79) Vision, (80) Hearing, (81) Touch, (82) Body Awareness, (83) Balance and Motion, (84) Planning and Ideas, (85) Total Sensory Symptoms

Table 10: T-scores *of Males and Females of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	14	32.00	47.00	79.00	68.0714	2.28099	8.53467	72.841	-1.028	.597	1.536	1.154
VAR00002	14	21.00	59.00	80.00	69.1429	1.87188	7.00392	49.055	.265	.597	-.743	1.154
VAR00003	14	24.00	56.00	80.00	69.8571	1.96076	7.33650	53.824	-.284	.597	-.991	1.154
VAR00004	14	25.00	55.00	80.00	68.5714	2.22798	8.33634	69.495	-.149	.597	-1.031	1.154
VAR00005	14	26.00	52.00	78.00	66.5714	1.85376	6.93613	48.110	-.623	.597	.224	1.154
VAR00006	14	33.00	47.00	80.00	67.5714	2.41723	9.04446	81.802	-.699	.597	.413	1.154
VAR00007	14	23.00	57.00	80.00	69.2857	1.84994	6.92186	47.912	-.030	.597	-.648	1.154
VAR00008	14	22.00	58.00	80.00	70.5714	1.86263	6.96932	48.571	-.284	.597	-1.085	1.154
Valid N (listwise)	14											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 11: *Raw Scores Means of Girls of All Diagnoses*

All Diagnoses Girls	Autism 4 participants	ADHD 3 participants	CP n/a No girls	DS 1 participant	HD/LV n/a No girls	Mean of all Dx combined-5 participants
SOC	30.75	27.00		31		27.40
VIS	24.75	25.67		25		23.80
HEA	19.75	21.00		17		18.60
TOU	26.75	27.33		24		24.60
BOD	26.25	25.67		27		24.20
BOA	25.25	22.00		31		23.40
PLA	26.00	24.67		28		23.80
TOT	133.00	132.33		133		124.20

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 12: *Raw Scores of Girls of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	5	22.00	14.00	36.00	27.4000	3.77624	8.44393	71.300	-1.170	.913	1.364	2.000
VAR00002	5	16.00	17.00	33.00	23.8000	2.70924	6.05805	36.700	.770	.913	.828	2.000
VAR00003	5	13.00	13.00	26.00	18.6000	2.54165	5.68331	32.300	.484	.913	-2.236	2.000
VAR00004	5	22.00	16.00	38.00	24.6000	4.01995	8.98888	80.800	.786	.913	-.115	2.000
VAR00005	5	17.00	16.00	33.00	24.2000	3.30757	7.39594	54.700	-.171	.913	-2.370	2.000
VAR00006	5	15.00	16.00	31.00	23.4000	2.54165	5.68331	32.300	.006	.913	-.234	2.000
VAR00007	5	21.00	15.00	36.00	23.8000	3.81314	8.52643	72.700	.601	.913	-.763	2.000
VAR00008	5	69.00	89.00	158.00	124.2000	14.53754	32.50692	1056.700	-.288	.913	-2.958	2.000
Valid N (listwise)	5											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 13: T-score*s of Girls of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00018	5	32.00	47.00	79.00	67.4000	5.56417	12.44186	154.800	-1.426	.913	2.083	2.000
VAR00019	5	16.00	63.00	79.00	70.0000	2.64575	5.91608	35.000	.724	.913	1.229	2.000
VAR00020	5	15.00	63.00	78.00	69.6000	2.97658	6.65582	44.300	.400	.913	-2.448	2.000
VAR00021	5	21.00	59.00	80.00	68.2000	3.86523	8.64292	74.700	.388	.913	-1.331	2.000
VAR00022	5	18.00	60.00	78.00	68.8000	3.54119	7.91833	62.700	-.227	.913	-2.506	2.000
VAR00023	5	18.00	59.00	77.00	69.0000	3.14643	7.03562	49.500	-.596	.913	-.596	2.000
VAR00024	5	23.00	57.00	80.00	67.6000	4.27317	9.55510	91.300	.257	.913	-1.810	2.000
VAR00025	5	15.00	63.00	78.00	71.0000	3.33167	7.44983	55.500	-.441	.913	-3.142	2.000
Valid N (listwise)	5											

Legend: (18) Social Participation, (19) Vision, (20) Hearing, (21) Touch, (22) Body Awareness, (23) Balance and Motion, (24) Planning and Ideas, (25) Total Sensory Symptoms

Table 14: *Raw Scores Means of Boys of All Diagnoses*

All Diagnoses Boys	Autism 6 participants	ADHD 5 participants	CP 1 participant	DS n/a No boys	HD/LV 1 participant	Mean of all Dx combined- 9 participants
SOC	34..00	26.00	24		28	27.33
VIS	40.00	25.60	19		18	23.89
HEA	32.00	20.60	19		14	19.78
TOU	37.00	27.20	15		31	25.22
BOD	27.00	22.20	23		21	21.11
BOA	37.00	23.60	27		18	22.78
PLA	34.00	23.40	25		22	25.22
TOT	139.17	130.80	110		110	123.56

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 15: *Raw Scores of Boys of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00078	9	13.00	21.00	34.00	27.3333	1.59861	4.79583	23.000	.077	.717	-1.604	1.400
VAR00079	9	25.00	15.00	40.00	23.8889	2.89849	8.69546	75.611	.938	.717	-.032	1.400
VAR00080	9	22.00	10.00	32.00	19.7778	2.38501	7.15503	51.194	.251	.717	-.671	1.400
VAR00081	9	23.00	14.00	37.00	25.2222	2.75771	8.27312	68.444	.149	.717	-1.090	1.400
VAR00082	9	15.00	12.00	27.00	21.1111	1.63677	4.91031	24.111	-1.153	.717	.412	1.400
VAR00083	9	25.00	12.00	37.00	22.7778	2.69659	8.08977	65.444	.601	.717	-.519	1.400
VAR00084	9	14.00	20.00	34.00	25.2222	1.50718	4.52155	20.444	.794	.717	.195	1.400
VAR00085	9	108.00	76.00	184.00	123.5556	11.51824	34.55471	1194.028	.563	.717	-.305	1.400
Valid N (listwise)	9											

Legend: (78) Social Participation, (79) Vision, (80) Hearing, (81) Touch, (82) Body Awareness, (83) Balance and Motion, (84) Planning and Ideas, (85) Total Sensory Symptoms

Table 16: T-scores *of Boys of All Diagnoses*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	9	18.00	60.00	78.00	68.4444	2.12205	6.36614	40.528	.222	.717	-1.371	1.400
VAR00002	9	21.00	59.00	80.00	68.6667	2.61406	7.84219	61.500	.331	.717	-.943	1.400
VAR00003	9	24.00	56.00	80.00	70.0000	2.69258	8.07775	65.250	-.494	.717	-.808	1.400
VAR00004	9	25.00	55.00	80.00	68.7778	2.89529	8.68588	75.444	-.393	.717	-.669	1.400
VAR00005	9	20.00	52.00	72.00	65.3333	2.16025	6.48074	42.000	-1.483	.717	1.331	1.400
VAR00006	9	33.00	47.00	80.00	66.7778	3.43502	10.30507	106.194	-.603	.717	.232	1.400
VAR00007	9	16.00	64.00	80.00	70.2222	1.80876	5.42627	29.444	.556	.717	-.660	1.400
VAR00008	9	22.00	58.00	80.00	70.3333	2.38048	7.14143	51.000	-.277	.717	-.357	1.400
Valid N (listwise)	9											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 17: *Frequency of SPM Responses for Autism*

