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Pyne-James, Stefanie Amanda

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IDENTIFYING HOW TO SUPPORT AND EDUCATE PARENTS OF CHILDREN WITH SENSORY INTEGRATION DIFFICULTIES

Stefanie Amanda Pyne-James (née Vieler)

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A research report submitted to the Department of Occupational Therapy, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science in Occupational Therapy (Perceptual Disorders)

Johannesburg, 2025

Declaration

I, Stefanie Amanda Pyne-James declare that this Research Report is my own, unaided work. The degree of MSc Occupational Therapy (Perceptual Disorders) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



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(Signature of candidate)

9 day of September 2025 (Johannesburg)

Abstract

Introduction: There are various stressors associated with parenting a child with sensory integration difficulties, and although family-centered practice is essential in paediatric occupational therapy, there is limited research focused on the needs of the parent. This study aimed to identify; what therapist-parent support methods, and educational content is valued by South African parents.

Methodology: A non-experimental cross-sectional descriptive study was conducted. A self-administered online survey was completed by 103 South African parents whose children attended occupational therapy for sensory integration difficulties in Gauteng Province.

Results: Most parents (62.14%) reported that they were “very satisfied” with the support they receive from their child’s occupational therapist. The most common therapist-parent support method in place was electronic communication (72,82%). The least accessible was parent support groups (0.97%). Support methods that were rated to be the most helpful by participants included parent-therapist consultations or feedback meetings (69.90%), formal reports (62.75%), and electronic communication (60.78%). The results of parents’ perceived helpfulness of the various education topics presented by the therapist did not differ significantly.

Conclusion: This research highlights the importance of using multi-component parent support methods in the context of family-centered care, as well as factors that can guide South African occupational therapists in their selection thereof.

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Marica Botha, thank you for being an exceptional supervisor. Your passion for the field of Ayres Sensory Integration® and your commitment to excellence have continuously motivated me throughout this journey.

I am so grateful to my husband, family, and friends. Thank you for your unconditional love and belief in me. Your support and encouragement have provided me with the strength to persevere through this process.

This research report is dedicated to the extraordinary families and devoted therapists who work tirelessly to enhance the lives of children with sensory integration difficulties, without whom this research would not have been possible.

Table of Contents

Declaration ..... *ii*

Abstract ..... *iii*

Acknowledgments ..... *iii*

List of Figures ..... *vi*

List of Tables ..... *vi*

Nomenclature ..... *vii*

List of Abbreviations ..... *viii*

Chapter 1: Introduction, Literature Review, and Methods *2*

1.1 Introduction *2*

1.1.1 Introduction to the study 2

1.1.2 Problem statement 3

1.1.3 Purpose of the study 4

1.1.4 Research question 4

1.1.5 Aim of the study 4

1.1.6 Objectives of the study 5

1.1.7 Justification of the study 5

1.2 Literature Review *6*

1.2.1 Introduction 6

1.2.2 Sensory integration and sensory integration difficulties 7

1.2.3 Parenting a child with sensory integration difficulties 10

1.2.4 Family-centered care in paediatric occupational therapy 12

1.2.5 Family-centered approaches for sensory integration difficulties 15

a) Ayres sensory integration® (ASI) 15

b) Formal documentation or information sessions 18

c) Parent contact time and direct communication 22

d) Communication during therapy sessions 25

e) Parent-administered interventions: Sensory-based interventions (SBI), home programmes and therapy “homework” 26

f) Interventions focused on the naturalistic environment 29

g) Cognitive interventions 31

1.2.6 Parental satisfaction and engagement 31

1.2.7 Sensory integration therapy in South Africa 33

1.2.7 Conclusion 34

1.3 Methods *35*
1.3.1 Study design 35
1.3.2 Study setting, population and sample size 35
1.3.3 Therapist recruitment and participant selection 36
1.3.4 Data collection process 37
1.3.5 Research instrument 38
a) Steps in generating the survey: 38
b) Content validity study: 38
1.3.6 Data Set and Analysis 39
1.3.7 Validity and Reliability 40
1.3.8 Ethical considerations 42
1.4 Conclusion 43
Chapter 2: Submissible Manuscript *44*
Chapter 3: Synthesis *71*
3.1 Summary 71
3.2 Strengths and Limitations of the study 73
3.3 Recommendations 74
3.3.1 Further research in diverse settings 74
3.3.2 Further research on specific support methods 74
3.3.3 Education and training 75
3.3.4 Parent resources and information 75
3.3.5 ASI accessibility and research 75
3.3.6 Policy development and accessible care 76
3.3.7 Distribution of findings to stakeholders 76
3.4 Conclusion 76
List of Appendices *85*
Appendix A: Final Research Survey 71
Appendix B: Therapist Information Sheet 77
Appendix D: University of the Witwatersrand Human Resources Ethics Committee Approval (Medical) 82
Appendix E: Content Validity Study 84
Appendix F: Participant Information Sheet and Consent 95
Appendix G: Gauteng Department of Education (GDE) Permission 98
Appendix H: Private Therapist Information Sheet and Permission 100

Appendix I: South African Journal of Occupational Therapy (SAJOT) Publication Guidelines 102
Appendix J: Proof of Article Submission to the South African Journal of Occupational Therapy (SAJOT) 116
Appendix K: Results and Discussion for Objective 4 117
Appendix L: Additional Data Analysis 120
Appendix M: Turn-it-in Report 121
Appendix N: Research Protocol Approval/ Approval of Title 122
Appendix O: Plagiarism Declaration 123
Appendix P: Research Protocol 124

List of Figures

Figure 1: Therapist-parent support methods in place……..53
Figure 2: Parental satisfaction with therapist-parent support…….54
Figure 3: Helpfulness of parent education content……..
Figure 4: Parental involvement in therapy……

List of Tables

Table 1.1: Data Analysis Summary……40
Table 2.1: Details of Author Contributions……..44
Table I: Participant Demographics……52
Table II: Parental value placed on therapist-parent support methods.……..56

Nomenclature

Ayres Sensory Integration® (ASI): A trademarked assessment and treatment approach used by occupational therapists working in the field of paediatrics, which requires advanced training. ASI outlines the development of typical sensory integration, defines sensory integrative dysfunction, and stipulates 10 essential principles for the direct therapist-child intervention in the form of the fidelity measure (Smith Roley et al., 2007).

Educational content: Within this study, educational content refers to the topics which can be covered in the context of therapist-parent education (Miller-Kuhaneck & Watling, 2018).

Family-Centered Care: A health-care philosophy which focuses on promoting child and family strengths, sharing information, shared decision making, and family collaboration (Allen et al., 2021).

Fidelity Measure: The term "fidelity" refers to consistency between the intervention approach and it's underlying therapeutic principles (Parham et al., 2011). The ASI intervention approach is distinguished from other approaches by the fidelity measure, which ensures adherence to 10 essential stipulated principles for direct therapist-child ASI intervention (Roan et al., 2022).

Parent: Within this study, the term *parent* is inclusive of any primary caregiver which includes but is not limited to biological parent, adoptive parent, or guardian.

Sensory-Based Interventions (SBI): SBI can come in many forms but can be inclusive of any sensory-based strategy that enables children to perform their everyday occupations. Sensory-based interventions may draw on principles of the ASI framework, but do not adhere to the fidelity measure (Peña et al., 2021, Zimmer & Desch, 2012, Dunstan & Griffiths, 2008).

Sensory Integration: Sensory integration is defined by Ayres (2005, p.5) as the 'organisation of sensations for use'. These sensations include sight, smell, taste, touch, and vestibular and proprioceptive senses.

Sensory Integration Difficulties: Within this study, the term 'sensory integration difficulties' will be an inclusive term for difficulties with sensory reactivity or sensory perception in one or more sensory systems or specific patterns of sensory integrative dysfunction such as somato-dyspraxia, visuo-dyspraxia, and bilateral integration and sequencing dysfunction (Lane et al., 2019).

Therapist-parent support methods: Within this study, this term is inclusive of all the different methods in which occupational therapists can support the parents of children within their care.

Therapist-parent education: Within this study, this term is inclusive of information sharing between therapist and parent.

List of Abbreviations

ADHD – Attention-Deficit/Hyperactivity Disorder
ASD – Autism Spectrum Disorder
ASI – Ayres Sensory Integration®
CVI – Content validity index
CVI-I – Content validity index: item
CVI-S – Content validity index: scale
CINAHL – Cumulated Index in Nursing and Allied Health Literature
EEG – Electroencephalogram
EASI – Evaluation of Ayres Sensory Integration
GDE – Gauteng Department of Education
LSEN – Learners with Special Education Needs
MAP – Miller Assessment for Preschoolers
NGO – Non-governmental Organisation
POPIA – The Protection of Personal Information Act
REDCap – Research Electronic Data Capture
SBI – Sensory Based Interventions
SIPT – Sensory Integration and Praxis Test
SGB – School Governing Body
SID – Sensory Integrative Dysfunction
SAISI – South African Institute of Sensory Integration

SAJOT – South African Journal of Occupational Therapy

SASIC – South African Sensory Integration Courses

TSFI – Test of Sensory Functions in Infants

UA – Universal Agreement

Chapter 1: Introduction, Literature Review, and Methods

1.1 Introduction

1.1.1 Introduction to the study

Sensory integration is defined by Ayres (2005, p.5) as the 'organisation of sensations for use'. These sensations include sight, smell, taste, touch, and vestibular and proprioceptive senses. Sensory integration difficulties in children are often related to delays in motor skills, attention, and behaviour. All of which can affect a child's occupational performance in daily activities of learning, play, self-care and social participation. This can result in a referral to occupational therapy (Smith Roley et al., 2007). These occupational performance difficulties, as well as the associated behavioural concerns, can increase the demands and stress placed on caregivers and parents. Parents of children with sensory integration difficulties have expressed the desire to develop a better understanding of their child's behaviour and how to support them. Best practice encourages parental participation throughout the occupational therapy process, whether in a clinic or school setting (Allen et al., 2021; Miller-Kuhaneck & Watling, 2018). The occupational therapist has the responsibility to identify and use appropriate methods to teach parents about their child's difficulties using family-centered and parent-focused interventions (American Occupational Therapy Association, 2014; Cohn et al., 2000).

Family-centered and parent-focused interventions focus on promoting child and family strengths, as well as sharing information with caregivers (Miller-Kuhaneck & Watling, 2018). Occupational therapists are encouraged to use multicomponent family-centered interventions when working with children with sensory integration difficulties (Allen et al., 2021). Examples include interventions focussing on psychoeducation, information sharing, parent coaching, family routine adaptation, parent-performed somatosensory strategies, and contextual and activity adaptations, among others (Miller-Kuhaneck & Watling, 2018). Parent training and parent-implemented strategies can also be an efficient and cost-effective approach to use with families when carefully structured by the therapist (Miller-Kuhaneck & Watling, 2018). Research encourages the use of family-centered interventions that are specific to the child's difficulties and family preferences, which are identified through a thorough assessment and evidence-based clinical reasoning (Miller-Kuhaneck & Watling, 2018).

Parents have reported numerous benefits from gaining a better understanding of their child's behaviour through a sensory integration perspective. The process of reframing their understanding of their children can help facilitate a shift in expectations of their child, validate their feelings, and enable them to advocate for and support their child (Cohn, 2000). Other benefits of parent-focused interventions include altering children's behaviours, reducing parental stress, and improving parent-child interaction. However, multiple studies have found that parents experience dissatisfaction with the information available about their child's sensory integration therapy, as well as limited detail in explaining their child's behaviour (Miller-Kuhaneck & Watling, 2018). In South African practice settings, a qualitative study found that parents identified limited information on their child's therapy, the use of jargon, and limited collaboration in the implementation of home programmes are barriers experienced with respect to their child's sensory integration therapy (Smit, de Jongh & Cook, 2018).

Although family-centered approaches are encouraged for this diagnostic group, most of the research on children with sensory integration difficulties is focused on the child's needs and not the parents. Parental needs, desires, and preferences in how they are supported by their occupational therapist and what educational content is valued by parents have not been well explored (Miller-Kuhaneck & Watling, 2018; Allen et al., 2021). There is also not enough evidence to prescribe a manual or fidelity to the most effective methods of parent education, specifically the duration, dosage, and delivery method (Allen et al., 2021).

Therefore, globally and within South African contexts, more research is needed on the needs and desires of parents of children with sensory integration difficulties, as well as on identifying their preferred content and therapist-parent support methods.

1.1.2 Problem statement

The potential benefits of parent-focused interventions include improved parental knowledge, improved child therapy goals, reduced parental stress and parents experiencing an improved sense of competence and self-efficacy in helping their children (Miller-Kuhaneck & Watling, 2018; Allen et al., 2021). Despite these potential benefits, parent-focused interventions have been described as "under-used" with families whose children attend occupational therapy for sensory integration difficulties. Research and practice guidelines encourage occupational therapists to use family-

centered approaches, however, multiple studies have found that parents experience dissatisfaction with the information available about their child's sensory integration therapy, as well as limited detail in explaining their child's behaviour (Miller-Kuhaneck & Watling, 2018).

Currently, there is limited research that brings to light the types of support valued by parents of children with sensory integration difficulties and the preferred format of service delivery, particularly within the South African context (Allen et al., 2021). Furthermore, there is also limited research on what parents want and need in terms of the content of parent education interventions (Miller-Kuhaneck & Watling, 2018). The researcher experienced the same disconnect as a practicing occupational therapist working with this population, feeling unsure about how to support parents of children in therapy in ways that are meaningful to them.

1.1.3 Purpose of the study

The purpose of this study is to guide therapists in the use of parent-focused interventions that are valuable to South African parents of children with sensory integration difficulties. If therapists are aware of current levels of parental satisfaction, the types of support and the content of therapist-parent education that parents value, they can better provide effective, parent-focused interventions within their daily practice.

1.1.4 Research question

What therapist-parent support methods and educational content are valued by parents of children who attend occupational therapy for sensory integration difficulties?

1.1.5 Aim of the study

The aim of the study is to identify what parents of children who attend occupational therapy for sensory integration difficulties value when it comes to therapist-parent support methods and educational content.

1.1.6 Objectives of the study

The objectives are to identify:

1. What therapist-parent support methods are currently in place for parents of children who attend occupational therapy for sensory integration difficulties.
2. The current level of parental satisfaction of the therapist-parent support methods currently in place for their child, who is attending occupational therapy due to sensory integration difficulties.
3. Methods of therapist-parent support that are valued and desired by parents of children who attend occupational therapy for sensory integration difficulties.
4. The content of the therapy-parent education that parents of children attending occupational therapy for sensory integration difficulties value and want.

1.1.7 Justification of the study

This disconnect between the occupational therapist and the parent of a child with sensory integration difficulties has been experienced by the researcher in practice and is also reflected in the literature. Across diagnostic groups in paediatric occupational therapy, it can be challenging to implement collaborative partnerships between parent and professional, when parental expectations and preferences are unknown (Blue-Banning et al., 2004). Although parent involvement is considered an essential element of family-centered care, more research is needed on the process of parent engagement (D'Arrigo et al., 2020a). Personally, the researcher hopes that the findings of this study help guide their own daily practice. In addition, it is hoped that the study will assist other occupational therapists working with children with sensory integration difficulties in a South African context by promoting the use of support methods valued by parents and tailoring the content of education to meet their needs. This study was an opportunity for parents to provide their input and, in turn, to empower them to be more involved in their child's therapy journey. For both the therapist and parents, this research aims to strengthen their working relationship and increase their dialogue around family-centered care.

