

A.T. Still University

Still ScholarWorks

OT Student Capstones

Occupational Therapy Department

2022

The Effectiveness of Sensory Interventions on Social Participation

Morgan Holcom
A. T. Still University

Follow this and additional works at: <https://scholarworks.atsu.edu/ot-capstones>



Part of the [Occupational Therapy Commons](#)

Recommended Citation

Holcom, Morgan, "The Effectiveness of Sensory Interventions on Social Participation" (2022). *OT Student Capstones*. 16.

<https://scholarworks.atsu.edu/ot-capstones/16>

This Capstone is brought to you for free and open access by the Occupational Therapy Department at Still ScholarWorks. It has been accepted for inclusion in OT Student Capstones by an authorized administrator of Still ScholarWorks. For more information, please contact mohammadaslam@atsu.edu.

Introduction

Sensory Integration (SI)

- Framework by A. Jean Ayres that uses neuroscience principles to provide understanding for the sensory and motor components of human behavior
- Considers all seven sensory systems and praxis
- Neuron dysfunction can lead to SI dysfunction
- 5-16% of children in the US have SI dysfunctions
- Sensory Integration Therapy (SIT) promotes long-lasting adaptive behaviors through neuroplastic changes

Social Participation

- The ability to engage in activities involving social interactions with others, including family, friends, peers, and community members
- Common interventions: social skills, social stories, role-playing, cognitive training, group-based, activity/occupational-based, play-based, and sensory interventions

Past Research: SI and Social Participation

- There is a correlation between SI and social participation
- SI dysfunction can decrease social participation skills
- Children with SI dysfunction engage in less social opportunities
- SIT, when paired with social skills training, can improve social participation

Capstone Site

- Piller Child Development

Methods

- Mixed methods, retrospective effectiveness study design
- Previously de-identified retrospective data
- Quantitative data: Sensory Processing Measure (SPM)
- Qualitative data: Participants' de-identified narrative SOAP notes

Theoretical Basis

- SI frame of reference
- Person, environment, and occupation (PEO) model
- Cognitive model

Participants

Inclusion criteria:

- Children ages 2-12 years old
- Children with SI and social participation dysfunctions
- 165 participants with quantitative data
- 91 participants with qualitative data

Data Analysis

- Quantitative data: SPSS 2018 using frequency descriptive statistics, Pearson correlation, and Wilcoxon signed-ranks test
- Qualitative data: NVivo 2020 using text mining methods for classification of interventions
- Text mining: Pulled the top 300 most frequently used words from all participants' narrative SOAP notes

Quantitative Results

Frequency Descriptive Statistics

- Gender: 119 male, 44 female, and 2 with missing data
- Diagnosis: 24 different ICD 10 codes
- Age during initial assessment: 81 participants were preschool age (2-5) and 84 were school age (5-12)

Pearson Correlation

- The relationship between pre-social participation and pre-total sensory systems SPM scores yielded a positive correlation of moderate significance
- The level of sensory dysfunction influences the level of social participation dysfunction

Wilcoxon Signed-Ranks Test

- Significant difference between the pre- and post-social participation SPM scores
- Participants' social participation skills improved following receiving occupational therapy interventions

Pearson Correlation

		Correlations	
		SOC Pre	TOT Pre
SOC Pre	Pearson Correlation	1	.390**
	Sig. (2-tailed)		<.001
	N	165	165
TOT Pre	Pearson Correlation	.390**	1
	Sig. (2-tailed)	<.001	
	N	165	165

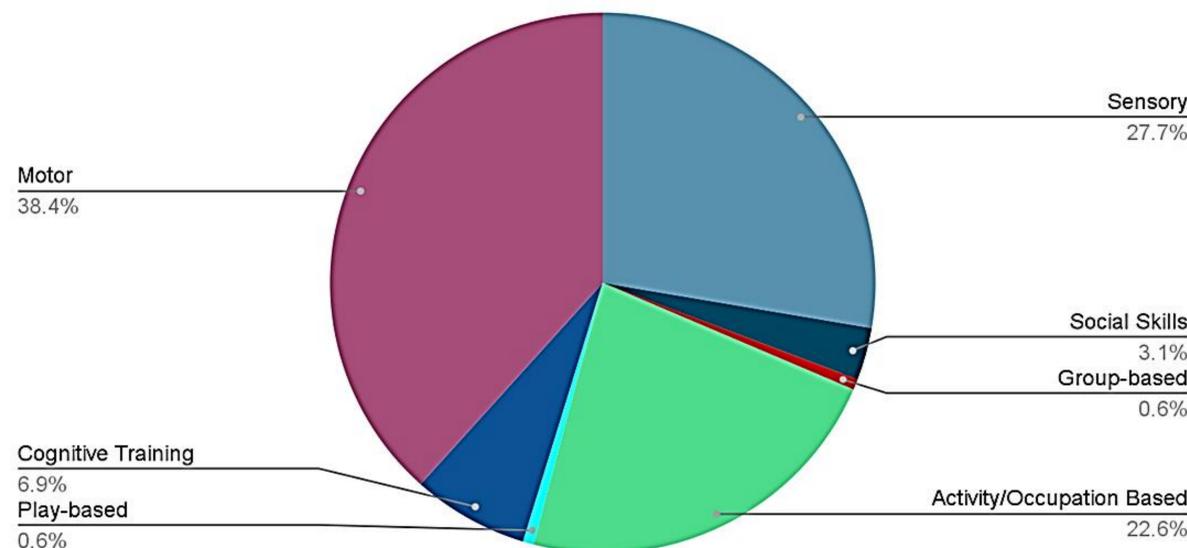
** . Correlation is significant at the 0.01 level (2-tailed)

Wilcoxon

		Test Statistics ^a	
		SOC2 - SOC1	TOT2 - TOT1
Z		-3.879 ^b	-1.979 ^b
Asymp. Sig. (2-tailed)		<.001	.048
a. Wilcoxon Signed Ranks Test			
b. Based on positive ranks.			

Qualitative Results

Interventions Distribution



Note. Of the 300 most frequently used words, 159 words were identified as interventions

Discussion

Relation to Past Literature

Results of this study were consistent with past literature:

- This study revealed a significant correlation between SI and social participation dysfunction
- This study implies that a combination of occupational therapy interventions can be effective in promoting social participation

Interventions

- Qualitative results revealed that the top three interventions that therapists employ during occupational therapy sessions with children with SI and social participation dysfunctions include: Motor, sensory, and activity/occupational-based interventions
- Results of this study indicate that the use of sensory-motor interventions, when supported by other social participation interventions, are effective in improving children's occupational performance in social participation.

Limitations

- Retrospective design
- Population was limited to a single therapy site
- The SPM relies on parent-report

Future Considerations

- Continue to study this topic more in depth
- Analyze the effectiveness of various OT interventions, particularly sensory-motor interventions
- Use of different sensory assessments (SPM-2)

Conclusion

- There is a significant correlation between SI and social participation dysfunctions
- Sensory-based approaches, including motor-based interventions, can be used to improve children's abilities to socially participate
- Results of this study can be used to help inform therapists' clinical reasoning when determining what interventions should be used to improve clients' occupational performance in social participation.

Acknowledgements

This capstone project was made possible by Piller Child Development in Phoenix, Arizona. Thank you Aimee Piller, PhD, OTR/L, BCP for your support and guidance.

References

See Citations List