Question Number	Autism: Girls and Boys Total participants- 10	Autism: Girls Total participants- 4	Autism: Boys Total participants- 6
1	7 people selected option 3 at 70%	3 people selected option 3 at 75%	4 people selected option 3 at 66.7%
2	6 people selected option 3 at 60%	3 people selected option 3 at 75%	3 people selected option 2 50% 3 people selected option 3 at 50%
3	7 people selected option 3 at 70%	2 people selected option 3 at 50%	5 people selected option 3 at 83.3%
4	6 people selected option 4 at 60%	3 people selected option 4 at 75%	3 people selected option 4 at 50%
5	7 people selected option 3 at 70%	3 people selected option 3 at 75%	4 people selected option 3 at 66.7%
6	5 people selected option 4 at 50%	3 people selected option 3 at 75%	4 people selected option 4 at 66.7%
7		2 people selected option 3 at 50%	
8	5 people selected option 3 at 50%	3 people selected option 3 at 75%	3 people selected option 2 at 50%
9	5 people selected option 3 at 50%	2 people selected option 3 at 50%	3 people selected option 3 at 50%
10	5 people selected option 3 at 50%	3 people selected option 3 at 75%	3 people selected option 2 at 50%
11		2 people selected option 1 at 50%	

12	6 people selected option 3 at 60%	3 people selected option 3 at 75%	3 people selected option 3 at 50%
13		2 people selected option 2 at 50%	
14			3 people selected option 4 at 50%
15	5 people selected option 2 at 50%	4 people selected option 2 at 100%	3 people selected option 1 at 50%
16	5 people selected option 2 at 50%	2 people selected option 2 at 50%	3 people selected option 2 at 50%
17	6 people selected option 3 at 60%	2 people selected option 3 at 50%	4 people selected option 3 at 66.7%
18	6 people selected option 3 at 60%	3 people selected option 3 at 75%	3 people selected option 3 at 50%
19		2 people selected option 3 at 50%	3 people selected option 1 at 50%
20		2 people selected option 2 at 50%	
21	5 people selected option 3 at 50%	2 people selected option 2 at 50% 2 people selected option 3 at 50%	3 people selected option 3 at 50%
22	5 people selected option 4 at 50%	2 people selected option 4 50%	3 people selected option 4 at 50%
23		2 people selected option 1 at 50%	3 people selected option 4 at 50%
24	5 people selected option 3 at 50%	2 people selected option 1 at 50% 2 people selected option 3 at 50%	3 people selected option 3 at 50%
25	5 people selected option 2 at 50%	3 people selected option 2 at 75%	
26	6 people selected option 3 at 60%	2 people selected option 3 at 50%	4 people selected option 3 at 66.7%
27		2 people selected option 3 at 50%	
28	5 people selected option 4 at 50%	2 people selected option 3 at 50%	4 people selected option 4 at 66.7%
29		2 people selected option 1 at 50%	3 people selected option 3 at 50%
30	5 people selected option 1 at 50%	3 people selected option 1 at 75%	
31		3 people selected option 3 at 75%	4 people selected option 1 at 66.7%
32		2 people selected option 2 at 50%	
33			

34		3 people selected option 3 at 75%	3 people selected option 4 at 50%
35		2 people selected option 1 at 50%	3 people selected option 3 at 50%
36		2 people selected option 1 at 50%	
37	7 people selected option 4 at 70%	3 people selected option 4 75%	4 people selected option 4 at 66.7%
38		2 people selected option 3 at 50%	3 people selected option 4 at 50%
39	5 people selected option 2 at 50%	2 people selected option 2 at 50%	3 people selected option 2 at 50% 3 people selected option 3 at 50%
40	5 people selected option 4 at 50%	2 people selected option 2 at 50% 2 people selected option 4 at 50%	3 people selected option 4 at 50%
41	5 people selected option 1 at 50%	3 people selected option 3 at 75%	
42		2 people selected option 1 at 50%	3 people selected option 4 at 50%
43		2 people selected option 2 at 50%	
44		2 people selected option 3 at 50%	
45	6 people selected option 3 at 60%	2 people selected option 1 50% 2 people selected option 3 at 50%	4 people selected option 3 at 66.7%
46	5 people selected option 1 at 50%	2 people selected option 1 at 50%	3 people selected option 1 at 50%
47		2 people selected option 4 at 50%	
48		2 people selected option 3 at 50%	3 people selected option 1 50%
49	5 people selected option 2 at 50%	2 people selected option 1 at 50% 2 people selected option 2 at 50%	3 people selected option 2 at 50%
50	5 people selected option 3 at 50%	2 people selected option 3 at 50%	3 people selected option 3 at 50%
51		2 people selected option 2 at 50%	
52		2 people selected option 3 at 50%	4 people selected option 2 at 66.7%

53		2 people selected option 3 at 50%	3 people selected option 1 at 50%
54			
55	5 people selected option 2 at 50%	2 people selected option 2 at 50% 2 people selected option 3 at 50%	3 people selected option 2 at 50%
56	7 people selected option 1 at 70%	3 people selected option 1 at 75%	4 people selected option 1 at 66.7%
57		2 people selected option 3 at 50%	
58		2 people selected option 3 at 50%	3 people selected option 1 at 50%
59	5 people selected option 2 at 50%	3 people selected option 2 at 75%	
60		2 people selected option 2 at 50% 2 people selected option 3 at 50%	
61		3 people selected option 3 at 75%	
62		2 people selected option 3 at 50%	
63	7 people selected option 1 at 70%	3 people selected option 1 at 75%	4 people selected option 1 at 66.7%
64		2 people selected option 4 at 50%	3 people selected option 3 at 50%
65	7 people selected option 1 at 70%	3 people selected option 1 at 75%	4 people selected option 1 at 66.7%
66		2 people selected option 2 at 50% 2 people selected option 3 at 50%	3 people selected option 1 at 50%
67		2 people selected option 2 at 50%	3 people selected option 3 at 50%
68	6 people selected option 4 at 60%	2 people selected option 3 at 50% 2 people selected option 4 at 50%	4 people selected option 4 at 66.7%
69	5 people selected option 3 at 50%	2 people selected option 3 at 50%	3 people selected option 3 at 50% 3 people selected option 4 at 50%
70	5 people selected option 3 at 50%	2 people selected option 2 at 50%	4 people selected option 3 at 66.7 %

71	6 people selected option 3 at 60%	2 people selected option 3 at 50%	4 people selected option 3 at 66.7 %
72			
73			
74		2 people selected option 3 at 50%	3 people selected option 4 at 50%
75	5 people selected option 3 at 50%	2 people selected option 4 at 50%	4 people selected option 3 at 66.7 %