Although most occupational therapists and practice settings agree on the value of parent-therapist collaboration, translating this into specific guidelines can be challenging with a lack of information regarding parental preferences, as well as the presence of time and resource constraints (Hanna & Rodger, 2002). Thus, it is

beneficial to determine which support methods and educational content are valued by South African parents of children with sensory integration difficulties as a precursor to the development of parent education programmes or fidelity manuals for parent-focused interventions within the field of sensory integration in South Africa. If parent-focused interventions are found to contribute significantly to the advancement of therapy objectives, they have the potential to reduce the duration of therapy, ensure faster client turnover and, therefore, decrease medical costs. Evidence for the efficiency of parent-focused interventions could be used for treatment protocols in schools and practices, or in the development of care packages provided by government or private medical insurance.

The study included parents of children with sensory integration difficulties or dysfunction, with or without comorbid diagnoses. The increase in stress and caregiver burden associated with parenting a child with sensory integration difficulties has been documented by various authors and is not only limited to those with a comorbid diagnosis (Roan et al., 2022; Smith Roley et al., 2007). Most previous studies on parent-focused interventions for children with sensory integration difficulties have been limited to parents of children with comorbid autism spectrum disorder (ASD) (Miller-Kuhaneck & Watling, 2018 & Allen et al., 2021). The researcher also attempted to include various practice settings in Gauteng province to represent diverse practice settings within a South African context. Therapists who were involved in distribution of the survey were required to have advanced training in Ayres Sensory Integration® (ASI) to ensure appropriate identification of study participants.

1.2 Literature Review

1.2.1 Introduction

This review of the literature will begin by defining sensory integration difficulties in children and describes the unique difficulties faced by parents or caregivers in this cohort. Subsequently, family-centered care will be discussed and linked to current interventions used to address sensory integration difficulties. After reviewing current evidence on parental levels of satisfaction and engagement, the review will conclude by contextualising this research question in South Africa as a unique research setting.

Family-centered care is considered an essential practice in occupational therapy when supporting the development of children. Research is needed on the value placed on

parent-based interventions by parents, specifically those of children with sensory integration difficulties who are living in South Africa and receiving intervention. A review of the literature will illuminate the importance of research focused on parents' needs and the vital role of the occupational therapist in supporting and educating them throughout their child's therapy journey.

The reviewed literature was searched through the Wits E-catalogue, including the databases EBSCOhost and CINAHL. The initial search terms used to find relevant literature included 'Occupational Therapy' AND 'Sensory Integration' AND 'Parent' OR 'Parent education' OR 'Parent Support'. Supplemental search terms included 'Paediatric', 'South Africa', 'Parent Satisfaction', 'Parent coaching', 'Family Intervention', 'Parent Satisfaction' and 'Family-centered'. Relevant search results were screened. The articles were scholarly and peer reviewed and published within the last 10 years. Additional articles cited in publications from the initial search were also reviewed to determine whether they were relevant to the research question and objectives. Foundational theories were supplemented with textbooks and original theorist publications.

1.2.2 Sensory integration and sensory integration difficulties

Sensory integration in children is essential, as the processing of information from one's sensory world and the subsequent production of adaptive responses form the basis for typical development. The end product of typical sensory integration includes the ability to concentrate, learn, problem-solve and organise one's behaviour and emotions, in addition to performing motor functions and using the two sides of the body and brain together in a coordinated manner (Lecuona et al., 2017). Sensory integration is twofold, comprising sensory reactivity (which is associated with sensory modulation processes) and sensory perception (which was previously termed sensory discrimination).

Sensory reactivity refers to one's behavioural response to sensory input, and sensory modulation refers to the individual's ability to regulate their reactionary responses to sensory input in adaptive ways, supporting productivity, attention, communication and interaction (Cohn et al., 2014; Du Preez & Combrinck, 2022; Lane et al., 2019). Difficulties with sensory reactivity occur when the individual or child has an exaggerated response to sensory input (either under-reactive or over-reactive) and is

unable to modulate or regulate their reactionary responses in an adaptive manner, such that it impacts their participation in daily activities. Sensory reactivity is associated with attention levels, emotional regulation and activity levels. Reactivity and modulation difficulties can occur in one or more sensory systems. Over-reactivity is characterised by distress or reduced habituation to sensory input, often resulting in difficulty filtering out unimportant and unnecessary sensory input. Under-reactivity, however, refers to a delayed or missed registration of sensory input that usually would be noticeable, or excessive seeking of additional sensory input. Ayres identified two specific patterns of sensory modulation dysfunction: namely, 'tactile defensiveness,' which links over-reactivity to tactile sensory input with increased activity levels and distractibility as well as 'gravitational insecurity,' which is a disproportional over-reactivity to vestibular sensory input (Lane et al., 2019).

'Sensory discrimination' referred to distinguishing and interpreting the qualities of sensory input, while 'sensory perception' goes further to include attaching meaning to sensory input for use in everyday life (Lecuona et al., 2017; Lane et al., 2019). Sensory perception functions of the somatosensory and visual systems are associated with praxis difficulties. Praxis is the ability to conceptualise an idea (ideation), plan the motor movement (motor planning) and execute the movement efficiently (motor execution) to engage with one's psychical environment in an adaptive manner. Specific patterns of praxis difficulties have been identified using factor and cluster analysis, namely somatodyspraxia, visuodyspraxia and dyspraxia on verbal command. Problems in perceiving proprioceptive and vestibular sensory input have also been found to impact the development of postural control and bilateral body use. Bilateral integration and sequencing dysfunction has also been identified through factor and cluster analysis, first by Jean Ayres herself and in more recent retrospective factor analyses (Lane et al., 2019).

In addition to the specific patterns of sensory integrative dysfunction described above, sensory integration difficulties include a wide range of difficulties in processing sensory information in one or more sensory systems, to the extent that it affects the child's functional engagement with their environment and their ability to meet task, environmental or social demands (Smith Roley et al., 2007; Trewin, Mailloux & Schaaf, 2022; Cohn, Miller & Tickle-Degnen, 2000). For the purposes of this study, the term

‘sensory integration difficulties’ includes sensory integration difficulties as described, as well as specific patterns of sensory integrative dysfunction.

Sensory integration difficulties are associated with difficulties in social skills, impaired self-confidence, deficits in motor skills, academic learning, attention and difficult behaviour such as irritability and poor impulse control (Ahn et al., 2004; Miller-Kuhaneck & Watling, 2018; Cohen, May-Benson & Teasdale, 2011; Laurent & Gorman, 2018). The difficulties in integrating sensory information can affect psychological, emotional and regulatory functions that impact performance in daily childhood occupations of play, learning, self-care, and social participation (Allen et al., 2021; Miller-Kuhaneck & Watling, 2018). Neurological indicators seen in children with sensory processing disorder include differences in frontal lobe and parasympathetic nervous system functions, as well as electroencephalogram (EEG) data (Gourley et al., 2013).

The role of an occupational therapist is to understand how these difficulties impact the child and the family in their daily routines and to intervene effectively, as the nature of the child’s difficulties can be different and depend on the underlying sensory processing of the child (Allen et al., 2021; Niutanen et al., 2020). The diagnosis of sensory integration difficulties and dysfunction remains a difficult clinical issue due to differences in terminology, and this highlights the importance of up-to-date therapist training and the administration of comprehensive clinical assessments.

The prevalence of sensory integration difficulties varies in the literature and is also likely due to differences in the use of consistent terminology and assessment. Studies conducted in the United States estimate that around 5% to 5.3% of typically developing kindergarten-aged children met the criteria for having a sensory integration disorder (Ahn et al., 2004; Bodison & Parham, 2018). However, these samples were mainly Caucasian children with educated parents, which differs from the research setting of this study in Gauteng, South Africa. The province of Gauteng is home to approximately 3.4 million children between 0 and 14 years of age, of which 84.6% are Black African and 10% are Caucasian with a small percentage of Coloured and Indian / Asian children. Of this, almost 4% of children do not receive formal education. Within the province of Gauteng, only 16.2% of adults in Gauteng have higher education qualifications (Statistics South Africa, 2022). There is a lack of data on the prevalence

of sensory integration difficulties for this population, as well as the percentage of those who receive occupational therapy intervention.

The prevalence of sensory integration difficulties among children with disabilities is high in other countries. According to Roan et al. (2022), it is up to 88%. Some of the comorbid diagnoses mentioned in the literature include attention-deficit/hyperactivity disorder (ADHD), developmental coordination disorder, childhood anxiety disorder, preterm infants and other neurodevelopmental disorders (Du Preez & Combrinck, 2022; Gourley et al., 2013; Niutanen et al., 2020; Zimmer & Desch, 2012). The most notable is the comorbidity between sensory integration difficulties and autism spectrum disorder (ASD), ranging from 80% to 96 %, depending on the literature consulted (Schaaf et al., 2011; Roan et al., 2022). Although there is little consensus on the exact prevalence of ASD in South Africa, there is agreement that there needs to be improvements in early identification of ASD as there is a high incidence of delayed diagnosis. Families of children with ASD in South Africa face significant challenges in accessing special needs services, funding support, and formal schooling (Pillai, Makhetha & Aldous, 2021; van Biljon, Kritzinger & Geertsema, 2015).

As described above, within the South African population, the prevalence of sensory integration difficulties is not well documented. However, the above statistics indicate that there is a prevalence of sensory integration difficulties in different contexts, for children with or without a comorbid diagnosis. Therefore, research in this area is valuable to the occupational therapy profession.

1.2.3 Parenting a child with sensory integration difficulties

The increase in stress and caregiver burden associated with parenting a child with sensory integration difficulties has been documented by various authors (Roan et al., 2022; Smith Roley et al., 2007). However, parental needs, desires and preferences in how they are supported by their occupational therapist have not been well explored (Allen et al., 2021).

The experiences of parents of children with ASD have been extensively researched. Miller-Kuhaneck & Watling (2018) argued that it is particularly demanding to care for children with sensory integration disorders and comorbid ASD. Schaaf et al. (2011) agreed, stating that parents of children with autism experience higher levels of parental stress than parents with special needs diagnoses. This is because the routine and

activities of the family are affected by the child's sensory preferences both inside and, especially, outside the home. There is a need for constant hypervigilance from the parent in terms of the sensory environment, demands of a task and adaptation or accommodation thereof to meet the sensory needs of the child. This is particularly challenging in unfamiliar and unstructured spaces or during routine activities that correspond to a multitude of sensory stimulations such as morning or bedtime routines, and during mealtimes. Parents also face stigma and difficulties in balancing attention between the child with ASD and their siblings (Preece et al., 2017; Schaaf et al., 2011). Parents of children with ASD can feel particularly disempowered and overwhelmed when there is not sufficient information or support (Preece et al., 2017).

However, Gourley et al. (2013), found that parents of children without ASD with difficult sensory behaviours also had high scores of child-related stresses, which negatively impacted their feeling towards parenting, nearly identical to those parenting children with ASD. This was attributed to possible difficulties in understanding the cause of their child's sensory behaviours, and rather these behaviours are associated with "bad parenting" as opposed to a formal diagnosis (Gourley et al., 2013). This contributes to feelings of parental stress and reduced parental satisfaction, due to the unpredictable nature of sensory integration difficulties, particularly sensory modulation difficulties (Cohn, May-Benson & Teasdale, 2011). In other words, it can be challenging for these parents to meet their child's social and behavioural needs. Stoll, Zeigler, & Dehoff (2021) even noted that sensory integration difficulties have been correlated with lower attachment scores. Negative coping strategies of parents can exacerbate stress for both parents and children (Allen et al., 2021). There is also a correlation between the severity of sensory integration difficulties, behavioural concerns and parental stress or sense of competence (Cohn, Cohn et al., 2011; Gourley et al., 2013). The sense of parental competence has also been associated with the level of understanding of their child's sensory behaviours (Cohn, May-Benson, & Teasdale, 2011). Parents of children with sensory integration difficulties may experience potential barriers to accessing the support and resources that would be accessible to parents of children with ASD or other diagnoses. Again, this illustrates the need to include research studies that incorporate parents of children with sensory integration difficulties with or without a comorbid diagnosis.

According to the existing literature, parental hopes and priorities for therapy outcomes included improvements in their child's social participation, participation within their daily environments, the ability to self-regulate and for their child to experience competence and success. Parents also seek an improved understanding of their child's behaviours and the strategies they can use to support their child (Miller-Kuhaneck & Watling, 2018; Cohn, Miller & Tickle-Degnen, 2000). It is the role of the occupational therapist to support the family in these priorities, through family-centered care.

1.2.4 Family-centered care in paediatric occupational therapy

The occupational therapist's role is to provide adequate support and training to support parents of children with sensory integration difficulties and promote their involvement in their child's therapy within their practice setting (Miller-Kuhaneck & Watling, 2018). Family-centered care focuses on promoting child and family strengths, sharing information, shared decision making, and family collaboration (Allen et al., 2021). Collaboration must be founded on mutual respect and consideration for family diversity and different cultural backgrounds (Cohn, 2000; Lage et al., 2022). The occupational therapist is required to connect with parents to understand how they are making sense of the entire therapy journey over time and not just interventions for their child in isolation (Cohn, 2001). The therapist should demonstrate flexibility and responsiveness to the changing needs, priorities and concerns of the family. Family-centered approaches are best practice in paediatric treatment settings, as they advocate for equal power dynamics and contributions from both the therapist and the parent (Lage et al., 2022; Miller-Kuhaneck & Watling, 2018). Dunstan & Griffiths (2008) argue that time spent supporting families is as important as the time spent in direct therapy with the child. However, the actual implementation of family-centered practice within the field of sensory integration remains elusive (Blue-Banning et al.,2004).

Within family-centered care, the therapist acknowledges caregivers' knowledge about their child and their needs, listens to them, and involves them in every step of the therapy process, including goal setting, planning, and intervention (Lage et al., 2022). By engaging in shared decision making with parents, there is a greater chance of achieving outcomes that are meaningful to the family and the client (Delany & Galvin, 2014). Delany & Galvin (2014) go so far as to say that being family-centered is an

ethical necessity in the practice of paediatric occupational therapy. Within the field of sensory integration specifically, there has been a call to shift from focussing on a deficit perspective and working more toward functional engagement in occupation at a school, community, and family level, as well as meeting the needs of the client and their family (Cohn & Cermak, 1998).

Family-centered approaches aim to help parents understand the nature of their child's sensory integration difficulties and therefore better understand and know how to cope with their child's behaviours through various strategies or environmental adaptations (Cohn & Cermak, 1998). Reframing parental understanding of their child facilitates a change in expectations of their child, validates their feelings, and enables them to advocate for and support their child. This acceptance of the child by their parents also contributes to the child's improved sense of self-worth (Cohn, Miller & Tickle-Degnen, 2000). The occupational therapist should also provide appropriate suggestions to parents on how to improve their child's performance with the purpose of advancing therapy aims (Miller-Kuhaneck & Watling, 2018). Other benefits of parent-focused interventions include altering a child's behaviours and, therefore, improving their therapy goals. For parents, it can improve parental stress, knowledge, well-being and self-efficiency, ultimately leading to improved interaction between parents and children. Parent training and parental-implemented strategies have also been found to be an efficient and cost-effective approach for families that can increase the rate of therapy progress when carefully structured by the therapist (Miller-Kuhaneck & Watling, 2018; Allen et al., 2021; Trewin, Mailloux, & Schaaf, 2022).

However, despite the literature advocating family-centered care and its many benefits, parent-focused interventions have been described as 'underused' for children with sensory integration difficulties, and most of the current research being conducted focuses on the child's needs and not the parents' (Allen et al., 2021).

