

Sarasota Memorial Healthcare Foundation
Autism Survey Results
on the
Effectiveness of the Sensory Belt™
in
Alleviating symptoms of autism, Autism Spectrum
Disorder (ASD), and/or Sensory Processing Disorder (SPD)

(September 8, 2016)

****This report does NOT include any personal information****

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Executive Summary

The Sarasota Memorial Healthcare Foundation provided a grant for a survey on the effectiveness of the Sensory Belt™ when used by children with autism, autism spectrum disorder, and/or sensory processing disorder. The survey was conducted over a two week period and began August 22, 2016 and completed September 6, 2016. The survey included 28 participants with 23 participants completing the survey. The overall success rate, parents/caregivers seeing benefits from the participants completing the survey, was 82.6%.

This report includes survey details describing the survey, description of participants, description of the therapy aid used (Sensory Belt™), criteria for inclusion to the survey, and demographics of participants. Also, the report includes findings which include general observations, success rates for each demographic category, and notable comments from the parents/caregivers of Survey participants.

Two addendums to this report have been added. The first addendum is the documentation sheet used by the parents/caregivers of participants to note initial ratings of multiple deficits and ratings after the use of the therapy aid during the two week survey period. The final addendum is an abstract of a study conducted in 2012 with children dealing with the symptoms of ADHD and the results which closely align with the results seen in this survey.

Survey Details

Description of the Survey:

The autism survey was funded by the Sarasota Memorial Healthcare Foundation and was organized by Face Autism with the assistance and support of The GAP School to test the effectiveness of using the Sensory Belt™ with children to alleviate symptoms caused by autism, autism spectrum disorder (ASD), and/or sensory processing disorder (SPD). The two-week survey began on August 22, 2016 with Sensory Belt™ and instructions provided to the parents. The survey ended on September 6, 2016 with the completion of the documentation sheet (Addendum A of this report) which provided the results of parental observations as well as comments from parents. The documentation sheet includes the initial ratings of parents/caregivers of the severity of deficits including auditory (sensitivity to sounds), emotional/social behavior (anxious/hyperactive), fine motor skills (coloring/drawing/writing), proprioceptive function (body awareness), tactile function (sensitivity to clothing/textures), and vestibular (movement and balance). Upon completion, the parents/caregivers provided a rating on each category and an overall rating. The overall ratings provided were used to determine whether or not use of the Sensory Belt™ was helpful in alleviating symptoms.

Upon announcement of the survey by Face Autism a total of 36 potential participants indicated an interest to take part in the Survey. There were 28 participants of which 27 participants met the criteria and whose parents/care givers completed the sign-in sheet, completed the initial current symptoms severity rating on the documentation sheet, and received a Sensory Belt™ to fit their child on August 22, 2016.

The survey was completed with the parents/caregivers of participants noting the symptoms severity rating, with some providing comments, from their observations of the use of the Sensory Belt™ beginning on September 6, 2016 in collaboration with Sarasota Memorial Hospital's Clinical Research Center. Of the 27 initial participants meeting the criteria (noted below) 23 participants completed the survey.

Description of Face Autism:

Face Autism, Inc. was created in 2009 to provide sensory friendly activities, support groups, referral for therapeutic services, structured classes, and other necessary resources for children with autism.

Description of the GAP School:

The GAP School is one of the Sarasota, Florida premier K-12 social skills, sensory integration, and bully free schools for special needs children.

Description of the Therapeutic Device:

The Sensory Belt™ is a weighted therapy belt which promotes self-calming, balance, and increased body awareness. There are six sizes available for infants to adults.

Criteria for Survey Inclusion:

There were four (4) criteria for participation in the Survey.

1. Child has a formal diagnosis of Autism, Autism Spectrum Disorder, or Sensory Processing Disorder.
2. Child is between the ages of 3 years old to 18 years old.
3. Child has never used a weighted therapy belt.
4. Child is not suffering from an illness or on any medication.