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 18: *Raw Scores of Males and Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	10	15.00	21.00	36.00	29.9000	1.39403	4.40833	19.433	-.811	.687	.647	1.334
VAR00002	10	23.00	17.00	40.00	26.5000	2.32499	7.35225	54.056	.629	.687	-.319	1.334
VAR00003	10	19.00	13.00	32.00	21.6000	1.89268	5.98517	35.822	.062	.687	-.613	1.334
VAR00004	10	21.00	17.00	38.00	28.3000	2.24128	7.08755	50.233	.048	.687	-1.125	1.334
VAR00005	10	21.00	12.00	33.00	23.6000	1.87498	5.92921	35.156	-.581	.687	.694	1.334
VAR00006	10	20.00	17.00	37.00	25.0000	2.08700	6.59966	43.556	.571	.687	-.637	1.334
VAR00007	10	19.00	17.00	36.00	26.5000	1.82117	5.75905	33.167	.157	.687	-.278	1.334
VAR00008	10	93.00	91.00	184.00	136.7000	9.03948	28.58535	817.122	.012	.687	-.602	1.334
Valid N (listwise)	10											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 19: T-scores *of Males and Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	10	19.00	60.00	79.00	71.6000	1.85113	5.85377	34.267	-.768	.687	.330	1.334
VAR00002	10	17.00	63.00	80.00	71.8000	1.94251	6.14275	37.733	.171	.687	-1.042	1.334
VAR00003	10	17.00	63.00	80.00	72.6000	1.93333	6.11374	37.378	-.533	.687	-1.296	1.334
VAR00004	10	19.00	61.00	80.00	72.2000	1.99889	6.32104	39.956	-.233	.687	-.697	1.334
VAR00005	10	26.00	52.00	78.00	68.0000	2.28035	7.21110	52.000	-1.182	.687	2.045	1.334
VAR00006	10	19.00	61.00	80.00	70.4000	2.07739	6.56929	43.156	-.039	.687	-1.431	1.334
VAR00007	10	20.00	60.00	80.00	71.4000	2.05589	6.50128	42.267	-.271	.687	-.658	1.334
VAR00008	10	17.00	63.00	80.00	73.5000	1.73365	5.48229	30.056	-.708	.687	-.292	1.334
Valid N (listwise)	10											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 20: *Raw Scores of Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	4	11.00	25.00	36.00	30.7500	2.25000	4.50000	20.250	-.332	1.014	1.561	2.619
VAR00002	4	16.00	17.00	33.00	24.7500	3.27554	6.55108	42.917	.227	1.014	1.413	2.619
VAR00003	4	13.00	13.00	26.00	19.7500	2.92617	5.85235	34.250	-.166	1.014	-2.786	2.619
VAR00004	4	21.00	17.00	38.00	26.7500	4.38511	8.77021	76.917	.473	1.014	.650	2.619
VAR00005	4	16.00	17.00	33.00	26.2500	3.35099	6.70199	44.917	-1.059	1.014	2.042	2.619
VAR00006	4	11.00	20.00	31.00	25.2500	2.25000	4.50000	20.250	.332	1.014	1.561	2.619
VAR00007	4	19.00	17.00	36.00	26.0000	4.02078	8.04156	64.667	.323	1.014	-.222	2.619
VAR00008	4	67.00	91.00	158.00	133.0000	14.93876	29.87753	892.667	-1.339	1.014	1.500	2.619
Valid N (listwise)	4											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 21: T-scores *of Females with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00018	4	14.00	65.00	79.00	72.5000	2.87228	5.74456	33.000	-.517	1.014	1.649	2.619
VAR00019	4	16.00	63.00	79.00	70.7500	3.27554	6.55108	42.917	.227	1.014	1.413	2.619
VAR00020	4	15.00	63.00	78.00	71.0000	3.39116	6.78233	46.000	-.282	1.014	-2.734	2.619
VAR00021	4	19.00	61.00	80.00	70.5000	4.01040	8.02081	64.333	.000	1.014	-.317	2.619
VAR00022	4	17.00	61.00	78.00	71.0000	3.58236	7.16473	51.333	-1.175	1.014	2.208	2.619
VAR00023	4	12.00	65.00	77.00	71.5000	2.46644	4.93288	24.333	-.600	1.014	1.701	2.619
VAR00024	4	20.00	60.00	80.00	70.2500	4.32772	8.65544	74.917	-.135	1.014	-1.394	2.619
VAR00025	4	15.00	63.00	78.00	73.0000	3.43996	6.87992	47.333	-1.658	1.014	2.690	2.619
Valid N (listwise)	4											

Legend: (18) Social Participation, (19) Vision, (20) Hearing, (21) Touch, (22) Body Awareness, (23) Balance and Motion, (24) Planning and Ideas, (25) Total Sensory Symptoms

Table 22: *Raw Scores of Males with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	6	13.00	21.00	34.00	29.3333	1.90904	4.67618	21.867	-1.249	.845	1.785	1.741
VAR00002	6	22.00	18.00	40.00	27.6667	3.35327	8.21381	67.467	.656	.845	-.802	1.741
VAR00003	6	18.00	14.00	32.00	22.8333	2.56147	6.27429	39.367	.002	.845	-.018	1.741
VAR00004	6	15.00	22.00	37.00	29.3333	2.61619	6.40833	41.067	.103	.845	-2.112	1.741
VAR00005	6	15.00	12.00	27.00	21.8333	2.12001	5.19294	26.967	-1.696	.845	3.481	1.741
VAR00006	6	20.00	17.00	37.00	24.8333	3.32081	8.13429	66.167	.700	.845	-1.287	1.741
VAR00007	6	12.00	22.00	34.00	26.8333	1.85143	4.53505	20.567	.490	.845	-.042	1.741
VAR00008	6	76.00	108.00	184.00	139.1667	12.36235	30.28146	916.967	.556	.845	-1.122	1.741
Valid N (listwise)	6											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 23: T-scores *of Males with Autism*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	6	18.00	60.00	78.00	71.0000	2.60768	6.38749	40.800	-.995	.845	1.193	1.741
VAR00002	6	16.00	64.00	80.00	72.5000	2.60448	6.37966	40.700	.198	.845	-1.290	1.741
VAR00003	6	16.00	64.00	80.00	73.6667	2.45855	6.02218	36.267	-.899	.845	-.289	1.741
VAR00004	6	13.00	67.00	80.00	73.3333	2.21610	5.42832	29.467	.132	.845	-1.874	1.741
VAR00005	6	20.00	52.00	72.00	66.0000	2.90975	7.12741	50.800	-2.043	.845	4.570	1.741
VAR00006	6	19.00	61.00	80.00	69.6667	3.20069	7.84007	61.467	.287	.845	-2.097	1.741
VAR00007	6	14.00	66.00	80.00	72.1667	2.21234	5.41910	29.367	.067	.845	-.793	1.741
VAR00008	6	12.00	68.00	80.00	73.8333	2.05616	5.03653	25.367	.133	.845	-2.034	1.741
Valid N (listwise)	6											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 24: *Frequency of SPM Responses of Cerebral Palsy, Down Syndrome, and Hearing Deficit / Low Vision*

Question Number	Cerebral Palsy, Down Syndrome, Hearing Deficit/Low Vision- Girls and Boys Total participants- 3	Down Syndrome- Girl Total participants- 1	Cerebral Palsy and Hearing Deficit/Low Vision- Boys Total participants- 2
1	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
2	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
3	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
4	2 people selected option 4 at 66.7%	1 person selected option 4 at 100%	HD/LV selected option 4
5	3 people selected option 3 at 100%	1 person selected option 3 at 100%	2 people selected option 3 at 100%
6	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
7	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
8	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
9	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP- selected option 3