This may be due to the various complexities that impact the relationship between parents and the therapist in the context of paediatric occupational therapy. These complexities can either be barriers to the implementation of family-centered care, or they can promote and enable its implementation. Barriers within the therapist-parent relationship could include differing views on treatment approaches or goals and parental feelings of being overwhelmed or in denial of their child's difficulties (Delany & Galvin, 2014). In these cases, therapists are presented the difficult task of balancing

reassuring the family and providing expert advice while still respecting the expertise of parents about their child (Dunstan & Griffiths, 2008). Decisions about treatment, such as prognosis, treatment effects and decisions about appropriate discharge from therapy can be complicated and difficult to articulate (Delany & Galvin, 2014). Other barriers could be practical or procedural, including uncertainty about the duration and predictability of the intervention, the practice context, power dynamics, language differences, time-limited appointments, access of services, finances, personal circumstances, differing beliefs, family dynamics, or policies that may limit direct parent-therapist interaction and collaboration (Delany & Galvin, 2014; Allen et al., 2021; Smit, de Jongh & Cook, 2018; Delany & Galvin, 2014). It is also possible that during the various stages of intervention, the family have different needs. At the beginning of therapy, higher anxiety, concern and the degree of acceptance of their child's difficulties can affect the parent's level of engagement in the therapy process. Factors such as parents' confidence and trust in the therapist, their child's observable progress, and their hopes and understanding of the child can either hinder or enhance their engagement in the therapy process over time (D'Arrigo et al., 2020a). A South African study that explored the perspectives of parents in sensory integration therapy found that during the initial stages of intervention, parents needed more support from their therapist and then decreased over time (Geral, 2014). This was mirrored by Dunstan & Griffiths (2008) in their case study of family-centered intervention, finding that the need for support and hands-on assistance from the therapist reduces over time. D'Arrigo et al. (2020a) stated that therapists observed changes in parental engagement throughout, with a decrease in engagement when their child was approaching discharge from therapy. However, it is the responsibility of the therapist to determine strategies to engage the parents in the therapy process throughout the therapy journey, which can require significant effort, planning and communication (D'Arrigo et al., 2020a; Hanna & Rodger, 2002).

Given the above complexities, it is no surprise that previous studies have found parents to be dissatisfied with the information available about their child's sensory integration therapy, leading to limited detail explaining their child's behaviour (Miller-Kuhaneck & Watling, 2018). There is currently limited research on what parents want and need in terms of the content of parent education interventions as well as preferred

support methods (Miller-Kuhaneck & Watling, 2018). This illuminates the need for more parent-focused research.

1.2.5 Family-centered approaches for sensory integration difficulties

Therapist-parent support methods and education include a variety of interventions performed by the occupational therapist to promote family-centered care. The occupational therapist is responsible for consulting the evidence to identify and use appropriate methods for teaching parents about their child's difficulties (Miller-Kuhaneck & Watling, 2018).

Examples of interventions include psychoeducation in the form of information resources or education services, parental coaching or training, support groups, somatosensory strategies performed by parents—otherwise known as sensory-based interventions (SBI), and contextual and activity adaptations (Miller-Kuhaneck & Watling, 2018). Different interventions, their benefits and shortcomings, as well as existing evidence, will be discussed in the following section.

a) Ayres sensory integration® (ASI)

As mentioned above, occupational therapists use different treatment approaches to treat sensory integration difficulties. The most frequently requested, valued and used intervention for children with ASD is Ayres Sensory Integration® (ASI) (Roan et al., 2022). This is a specific assessment and treatment approach used by occupational therapists working in the field of paediatrics and requires advanced training (Smith Roley et al., 2007; Quinn, Pedlow & Bleakley, 2022). ASI outlines the development of typical sensory integration and defines sensory integrative dysfunction (SID). The skilled therapist will use sophisticated clinical reasoning to develop hypotheses to explain the relationship between atypical behaviour and neurological processes, understand the difficulties of the child and plan their intervention accordingly (Peña et al., 2021).

The ASI intervention approach is also distinguished from other approaches by the fidelity measure, which stipulates 10 essential principles for the direct therapist-child intervention and is considered a well-researched and evidence-based treatment approach (Roan et al., 2022; Watling & Hauer, 2015). The term "fidelity" refers to consistency between the intervention approach and it's underlying therapeutic

principles. This fidelity measure ensures adherence to the principles of ASI in the intervention process. The educational purpose of the fidelity measure is to ensure reproducible and valid results when evaluating the effectiveness of the treatment approach (Parham et al., 2011).

There has been controversy about sensory integration research in the past. This has been attributed to professionals outside the occupational therapy profession or programmes and studies that have used the term “sensory integration” even when they do not adhere to the core principles of Ayres’ theories or do not focus on the promotion of adaptive responses and functional engagement in the occupation as it’s end goal. Therefore, the trademarking of the treatment approach as “Ayres Sensory Integration®” protects the integrity of the core principles and helps to distinguish between interventions or studies which may draw on some principles and theories developed by Jean Ayres but do not adhere to all the core principles and the fidelity measure of ASI (Smith Roley et al., 2007).

The South African Institute for Sensory Integration (SAISI) is accredited to offer ASI-certified occupational therapist training courses. The training process consists of four modules that must be completed in a period of five years. The term SASIC refers to the South African Sensory Integration Courses, and includes theory (SASIC 1), test administration (SASIC 2), interpretation (SASIC 3) and intervention course (SASIC 4) (South African Institute of Sensory Integration, n.d.). Training in ASI equips therapists with the theory and assessment skills to identify and understand sensory integration difficulties or dysfunction, as well as how to implement the fidelity measure in their intervention.

Adherence to the fidelity measure is essential for ASI as is the need for a comprehensive and informed clinical assessment conducted by an ASI-trained therapist. Previous studies in this area of research have been limited by insufficient assessment of study participants, which can lead to unreliable results specific to the study population (Miller-Kuhaneck & Watling, 2018). Assessments that help understand how sensory integration difficulties impact daily participation of children include the Sensory Processing Measure developed by Parham et al. (2021), or the Sensory Profile 2 developed by Winnie Dunn (2014) (Cohn et al., 2014). Clinical measures of assessment include the Test of Sensory Functions in Infants (TSFI), the

Miller Assessment for Preschoolers (MAP), the Sensory Integration and Praxis Test (SIPT) and the Evaluation of Ayres Sensory Integration (EASI) (Niutanen et al., 2020). Non-standardised methods of assessment include use of Ayres Clinical Observations and Gross Motor Clinical observations. An initial assessment is essential to determine whether the child presents with a sensory integration difficulty or dysfunction, as well as to determine the effectiveness of the intervention approach over time (Watling & Hauer, 2015).

Ayres Sensory Integration® considers the results of the child's assessment and designs individualised sensory activities with specialised equipment, at the right level, within the context of play, to support the development of adaptive responses by children. This, in turn, supports their functional ability to promote engagement in childhood occupations (Watling & Hauer, 2015). The ASI approach works at the neurophysiological level to improve the processing of sensory input to achieve improved functional behaviour (Watling & Hauer, 2015). It is recommended that throughout the individually administered ASI treatment, the occupational therapist consults with the child's parents, caregivers and teachers, suggesting ways to support the child's participation by incorporating or modifying sensory experiences in the child's daily routine (Bodison & Parham, 2018).

However, although ASI acknowledges that the intervention plan should be family-centered and be done in collaboration with important people in the child's life such as their teachers and caregivers, there were no published ASI guidelines on the parental support and education component of this intervention until recently (Smith Roley et al., 2007, Roan et al., 2022). There are many resources available to parents on the internet; however, it can be difficult for parents to know which information is evidence-based and appropriate for their child. Therefore, Roan et al. (2022) developed a parent guidebook for occupational therapy using ASI. This guidebook was reviewed by experts who agreed that it is consistent with ASI fidelity principles, easy to follow and includes useful strategies for caregivers. Additionally, three parents reviewed the guidebook, and their feedback indicated that it was easy to read, the content was helpful, the suggested strategies could be incorporated into the home routine and the education tasks could be completed in a reasonable amount of time. The guidebook considers the unique profile of the child, helps translate the assessment findings into a simple language for parents, and then, in collaboration with the parents, activities

are selected, explained, and modelled for the caregiver. This is a helpful addition to promoting family-centered care in the context of ASI; however, the authors of the guidebook acknowledged the need for more research with larger sample sizes (Roan et al., 2022). In addition, MealSense®—an online programme—is the first of its kind to provide evidence-based parental support based on ASI principles. However, it is specific to feeding difficulties in children with ASD and sensory integration challenges, and it does not fully adhere to all the fidelity principles of ASI (Trewin, Mailloux, & Schaaf, 2022). Some of the benefits of web-based parent education programmes include a reduction in travel time, costs and the need for childcare (Trewin, Mailloux, & Schaaf, 2022; Roan et al., 2022). It is unknown whether South African parents have access to these parent-focused interventions and whether they are valuable or helpful to parents within this unique practice setting.

Occupational therapists may use various other parent-focused interventions in isolation or in conjunction with the ASI treatment approach and should include parents throughout the therapy process in various ways.

b) Formal documentation or information sessions

Within this section, relevant literature on formal reporting documentation, parent education and support groups will be discussed.

Reporting and documentation

Following the assessment, the next step in the occupational therapy process involves writing of a formal report explaining the assessment findings. One of the purposes of writing occupational therapy reports in paediatric care is to communicate important findings about the child's assessment and therapy progress to the family and other professionals working with the child. Report writing is a vital component of record-keeping and accountability. Written reports can also be a means to promote effective communication, information sharing and family engagement. However, report writing can be time-consuming and, therefore, many occupational therapists consider it one of the less preferable aspects of their jobs. Both speech and occupational therapists have questioned the usefulness of clinical reports (Donaldson et al., 2004).

Some of the identified shortfalls of clinical reporting include the use of jargon, poor writing, lack of observational information and the use of impairment-focused language. Research suggests that occupational therapy reports for children are helpful to parents when the reason for referral is included and an explanation of the assessments and terminology is detailed. The assessment results should include occupational performance component findings, along with functional interpretations of the assessment scores, highlighting both the strengths and weaknesses of the child. Clear recommendations and future plans should also be communicated (Donaldson et al., 2004; Makepeace & Zwicker, 2014). The recommendations should also include suggestions or options of additional support relevant to the child and family, for example, practical strategies, a home programme or school visit. These must be tailored to the child's needs, the family's routine and the availability of time (Makepeace & Zwicker, 2014). The language used in the reports should also be clear and without technical or vague language (Makepeace & Zwicker, 2014). When written reports are understandable to parents, it can enhance the collaborative relationship and, therefore, make the time-consuming practice of report writing worthwhile for the therapist. However, when a report is not understandable to the parent, they may feel inadequate or discouraged to read or share the report (Makepeace & Zwicker, 2014).

Therapists, therefore, must balance writing reports that are understandable to parents, while maintaining professional writing standards to share with other healthcare workers or stakeholders (Jay et al., 2022). Although profession-specific language in the reports is not always favourable from the perspective of the parents, therapists may feel it necessary to include these terms to communicate with other professionals or to improve the understanding of parents. Therefore, this research requires the inclusion of explanations with any profession-specific terms or jargon, as writing multiple reports for different audiences is time consuming (Donaldson et al., 2004; Jay et al., 2022). This balancing act may be particularly challenging in research settings where the population has limited health literacy, such as South Africa. Poor documentation standards in South Africa have been specifically attributed to negative staff attitudes, resource constraints and the use of jargon (Jay et al., 2022). A South African study based on Learners with Special Education Needs (LSEN) schools in the Western Cape found poor standards of record-keeping by occupational therapists

working in the schools. Barriers to record-keeping included its time-consuming nature, high caseloads and limited storage space (Rischmuller & Fanzsen, 2012).

There are various factors that can affect the usefulness and reception of written reports from parents. In family-centered care, parents are considered the main audience of reports and, therefore, it is essential to receive and apply feedback from them to improve report writing practices (Makepeace & Zwicker, 2014)

Parent education

'Parent education' is defined as any programme that provides information or skills training. Parent education can take place within the clinical environment but can also be extended to natural environments such as the child's home and school (Trewin, Mailloux & Schaaf, 2022). Allen et al. (2021) identified positive results from parental education programmes even within a short period. Ways to educate parents could include presentations, written reports, brochures and handouts, information booths, formal education seminars or support groups for parents (Carpenter & Garfinkel, 2021). Education topics for parents in previous research included information about sensory integration, compensatory or remediation strategies, environmental or activity adaptations, management and prevention of difficult behaviours, outing selection, parenting skills, family routines, sensory-based interventions and activities for promoting sensorimotor development at home (Miller-Kuhaneck & Watling, 2018; Smit, de Jongh & Cook, 2018; Schaaf et al., 2011). Therapists should consider that the timing and style of how information is shared can have an impact on the effectiveness of parental education (Delany & Galvin, 2014).

In the context of sensory integration, in determining what content is useful in parental education programmes, an interesting study by Preece et al. (2017) was conducted, which was funded by the European Commission, to determine whether education for parents of children with ASD was relevant and appropriate. The data collection method was a multinational questionnaire distributed to three European countries. Most parents (75%) identified "understanding sensory integration and development" as important content for parent education on autism. In addition to this, parents prioritised four other topics in the three countries, which included strategies to improve child communication, strategies to facilitate child interaction with other children, behavioural

management strategies and development of opportunities for socialisation. The results also indicated that parents preferred training to take place close to home and preferably on weekends. Although this study provided some guidance on useful educational content for parents and preferred support methods, the study population was parents of children with ASD only and was limited to three European countries. Variations between countries were also observed, supporting the need for context-specific research. For example, between the three countries, work schedules and childcare issues had varying impacts on the parent's ability to attend training. Regarding the responses related to training priorities, between the countries, 13 topic areas were identified in which statistically significant differences were observed in the responses (Preece et al., 2017). Again, this highlights the need for context-specific research that considers the impact of cultural and contextual factors on parent-focused interventions.

Support groups

Another parent-focused intervention used in the context of paediatric occupational therapy is support groups. Both formal and informal forms of social support have been linked to improved well-being for parents of children with disabilities (Cohn, 2001). In the context of sensory integration occupational therapy, the benefits of parent support groups included gaining a better understanding of the child and the intervention, as well as a sense of hope and community through the connection with other parents (Smit, de Jongh, & Cook, 2018). A study that explored the perspectives of parents while in the therapy waiting room discovered benefits to this informal shared space even without a professional present (Cohn, 2001). One benefit was the authenticity of receiving help from people who have personal experience with the same issues. Parents also reported feeling a sense of reassurance when comparing their children with more severe children who attended therapy, which assisted them in reframing the expectations that they had for themselves and their children. Other methods of connecting parents can be through online platforms such as social media support groups (Carpenter & Garfinkel, 2021).

Regarding traditional support groups that are facilitated by a professional, these may be particularly valuable in resource-restricted practice settings (Allen et al., 2021). If a

working parent cannot attend their child's therapy sessions but is offered the opportunity to attend a parent support group, this can potentially help promote their participation in their child's therapy journey (Smit, de Jongh & Cook, 2018).

Despite these benefits, Cohn (2000) cautioned against assuming that all parents or therapy settings would find a support group valuable, and there is limited research about the value placed on support groups by South African parents of children with sensory integration difficulties.

c) Parent contact time and direct communication

In this section, relevant literature on parent coaching, consultations, and therapist-parent communication between and during therapy sessions will be discussed.

