

A review of various abilities improved after the basic Tomatis Method Program for autistic, Williams syndrome, and ADHD children

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Abstract

Utilizing an 'Abilities to Be Improved' and an 'Abilities Improved' Form pre and post the basic Tomatis Program of 60 hours of listening, parents of 100 autistic children, 5 Williams syndrome children, and 11 ADHD children noted changes in their children. The areas of change were as follows: (1) academic achievement, thinking, learning, (2) attention, (3) behavior, (4) creativity, (5) interpersonal growth, (6) intrapersonal growth to know and express self, (7) well-being, (8) listening and speech, (9) reading, writing, and spelling, (10) movement, sports, and rhythm, (11) musical and vocal skills, and (12) relaxation. The results demonstrate the most significant changes occur in the areas of Interpersonal skills for autistic children, Academic Achievement, Thinking, and Learning, and Attention for Williams syndrome children, and Attention for ADHD children.

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Keywords: autism, Williams syndrome, ADHD, Tomatis Method:

1. Introduction

Over 50 years ago, "The Tomatis Effect" described the connection between the voice, the ear, and the brain, and was accepted by the French Academy of Science. It was from this connection, that the field of sound based therapy began. The Tomatis Method is a sound based therapy that is all encompassing, as it stimulates all of the functions of the ear, including those responses which occur via the branching effects of the cranial nerves. The method uses a special device called The Electronic Ear, filtered and gated music, bone conduction stimulation, and active voice work, to make change. A proprietary Listening Test is administered to determine where therapy should begin as well as how to monitor changes with the program. The basic Tomatis Method program includes 60 hours of listening using proprietary programming through the Electronic Ear.

The ear is more than just a hearing mechanism. Because of its anatomy and physiology, it also encompasses, supports, enhances, or stimulates the following: receptive/expressive language, pragmatic language, oral motor skills, feeding issues, gross and fine motor skills, posture, muscle tone, articulation, emotional connectedness, vestibular imbalances, proprioceptive imbalances, sensory processing skills, eye-hand coordination, vocal production, singing and musical skills, auditory processing skills, attention, focus, organization, and more. Dysfunction with these issues and skills are apparent within the symptoms associated with autism; many are seen with Williams syndrome; and some or all are seen with ADHD. The Tomatis Method addresses the aforementioned issues with sound stimulation.

2. Disorders reviewed

The Davis Center evaluates and supports change in individuals with all types of learning and developmental challenges.

Three of those disorders are autism, Williams syndrome, and Attention Deficit Hyperactive Disorder (ADHD).

2.1 Autism

Autism, according to the National Institute on Deafness and Other Communication Disorders (NIDCD) website's Glossary is a brain disorder that begins in early childhood and persists throughout adulthood. It affects three crucial areas of development: communication, social interaction, and creative or imaginative play [1]. The Autism Society of America announced that at the end of the 1990s, 1 out of 250 children had autism and that there had been an increase of 172% during that decade. Autism was the fastest growing developmental disability in America[2]. In some parts of the United States, there have been pockets, where 1 in 75 children have autism.

Autism is a spectrum disorder, meaning that the symptoms and characteristics present themselves in a variety of ways and on a continuum of mild to severe. Autistic individuals can present any combination of behaviors and in any degree of severity.

Some of the more known characteristics [3] are:

- Insistence on sameness; resistance to change
- Difficulty in expressing needs; uses gestures or pointing instead of words
- Repeating words or phrases in place of normal, responsive language
- Laughing, crying, showing distress for reasons not apparent to others
- Prefers to be alone; aloof manner
- Tantrums
- Difficulty in mixing with others
- May not want to cuddle or be cuddled
- Little or no eye contact
- Unresponsive to normal teaching methods
- Sustained odd play
- Spins objects

- Inappropriate attachments to objects
- Apparent over-sensitivity or under-sensitivity to pain
- No real fears of danger
- Noticeable physical over-activity or extreme under-activity
- Uneven gross/fine motor skills
- Not responsive to verbal cues; acts as if deaf although hearing tests in normal range.

Additionally, children with autism often have sensory integration issues. Even the slightest changes in sensory stimulation can impact them.

However, all autistic children do not present with the same symptoms. For example, some are very socially connected, wanting to touch and cuddle with family members, while others remain isolated. Each autistic child must have his/her specific remedial needs identified and addressed. The Tomatis Method allows for this individualization.