Note: There would have been 28 participants but one child was 25 years old and over the age limit of 18 years old. This child was provided a Sensory Belt™ but not included in the total number of participants. Of the 27 initial participants meeting the criteria there were 23 participants who completed the survey.

Notable: Four (4) families had two (2) children participate.

Demographics of Participants Completing the Survey:

Ages	Amount
3 to 7 years old	10
8 to 13 years old	9
14 to 18 years old	4

Gender	Amount
Male	22
Female	1

Size of Sensory Belts Used in Survey

Sensory Belt™ Size	Amount
MB101 (1lb)	0
MB202 (2lb)	5
MB303 (3lb)	8
SB404 (4lb)	6
SB505 (5lb)	2
SB606 (6lb)	2

Formal Diagnosis of Participants:

Diagnosis	Amount
Autism Only	17
Autism and Sensory Processing Disorder	3
Autism and ADHD	1
Autism and Down Syndrome	2

Findings

General Observations:

Of the 23 participants completing the survey, 19 experienced benefits from using the Sensory Belt™ during the Survey period. This results in an overall success rate for 82.6% of participants with observable benefits by parents/caregivers. Interestingly, 100% of the 13 participants using the two or three pound Sensory Belt™ indicates the importance of early intervention to help improve educational outcomes and sensory development.

The overall percentage of participants experiencing benefits (82.6%) from wearing the Sensory Belt™ closely resemble the results from a study conducted in 2012 by Cranberry Consulting in Cambridge, Massachusetts. Their study documented an 80% success rate for children with ADHD (8 out of 10 Survey participants) and was presented to the American Occupational Therapy Association (AOTA) annual conference. A copy of the abstract may be found at Addendum B of this report and the full study results are available upon request.

Benefit Percentages by Demographics:

Gender	Amount		Experienced Benefits	Success Rate
Male	22		18	81.8%
Female	1		1	100%

Ages	Amount		Experienced Benefits	Success Rate
3 to 7 years old	10		9	90%
8 to 13 years old	9		7	77.8%
14 to 18 years old	4		3	75%

Benefit Percentages by Size of Sensory Belts Used in Survey:

Sensory Belt™ Size	Amount		Experienced Benefits	Success Rate
MB101 (1lb)	0		N/A	N/A
MB202 (2lb)	5		5	100%
MB303 (3lb)	8		8	100%
SB404 (4lb)	6		4	66.7%
SB505 (5lb)	2		1	50%
SB606 (6lb)	2		1	50%

Benefit Percentages for Formal Diagnosis of Participants:

Diagnosis	Amount		Experienced Benefits	Success Rate
Autism Only	17		16	94.1%
Autism and Sensory Processing Disorder	3		2	66.7%
Autism and ADHD	1		0	0%
Autism and Down Syndrome	2		1	50%

Notable Comments from Parents/Caregivers Following Survey

Participant #1: "Devin was able to sit and attend a movie without getting up every 5 minutes."

Participant #3: "I've tried everything and nothing has worked with Isaac. Improvement: Focus increased, attention increased, awareness increased, follow directions, eye contact increased."

Participant #7: "Repetitive behavior and echolalia greatly reduced while using the belt."

Participant #8: "Stayed still. Doesn't run away as often. Began potty training. Began pretend play."

Participant #11: "We noticed Kolbe was able to stay focused for a longer period of time especially when it came to homework."

Participant #16: "He was able to recover his composure much faster after changes in routine. He was able to focus during homework and better able to ignore minor to moderate distractions. If he wore it for 30-45 min before bedtime he seemed to fall asleep faster."

Participant #17: "Definitely, he seemed calmer. Was told at school 3X he seemed much calmer + Focused. (Which they don't always do.)"

Participant #18: "Less scripting, more attentive + easier to learn new things. More in our world."

Participant #22: "It calmed his hyperactive time of the day."

Participant #31: "He seemed calmer + more able to focus. He would wear the belt for 15 mins at a time and I was able to see the difference in his behavior."