Parental coaching: Goal-setting and problem-solving sessions

Parental coaching has also been explored in literature in relation to children with sensory integration difficulties. Coaching involves creating a supportive partnership between the therapist and the parent in which the exchange of information takes place in a conversational manner (Allen et al., 2021). The therapist uses observations, reflection on action and feedback together with the parent to improve the parents' understanding and empower them to recognise and plan strategies that match the environment, as well as activity components with the needs of their child instead of just telling the parent what to do (Dunn et al., 2012; Miller-Kuhaneck & Watling, 2018). The coaching relationship is based on emotional support to ensure a safe, mutual and trusting relationship between the therapist and the parent, which is similar to the philosophies of family-centered care (Dunn et al., 2012). As in family-centered care, setting goals and problem solving together with parents is an important process and helps parents feel in control and empowered to implement change (Allen et al., 2021). The empowering components in coaching are the principles of adult learning, collaborative goal setting and a strength-based approach (Pashazadeh et al., 2019).

The effectiveness of parental coaching for children with sensory integration difficulties was discussed by Allen et al. (2021) in their scoping review, as well as Miller-Kuhaneck & Watling (2018) in their systematic review. However, for both reviews, only four studies each met the inclusion criteria, and all their participants were parents of

children with sensory integration difficulties and comorbid ASD. Other limitations that reduce the transferability of the findings of these studies include a lack of long-term follow-up, differences in the approaches and doses of the interventions and the fact that only one study used a control group. However, in general, the results for parent coaching were positive, highlighting the benefits of coaching for parents and the child. For parents, the benefits included reducing parental stress, improving self-efficacy, confidence building, increased feelings of control as well as improving actual and perceived parental knowledge. Improvements in child performance and behaviour, their self-regulation, occupational performance and desired behaviour goals were also observed (Allen et al., 2021; Miller-Kuhaneck & Watling, 2018). Other relevant studies mirrored these findings (Stoll, Zeigler & Dehoff, 2021; Dunn et al., 2012; Gourley et al., 2013). However, more research is needed to determine the specific characteristics that make coaching approaches effective (Miller-Kuhaneck & Watling, 2018).

Some other recommendations made in these two reviews regarding future research were the need to investigate parents' needs and desires for specific coaching content and the preferred support methods of parent-focused interventions. The reviews also highlighted the importance of parent-focused interventions that are specific to the child's difficulties, which were identified through a detailed assessment and clinical reasoning of the occupational therapist using ASI theory (Miller-Kuhaneck & Watling, 2018). It was also suggested that there is currently not enough evidence to prescribe a manual or fidelity of the most effective methods of parental coaching and education, specifically duration, dose, and method of delivery. In addition to this, Allen et al. (2021) identified the need for studies that bring to light the types of support valued by parents and the preferred format of service delivery. A different study noted that research on coaching within the context of occupational therapy (sometimes referred to as occupational performance coaching) was mostly focused on school-age children and, therefore, left out children from birth to three years of age (Stoll, Zeigler & Dehoff, 2021).

It is important to note that coaching differs from parent training in that training usually has specific pre-established content and is professional-led (Miller-Kuhaneck & Watling, 2018). There is a need for longitudinal research comparing coaching and training, and evidence of the effect of didactic training in isolation on behavioural

change is limited (Proterra, Ehrlich & Romani, 2022; Miller-Kuhaneck & Watling, 2018).

Parent-therapist consultations and communication:

From the beginning of the therapy process, verbal consultations and feedback can be beneficial in increasing parental understanding and engagement. Parents have noted that they appreciated a general description of the assessment processes to prepare them for what was to come in the assessment session. Although therapists may be hesitant to do so, because they need time to score and interpret the results, parents often expected some verbal feedback immediately after their child's assessment (Donaldson et al., 2004). The most frequently mentioned in the literature is the use of verbal consultations to supplement written reports to help parents understand their child's assessment results and improve the readability of written reports (Makepeace & Zwicker, 2014; Donaldson et al., 2004). This also gave parents the opportunity to ask questions or raise concerns. Therapists should be mindful of the language and terminology that they use during verbal feedback as with written reports (Donaldson et al., 2004) .

Thereafter, throughout the therapy process, parent meetings and communication in different forms can be a possible strategy for parent education and family-centered approaches. Frequent communication provides an opportunity for parents to ask questions and for the therapist to manage expectations to prevent communication breakdown (Smit, de Jongh & Cook, 2018). Parents sharing ideas and having frequent opportunities to communicate with their therapist has been found to have a positive impact on their overall satisfaction with the therapy process and helps to establish a trust relationship between the therapist and the parent (Moll, Billick & Valdes, 2018; Blue-Banning et al., n.d.). Communication can take various forms, for example in-person meetings, checking in before and after therapy sessions, emails, texts, or phone calls. When a parent consistently communicates with the therapist, it can indicate that they are engaged in the therapy process (D'Arrigo et al., 2020a).

In general, it is known that frequent parent-therapist communication is valuable throughout the therapy process, whether during formal consultations or between

therapy sessions. However, more research to understand which modes of communication are the most valuable for the South African parent can help therapists tailor their communication according to the parents' preferences.

d) Communication during therapy sessions

One strategy used in ASI therapy and other treatment approaches, is allowing parents to sit and observe or participate in treatment sessions. This helps parents collaborate and improve their understanding of their child's difficulties and their treatment, allowing them to carry out the suggestions made by the therapist (Smit, de Jongh, & Cook, 2018).

When parents attend sessions, it provides the opportunity for the therapist to check-in with them about their child's therapy goals or any areas of concern. Then during the session, parent-therapist connections can grow through shared moments of interaction. Parental participation in the session can provide opportunities for them to ask questions or participate directly in therapy activities. The therapist can explain the purpose of a therapy activity or demonstrate an activity to be done at home within the session instead of having to take the time to communicate this information afterwards (D'Arrigo et al., 2020b). Therapist and parent can also engage in problem-solving to identify potential solutions or review strategies that are being used with the child. After the session, the therapist may provide additional resources or feedback in person (D'Arrigo et al., 2020b). It is advantageous when a therapist is skilled at being flexible and responsive during therapy sessions, listens to the parents' concerns and considers their preferences (D'Arrigo et al., 2020b). The therapist should use coaching and problem-solving principles when interacting with the parent during sessions (Romano & Schnurr, 2022).

However, this strategy may not be appropriate for all parents. Parents who may feel grief or overwhelm regarding their child's difficulties should not be forced to participate in sessions. Additionally, this support method may not be possible in certain practice settings, such as schools or when another caregiver brings the child for therapy. In these settings, reduced contact time can make it difficult for therapists to gauge the level of parental engagement in the therapy process (D'Arrigo et al., 2020a).

e) Parent-administered interventions: Sensory-based interventions (SBI), home programmes and therapy "homework"

Sensory-based interventions

Many occupational therapists, those with and without advanced training in ASI, can recommend sensory-based interventions (SBI) to parents to help support their child's sensory integration. Sensory-based interventions draw on principles of the ASI framework, but do not adhere to the fidelity measure of ASI treatment and are, therefore, not considered to be ASI therapy (Peña et al., 2021; Zimmer & Desch, 2012). These slight nuances in terminology have been a source of confusion within the paediatric occupational therapy literature to date (Dunstan & Griffiths, 2008). There has been a call to clearly distinguish ASI and SBI within current research in order to judge their treatment efficiency separately; however, in practice, they are not usually used in isolation (Watling & Hauer, 2015). Experts in the field suggest that the use of combined intervention methods is the best practice, although some therapists still use SBI in isolation (Bodison & Parham, 2018). Sensory-based interventions can come in many forms but are essentially strategies that enable children to perform their everyday occupations (Dunstan & Griffiths, 2008). Interventions are carried out by an adult with the aim of improving the child's self-regulation, attention or behavioural organisation. These strategies can be informed by specific protocols, such as the Wilbarger therapeutic brushing protocol, or they could be incorporated into the child's daily routine, such as the use of a weighted jacket or adaptive seating strategies (Bodison & Parham, 2018). The SBI suggested and used most frequently, according to the study by Peña et al. (2021), included trampoline jumping, massage, oral motor tools, joint compressions and brushing. SBI can be single-sensory (involving one sensory system) or multisensory (involving more than one sensory system) (Watling & Hauer, 2015; Schaaf et al., 2011).

Studies have found that single-sensory SBI has limited evidence, and participation in multisensory experiences may be more beneficial in supporting the behaviour of children with ASD (Peña et al., 2021). However, these studies had various limitations, including small sample sizes, low level of evidence and lack of blinding and clear

intervention protocols, therefore more research is needed in this area (Watling & Hauer, 2015). One study acknowledged that 'sensory strategies' showed an improvement in attachment and self-regulation in children with sensory integration difficulties between seven and 24 months. However, in this study, the strategies varied and were individualised to the child's sensory profile and functional difficulties, so the generalisability of the data is limited. The example included movement breaks, heavy work and suggestions of games and activities to do at home with the child (Stoll, Zeigler & Dehoff, 2021).

Sensory-based interventions are often combined into what is called a sensory diet, which is a planned programme of activities throughout the day that aims to regulate the child's behaviour and attention by meeting their individual sensory needs (Dunstan & Griffiths, 2008). One study found that when a sensory diet was administered to children throughout the school day, there were improvements in child activity levels, engagement and socialisation (Quinn, Pedlow & Bleakley, 2022).

Although consistent evidence on SBI is limited, they are still frequently used in practice and some studies have shown their potential benefits despite obvious limitations. The success of the SBI is dependent on the ability and willingness of the parent or teachers to implement the suggested interventions; therefore, their views and preferences should be taken into account when determining whether to recommend an SBI (Dunstan & Griffiths, 2008). In terms of parental perspectives on SBI, two South African qualitative studies found that parents valued strategies that were practical and could be implemented during the daily routine of the family (Geral, 2014; Smit, de Jongh & Cook, 2018). In another study, Peña et al. (2021) found that, in general, parents valued and accepted SBI as an intervention method, but some barriers were identified. These included the cost of therapeutic equipment, not knowing when and how to implement strategies effectively and the child not wanting to participate in the intervention (Peña et al., 2021). Half (50%) of the parents in this study reported that they found these interventions helpful, while one fifth (20%) did not. The rest reported that they were sometimes helpful or that they had not yet had the opportunity to use them. Parents valued the ongoing support of the therapist in the implementation of the intervention, as well as the accessibility of therapeutic equipment to implement the interventions. Parents in this study expressed that training, affordable equipment and the use of household equipment over clinical equipment would likely increase their

chances of implementing the suggested interventions (Peña et al., 2021). Although this study provides interesting details on the value placed by parents on SBI, the participants were only parents of children with ASD and were based in Canada. Again, this illuminates the need for research on broader population groups of parents of children with sensory integration difficulties.

Home programmes and therapy "homework"

Home programmes are commonly used by occupational therapists to ensure the transfer of therapy goals to the home environment. Home programmes can be presented to parents in different ways; however, Geral (2014) proposes that the best way to develop an effective home programme is through parent-therapist collaboration. The interests and preferences of the child and parents should be considered in the development of the home programme (Smit, de Jongh & Cook, 2018; Novak, 2011). Home programmes should include a variety of resources for parents, including carefully selected activities or SBI, environment, routine or activity adaptations. Literature also encourages therapists to evaluate outcomes, allow flexibility within the programmes, reassure parents and engage in continued monitoring. Home programmes can be a useful alternative to in-person therapy in resource-constrained environments. Home programmes which have been developed in partnership with parents, as opposed to therapist-directed home programmes, have been more effective in improving function, increasing parental satisfaction and achieving therapy goals (Novak, 2011).

Mothers of children with cerebral palsy preferred to try and include therapy activities into their routine rather than following a prescribed home programme (Hanna & Rodger, 2002). This was echoed in a South African study exploring facilitators and barriers experienced by parents of children receiving sensory integration therapy, where home programmes received mixed reviews from parents. Parents valued practical strategies that helped them deal with certain situations; however, they also experienced home programmes to be time consuming and exhausting, especially when they did not fit into the daily routine of the family. In this case, instead of helping, they just made the parent feel pressured and guilty (Smit, de Jongh, & Cook, 2018). If too much pressure is put on parents to implement rigid home programmes, it is counterproductive (Novak, 2011). Although relevant to this study in that it was the perspective of South African parents, this finding was from a small sample size of a

qualitative study and, therefore is not generalisable to a wider demographic (Smit, de Jongh, & Cook, 2018).

Overall, recent literature emphasises that home programmes should be developed in collaboration with parents, and various suggestions, activities and adaptations should be incorporated into the family's routine. In addition to home programmes, therapists can provide suggestions between therapy sessions, which can be referred to as therapy homework (D'Arrigo et al., 2020b). Some parents explained home programme activities as homework to their special needs child, to help incorporate these activities into their children's routine along with their siblings (Novak, 2011).

f) Interventions focused on the naturalistic environment

Environment/activity modifications

Occupational therapists can suggest activities or environmental modifications to facilitate improved regulation and participation of the child (Watling & Hauer, 2015; Schaaf et al., 2011). Examples of environmental modification include changes in the intensity, complexity or quality of sensory elements in the child's environment (Bodison & Parham, 2018). Caregivers can also adapt their behaviour to support their child's regulation and participation (Harrop et al., 2018). These interventions should occur within the child's daily routine in their natural environment or as needed (Watling & Hauer, 2015).

Routine-related strategies

Overall, the literature agrees that parents are more likely to implement strategies when they are incorporated into the family's routine or could be adapted to create a new routine (Novak, 2011; Romano & Schnurr, 2022; Carpenter & Garfinkel, 2021). When strategies are specifically designed to fit into the family's routine, it can be a mechanism to promote parental involvement and generalisation of skills (D'Arrigo et al., 2020a). However, it is important to gauge the willingness and capacity of the parents for implementation before burdening them with an unmanageable number of strategies. Collaboration with parents and being open to honest feedback on whether strategies are working is essential (D'Arrigo et al., 2020a).

School and home visits

Visiting the child's home can be used as a vehicle to monitor and evaluate the use and effectiveness of home programmes, as well as observe activity participation to make suggestions about the environment, activity modifications or opportunities for occupational engagement (Novak, 2011). Home visits can be a helpful platform for the implementation of coaching strategies, such as demonstration of SBI, caregiver practice and feedback, and problem-solving in the family environment (Romano & Schnurr, 2022). Carpenter and Garfinkel (2021) highlight the value of home visits during mealtime routines for children with picky eating behaviours. Overall, consideration should be given to ensure that strategies are being carried over to the home environment and how skills are generalised into different contexts. A potential barrier raised by parents about the implementation of home-based strategies can be the child's willingness to participate in activities at home, which justifies why home visits can be valuable to address problems such as these. Telehealth services could be a viable option in situations where home visits are not possible, as a means to provide some insights into the child's occupational engagement in the home environment (Carpenter & Garfinkel, 2021). Law et al. (2005) and Dunst et al. (2001) advocate for the use of interventions for children and youth with disabilities in their home and communities. When learning opportunities occur within the child's daily experiences, it can be an opportunity to practice learned skills and learn new and functional ways to engage (Dunst et al., 2001).

Regarding visits to the school environment, parents reported increased satisfaction with occupational therapy services when the therapist conducted school visits and provided feedback to parents (Moll, Billick & Valdes, 2018). While school-based therapists may have easier access to classroom observations, school-based therapists have expressed that it can be challenging trying to involve parents in the therapy process or gauge their level of engagement (D'Arrigo et al., 2020b, 2020a).

Opportunities to observe and implement the above strategies in the child's daily environment can be an opportunity to collaborate with stakeholders in the child's life, particularly their parents and teachers (Hanna & Rodger, 2002).

Within a South African context, little is known about the availability of home and school visits as a supplemental support to families of children with sensory integration difficulties, and whether parents of children perceive this to be valuable.

g) Cognitive interventions

Cognitive interventions with the child themselves are also used to address sensory integration difficulties; these include the use of strategies such as social stories and the Alert Program® (Stoll, Zeigler & Dehoff, 2021). The Alert Program® helps children learn cognitive and sensory strategies to recognise their own levels of alertness and use techniques to maintain an appropriate level, enabling them to regulate their behaviour effectively (Cohn et al., 2014). Although parents may help implement these strategies, since this is not a parent-focused intervention, it has been excluded from this study.