2.2 Williams syndrome

For Williams syndrome, the following quotes describe some of their unique qualities:

“Educators are confused because the Williams syndrome child tests like a retarded child, talks like a gifted child, behaves like a disturbed child, and functions like a learning disabled child.” (Eleanor Semel, Educational Psychologist) [4]

“Those with Williams syndrome possess a friendly personality, an unusual facility with words, and a heightened sensitivity to sound...have a remarkable capacity for learning and retaining music.” (Dr. Howard M. Lenhoff) [5]

Williams syndrome children also show signs of enjoying music at an early age. Many have the ability of ‘perfect pitch’—the ability to name and produce notes. Additionally, characteristics that reflect an influence from the auditory sense are:

1. Limited spatial skills and motor control
2. Fascination with spinning things
3. Feeding disorders in infants
4. Difficulty modulating emotions
5. Short attention span
6. Disconnected between linguistic ability and understanding what was said [6]

These children, too, are not all the same. Some show a hearing hypersensitivity, and others do not. The Tomatis Method allows for the individualization of each person’s needs.

2.3 Attention Deficit Disorder

Attention Deficit Disorder (ADD or ADHD) is a classification widely used, both in the medical and educational setting. Many children (and adults) with this classification have disruptions in their ability to process sound correctly. As a result they have difficulty maintaining attention and focus long enough to appropriately process and respond. Because attention and focus is important for learning, one’s ability to process correct sound information impacts one’s attention and focus skills.

1. Highly variable skill performance
2. Poor planning skills
3. Calls out answers; rarely waits turn
4. Frequently distracted; rarely finishes work

5. Impaired sense of time passage
6. No patience; wants things now
7. Always moving or fidgeting
8. Limited short term memory
9. Sleep problems
10. Messy writing
11. Angry outbursts
12. Messy desk or personal space [7]

More recently the classifications of ADD and ADHD have been combined into the classification of ADHD. According to Barbaresi, *et al.*, 2002 [8] AD/HD is currently diagnosed in 7-17% of all children in the United States. Again there is a wide variability in the demonstrating characteristics. The Tomatis Method is useful for supporting the changes in the AD/HD client because of its ability to individualize its programming.

3. The study and results

Over 1000 children with various learning issues have visited The Davis Center over the past few years. This study reviews the changes noted by the parents of 100 children with autism, 5 children with Williams syndrome, and 11 children diagnosed with AD/HD. Ages of the children were 3-21. Subjects were randomly chosen by the diagnosis code provided by the parents at the time of their initial assessment.

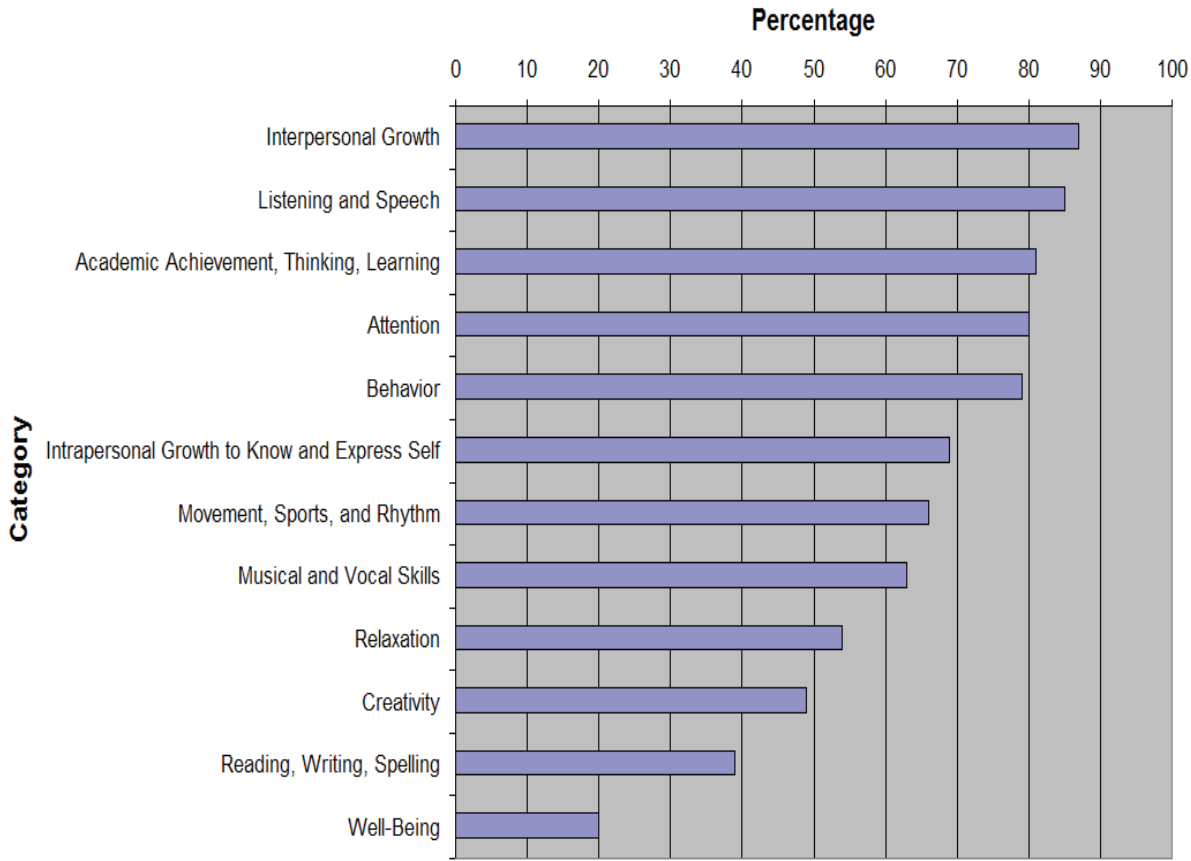
All new clients at The Davis Center are administered the Diagnostic Evaluation for Therapy Protocol (DETP[®]) test battery to determine the appropriate starting place for therapy intervention. All of the children demonstrated that the Tomatis Method was an appropriate intervention to support positive changes for them at some time during the suggested protocol.