10	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
11	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
12	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
13	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	HD/LV selected option 1
14	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
15	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
16	3 people selected option 2 at 100%		2 people selected option 2 at 100%
17	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
18			
19	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
20	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
21	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
22	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	HD/LV selected option 1
23	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	HD/LV selected option 1
24	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
25	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
26			
27	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
28			
29	2 people selected option 3 at 66.7%		2 people selected option 3 at 100%
30	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	CP selected option 1
31	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
32	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
33			
34	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
35			

36	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	HD/LV selected option 2
37	2 people selected option 4 at 66.7%	1 person selected option 4 at 100%	HD/LV selected option 7
38			
39			
40			
41	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
42	2 people selected option 1 at 66.7%	1 person selected option 1 at 100%	CP selected option 1
43	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
44	3 people selected option 1 at 100%	1 person selected option 1 at 100%	2 people selected option 1 at 100%
45	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
46			
47	2 people selected option 4 at 66.7%		2 people selected option 4 at 100%
48	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
49	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
50	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
51	2 people selected option 4 at 66.7%		2 people selected option 4 at 100%
52	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
53	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
54			
55	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
56	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
57	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
58	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
59	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
60	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
61			

62	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
63	2 people selected option 1 at 66.7%		2 people selected option 1 at 100%
64			
65	2 people selected option 2 at 66.7%	1 person selected option 2 at 100%	CP selected option 2
66	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
67	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
68	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
69	3 people selected option 3 at 100%	1 person selected option 3 at 100%	2 people selected option 3 at 100%
70	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
71	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
72	2 people selected option 2 at 66.7%		2 people selected option 2 at 100%
73	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	CP selected option 3
74	2 people selected option 3 at 66.7%	1 person selected option 3 at 100%	HD/LV selected option 3
75	2 people selected option 3 at 66.7%		2 people selected option 3 at 100%

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 25: *Raw Scores of Males and Females with Cerebral Palsy, Down Syndrome, and Hearing Deficit/ Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	7.00	24.00	31.00	27.6667	2.02759	3.51188	12.333	-.423	1.225	.	.
VAR00002	3	7.00	18.00	25.00	20.6667	2.18581	3.78594	14.333	1.597	1.225	.	.
VAR00003	3	5.00	14.00	19.00	16.6667	1.45297	2.51661	6.333	-.586	1.225	.	.
VAR00004	3	16.00	15.00	31.00	23.3333	4.63081	8.02081	64.333	-.371	1.225	.	.
VAR00005	3	6.00	21.00	27.00	23.6667	1.76383	3.05505	9.333	.935	1.225	.	.
VAR00006	3	13.00	18.00	31.00	25.3333	3.84419	6.65833	44.333	-1.056	1.225	.	.
VAR00007	3	6.00	22.00	28.00	25.0000	1.73205	3.00000	9.000	.000	1.225	.	.
VAR00008	3	23.00	110.00	133.00	117.6667	7.66667	13.27906	176.333	1.732	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 26: *T- Scores of Males and Females with Cerebral Palsy, Down Syndrome, and Hearing Deficit/ Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	9.00	64.00	73.00	68.6667	2.60342	4.50925	20.333	-.331	1.225	.	.
VAR00002	3	7.00	64.00	71.00	66.6667	2.18581	3.78594	14.333	1.597	1.225	.	.
VAR00003	3	6.00	64.00	70.00	67.3333	1.76383	3.05505	9.333	-.935	1.225	.	.
VAR00004	3	17.00	57.00	74.00	66.3333	4.97773	8.62168	74.333	-.837	1.225	.	.
VAR00005	3	6.00	66.00	72.00	68.6667	1.76383	3.05505	9.333	.935	1.225	.	.
VAR00006	3	14.00	63.00	77.00	71.6667	4.37163	7.57188	57.333	-1.597	1.225	.	.
VAR00007	3	8.00	66.00	74.00	70.0000	2.30940	4.00000	16.000	.000	1.225	.	.
VAR00008	3	5.00	69.00	74.00	70.6667	1.66667	2.88675	8.333	1.732	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 27: *Raw Scores of Cerebral Palsy and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	7.00	24.00	31.00	27.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00002	2	6.00	19.00	25.00	22.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00003	2	2.00	17.00	19.00	18.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00004	2	9.00	15.00	24.00	19.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00005	2	4.00	23.00	27.00	25.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00006	2	4.00	27.00	31.00	29.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00007	2	3.00	25.00	28.00	26.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00008	2	23.00	110.00	133.00	121.5000	11.50000	16.26346	264.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 28: *T-scores of Cerebral Palsy and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	9.00	64.00	73.00	68.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00002	2	6.00	65.00	71.00	68.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00003	2	2.00	68.00	70.00	69.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00004	2	11.00	57.00	68.00	62.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00005	2	4.00	68.00	72.00	70.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00006	2	2.00	75.00	77.00	76.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00007	2	4.00	70.00	74.00	72.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00008	2	5.00	69.00	74.00	71.5000	2.50000	3.53553	12.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 29: *Raw Scores of Cerebral Palsy and Hearing Deficit/Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	4.00	24.00	28.00	26.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00002	2	1.00	18.00	19.00	18.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	5.00	14.00	19.00	16.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00004	2	16.00	15.00	31.00	23.0000	8.00000	11.31371	128.000	.	.	.	.
VAR00005	2	2.00	21.00	23.00	22.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00006	2	9.00	18.00	27.00	22.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00007	2	3.00	22.00	25.00	23.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00008	2	.00	110.00	110.00	110.0000	.00000	.00000	.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 30: *T-scores of Cerebral Palsy and Hearing Deficit/Low Vision*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	5.00	64.00	69.00	66.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00002	2	1.00	64.00	65.00	64.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	6.00	64.00	70.00	67.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00004	2	17.00	57.00	74.00	65.5000	8.50000	12.02082	144.500	.	.	.	.
VAR00005	2	2.00	66.00	68.00	67.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00006	2	12.00	63.00	75.00	69.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00007	2	4.00	66.00	70.00	68.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00008	2	.00	69.00	69.00	69.0000	.00000	.00000	.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 31: *Raw Scores of Hearing Deficit/Low Vision and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	3.00	28.00	31.00	29.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00002	2	7.00	18.00	25.00	21.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	3.00	14.00	17.00	15.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00004	2	7.00	24.00	31.00	27.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00005	2	6.00	21.00	27.00	24.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00006	2	13.00	18.00	31.00	24.5000	6.50000	9.19239	84.500	.	.	.	.
VAR00007	2	6.00	22.00	28.00	25.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00008	2	23.00	110.00	133.00	121.5000	11.50000	16.26346	264.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 32: *T- Scores of Hearing Deficit/Low Vision and Down Syndrome*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	4.00	69.00	73.00	71.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00002	2	7.00	64.00	71.00	67.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	4.00	64.00	68.00	66.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00004	2	6.00	68.00	74.00	71.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00005	2	6.00	66.00	72.00	69.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00006	2	14.00	63.00	77.00	70.0000	7.00000	9.89949	98.000	.	.	.	.
VAR00007	2	8.00	66.00	74.00	70.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00008	2	5.00	69.00	74.00	71.5000	2.50000	3.53553	12.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 33: *Frequency of SPM Responses for ADHD*