To conclude this section of the literature review, it is important to remember that parent-focused interventions also need to be flexible to accommodate the needs of different families. Parents must have time to express their circumstances and preferences. Then, the therapist must consider how their circumstances could impact the design and implementation of the support and education provided (Dunstan & Griffiths, 2008; Roan et al., 2022).

1.2.6 Parental satisfaction and engagement

The relationship between the treating therapist and the parent can impact therapy outcomes, and parental satisfaction is an emerging domain for outcomes-based research (Cohn, 2001.; Dunst & Dempsey, 2007). Parental engagement and emotional investment in the therapy process are also considered an important contributor to the achievement of therapy goals (D'Arrigo et al., 2020a). However, the therapist should also be mindful that parents may choose to have varying levels of therapy involvement (Hanna & Rodger, 2002).

Factors contributing positively to parental satisfaction include a skilled therapist, provision of appropriate suggestions and explanations, written feedback, therapy progress itself and collaborative goal setting (Moll, Billick & Valdes, 2018). The help-giving style of the therapist has been found to have an impact on perceived parental

control. Blue-Banning et al. (2004) states that when parents feel a sense of control and self-efficacy, they show increased satisfaction with services. As echoed in family-centered care practices, families value therapists who are trustworthy, flexible, approachable, responsive, empathetic, active listeners who communicate effectively, upskill the parents and allow shared decision making (D'Arrigo et al., 2020a; Dunst & Dempsey, 2007).These therapist characteristics help parents feel supported (D'Arrigo et al., 2020a). When a parent is satisfied with the support received by their occupational therapist, it can empower them in their parenting occupation, promote engagement in the therapy process and improve the interventions suggested for implementation (Moll, Billick & Valdes, 2018). Factors that can reduce levels of parental satisfaction with the therapist-parent relationship can include limited information on the therapy of their child, the use of jargon, and limited collaboration in the implementation of interventions (Smit, de Jongh & Cook, 2018; Joshi & Vaishampayan, 2008). Power dynamics and therapists positioning themselves as the authority can negatively impact parental satisfaction (Blue-Banning et al., 2004). Parents have reported dissatisfaction with services when there is high staff turn-over, inconsistency in service provision and poor therapist availability (Moll, Billick & Valdes, 2018). In addition, when the parent does not fully understand their child's difficulties, it may contribute to parents becoming disengaged in the therapy process (D'Arrigo et al., 2020a).

The practice setting itself may also affect parental satisfaction and engagement. It is interesting to note that a study in India examined parents' perspectives on sensory integrative therapy services and it was found that parents were not satisfied with school-based therapists because they felt communication lines were not adequately open and that school-based therapists needed to be more open to suggestions (Joshi & Vaishampayan, 2008). School-based therapists are influenced by school policies, assigned caseloads and diverse roles serving both the schools and parents (Rischmuller & Fanzsen, 2012). D'Arrigo et al. (2020a) noted high levels of parental motivation when they sought private practice help for a self-identified concern about their child. Parents who paid for services seemed more committed to therapy than those with non-governmental organisations (NGO)-covered appointments.

Within a South African context, there are still many questions about the level of satisfaction experienced by parents of children receiving therapy, particularly in

diverse practice settings, such as private and public settings. A qualitative study by Smit, de Jongh, & Cook (2018) found parents were generally satisfied with their therapist relationship in a private sensory integration occupational therapy practice setting. However, within the same small South African study, there was one parent who experienced a disconnect between herself and the therapist, which affected her understanding of her child's abilities and her ability, as a parent, to advocate for and support her child (Smit, de Jongh, & Cook, 2018).

1.2.7 Sensory integration therapy in South Africa

When situating the above literature within the context of this research, it is important to describe the circumstances around occupational therapy and children with sensory integration difficulties in a South African context. It is also necessary to consider the contextual factors that can contribute to children's difficulties with occupational performance and parental involvement. These include, but are not limited to, a high-stress society that places pressure on children to perform, high crime rates, working parents, financial constraints, a high number of learners in classrooms compared to international norms and an increase in sedentary play due to safety concerns (Smit, de Jongh, & Cook, 2018). In particular, within public settings and rural areas of South Africa, there is limited access to multidisciplinary and occupational therapy intervention and a lack of developmentally appropriate resources within children's homes and schools to support sensory integration (Du Preez & Combrinck, 2022). The two studies exploring parents' perspectives on sensory integration therapy involved small samples of middle-to-affluent, English or Afrikaans-speaking parents, which do not represent South Africa's multiracial and multicultural population (Smit, de Jongh & Cook, 2018; Geral, 2014). Toddlers from low socioeconomic environments have been found to be more likely to have difficulties with sensory integration, specifically in the areas of postural control, bilateral coordination and reflex integration (Lecuona et al., 2017). Therefore, reiterating the need for more research on South African sensory integration.

For example, considering family-centered approaches while sitting in on therapy sessions may be considered valuable in some contexts; however, in South Africa, this may not be possible if both parents are working or if the child is seen for therapy at school (Smit, de Jongh & Cook, 2018). Within the occupational therapy literature, there has been a call for intervention to take place in naturalistic environments for the child,

such as school and home, in order to reduce time, travel and financial demands on families. However, there has been no research on whether this would be valued by South African parents or plausible in different practice settings (Allen et al., 2021). Additionally, sensory integration is a specialised field of occupational therapy and most specialised ASI-trained therapists work within the private sector, thus limiting access to one-on-one intervention for many children. Therapists are burdened with high caseloads, time constraints and financial restrictions, all of which impacts their ability to provide truly family-centered intervention (Du Preez & Combrinck, 2022). This further illuminates the need for more cost-effective, time-effective and meaningful parent-focused interventions as a means of reducing medical costs.

1.2.7 Conclusion

This review of the literature began by defining sensory integration terminology and describing the unique difficulties faced by parents or caregivers of this cohort. Subsequently, research related to family-centered interventions with specific reference to sensory integration difficulties was analysed. Finally, the review looked at parental levels of support satisfaction before contextualising South Africa as a unique setting for the proposed research question.

In conclusion, in relation to the support and education of parents of children attending occupational therapy for sensory integration difficulties in South Africa, research that brings to light the types of support valued by parents and the preferred format of service delivery is needed.

1.3 Methods

1.3.1 Study design

The study design was quantitative in nature. It was a non-experimental cross-sectional descriptive study design with the use of a survey (Appendix A) as the data collection method (Siedlecki, 2020). Survey research can be used to investigate the frequency of beliefs, opinions, processes, behaviours and experiences (Rahi, Alnaser & Ghani, 2019).

1.3.2 Study setting, population and sample size

The study population was the parents of children with sensory integration difficulties who received a regular occupational therapy intervention, by an Ayres Sensory Integration® informed therapist in a private practice, a private school or a public-school setting in Gauteng, South Africa.

The sample size was calculated to be 100 responses. This was calculated using Raosoft software including the following variables: estimated population size, margin of error, confidence interval, and response distribution (Raosoft, 2004).

The following values were used for the formula:

Population Size: The population size was estimated by taking the number of therapists who were SASIC level 2 trained (or further) and practising in Gauteng Province, which, according to the 2023 SAISI directory is 109 therapists, multiplied by a conservative estimate of how many children in each therapist caseload would fit the inclusion criteria (15 children), which was a total of 1635. There was limited research on the average number of children treated per day by ASI therapists in South Africa. A source suggested that occupational therapists, in general, treat between five and eight patients per day (Centra Healthcare Solutions, 2011).

Margin of Error: This refers to the percentage of error of the data. Five percent (5%) is a common percentage used for survey research. However, due to limited time, resources and uncertainty around the accessibility of participants, this was adjusted to 8% to make the sample size achievable and feasible (Bartlett, Kotrlik & Higgins, 2001).

Confidence Interval: Confidence intervals are indirectly proportional to the sample size. Although 95% confidence interval is optimal for research data, 90% was used for

this small data set and the implications of which will be discussed further in the 'Trustworthiness' section of this report (Raosoft, 2004).

Response Distribution: This was estimated to be 50%, which is the recommended percentage for response distribution (Raosoft, 2004).

1.3.3 Therapist recruitment and participant selection

The research sampling method was nonprobability sampling, namely convenience sampling and snowball sampling (Etikan, 2016). To recruit participants for the study, the researcher first needed to recruit sensory integration trained therapists (levels SASIC2 and above) practicing in Gauteng within the study settings mentioned above to assist with the distribution of surveys to parents who met the inclusion criteria. This was done using the following methods for therapists working in private practice:

- The researcher contacted the South African Institute for Sensory Integration (SAISI) to distribute information to recruit occupational therapists within their Gauteng database by email.
- The recruited therapists were encouraged to share the information with other ASI-trained therapists in Gauteng (levels SASIC2 and above).
- The researcher also contacted ASI therapists in their network to help with the distribution of the survey.

The agreement of the private therapist to help with the distribution of the survey constituted their consent, as described in the therapist's information sheet (Appendix B).

For therapists who worked in government school settings, the researcher selected schools within the Gauteng province that had ASI-informed occupational therapists on staff and requested approval from the Gauteng Department of Education for these sites. Thereafter, the researcher gained permission from the principal and the School Governing Body (SGB) of the school (Appendix C). Once this approval was received, the school put the researcher in contact with the occupational therapist to help with the distribution of the survey.

Each therapist who agreed to participate in the distribution of the online survey received a standard set of instructions that outlined the inclusion and exclusion criteria of the study, to guide them on which parents to send the link to. The link was then shared electronically for distribution to prospective participants. The researcher asked

the recruited therapists to keep track of the number of parents to whom they distributed the survey, in order to calculate the survey response rate.

The inclusion and exclusion criteria were as follows:

Inclusion criteria:

- Parents of children between 12 months and 8 years of age who attend regular (at least once a month) ASI occupational therapy intervention with an ASI-informed therapist due to sensory integration difficulties or a diagnosed sensory integrative dysfunction.
- The child receives sensory integration informed therapy in a private practice, private school or public-school setting.

The child may have a co-morbid diagnosis of ASD, ADHD, Dyslexia, or Cerebral Palsy.

Exclusion Criteria:

- Parents of children who have been attending therapy for less than 3 months
- Parents of children receiving therapy outside of Gauteng province.
- Parents of children who are receiving therapy from the Department of Health.

1.3.4 Data collection process

After receiving the relevant approvals and permissions, a content validity study for the survey was conducted, of which the details are described in Section 1.3.5. Concurrently, the therapist recruitment process began as outlined in Section 1.3.3. As therapists and schools gave their permission, the list of approved sites was updated with the University of Witwatersrand Human Research Ethics Committee throughout the data collection period (Appendix D), which was approximately one year in length.

The prerequisites to begin data collection included concluding the content validity study for the survey, loading the parent permission form and the survey onto the Research Electronic Data Capture (REDCap) online platform and gaining the necessary permissions. Therapists were recruited throughout the duration of the data collection period and, therefore, the survey was distributed in batches, with the responses anonymously returning to the researcher. Therapists received up to three reminders on WhatsApp Messenger, after the initial sharing of the link, to pass on to parents to achieve an optimal response rate.

The data collection period was approximately one year. Following submission and/or publication, the researcher will share the study results with the therapists who helped with the distribution of the survey, as well as the parents who requested additional information and feedback.

1.3.5 Research instrument

a) Steps in generating the survey:

Rahi, Alnaser & Ghani (2019) outline the steps of generating a survey or questionnaire. These steps, along with additional readings for content validity studies, guided the development of the research instrument for this research study. The steps included:

1) Setting clear objectives: The research instrument was designed in accordance with the objectives of the study. The research instrument was a survey that was compiled by the principal researcher.

2) Design in line with previous research: The researcher consulted the relevant literature when compiling the survey. Within this initial drafting, non-essential questions were eliminated from the survey and unclear questions were edited and clarified.

3) Compare survey design: This was done to compare formatting and to use the correct language and terminology.

4) Expert consultation and comments: Consulting with experts helps to ensure that the questions are clear and free of errors.

5) Content validity study: A content validity study of the survey was conducted prior to distribution. The purpose of the content validity study was to ensure that the survey measured what it was intended to measure (Taherdoost, 2016).

b) Content validity study:

The researcher recruited five sensory integration experts to assist in testing the content validity of the survey questions. The experts had a mix of clinical and academic experience within the field of ASI. The content validity consisted of a brief introductory section explaining the research objectives. Subsequently, each expert was required to rate each of the proposed questions according to the degree of relevance, clarity,

simplicity and ambiguity. The content validity document and results are included as an appendix (Appendix E). In addition to this, there was also a comment section at the bottom of the document with space for additional comments.

The content validity index (CVI) consists of two scores. The first is the CVI for the item (CVI-I), which looks at the relevance of the individual items, and other calculations indicate the relevance of the entire scale (CVI-S). Universal agreement (UA) was also calculated for each item and rating. Each item of the questionnaire scored highly for relevance, clarity, simplicity and lack of ambiguity. None of the survey questions scored lower than 80% the CVI-I, CVI-S and UA scores. Therefore, the content validity of the questionnaire was deemed acceptable (Polit & Beck, 2006; Taherdoost, 2016).

Subsequently, the survey was uploaded to the REDCap software. The researcher consulted with a representative of the REDCap support team of the Division of Biomedical Informatics of the University of Witwatersrand before distributing the survey link to potential participants. The only additional adjustment to the survey, made after it was uploaded, was making all items of the survey a 'required field' for the participants, to prevent further incomplete responses.

1.3.6 Data Set and Analysis

A total of 29 practice settings agreed to help with the distribution of the survey, and in all settings, there were 43 therapists with whom the instructions were shared (either on WhatsApp messenger or email). Of the 43 therapists, 11 of them did not respond to follow-up communication or were unable to share the survey with the parents due to logistical reasons or exclusion criteria. Four of the therapists confirmed that they had distributed the survey but were unable to give the exact number of how many parents they had shared it with. The remaining 28 therapists confirmed that they shared the survey with a total of 285 parents.

A total of 106 responses were received and, therefore, the maximum response rate was estimated at 37.19% which will be discussed in the study limitations and discussion sections. Three of the responses were not included in the analysis due to not meeting the inclusion criteria. A total of 103 survey responses were included in the data analysis. If a survey response omitted some of the survey questions, their included responses were still incorporated in the analysis.

When the data collection period was ended, the REDCap data set was exported to Microsoft Excel for data cleanup and descriptive statistical analysis was performed according to the table below. Additional comments on open-ended questions were compiled.

Table 1.1: Data Analysis Summary

	Data Type	**Data Source**	**Descriptive statistics**
Demographics (SI difficulty, comorbid diagnosis, therapy setting, individual/group)	Nominal	Survey	Frequency
Demographics (Age of the child, length of therapy)	Ratio	Survey	Frequency
Objective 1 – Current support in place	Ordinal*	Survey	Frequency
Objective 2 – Satisfaction with support	Ordinal*	Survey	Frequency
Objective 3 – Value placed on methods of support	Ordinal*	Survey	Frequency
Objective 4 – Value placed on content of education	Ordinal*	Survey	Frequency

*Ordinal data were collected with a 5-point Likert scale.

1.3.7 Validity and Reliability

Validity of research refers to the degree to which a scale is 'appropriate, useful and meaningful in measuring a construct' (Mellinger & Hanson, 2020, p.177). Validity was taken into consideration in the development of the survey, analysis of the data and the drawing of conclusions and recommendations for this research study.