An Initial Assessment for the Tomatis Method includes the Tomatis Listening Test, the Tomatis Laterality Test, a review of the Client Case History, and a Client Interview. Before starting the first 30 hours of listening, the parents are also asked to fill in an ‘Abilities To Be Improved’ form. This form includes 102 possible changes in the areas of (1) academic achievement, thinking, and learning, (2) attention, (3) behavior, (4) creativity, (5) interpersonal growth, (6) intrapersonal growth to know and express self, (7) well-being, (8) listening and speech, (9) reading, writing, and spelling, (10) movement, sports and rhythm, (11) musical and vocal skills, and (12) relaxation. They check off the areas that they would most like to see improved in their child.

At the end of the 60 hours of listening, in addition to the final Tomatis Listening Test and Tomatis Laterality Test, the parents are asked to fill in the ‘Abilities Improved’ form. This form includes the same 102 possibilities in the same areas. The results were tabulated by the 12 areas.

Changes were tabulated in descending order of greatest change. The parents of the 100 autistic children reported: 87% made change in interpersonal growth, 85% in listening and speech, 81% in academic achievement, thinking, and learning, 80% in attention, 79% in behavior, 69% in intrapersonal growth to know and express self, 66% in movement, sports, and rhythm, 63% in musical and vocal skills, 54% in relaxation, 49% in creativity, 39% in reading, writing, spelling, and 20% in well-being. Change was noted in every area.