Question Number	ADHD Girls and Boys Total participants-8	ADHD Girls Total participants-3	ADHD Boys Total participants- 5
1			
2	4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	3 people selected option 2 at 60%
3	5 people selected option 3 at 62.5%		4 people selected option 3 at 80%
4		2 people selected option 4 at 66.7%	
5			
6			
7			3 people selected option 2 at 60%
8	5 people selected option 3 at 62.5%	2 people selected option 3 at 66.7%	3 people selected option 3 at 60%
9			
10			3 people selected option 2 at 60%
11			
12	4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	
13			
14			3 people selected option 1 at 60%
15	4 people selected option 2 at 50%	3 people selected option 2 100%	3 people selected option 1 at 60%
16	4 people selected option 1 at 50%	2 people selected option 1 at 66.7%	
17		2 people selected option 1 at 66.7%	
18	5 people selected option 3 at 62.5%	2 people selected option 3 at 66.7%	3 people selected option 3 at 60%
19	4 people selected option 1 at 50%		3 people selected option 1 at 60%
20			
21	4 people selected option 1 at 50% 4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	3 people selected option 1 at 60%
22	4 people selected option 3 at 50%	2 people selected option 4 at 66.7%	
23			

24			
25			
26	4 people selected option 3 at 50%	2 people selected option 3 at 66.7%	
27		2 people selected option 3 at 66.7%	
28			3 people selected option 4 at 60%
29			
30		2 people selected option 1 at 66.7%	3 people selected option 2 at 60%
31		2 people selected option 3 at 66.7%	3 people selected option 2 at 60%
32		2 people selected option 3 at 66.7%	
33			
34		2 people selected option 3 at 66.7%	
35		2 people selected option 1 at 66.7%	
36	4 people selected option 1 at 50%	2 people selected option 1 at 66.7%	
37	5 people selected option 4 at 62.5%	2 people selected option 4 at 66.7%	3 people selected option 4 at 60%
38		2 people selected option 3 at 66.7%	
39			
40	5 people selected option 4 at 62.5%	2 people selected option 4 at 66.7%	3 people selected option 4 at 60%
41	4 people selected option 1 at 50%	3 people selected option 1 at 100%	3 people selected option 2 at 60%
42	4 people selected option 4 at 50%	2 people selected option 2 at 66.7%	3 people selected option 4 at 60%
43			
44		2 people selected option 3 at 66.7%	
45	5 people selected option 1 at 62.5%	2 people selected option 1 at 66.7%	3 people selected option 1 at 60%
46		2 people selected option 1 at 66.7%	3 people selected option 3 at 60%
47	4 people selected option 4 at 50%	2 people selected option 4 at 66.7%	
48			3 people selected option 1 at 60%
49	4 people selected option 1 at 50%	2 people selected option 1 at 66.7%	3 people selected option 2 at 60%

	4 people selected option 2 at 50%		
50			
51			
52			
53	4 people selected option 2 at 50%		3 people selected option 2 at 60%
54		2 people selected option 3 at 66.7%	3 people selected option 4 at 60%
55	4 people selected option 2 at 50%		3 people selected option 2 at 60%
56	6 people selected option 1 at 75%	3 people selected option 1 at 100%	3 people selected option 1 at 60%
57		2 people selected option 2 at 66.7%	
58	4 people selected option 1 at 50%		3 people selected option 1 at 60%
59	5 people selected option 2 at 62.5%	3 people selected option 2 at 100%	
60	4 people selected option 3 at 50%		3 people selected option 3 at 60%
61			3 people selected option 1 at 60%
62	4 people selected option 1 at 50%		3 people selected option 1 at 60%
63	6 people selected option 1 at 75%	3 people selected option 1 at 100%	3 people selected option 1 at 60%
64			
65	6 people selected option 1 at 75%	3 people selected option 1 at 100%	3 people selected option 1 at 60%
66		2 people selected option 2 at 66.7%	3 people selected option 3 at 60%
67		2 people selected option 2 at 66.7%	3 people selected option 3 at 60%
68	5 people selected option 4 at 62.5%	2 people selected option 4 at 66.7%	3 people selected option 4 at 60%
69	4 people selected option 3 at 50%		3 people selected option 3 at 60%
70	4 people selected option 3 at 50%		4 people selected option 3 at 80%
71	4 people selected option 3 at 50%		3 people selected option 3 at 60%
72	5 people selected option 1 at 62.5%	2 people selected option 1 at 66.7%	3 people selected option 1 at 60%
73	5 people selected option 1 at 62.5%		4 people selected option 1 at 80%
74			