Statistical validity: This survey used Likert-type scaling for answering questions. This is a valid measure of latent constructs, for example perceptions, attitudes and values (Mellinger & Hanson, 2020). With a relatively small sample size of approximately 100, the margin of error was calculated at 8%, and the confidence interval was 90%. These indicate the degree of uncertainty of the results. This could be considered a limitation to the statistical validity of this research as they are below the ideal percentages of 5% and 95%, respectively. These percentages are more difficult to achieve with smaller sample sizes and this was also taken into consideration when discussing the generalisability of the findings.

Construct validity refers to the extent to which the research instrument covers all aspects of the construct that is being researched (Mellinger & Hanson, 2020).

Construct validity in survey research is dependent on content validity (which ensures that the survey captures all of the relevant aspects of a construct) and face validity (which ensures that on the surface, survey items appear relevant). To ensure construct validity for this survey, the researcher conducted a comprehensive literature review related to parental support and education methods in the context of paediatric occupational therapy with specific reference to sensory integration difficulties in children. Furthermore, a content validity study of the survey was conducted with five experts in the field as outlined above, in which the elements of relevance, clarity, simplicity and ambiguity were rated.

Reliability of the research refers to the consistency of the results as well as the ability to reproduce the results, separating the variations due to measurement error and those attributed to the construct in question. There are some threats to the external reliability of this study, which are somewhat inherently attributed to the nature of online survey research. The inability to control the testing environment and answer participant questions are two threats to external reliability for online survey research. However, the survey being developed and administered in English, without translation, is favourable but only in instances in which the participant is proficient in English. The survey was aimed at participants from various cultural backgrounds, who may or may not have been familiar with the Likert-scale scoring (Mellinger & Hanson, 2020). The presence of non-response bias could also have had an impact on the reliability of the data set. The response rate was calculated to be a maximum of 37.19%. The researcher incorporated certain measures during the planning process to try and ensure a high response rate. This included testing the clarity and simplicity of the survey in the content validity study, the use of multiple-choice answers to make the survey user-friendly, and the follow-up procedures included in the research protocol. Unfortunately, due to the anonymity of the participants, further analysis into the demographics of those who chose not to answer could not be carried out (Krenzke, Van De Kerckhove & Westat, 2014).

The **generalisability** of the research refers to the application of the results to a broader context (Mullinix et al., 2015). The generalisability of the results of this study was limited to a small demographic. Initially, the researcher attempted to recruit participants from a variety of paediatric practice settings within the Gauteng province. Unfortunately, the public sector was significantly under-represented, partly due to most

ASI-trained therapists who were willing to help with survey distribution being based within the private sector. Logistical reasons such as communication and accessing of school permissions, also contributed to the under-representation of responses from the public sector. This will be highlighted in the limitations of the research.

1.3.8 Ethical considerations

The following forms were disturbed to the participants and the therapists involved in recruiting the participants for the study:

1. Therapist Information Form (Appendix B)
2. Participant Information and Consent (Appendix F)

Ethical clearance and consent were obtained in the following ways:

1. Participant consent – This was in the form of a tick box on the REDCap survey before proceeding to answer the other survey questions.
2. University of the Witwatersrand Human Resources Ethics Committee (Medical) (Appendix D)
3. The Department of Education in Gauteng Province permission (Appendix G)
4. Private Therapist Information Sheet and Permission Form (Appendix H)
5. Principal and School Governing Body (SGB) consent and information sheet (Appendix C). Permission was obtained from the specific schools before conducting data collection at those specific sites.

Measures that were taken to ensure ethical research processes included (Moss, 2021):

1. **Voluntary participation:** Participation in this study was voluntary and any participant was free to withdraw at any time without consequences.
2. **Confidentiality:** The confidentiality of all participants was protected, as the survey responses were numbered. No personal or identifying information was collected from participants of this survey and will, therefore, not be published.

Data storage: All data collected from the study have been stored on a password-protected computer and no paper surveys were collected. After the research is completed, the data will be deleted from the researcher's laptop and stored on a password-protected secure online database. The South African Journal of Occupational Therapy (SAJOT) prescribes that research data should be securely retained for 10 years, if published. If the article is not accepted for publication, the data

will be stored electronically for five years before being deleted in accordance with the Protection of Personal Information Act (POPIA).

3. **Precautions:** The completion of the survey had no risks. The survey results are only accessible to the researcher and, therefore, the parents were free to answer the questionnaire honestly.

1.4 Conclusion

This introductory chapter started by outlining the study's aims, objective and problem statement. After the comprehensive literature review, the methods for the study were discussed. The next chapter is the article which was drafted for submission to the South African Journal of Occupational Therapy (SAJOT) as part of the submissible report format. The article includes the study's results and discussion.

Chapter 2: Submissible Manuscript

The researcher has chosen the submissible research report format for examination. Therefore, Chapter 2 will follow the publication guidelines (Appendix I) for the selected journal, the South African Journal of Occupational Therapy (SAJOT). The publication guidelines stipulate the use of Vancouver referencing. Proof of submission of the article to the selected journal is attached in Appendix J.

Three of the four research objectives will be discussed in the research article. Objective 4, 'to identify the content of the therapy-parent education that parents of children attending occupational therapy for sensory integration difficulties value and want' was not included in the research article due to word count limitations. The results and discussion of Objective 4 will be added as an Appendix (Appendix K).

Table 2.1: Details of Author Contributions

	S. Pyne-James	M. Botha
Conceptualisation	X	X
Methodology	X	X
Formal analysis	X	X
Investigation	X	
Resources	X	
Data curation	X	
Writing manuscript- draft	X	
Writing manuscript- reviewing and editing	X	X
Supervision		X

South African Journal of Occupational Therapy – Title Page

Suggested Title: Occupational therapy support methods valued by parents of children with sensory integration difficulties

Category: Original research report

Corresponding Author: Stefanie Pyne-James
BSc OT (University of Cape Town)
Sensory Spot Private Practice, Co-owner and Occupational therapist
Affiliation: University of the Witwatersrand, MSc Candidate
Address: Somerset Gardens, Mulbarton Road, Beverley
Telephone Number: 072 651 0512
Email Address: 813167@students.wits.ac.za
ORCID Number: https://orcid.org/0009-0008-4381-9493
OTASA Number: 8467
HPCSA Number: OT 0099589
Ethics Clearance No: M220910 – Wits Human Research Ethics Committee (Medical)

Author: Marica Botha
B. OT(Stell); M.Sc. OT (Wits)
Lecturer, Department of Occupational Therapy, School of Therapeutic Sciences, Faculty of Health Sciences University of the Witwatersrand.
Telephone Number: 011 717 3713 or 082 335 6386
Email Address: marica.botha@wits.ac.za
ORCID: https://orcid.org/0000-0002-6607-186X
Author's contribution: Supervisor for MSc degree and editor on article

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Names and email address of suggested reviewers:

1. Pam Gretschel (UCT Paediatric Lecturer) - dhrs-general@uct.ac.za
2. Elize Janse van Rensburg (SAISI Board Member & Lecturer) - info@sensoryrootsot.co.za

TITLE

Occupational therapy support methods valued by parents of children with sensory integration difficulties

ABSTRACT

Introduction: There are various stressors associated with parenting a child with sensory integration difficulties and although family-centered practice is essential in paediatric occupational therapy, there is limited research focused on the needs of the parents. This study aimed to identify what therapist-parent support methods are valued by South African parents.

Methodology: A non-experimental cross-sectional descriptive study was conducted. A self-administered online survey was completed by 103 South African parents from Gauteng Province whose children attended occupational therapy for sensory integration difficulties.

Results: Most parents (62.14%) reported that they were 'very satisfied' with the support they receive from their child's occupational therapist. The most common therapist-parent support methods in place were electronic communication (72,82%), followed by therapy 'homework' (66,99%) and verbal feedback (65.05%) after therapy sessions. The least accessible included parent support groups (0.97%), parent education seminars (1.94%) and home visits (1.94%). Support methods that were rated the most helpful by participants included parent-therapist consultations or feedback meetings (69.90%), formal reports (62.75%) and electronic communication (60.78%).

Conclusion: This paper outlines the importance of using multi-component parent support methods in the context of family-centered care, as well as factors which can guide South African occupational therapists in their selection thereof.

KEYWORDS: family-centered practice; ayres sensory integration; parent-therapist support

INTRODUCTION AND LITERATURE REVIEW

Sensory integration difficulties

The integration of sensory information from sight, smell, taste, touch, vestibular and proprioceptive senses is considered an essential aspect of typical development. When these senses are adequately filtered, processed and integrated, a child can interact meaningfully with their environment.[1] Sensory integration difficulties can present in various ways, such as difficulties with sensory reactivity or sensory perception in one or more sensory systems or a specific pattern of sensory integrative dysfunction, such as somato-dyspraxia, visuo-dyspraxia and bilateral integration and sequencing dysfunction.[2] For this article, 'sensory integration

difficulties' is an inclusive term for all of the above. Children with sensory integration difficulties struggle to regulate their behavioural responses to sensory input or perceive the qualities of sensory input to the extent that it impacts their functional engagement with their environment. Manifestations of sensory integration difficulties include difficulties with social skills, learning, attention, behaviour and motor skills.[3]

Studies in the United States estimate that around 5% of typically developing children meet the criteria for having a sensory integration disorder.[3,4] The prevalence of sensory integration difficulties in children with disabilities is as high as 88% in other countries. Common comorbidities include attention-deficit/hyperactivity disorder (ADHD), developmental coordination disorder, childhood anxiety, preterm infants and other neurodevelopmental disorders.[5–8] The most prevalent is the incidence of sensory integration difficulties and autism spectrum disorder (ASD), which ranges from 80% to 96%.[9,10] The prevalence of ASD and sensory integration difficulties in South Africa is not well known, with significant delays in early detection[11]. However, Lecuona et al[12]. claim that toddlers from low social economic environments have been found to be more likely to have difficulties with sensory integration, specifically postural control, bilateral integration and reflex integration.

Occupational therapists working in the field of paediatrics are concerned with the assessment and intervention of sensory integration difficulties, with the aim of promoting meaningful engagement in childhood occupation.[13] The occupational performance and behavioural challenges associated with sensory integration difficulties can put increased stress on parents and caregivers. Therefore, family-centered practice is essential throughout the therapy process.[14] Families of children with ASD and sensory integration difficulties in South Africa face significant challenges in accessing specialised healthcare, funding and appropriate schooling.[11,15] The need to provide accessible, cost-effective and family-centered occupational therapy practice within this context is essential.

Ayres Sensory Integration®

Occupational therapists employ diverse approaches to address sensory integration difficulties. The most frequently requested, valued and used intervention for children with ASD and sensory integration difficulties is Ayres Sensory Integration® (ASI).[10] ASI outlines a specific assessment and treatment approach for the management of children with sensory integration difficulties and requires advanced training.[16,17] During the occupational therapist's evaluation, their role is to use standardised and non-standardised assessments to understand the underlying factors of the child's presenting difficulties, while working with the child's family to understand how these difficulties impact the child's participation and behaviour.[7,13] Training in ASI is advantageous in equipping therapists with these assessment and clinical reasoning skills.[18] The principles of ASI encourage intervention planning to be family-centered through

collaboration with key stakeholders in the child's life, including teachers and caregivers.[16] The ASI intervention approach is distinguished from other approaches by its ten essential principles for direct therapist-child intervention, known as the fidelity measure.[10,19]This treatment approach has been trademarked to help distinguish it from other interventions which draw on some of the same principles; however, do not adhere to all the core principles and the fidelity measure. This trademarking was done to protect the integrity of the research that examines its effectiveness.[16]

Although there are various online resources related to ASI intervention, it can be difficult for parents to know which information is evidence-based and appropriate for their child. A recent stride in ASI and parent support was a parent guidebook for occupational therapy using ASI, which was developed in 2022.[10] This guidebook was reviewed by experts in the field who agreed that it was consistent with ASI principles, easy to follow, and included useful caregiver strategies. Three parents also reviewed the guidebook as user-friendly. Although this is a helpful addition to promoting family-centered practice in the context of ASI therapy, the authors acknowledged the need for more research with larger sample sizes.[10] The access, use and availability of this guidebook among South African practitioners and families has not been documented.

Family-centered care and parent-focused interventions

Although ASI does highlight the importance of parental support and involvement, within its use, occupational therapists should still consider the implementation of multi-component interventions to support families based on their needs. Therapist-parent support includes a variety of interventions that are carried out by the occupational therapist to promote family-centered care. Family-centered care should be prioritised when working with children. It involves sharing information, shared decision making and family collaboration.[13] Dunstan & Griffiths (2008) argue that time spent supporting families is as important as the time spent in direct therapy with the child, while Delany & Galvin[21] consider family-centered practice an ethical necessity.

Current literature

Most of the research on children with sensory integration difficulties has focused on the child's needs and not the parents'.[13] In previous studies, parents have expressed mixed reviews, some reporting dissatisfaction with the information available about their child's sensory integration therapy.[14] Parents have also expressed the desire to develop a better understanding of their child's behaviour and the challenges they experience. In these cases, the occupational therapist has the responsibility to identify and use appropriate and effective methods to do so.[22,23]

In their systematic review of research related to parent education and coaching to support participation of children with sensory integration challenges, Miller-Kuhaneck & Watling[14] highlight the importance of parent-focused interventions that are specific to the child's presenting difficulties, after a thorough assessment. The assessment methods of the studies included in the above-mentioned review were not all comprehensive in the assessment of the children whose families were incorporated in the studies. This was also true for a scoping review with the same population.[13] Identification and understanding of sensory integration difficulties remains a difficult clinical issue due to differences in terminology. This highlights the importance of up-to-date training of ASI therapists and the administration of comprehensive clinical assessments. The need for parental support for children with sensory integration difficulties has been documented by various authors and is not only limited to children with a comorbid diagnosis.[10,16] Studies included in the reviews mentioned above were limited to parents of children with sensory integration difficulties and comorbid ASD. This does not consider the unique challenges of a larger parental cohort, namely those whose children have sensory integration difficulties with or without comorbid ASD. These reviews also did not have sufficient evidence to prescribe a manual or fidelity of the most effective multi-component parent support methods, with regard to duration, dosage and delivery method.[13]

The benefits of parent-focused interventions can include improved parental knowledge, improved therapy progress, reduction of parental stress, parental feelings of competence and self-efficiency, as well as improved parent-child interactions and understanding of their child.[13,14,23] Despite the many benefits, parent-focused interventions are described as underused in the context of sensory integration difficulties.[13] Within a South African practice setting, facilitators and barriers experienced by parents of children attending ASI therapy have been explored through a qualitative research study conducted by Smit de Jongh & Cook.[24] The identified barriers included limited information on their child's therapy, the use of jargon and limited collaboration in the implementation of home programmes. This highlights the need to understand parent-focused interventions within South Africa settings. Parent training and parental-implemented strategies can be both efficient and cost-effective when appropriately structured and, therefore, could be a suitable intervention considering the many socioeconomic challenges and access issues faced by this population.[14]

The objectives of this study were all aimed at parents of children who attend occupational therapy for sensory integration difficulties. The objectives were to identify: 1) which therapist-parent support methods are currently in place, 2) the current level of satisfaction with the therapist-parent support methods in place and 3) the methods of therapist-parent support that are valued by parents.

METHODS

Research design

The study was a quantitative, non-experimental cross-sectional descriptive study.[25] The data collection method was the use of a self-administered online survey developed by the researcher.