Figure 1. Changes pre-post Tomatis with 100 autistic children

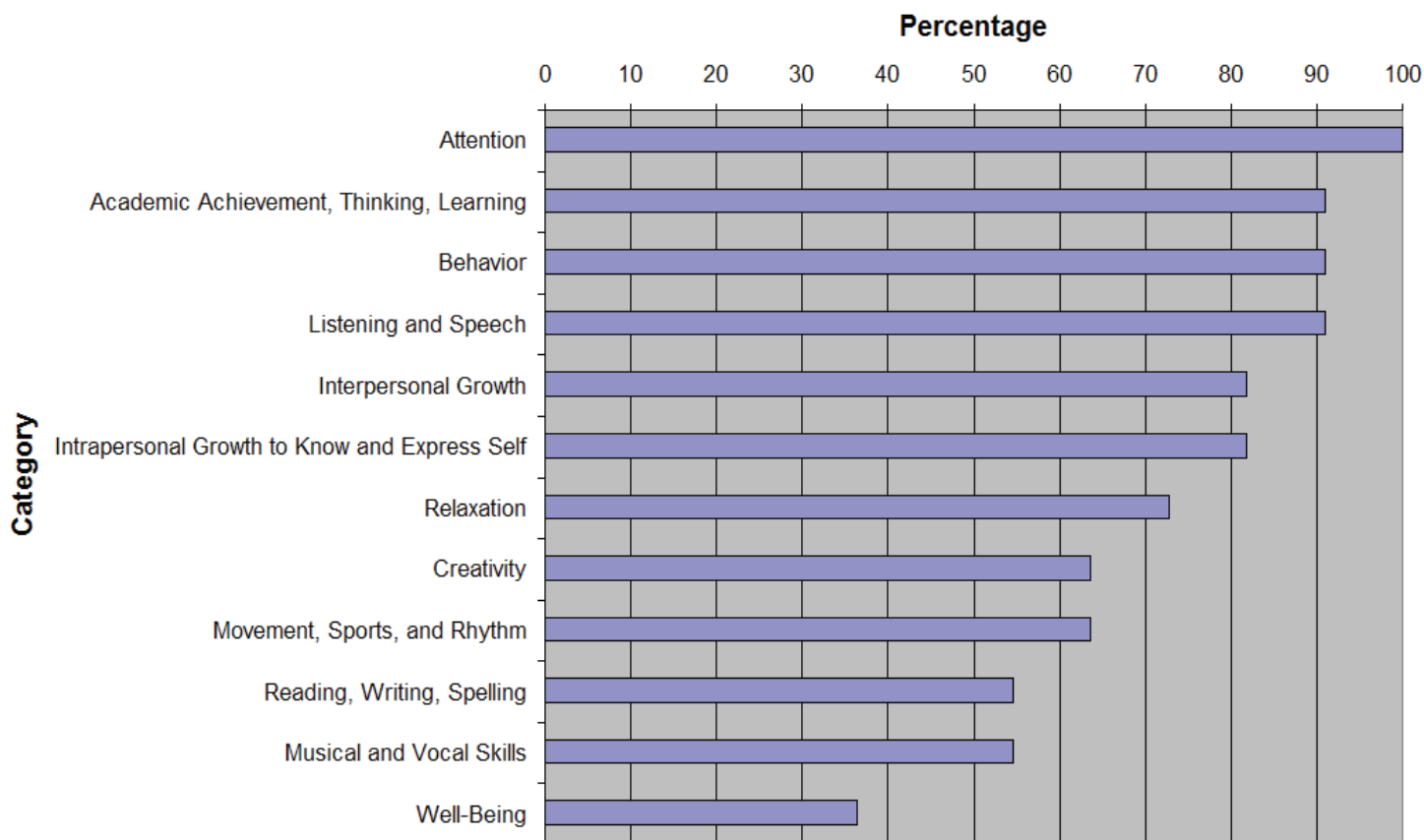


The parents of the 5 Williams syndrome children reported that 100% made change in academic achievement, thinking and learning, as well as attention. Behavior change was reported in 80%, intrapersonal growth (expressing self) in 80%, musical and vocal skills in 80%, creativity in 60%, interpersonal Growth in 60%, listening and speech skills in 60%, movement and rhythm in 60%, reading, writing, spelling in 40%, well-being in 20%, and relaxation in 20%. Change was noted in every area.

Figure 2. Changes pre-post Tomatis with 5 Williams syndrome children

Academic Achievement, Thinking, Learning	100
Attention	100
Behavior	80
Intrapersonal Growth to Know and Express Self	80
Musical and Vocal Skills	80
Creativity	60
Interpersonal Growth	60
Listening and Speech	60
Movement, Sports, and Rhythm	60
Reading, Writing, Spelling	40
Well-Being	20
Relaxation	20

The parents of 11 ADHD children reported 100 % change in attention. Change in academic achievement, thinking, learning was 90.91%, behavior 90.9%, listening and Speech 90.9%, interpersonal growth 81.8%, intrapersonal growth to know and express self 81.8%, relaxation 72.7 %, Creativity 63.6%, movement, sports, and rhythm 63.64 %, reading, writing, spelling 54.6%, musical and vocal skills 54.6%, and well-being 36.4%. Change was noted in every area.

Figure 3. Changes pre-post 11 ADHD children

4. Summary

Within the 12 areas of consideration, all parents of the 100 autistic children, the 5 Williams syndrome children, and the 11 ADHD children documented some degree of change in their child during the initial 60 hours of their basic Tomatis Method program. The largest area of change was reported for the autistic children with Interpersonal Growth at 87%, Williams syndrome children with Academic Achievement, Thinking, and Learning as well as Attention at 100%, and ADHD children with Attention at 100%. For all 3 diagnoses, Academic Achievement, Thinking, and Learning, Attention, and Behavior were consistently within the top five areas of high level change. Nine out of 12 of the areas reported 50% or greater demonstrable change for those with autism and Williams syndrome. Eleven out of 12 of the areas reported 50% or greater demonstrable change for those with ADHD. The area of least change was consistently with Well-Being.

Children presenting with the symptoms of autism, Williams syndrome, and AD/HD typically need more sessions than the basic 60 hour Tomatis Method Program. Changes noted on the post session 'Abilities Improved' form are only a reflection of the beginnings of change for these children. Additional sessions of the Tomatis Method have been suggested to further enhance their skills.

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