75	4 people selected option 3 at 50%		3 people selected option 3 at 60%

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 34: *Raw Scores of Males and Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	8	22.00	14.00	36.00	26.3750	2.62500	7.42462	55.125	-.324	.752	-.708	1.481
VAR00002	8	25.00	15.00	40.00	25.6250	3.31629	9.37988	87.982	.368	.752	-1.360	1.481
VAR00003	8	22.00	10.00	32.00	20.7500	2.76941	7.83308	61.357	-.192	.752	-1.359	1.481
VAR00004	8	24.00	14.00	38.00	27.2500	3.32066	9.39225	88.214	-.243	.752	-1.558	1.481
VAR00005	8	19.00	14.00	33.00	23.5000	2.20389	6.23355	38.857	-.229	.752	-.354	1.481
VAR00006	8	25.00	12.00	37.00	23.0000	2.98807	8.45154	71.429	.496	.752	-.638	1.481
VAR00007	8	21.00	15.00	36.00	23.8750	2.20743	6.24357	38.982	.826	.752	1.489	1.481
VAR00008	8	108.00	76.00	184.00	131.3750	14.32522	40.51785	1641.696	-.293	.752	-1.738	1.481
Valid N (listwise)	8											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 35: *T- Scores of Males and Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	8	32.00	47.00	79.00	66.6250	3.76040	10.63602	113.125	-.681	.752	.264	1.481
VAR00002	8	21.00	59.00	80.00	70.3750	3.08184	8.71677	75.982	-.161	.752	-1.556	1.481
VAR00003	8	24.00	56.00	80.00	71.0000	3.17917	8.99206	80.857	-.761	.752	-1.152	1.481
VAR00004	8	25.00	55.00	80.00	70.6250	3.39610	9.60562	92.268	-.684	.752	-.935	1.481
VAR00005	8	21.00	57.00	78.00	68.1250	2.42338	6.85435	46.982	-.459	.752	-.244	1.481
VAR00006	8	33.00	47.00	80.00	66.6250	3.83097	10.83562	117.411	-.653	.752	.024	1.481
VAR00007	8	23.00	57.00	80.00	68.1250	2.48163	7.01911	49.268	.230	.752	.289	1.481
VAR00008	8	22.00	58.00	80.00	71.6250	3.10494	8.78208	77.125	-.667	.752	-1.671	1.481
Valid N (listwise)	8											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 36: *Raw Scores of Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	22.00	14.00	36.00	27.0000	6.65833	11.53256	133.000	-1.373	1.225	.	.
VAR00002	3	13.00	20.00	33.00	25.6667	3.84419	6.65833	44.333	1.056	1.225	.	.
VAR00003	3	12.00	14.00	26.00	21.0000	3.60555	6.24500	39.000	-1.293	1.225	.	.
VAR00004	3	22.00	16.00	38.00	27.3333	6.35959	11.01514	121.333	-.271	1.225	.	.
VAR00005	3	17.00	16.00	33.00	25.6667	5.04425	8.73689	76.333	-1.116	1.225	.	.
VAR00006	3	9.00	16.00	25.00	22.0000	3.00000	5.19615	27.000	-1.732	1.225	.	.
VAR00007	3	21.00	15.00	36.00	24.6667	6.11919	10.59874	112.333	.690	1.225	.	.
VAR00008	3	69.00	89.00	158.00	132.3333	21.78940	37.74034	1424.333	-1.645	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 37: *T- Scores of Females with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	32.00	47.00	79.00	66.3333	9.82061	17.00980	289.333	-1.493	1.225	.	.
VAR00002	3	12.00	67.00	79.00	72.0000	3.60555	6.24500	39.000	1.293	1.225	.	.
VAR00003	3	14.00	64.00	78.00	72.3333	4.25572	7.37111	54.333	-1.415	1.225	.	.
VAR00004	3	21.00	59.00	80.00	70.6667	6.17342	10.69268	114.333	-.935	1.225	.	.
VAR00005	3	18.00	60.00	78.00	70.3333	5.36449	9.29157	86.333	-1.185	1.225	.	.
VAR00006	3	13.00	59.00	72.00	67.6667	4.33333	7.50555	56.333	-1.732	1.225	.	.
VAR00007	3	23.00	57.00	80.00	68.0000	6.65833	11.53256	133.000	.387	1.225	.	.
VAR00008	3	15.00	63.00	78.00	72.6667	4.84195	8.38650	70.333	-1.704	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 38: *Raw Scores of Males with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	5	13.00	21.00	34.00	26.0000	2.42899	5.43139	29.500	.889	.913	-.712	2.000
VAR00002	5	25.00	15.00	40.00	25.6000	5.13420	11.48042	131.800	.390	.913	-2.524	2.000
VAR00003	5	22.00	10.00	32.00	20.6000	4.19047	9.37017	87.800	-.088	.913	-2.184	2.000
VAR00004	5	23.00	14.00	37.00	27.2000	4.32897	9.67988	93.700	-.376	.913	-1.406	2.000
VAR00005	5	13.00	14.00	27.00	22.2000	2.20000	4.91935	24.200	-1.502	.913	2.828	2.000
VAR00006	5	25.00	12.00	37.00	23.6000	4.69681	10.50238	110.300	.397	.913	-2.103	2.000
VAR00007	5	7.00	20.00	27.00	23.4000	1.50333	3.36155	11.300	.411	.913	-3.041	2.000
VAR00008	5	108.00	76.00	184.00	130.8000	20.78317	46.47257	2159.700	-.152	.913	-2.397	2.000
Valid N (listwise)	5											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 39: *T- Scores of Males with ADHD*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	5	18.00	60.00	78.00	66.8000	3.26190	7.29383	53.200	1.064	.913	.202	2.000
VAR00002	5	21.00	59.00	80.00	69.4000	4.69681	10.50238	110.300	.048	.913	-3.002	2.000
VAR00003	5	24.00	56.00	80.00	70.2000	4.73709	10.59245	112.200	-.662	.913	-2.178	2.000
VAR00004	5	25.00	55.00	80.00	70.6000	4.56727	10.21274	104.300	-.945	.913	.294	2.000
VAR00005	5	15.00	57.00	72.00	66.8000	2.57682	5.76194	33.200	-1.697	.913	3.342	2.000
VAR00006	5	33.00	47.00	80.00	66.0000	5.93296	13.26650	176.000	-.519	.913	-.575	2.000
VAR00007	5	9.00	64.00	73.00	68.2000	1.98494	4.43847	19.700	.494	.913	-3.165	2.000
VAR00008	5	22.00	58.00	80.00	71.0000	4.43847	9.92472	98.500	-.598	.913	-2.387	2.000
Valid N (listwise)	5											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 40: *Diagnoses of Each Age Groups (12, 10, 9, 8, 5 year old's)*

Age	12 year old's	10 year old's	9 year old's	8 year old's	5 year old's
Diagnosis of Child 1	Autism, Down Syndrome	ADHD	Autism, ADHD	ADHD, Autism	Cerebral Palsy
Diagnosis of Child 2	Autism, ADHD	Autism	ADHD	Autism, ADHD	Autism

Diagnosis of Child 3	Autism, Hearing Deficit/Low Vision	Autism	Autism, ADHD	n/a	n/a
Diagnosis of Child 4	ADHD	n/a	n/a	n/a	n/a

Table 41: *Raw Scores of Age Groups (12, 10, 9, 8, 5 year old's)*

Age: Girls/ Boys	12 year old's	10 year old's	9 year old's	8 year old's	5 year old's
SOC	26.75	26.67	30.33	26.25	27.50
VIS	25.75	18.67	24.00	29.00	22.50
HEA	19.25	14.33	19.67	24.50	21.50
TOU	26.75	17.67	29.33	32.00	19.00
BOD	22.00	14.33	27.67	25.50	23.00
BOA	25.50	19.00	22.33	26.00	22.00
PLA	23.00	23.67	26.67	24.50	27.00
TOT	129.00	91.67	133.00	151.50	120.00