Research population

The study population consisted of parents of children between 12 months and 8 years of age, who attended a regular (at least once a month) occupational therapy intervention with an ASI-informed therapist due to sensory integration difficulties or a diagnosed sensory integrative dysfunction. The child could have received therapy in a private practice, a private school or a public-school setting for a minimum of three months. However, parents of children receiving occupational therapy from the Department of Health or outside of the Gauteng Province, were excluded from participation in the study. Parents of children with comorbid diagnoses such as ASD, ADHD, dyslexia or cerebral palsy were eligible to participate in the study if they met all other inclusion criteria.

The research sampling method was non-probability sampling, namely convenience sampling and snowball sampling.[26] To recruit participants for the study, the researcher enlisted ASI-trained therapists (SASIC2 and above) practicing in Gauteng within the specified study settings to distribute surveys to parents meeting the inclusion criteria. Once a therapist has completed their SASIC2 training they are added to the SAISI online database. The SASIC2 level requirement was included to ensure that the children of participating parents were comprehensively assessed and were receiving ASI-informed intervention. Not restricting the survey distribution only to therapists who had completed their fidelity measure training (SASIC4), was done to reach a wider group of participants.

Research tool

The research instrument was a survey compiled by the principal investigator. The survey used a Likert-type scaling for the answering of questions, which is a valid measure of latent constructs, for example, perceptions, attitudes and values.[27] The survey also included demographic information and four open-ended questions. The researcher drafted an initial survey based on a comprehensive literature review. During the initial drafting, non-essential questions were eliminated, and unclear questions were edited and clarified. After receiving ethical clearance (ethical clearance number: M22/09/10), a content validity study of the survey was conducted before distribution of the survey.[28] The researcher recruited five sensory integration experts to help test the content validity of the questions. Experts had a mix of clinical and academic experience within the field of ASI. They were asked to rate the questions on the degree of relevance, clarity, simplicity and ambiguity. The content validity index scores

were 80% or higher and, therefore, the content validity of the survey was deemed acceptable.[28,29] The survey questions were finalised and thereafter, administered in the Research Electronic Data Capture (REDCap) online software.

Data collection

Each therapist who agreed to distribute the online survey received a standard set of instructions that described the inclusion and exclusion criteria to guide them in selecting parents to send the survey link to. The survey link was then shared electronically for distribution to prospective participants. To ensure objectivity during the data collection process, the researcher did not distribute the survey to parents of their own clients, the survey results were anonymous and were returned directly to the researcher.

Data set and analysis

A total of 29 practice settings agreed to assist with the distribution of the survey. A total of 43 therapists received the standard set of instructions to distribute to parents who met the inclusion criteria. Of the 43 therapists, 11 did not respond to follow-up communication or were unable to share the survey with parents due to logistical reasons or exclusion criteria. Four of the therapists confirmed that they distributed the survey but were unable to give the exact number of parents they shared it with. The remaining 28 therapists confirmed that they shared the survey with 285 parents. A total of 106 responses were received and, therefore, the maximum response rate was estimated at 37.19%. Three survey responses were excluded from the study as they did not meet the stipulated inclusion criteria. Therefore, the final data set was 103 surveys. If a survey response omitted some questions, the completed responses were included in the analysis, with the percentages adjusted accordingly. Descriptive statistics and demographic information were compiled and converted into tables and graphs for analysis using Microsoft Excel.

RESULTS

Participant demographics

The demographics of the participants have been summarised into the table below (Table I). The ages of the children whose parents participated in the study varied. Of a total of 103 responses, the most common ages were five years (21.36%), nine to twelve years (19.42%) and four years (17.48%). The duration of different treatments ranged from three months to more than two years of therapy. Of the children with sensory integration difficulties, 62 of 103 (60.19%) did not have an additional co-morbid diagnosis. Other diagnoses represented in the sample included ADD or ADHD (24.27%), ASD (10.68%), anxiety or depression (9.71%) and learning disabilities (11.65%). Other diagnoses included congenital rubella syndrome, Torticolous, Kleefstra syndrome, dyspraxia, epilepsy, Down syndrome and Duchenne

muscular dystrophy. All children attended in-person therapy sessions with the majority (82.52%) attending individual sessions only, while 13.59% of the children attended both group and individual therapy. Various therapy settings and funding avenues were represented; however, the majority were seen in private practice settings (62.14%) and their therapy was mostly funded by parents themselves (72.82%) and medical aid funds (28.16%). For both practice setting and therapy funding, participants were able to select multiple applicable options.

Table I: Participant Demographics (N=103)

Child's Age (n = 103)		**Practice Setting (n = 103)**	
1 year old	1 (0.97%)	Private Practice	64 (62.1%)
2 years old	2 (1.94%)	Government School	6 (5.83%)
3 years old	7 (6.80%)	Private School	34 (33.01%)
4 years old	18 (17.48%)	Mainstream School	2 (1.94%)
5 years old	22 (21.36%)	Remedial School	9 (8.74%)
6 years old	10 (9.71%)	Special Needs School	4 (3.88%)
7 years old	12 (11.65%)	Hospital	0 (0.00%)
8 years old	11 (10.68%)	Other	1 (0.97%)
9–12 years old	20 (19.42%)	**More than one response per survey was possible.*	
Treatment Duration (n = 103)		**Individual or Group (n = 103)**	
3–5 months	28 (27.18%)	Individual Therapy	85 (82.52%)
6–11 months	28 (27.18%)	Group Therapy	1 (0.97%)
1–2 years	26 (25.24%)	Both Individual and Group	14 (13.59%)
2+ years	21 (20.39%)	**All in-person therapy*	
Diagnosis (n = 103)		**Therapy Funding (n = 103)**	
No additional diagnosis	62 (60.19%)	Parent Funds Therapy	75 (72.81%)
Comorbid diagnoses (n=66)	41 (39.80%)	Medical Aid	29 (28.16%)
Autism Spectrum Disorder	11 (10.68%)	Included in School Fees	5 (4.85%)
ADD or ADHD	25 (24.27%)	Free at School/Institution	7 (6.80%)
Anxiety or Depression	10 (9.70%)	Third-Party Funding	2 (1.94%)
Neuromotor Difficulties	0 (0.00%)	Government Funding	0 (0.00%)
Learning Disability	12 (11.65%)	Other	0 (0.00%)
Other	8 (7,77%)	**More than one response per survey was possible.*	

Therapist-Parent Support Methods Currently in Place

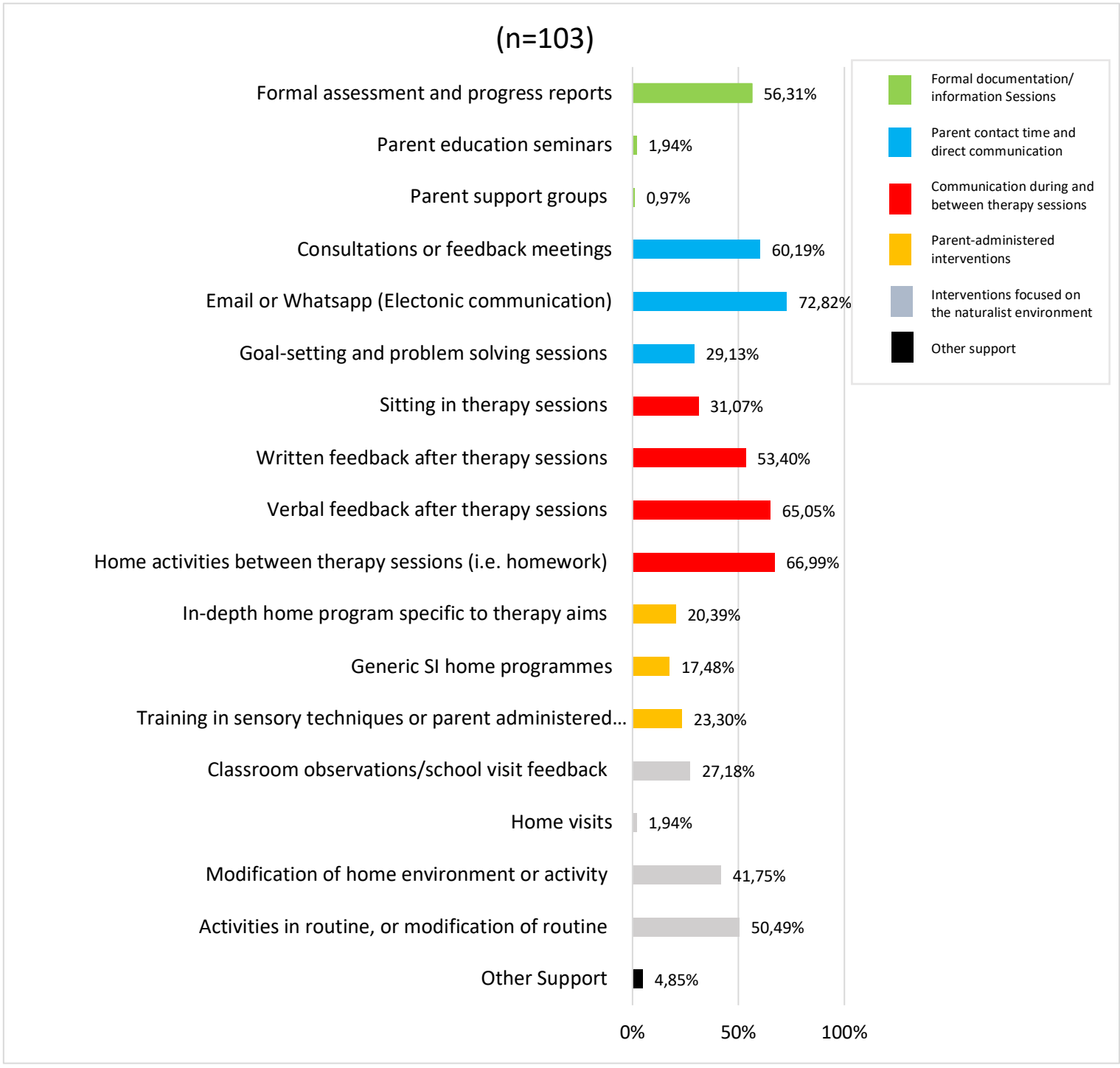


Figure 1: Therapist-parent support methods in place

Participants were asked to select which parent support methods were available to them, with or without an additional charge. The highest frequency of therapist-parent support currently in place included electronic communication (72,82%), followed by suggestions for homework activities after sessions (66,99%) and verbal feedback after therapy sessions (65.05%). The lowest frequency of therapist-parent support methods in place included parent support groups (0.97%), parent education seminars (1.94%) and home visits (1.94%). “Other” support

methods identified by the participants included: therapist-teacher communication, online videos (3,88%) and the use of a mobile application (which would qualify as electronic communication).

Parental satisfaction with therapist-parent support

Most parents reported being 'very satisfied' with the support they receive from their child's occupational therapist (62.14%). There were also 27.18% of parents who reported being 'satisfied', 4.85% were 'neutral' and 5.83% were 'very unsatisfied' with the support they receive from their child's occupational therapist. The open-ended questions answered in the survey, related to the therapist-parent support, were mostly very positive. For example:

- *'…our support is incredibly comprehensive'*
- *'...my OT is on the ball and on top of everything'*
- *'…so far, she is going the extra mile for my son'*
- *'...our therapist is an angel sent from heaven who goes above and beyond'*
- *'I receive more than expected support and information from my child's therapist'*

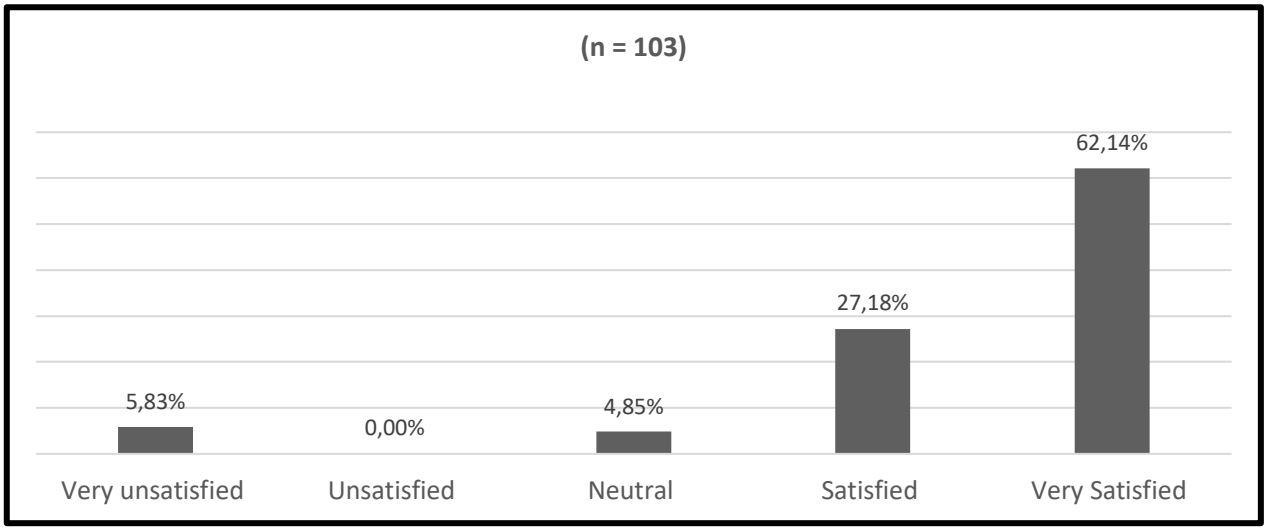


Figure 2: Parental Satisfaction with Therapist-Parent Support

Parental value placed on therapist-parent support methods

Each participant was asked to rate the helpfulness or perceived helpfulness of each of the therapist-parent support methods on a five-point Likert scale. The support methods that received the highest percentage of 'very helpful' ratings included parent-therapist consultations or feedback meetings (69.90%), formal assessment and progress reports (62.75%) and electronic communication with the child's therapist (60.78%). Additionally, routine activities or routine modifications were positively rated by participants, with 94% of them rating this support as either 'very helpful' (56%) or 'helpful' (38%). Routine activities or routine modifications were preferred over environmental or activity modifications, and feedback related to school or classroom visits within the category of 'interventions focused on

the naturalistic environment'. Supports related to parent contact time and direct communication had positive results, overall.

Support methods with the highest 'neutral' rating included home visits (60.81%), parent support groups (40%) and generic home programmes (35.35%). Participants preferred home programmes and training sensory techniques that were specific to their child's needs. Support methods that received the highest 'very unhelpful' ratings included home visits (11.11%), parent support groups (10%) and parent education seminars (7.0%). 'Sitting in their child's therapy sessions' received mixed feedback. This support method was rated as 'very unhelpful' by 5% of the participants, 'unhelpful' by 8% of the participants and 28% of the participants gave a 'neutral' response. Compared to other supports within the 'communication during and between therapy sessions', written feedback, verbal feedback or homework suggestions were preferred.

Participants were given the opportunity to share additional helpful support methods that they had received from their therapists, as well as additional support that they would find helpful with an open-ended survey question. Some additional support valuable to parents included receiving electronic communication with pictures or videos, the use of mobile therapy applications, book recommendations, referrals to other health professionals, multi-disciplinary communication, helping with homework, product suggestions and informal discussions. Some parents expressed the need for monthly or termly status updates and home programmes, more frequent progress reports, parent-focused sessions, parenting advice and tips and more frequent homework activities.

Table II: Parental value placed in therapist-parent support methods (N=103).