Participant #34: "Michael had better balance and more confidence when wearing the belt."

Addendum A

Document #: _____

DOCUMENTATION SHEET

Autism Research Study

Diagnosis: _____ Age: _____ M/F: _____

August 22nd 2016 – Start Date

What are your child's most notable deficits/symptoms? Please explain.

Does your child have any triggers? Yes / No If Yes, please explain.

Please rate your child between one (1) showing no deficit and ten (10) showing severe deficits

Auditory (Sensitive to Sounds): 1 2 3 4 5 6 7 8 9 10

Emotional/Social Behavior (Anxious/Hyperactive): 1 2 3 4 5 6 7 8 9 10

Fine Motor Skills (Difficulty Coloring/Drawing/Writing): 1 2 3 4 5 6 7 8 9 10

Proprioceptive Function (Body Awareness): 1 2 3 4 5 6 7 8 9 10

Tactile Function (Sensitive to Clothing/Textures): 1 2 3 4 5 6 7 8 9 10

Vestibular (Movement & Balance): 1 2 3 4 5 6 7 8 9 10

Overall Rating: 1 2 3 4 5 6 7 8 9 10

Note: *If for some reason your child experiences any discomfort when wearing the Sensory Belt, also known as the Miracle Belt, please discontinue use immediately and contact us for further details.*

Sept 5th 2016 – Final Evaluation

Did your child benefit from using the Sensory Belt? Yes / No

If Yes, where did you see the most benefit/improvement? Please explain.

Please rate your child between one (1) showing no deficit and ten (10) showing severe deficits

Auditory (Sensitive to Sounds): 1 2 3 4 5 6 7 8 9 10

Emotional/Social Behavior (Anxious/Hyperactive): 1 2 3 4 5 6 7 8 9 10

Fine Motor Skills (Difficulty Coloring/Drawing/Writing): 1 2 3 4 5 6 7 8 9 10

Proprioceptive Function (Body Awareness): 1 2 3 4 5 6 7 8 9 10

Tactile Function (Sensitive to Clothing/Textures): 1 2 3 4 5 6 7 8 9 10

Vestibular (Movement & Balance): 1 2 3 4 5 6 7 8 9 10

Overall Rating: 1 2 3 4 5 6 7 8 9 10

Addendum B

Running head: WEIGHTED BELT USE TO REDUCE ADHD SYMPTOMS

1

Weighted Belt Use to Reduce Attention Deficit Hyperactivity Disorder Symptoms

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This research was supported by Original Diamond Designs, Inc., who donated the weighted belts, the Sensory Belt and the Miracle Belt, used by participants in the study.

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Abstract

Objective: Weighted belt use was examined to determine effectiveness in reducing symptoms of Attention Deficit Hyperactivity Disorder (ADHD) in school-aged children. **Method:** Parents rated their child using the Conners-3 ADHD Index-Parent Form (AI-P) to establish eligibility to participate and provide a baseline measure of symptoms. Probability scores indicating ADHD diagnosis of 55 or higher were required for participation. Ten subjects completed the study, aged 7 to 13. Parents then rated their child again using the AI-P after wearing a weighted belt 15 to 30 minutes a day for a week. A Reliable Change Index (RCI) based on a two-tailed 90% Confidence Interval around the baseline score allowed comparison with the score while wearing the weighted belt. **Results:** While wearing the weighted belt, 8 out of 10 participants were rated with significantly fewer symptoms based on a RCI for their raw scores. Six out of 10 participants were rated with significantly fewer symptoms based on a RCI for their *T*-scores. Additionally, parents of 4 participants actually no longer rated their child's behavior in the clinical range based on their *T*-score while wearing the weighted belt after daily use for a week, a Clinically Meaningful change. **Conclusion:** Use of a weighted belt can be an effective intervention not based on medication that does merit consideration for school-aged children with symptoms of ADHD.

Keywords: ADHD, weighted belt, Conners-3, children, behavior