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 42: *Raw Scores of 12 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	4	20.00	14.00	34.00	26.7500	4.42295	8.84590	78.250	-1.553	1.014	2.569	2.619
VAR00002	4	22.00	18.00	40.00	25.7500	4.97284	9.94569	98.917	1.516	1.014	2.149	2.619
VAR00003	4	18.00	14.00	32.00	19.2500	4.30842	8.61684	74.250	1.846	1.014	3.412	2.619
VAR00004	4	20.00	16.00	36.00	26.7500	4.34693	8.69387	75.583	-.401	1.014	-1.212	2.619
VAR00005	4	11.00	16.00	27.00	22.0000	2.34521	4.69042	22.000	-.543	1.014	-.153	2.619
VAR00006	4	21.00	16.00	37.00	25.5000	5.07445	10.14889	103.000	.260	1.014	-4.164	2.619
VAR00007	4	13.00	15.00	28.00	23.0000	2.97209	5.94418	35.333	-1.028	1.014	-.209	2.619
VAR00008	4	95.00	89.00	184.00	129.0000	20.41650	40.83299	1667.333	.936	1.014	.698	2.619
Valid N (listwise)	4											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 43: *T-scores of 12 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	4	31.00	47.00	78.00	66.7500	6.83587	13.67175	186.917	-1.572	1.014	2.692	2.619
VAR00002	4	16.00	64.00	80.00	70.5000	3.47611	6.95222	48.333	1.071	1.014	.883	2.619
VAR00003	4	16.00	64.00	80.00	69.0000	3.78594	7.57188	57.333	1.659	1.014	2.615	2.619
VAR00004	4	20.00	59.00	79.00	70.0000	4.30116	8.60233	74.000	-.572	1.014	-.428	2.619
VAR00005	4	12.00	60.00	72.00	66.7500	2.56174	5.12348	26.250	-.753	1.014	.343	2.619
VAR00006	4	21.00	59.00	80.00	69.7500	5.15388	10.30776	106.250	-.056	1.014	-4.869	2.619
VAR00007	4	17.00	57.00	74.00	67.5000	3.92641	7.85281	61.667	-.991	1.014	-.474	2.619
VAR00008	4	17.00	63.00	80.00	71.5000	3.61709	7.23418	52.333	.000	1.014	-.698	2.619
Valid N (listwise)	4											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 44: *Raw Scores of 10 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	11.00	22.00	33.00	26.6667	3.28295	5.68624	32.333	1.206	1.225	.	.
VAR00002	3	9.00	15.00	24.00	18.6667	2.72845	4.72582	22.333	1.390	1.225	.	.
VAR00003	3	6.00	12.00	18.00	14.3333	1.85592	3.21455	10.333	1.545	1.225	.	.
VAR00004	3	8.00	14.00	22.00	17.6667	2.33333	4.04145	16.333	.722	1.225	.	.
VAR00005	3	5.00	12.00	17.00	14.3333	1.45297	2.51661	6.333	.586	1.225	.	.
VAR00006	3	13.00	12.00	25.00	19.0000	3.78594	6.55744	43.000	-.670	1.225	.	.
VAR00007	3	17.00	17.00	34.00	23.6667	5.23874	9.07377	82.333	1.521	1.225	.	.
VAR00008	3	32.00	76.00	108.00	91.6667	9.24362	16.01041	256.333	.187	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 45: *T-scores of 10 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	14.00	62.00	76.00	67.6667	4.25572	7.37111	54.333	1.415	1.225	.	.
VAR00002	3	11.00	59.00	70.00	64.0000	3.21455	5.56776	31.000	.782	1.225	.	.
VAR00003	3	7.00	62.00	69.00	64.6667	2.18581	3.78594	14.333	1.597	1.225	.	.
VAR00004	3	12.00	55.00	67.00	61.0000	3.46410	6.00000	36.000	.000	1.225	.	.
VAR00005	3	9.00	52.00	61.00	56.6667	2.60342	4.50925	20.333	-.331	1.225	.	.
VAR00006	3	25.00	47.00	72.00	61.3333	7.44610	12.89703	166.333	-1.176	1.225	.	.
VAR00007	3	20.00	60.00	80.00	68.0000	6.11010	10.58301	112.000	1.458	1.225	.	.
VAR00008	3	10.00	58.00	68.00	63.0000	2.88675	5.00000	25.000	.000	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 46: *Raw Scores of 9 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	12.00	24.00	36.00	30.3333	3.48010	6.02771	36.333	-.492	1.225	.	.
VAR00002	3	18.00	15.00	33.00	24.0000	5.19615	9.00000	81.000	.000	1.225	.	.
VAR00003	3	16.00	10.00	26.00	19.6667	4.91031	8.50490	72.333	-1.493	1.225	.	.
VAR00004	3	16.00	22.00	38.00	29.3333	4.66667	8.08290	65.333	.722	1.225	.	.
VAR00005	3	11.00	22.00	33.00	27.6667	3.17980	5.50757	30.333	-.271	1.225	.	.
VAR00006	3	8.00	17.00	25.00	22.3333	2.66667	4.61880	21.333	-1.732	1.225	.	.
VAR00007	3	15.00	21.00	36.00	26.6667	4.70225	8.14453	66.333	1.615	1.225	.	.
VAR00008	3	67.00	91.00	158.00	133.0000	21.12660	36.59235	1339.000	-1.639	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 47: *T-scores of 9 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	3	15.00	64.00	79.00	72.0000	4.35890	7.54983	57.000	-.586	1.225	.	.
VAR00002	3	20.00	59.00	79.00	69.3333	5.78312	10.01665	100.333	-.298	1.225	.	.
VAR00003	3	22.00	56.00	78.00	69.6667	6.88799	11.93035	142.333	-1.610	1.225	.	.
VAR00004	3	13.00	67.00	80.00	73.3333	3.75648	6.50641	42.333	.230	1.225	.	.
VAR00005	3	11.00	67.00	78.00	72.6667	3.17980	5.50757	30.333	-.271	1.225	.	.
VAR00006	3	11.00	61.00	72.00	68.3333	3.66667	6.35085	40.333	-1.732	1.225	.	.
VAR00007	3	15.00	65.00	80.00	70.6667	4.70225	8.14453	66.333	1.615	1.225	.	.
VAR00008	3	15.00	63.00	78.00	72.6667	4.84195	8.38650	70.333	-1.704	1.225	.	.
Valid N (listwise)	3											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 48: *Raw Scores of 8 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	8.00	21.00	29.00	25.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00002	2	12.00	23.00	35.00	29.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00003	2	3.00	23.00	26.00	24.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00004	2	10.00	27.00	37.00	32.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00005	2	3.00	24.00	27.00	25.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00006	2	12.00	20.00	32.00	26.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00007	2	5.00	22.00	27.00	24.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00008	2	27.00	138.00	165.00	151.5000	13.50000	19.09188	364.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 49: *T-scores of 8 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	10.00	60.00	70.00	65.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00002	2	11.00	69.00	80.00	74.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00003	2	3.00	75.00	78.00	76.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00004	2	8.00	72.00	80.00	76.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00005	2	3.00	69.00	72.00	70.5000	1.50000	2.12132	4.500	.	.	.	.
VAR00006	2	12.00	65.00	77.00	71.0000	6.00000	8.48528	72.000	.	.	.	.
VAR00007	2	7.00	66.00	73.00	69.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00008	2	4.00	75.00	79.00	77.0000	2.00000	2.82843	8.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 50: *Raw Scores of 5 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	7.00	24.00	31.00	27.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00002	2	7.00	19.00	26.00	22.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	5.00	19.00	24.00	21.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00004	2	8.00	15.00	23.00	19.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00005	2	.00	23.00	23.00	23.0000	.00000	.00000	.000	.	.	.	.
VAR00006	2	10.00	17.00	27.00	22.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00007	2	4.00	25.00	29.00	27.0000	2.00000	2.82843	8.000	.	.	.	.
VAR00008	2	20.00	110.00	130.00	120.0000	10.00000	14.14214	200.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 51: *T-scores of 5 Year Old Age Group*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	9.00	64.00	73.00	68.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00002	2	7.00	65.00	72.00	68.5000	3.50000	4.94975	24.500	.	.	.	.
VAR00003	2	6.00	70.00	76.00	73.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00004	2	11.00	57.00	68.00	62.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00005	2	.00	68.00	68.00	68.0000	.00000	.00000	.000	.	.	.	.
VAR00006	2	14.00	61.00	75.00	68.0000	7.00000	9.89949	98.000	.	.	.	.
VAR00007	2	5.00	70.00	75.00	72.5000	2.50000	3.53553	12.500	.	.	.	.
VAR00008	2	3.00	69.00	72.00	70.5000	1.50000	2.12132	4.500	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 52: *Frequency of SPM Responses for Participant 6 and 7*

Question Number	Participant 6 and 7	Participant 6- Mother	Participant 7- Father
1		Selected option 3	Selected option 2
2	Both selected option 2		
3		Selected option 2	Selected option 3
4		Selected option 3	Selected option 2
5		Selected option 3	Selected option 2
6	Both selected option 3		
7		Selected option 2	Selected option 3
8		Selected option 2	Selected option 1
9		Selected option 2	Selected option 3
10		Selected option 3	Selected option 2
11		Selected option 1	Selected option 2
12		Selected option 1	Selected option 2
13	Both selected option 1		
14		Selected option 1	Selected option 3
15		Selected option 2	Selected option 1
16		Selected option 2	Selected option 1
17		Selected option 2	Selected option 3
18	Both selected option 2		
19	Both selected option 1		

20		Selected option 2	Selected option 1
21		Selected option 2	Selected option 1
22	Both selected option 2		
23	Both selected option 1		
24		Selected option 1	Selected option 3
25		Selected option 2	Selected option 1
26	Both selected option 1		
27		Selected option 2	Selected option 3
28		Selected option 3	Selected option 1
29		Selected option 1	Selected option 2
30		Selected option 1	Selected option 2
31	Both selected option 2		
32	Both selected option 2		
33	Both selected option 2		
34		Selected option 1	Selected option 2
35		Selected option 1	Selected option 2
36	Both selected option 1		
37		Selected option 2	Selected option 4
38		Selected option 1	Selected option 2
39		Selected option 2	Selected option 4
40		Selected option 2	Selected option 3
41	Both selected option 1		
42		Selected option 1	Selected option 2
43		Selected option 2	Selected option 1
44	Both selected option 2		
45	Both selected option 1		
46	Both selected option 1		
47		Selected option 3	Selected option 2
48	Both selected option 1		
49		Selected option 1	Selected option 2
50	Both selected option 2		
51		Selected option 2	Selected option 3
52	Both selected option 1		
53	Both selected option 3		
54	Both selected option 1		
55	Both selected option 2		
56	Both selected option 1		
57	Both selected option 3		
58	Both selected option 1		
59	Both selected option 1		
60		Selected option 2	Selected option 1
61		Selected option 3	Selected option 1
62		Selected option 2	Selected option 1
63	Both selected option 1		
64		Selected option 3	Selected option 2
65	Both selected option 1		

66		Selected option 2	Selected option 1
67		Selected option 2	Selected option 4
68	Both selected option 3		
69		Selected option 1	Selected option 3
70	Both selected option 2		
71		Selected option 2	Selected option 3
72	Both selected option 2		
73		Selected option 1	Selected option 2
74	Both selected option 2		
75		Selected option 2	Selected option 4

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)

Table 53: *Individual Raw Scores for Participant 6 and 7*

Raw Scores	Participant 6	Participant 7
SOC	25	23
VIS	17	18
HEA	13	14
TOU	17	26
BOD	17	18
BAL	20	14
PLA	17	25
TOT	91	97

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 54: *Individual T- Scores for Participant 6 and 7*

T Scores	Participant 6	Participant 7
SOC	65	63
VIS	63	64
HEA	63	64
TOU	61	71
BOD	61	63
BAL	65	54
PLA	60	70
TOT	63	65

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 55: *Individual Interpretive Range Scores for Participant 6 and 7*

Interpretive Range	Participant 6	Participant 7
SOC	some	some
VIS	some	some
HEA	some	some
TOU	some	definite
BOD	some	some
BAL	some	typical
PLA	some	definite
TOT	some	some

Legend: (SOC) Social Participation, (VIS) Vision, (HEA) Hearing, (TOU) Touch, (BOD) Body Awareness, (BAL) Balance and Motion, (PLA) Planning and Ideas, (TOT) Total Sensory Symptoms

Table 56: *Mean Raw Scores for Participant 6 and 7*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	2.00	23.00	25.00	24.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00002	2	1.00	17.00	18.00	17.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	1.00	13.00	14.00	13.5000	.50000	.70711	.500	.	.	.	.
VAR00004	2	9.00	17.00	26.00	21.5000	4.50000	6.36396	40.500	.	.	.	.
VAR00005	2	1.00	17.00	18.00	17.5000	.50000	.70711	.500	.	.	.	.
VAR00006	2	6.00	14.00	20.00	17.0000	3.00000	4.24264	18.000	.	.	.	.
VAR00007	2	8.00	17.00	25.00	21.0000	4.00000	5.65685	32.000	.	.	.	.
VAR00008	2	6.00	91.00	97.00	94.0000	3.00000	4.24264	18.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 57: *T- Scores for Participant 6 and 7*

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VAR00001	2	2.00	63.00	65.00	64.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00002	2	1.00	63.00	64.00	63.5000	.50000	.70711	.500	.	.	.	.
VAR00003	2	1.00	63.00	64.00	63.5000	.50000	.70711	.500	.	.	.	.
VAR00004	2	10.00	61.00	71.00	66.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00005	2	2.00	61.00	63.00	62.0000	1.00000	1.41421	2.000	.	.	.	.
VAR00006	2	11.00	54.00	65.00	59.5000	5.50000	7.77817	60.500	.	.	.	.
VAR00007	2	10.00	60.00	70.00	65.0000	5.00000	7.07107	50.000	.	.	.	.
VAR00008	2	2.00	63.00	65.00	64.0000	1.00000	1.41421	2.000	.	.	.	.
Valid N (listwise)	2											

Legend: (1) Social Participation, (2) Vision, (3) Hearing, (4) Touch, (5) Body Awareness, (6) Balance and Motion, (7) Planning and Ideas, (8) Total Sensory Symptoms

Table 58: *Mean of SPM Question Responses for Autism and ADHD*

Question Number	Autism Girls and Boys Total Participants- 10	ADHD Girls and Boys Total participants-8
1	2.4000	2.8750
2	2.6000	2.3750
3	2.9000	3.1250
4	2.4000	2.8750
5	2.9000	2.5000
6	2.1000	2.8750
7	2.7000	2.5000
8	2.0000	2.3750
9	2.0000	2.3750
10	2.9000	2.5000
11	2.5000	2.7500
12	2.3000	3.2500
13	2.4000	2.0000
14	2.3000	2.5000
15	2.8000	1.8750
16	2.7000	1.8750
17	2.4000	2.5000
18	2.2000	2.5000
19	2.6000	2.0000
20	2.9000	2.3750
21	3.4000	2.0000

22	2.6000	3.0000
23	1.9000	2.8750
24	1.9000	2.2500
25	2.3000	2.1250
26	2.7000	2.3750
27	2.8000	3.0000
28	2.7000	2.5000
29	2.2000	2.6250
30	3.5000	2.0000
31	2.7000	1.8750
32	2.6000	2.3750
33	3.0000	2.7500
34	1.9000	2.5000
35	2.7000	2.5000
36	2.5000	2.1250
37	2.3000	3.0000
38	2.3000	2.6250
39	2.0000	2.2500
40	2.9000	3.2500
41	2.1000	1.7500
42	1.7000	3.0000
43	2.8000	2.2500
44	2.7000	2.5000
45	2.3000	1.7500
46	2.2000	2.2500
47	2.6000	3.0000
48	2.3000	2.1250
49	1.6000	1.5000
50	2.6000	2.6250
51	2.3000	2.6250
52	1.9000	2.1250
53	2.5000	2.1250
54	2.9000	2.8750
55	2.9000	2.2500
56	1.5000	1.5000
57	3.0000	2.6250
58	1.5000	2.0000
59	2.3000	2.1250
60	2.7000	2.5000
61	3.4000	2.0000
62	3.2000	2.2500
63	2.9000	1.5000
64	3.0000	2.5000
65	2.6000	1.5000
66	2.3000	2.5000
67	3.1000	2.5000

68	3.3000	3.5000
69	2.4000	3.2500
70	2.6000	2.6250
71	2.9000	2.7500
72	2.4000	2.0000
73	2.9000	1.7500
74	2.1000	2.6250
75	2.7000	2.8750

Legend for Questions 1-10 and 57: Never (4), Occasionally (3), Frequently (2), and Always (1).
Legend for Questions 11-56 and 58-75: Never (1), Occasionally (2), Frequently (3), and Always (4)