	Therapist-Parent Support Method	Very Unhelpful	Unhelpful	Neutral	Helpful	Very Helpful
Formal Documentation/ Information Sessions	Formal assessment and progress reports (n = 100).	0,00%	0,00%	9,80%	27,45%	62,75%
	Parent education seminars on SID in-person/online (n = 100).	7,00%	3,00%	32,00%	34,00%	24,00%
	Parent support groups with other parents of children attending OT (n = 100).	10,00%	5,00%	40,00%	27,00%	18,00%
Parent contact time and direct communication	Parent-therapist consultations/feedback meetings (n = 103).	0,00%	0,00%	4,85%	25,24%	69,90%
	Email/WhatsApp (other electronic) communication with therapist (n = 100).	1,96%	0,00%	5,88%	31,37%	60,78%
	Goal-setting and problem-solving sessions/conversations with therapist (n = 99).	1,01%	1,01%	11,11%	42,42%	44,44%
Communication during and between therapy sessions	Sit in child therapy sessions and observe/ask therapist questions (n = 102).	5,00%	8,00%	28,00%	29,00%	30,00%
	Written feedback from the therapist after therapy sessions (n = 100).	0,97%	0,00%	16,50%	33,98%	48,54%
	Verbal feedback from the therapist after therapy sessions (n = 102).	0,00%	0,00%	11,00%	33,00%	56,00%
	Suggestions/ideas about home activities to do between therapy sessions (i.e., homework) (n = 100).	0,00%	1,96%	6,86%	35,29%	55,88%
Guidance on parent-administered interventions	In-depth home programmes specific to the child's therapy aims (n = 99).	2,00%	0,00%	28,00%	31,00%	39,00%
	Generic home programmes to support the child's sensory integration (n = 100).	3,03%	4,04%	35,35%	32,32%	25,25%
	Training in specific sensory techniques/activities for parents to administer (n = 102).	1,00%	2,00%	24,00%	28,00%	45,00%
Interventions focused on naturalistic environment	Classroom observations/school visits with feedback to the parent on how the child copes in the learning environment (n = 100).	2,00%	2,00%	22,00%	31,00%	43,00%
	Home Visits (n = 100).	11,11%	8,08%	60,61%	12,12%	8,08%
	Suggestions to modify home environment/activity, to support sensory needs (n = 99).	3,00%	0,00%	18,00%	31,00%	48,00%
	Suggestions of activities to incorporated into routine/modification of routine to support sensory needs (n=99).	0,00%	1,00%	5,00%	38,00%	56,00%

DISCUSSION

Parental satisfaction with therapist-parent support

In general, in this study, most participants were satisfied with the support received from their child's occupational therapist. This mirrors the findings of another South African qualitative study that explored the facilitators and barriers experienced by parents with regards to sensory integration occupational therapy. However, the small sample size and qualitative nature of that study limited the generalisability of the findings.[24] To gain an understanding of the broader perspective, the current study sought the perspectives of a larger group and yielded similar results. However, despite attempts to gain perspectives from a variety of practice settings, the demographics of the participants were not necessarily representative of all practice settings within a South African context, with the majority attending therapy within the private health sector.

D'Arrigo et al.,[30] found that parents who took their child to a private practice for a concern they had identified, were more motivated to be involved in their child's therapy journey and appeared more committed to the therapy process, compared to those who were funded by non-government organisations (NGOs). However, this was not specific to children with sensory integration difficulties. Therefore, practice setting could be an important contributor. A study in India found that when a child worked with a school-based therapist, their parents expressed dissatisfaction with the support they received because of barriers to open communication within this practice setting.[31] School-based therapists can be limited in their implementation of family-centered interventions if they do not align with school policies and prescribed caseload or roles and responsibilities of the therapist.[32] For this study, the therapists who were willing to distribute the survey to parents of children on their caseloads may have had easier access to communication with parents compared to those who were unable or unwilling to distribute the survey, hence the under representation of the government school demographic within the study.

There are other factors which may influence parental satisfaction with parent-therapist support. Parental satisfaction may not only be associated with providing support and parental upskilling.[30] Other factors to consider include the skill level of the therapist, therapy progress and the help-giving style of the therapist[33]. Parents showed increased satisfaction with services when they perceived their child's therapist to be good communicators who are trustworthy, flexible, approachable and empathetic.[31,34] Factors found to negatively impact parental satisfaction with the therapist-parent relationship have included strained power dynamics, limited information sharing and a lack of collaboration. Pragmatic issues, such as high staff turnover, inconsistency of therapy and limited therapist availability can also negatively impact the parent-therapist relationship.[31] The support needed by families may also

change over time. Research has indicated that there is often a need for more support during the initial stages of intervention with this decreasing over time.[20,35] Parental satisfaction, compared to the duration of therapy and practice setting, was not included in this study's analysis.

While a strong therapist-parent relationship can be a means to empower parents in their occupation of parenting, the above highlights the complexity of factors which may impact parental satisfaction.[33] Therapists should also be mindful that parents may differ in their willingness to engage with the therapist or in the therapy process.[36] Further research to unpack these influences within diverse practice settings could be beneficial.

The support methods used in paediatric occupational therapy were grouped into five broad categories to facilitate discussion.

Formal documentation and information sessions

Formal report writing is a means of communicating assessment findings to relevant stakeholders and is a vital component of recordkeeping and accountability.[37] In general, formal assessment and progress reports were rated the second most helpful strategy by participants in the current study. There are various factors that can influence the perceived helpfulness of written reports to parents. The language used in the reports should be clear and understandable, and the use of terminology should be accompanied by explanations or functional examples. Parents have perceived jargon and impairment-focused language as unhelpful in therapy reports.[38] Parents appreciated when the report content included the reason for referral, explanations of terminology and assessments used, functional interpretations of scores and observational information. Recommendations were also an important section of the report for parents, where the inclusion of additional recommended support and practical strategies specific to child needs and family routine were perceived to be valuable.[37,38] When written well, reports can be an effective platform for sharing information and family engagement.[37] Although report writing may be a laborious task for therapists, it can be a helpful means of communication and collaboration. Within family-centered care, the parent is the primary audience of the report and, therefore, their feedback is essential in improving report-writing practices.[38]

Although parents value formal reports or progress reports, within this study, only 56.31% of parents had this support method in place. Both occupational therapists and speech therapists have questioned the usefulness of reports, finding report writing to be a non-preferred component of their job.[37] Therapists may find it challenging to balance the need to write reports that are understandable to parents while maintaining professional writing standards that they perceive to be necessary when sharing reports with other healthcare professionals. This may

be particularly challenging in resource-constrained practice settings with lower levels of parental health literacy.[39] Parental health literacy is an important factor to consider within a South African context, as if a report is not understandable to a parent, they may feel inadequate or disincentivised to read or share the report.[38] A South African study based on some Learners with Special Education Needs (LSEN) schools in the Western Cape found poor standards of occupational therapy record-keeping. Barriers to record-keeping included its time-consuming nature, high caseloads and limited storage space.[32]

In comparison, the other two support methods that fall into this category were rarely accessible to parents in the study, namely education seminars (1.94%) and parent support groups (0.97%). The benefits of web-based parent education programmes have included a reduction in travel time, costs and the need for child-care arrangements.[10,40] Information sessions which help parents to reframe and understand their child have been beneficial in helping to shift parental expectations, validating parental feelings and increased feelings of empowerment to support and advocate for their child's needs.[14] Allen et al.[13] identified positive results from parental education programmes, even within a short period. However, within the current study, information sessions were rated poorly by participants in terms of their perceived helpfulness.

Informal and formal forms of social support have been associated with improved parental and child well-being.[24] Support groups can be helpful in resource-restricted or school-based practice settings, where parents don't always have frequent opportunities to interact with other parents or their child's therapist.[24] However, studies cautioned against assuming that all parents and therapy settings would find support groups valuable.[23] Despite these potential benefits, the participants in this study did not highly value the support groups.

It is possible that parents are not exposed to the benefits of education seminars and support groups. Alternatively, these strategies are just not as valuable to South African parents of children with sensory integration difficulties as they are in other communities or countries. As these methods can be cost and time effective, more research on their efficacy within a South African context would be beneficial.

Parent contact time and direction communication

Regular parent meetings from the outset of therapy are a possible avenue that may increase parental understanding and engagement. The use of verbal consultations to supplement written reports is frequently mentioned in literature. These meetings are an opportunity to increase the parents' understanding of their child's assessment findings, as well as improve the readability of reports.[37,38] Having access to direct communication between parents and the therapist has been associated with positive impacts on parental satisfaction.[33,34] Communication can take various forms, and within this study, electronic communication was

the most frequently available support method and was of most value to the participants. However, parent-therapist consultations or feedback meetings received more “very helpful” ratings, suggesting that electronic communication should not substitute in-person meetings. The content of these meetings was not explicitly stated.

Setting goals and problem solving in collaboration with the parent can help parents feel empowered within their child’s therapy journey.[13] Less than a third of the participants in the current study had goal-setting and problem-solving sessions made available to them, therefore, indicating that this may be a relatively under-used strategy for this demographic of therapists. This strategy can also be referred to as ‘parent coaching’, which draws on the principles of adult learning, collaborative goal setting and strength-based approaches.[14,41] Within a coaching framework, the therapist uses observation, reflection and feedback to improve parents understanding. These elements also present opportunities for the parent and therapist to problem solve together, resulting in the implementation of appropriate strategies, rather than the therapist merely prescribing them.[14,42]

In the context of sensory integration difficulties, parent coaching has been associated with reduced parental stress, improved confidence and sense of control as well as progress in therapy aims.[13,14] Within the current study, this support was not rated as helpful by participants, compared to feedback meetings and electronic communication. However, there is potential for the problem-solving and goal-setting approach to be incorporated into such interactions. As parental coaching aligns well with family-centered principles and has evidence of positive outcomes in the context of sensory integration therapy, it could be beneficial for South African occupational therapists to include this approach in their interaction with parents. Miller-Kuhaneck and Watling[14] identified the need for further research on the specific characteristics that make coaching approaches effective, as well as longitudinal research comparing parental coaching with traditional professional-led parent training.

Communication during and between therapy sessions

Providing the opportunity for parents to sit in their child’s therapy sessions is a way of involving parents during the therapy process and can be used with a variety of treatment approaches, including ASI therapy. This provides an opportunity for parents to check in on therapy goals, raise any concerns, collaborate and problem solve, be directly involved in therapeutic activities or improve their understanding of the difficulties of their child, as well as the treatment approach of the therapist. It is also an avenue for the therapist to make additional suggestions to the parent, of strategies to carry over to the home environment without having to take additional time after the session to communicate.[24,43] Working with the parent during the session is an opportunity to grow the parent-therapist connection through shared moments of interaction. This support method is most advantageous when the therapist is skilled at being

flexible, responsive and considerate during treatment sessions and when they can draw on coaching and problem-solving principles when interacting with the parent during sessions.[43,44]

Despite these benefits, this form of support was available to less than a third of the study participants and received the lowest perceived helpfulness score within this category. When parents receive limited explanations about their child's difficulties and the treatment approach, they may feel that sitting in therapy sessions is not particularly helpful. Parents who are overwhelmed or grieving over their child's difficulties may find it difficult to participate in sessions.[30] Logistics may also contribute to less frequent use of this support method in a South African context, for example, limited treatment space, therapy taking place during the school day or another caregiver bringing the child for therapy. In these settings, less contact time with parents makes it difficult to gauge their level of engagement in the therapy process.[30] Therefore, this support method may not be appropriate or accessible for all families or therapy settings, highlighting the importance of context-specific multi-component support.

Compared to sitting in on sessions, parents' access to written feedback and verbal feedback after therapy sessions was more common amongst the participants. The perceived helpfulness of these strategies was also more positive. Along with feedback after sessions, therapists can also provide suggestions of appropriate activities to parents, aimed at improving their child's performance between sessions.[14] This 'therapy homework' had a high frequency of use amongst treating therapists in this study, as it was the second most frequent support method after electronic communication. The 'electronic communication' item in the survey was not specific, in terms of content, but one can assume that feedback and homework suggestions are frequently communicated through this platform. Further research on the content of electronic communication, preferred platforms, frequency of feedback and actual implementation of 'therapy homework' could provide valuable insight into how to structure this communication to make it more beneficial for the child's family and therapy progress.

Parent-administered interventions

Included in this study was the support method in which the therapist trains the parent in a sensory technique or suggests a sensory-based activity to be administered by the parent. In the literature, these are referred to as sensory-based interventions (SBI) or parent-performed somatosensory strategies.[14,20] Occupational therapists with or without advanced training in ASI can recommend the use of SBI to parents. These are interventions that can draw on principles of the ASI framework without adhering to all the fidelity principles.[8,45] Sensory based interventions include a variety of strategies that aim to help children carry out their daily occupations by trying to improve their self-regulation, attention and behavioural organisation.[20]

These strategies can be informed by specific protocols, such as the Wilbarger therapeutic brushing protocol, or they could be incorporated into the child's daily routine, for example, using a weighted jacket, adaptive seating strategies, movement breaks, heavy work, massage, oral regulation tools, joint compressions and many more.[4,45] Despite limited research on the effectiveness of single sensory SBI, 23.30% of participants in this study had this kind of support available.[45] Dunstan and Griffiths[20] suggested that the success of the SBI is dependent on the parents' willingness and ability to implement the suggested strategies, and that is why it is so important to consider their views and preferences before utilising this support method. Barriers to implementing SBI could include the cost of suggested therapeutic equipment, parents' uncertainty about when and how to implement the strategy effectively, as well as the child not wanting to participate in the strategy.[45] Children's participation in multi-sensory experiences (involving more than one sensory system), was suggested to be more beneficial in supporting the behaviour of children with ASD than single sensory SBI.[45] Therefore, SBIs should be implemented with careful consideration, but overall, were still perceived to be helpful by the participants of this study. This mirrored Peña et al,'s.[45] Canadian study that found, in general, most participants of children with ASD generally valued and accepted SBIs as an intervention method. Within this study, parents valued ongoing support from their child's therapist in the implementation of the intervention and reported that they were more likely to apply the suggested interventions when they had received training, and the equipment used was affordable or readily available in their household.[45]

Sensory based interventions are often combined with or presented as a 'sensory diet'. This is a planned programme of activities that the child performs throughout the day to regulate their behaviour and attention by meeting their unique sensory needs.[20] The sensory diet is most often implemented with the help of a parent, caregiver or teacher. In a school context, implementation of sensory diets was found to help improve child activity levels, engagement and socialisation.[17] Sensory based interventions could also be presented to parents in the form of a home programme. A South African study which explored parents' perceptions and experiences of occupational therapy using a sensory integrative approach, suggested that the best way to develop an effective home programme is when it is developed through a collaborative process with the parents and is specific to the needs of the child.[35] It is unsurprising, then, that in this study participants rated home programmes that were specific to their child's needs as more helpful compared to those that were generic. Mothers of children with cerebral palsy also preferred to incorporate therapy activities into their routine rather than following a prescribed home programme.[36]

Smit, de Jongh & Cook's[24] South African study had mixed reviews from parents about home programmes in the context of sensory integration therapy. As with mothers of children with

cerebral palsy, value was placed on practical suggestions that were specific to difficult situations with their child and could be incorporated into their daily routine. Some home programmes were perceived to be time-consuming and exhausting and, therefore, contributed to parents feeling guilty or worn out. These factors should be taken into account by the therapist when considering a home programme as a possible support method. It is important to consider the child's interests and parental preferences in the development of home programmes. In addition, home programmes should include a variety of suggestions, not only limited to SBIs but also environmental, routine or activity adaptations.[24,35,46] The home programme should not be just a once-off; outcomes should be evaluated and monitored, allowing flexibility and adjustments. When implemented thoughtfully, home programmes have the potential to be a cost-effective strategy to supplement in-person therapy sessions in resource-constrained environments.[46] Home programmes developed in collaboration with the parent have been more effective in improving function, increasing parental satisfaction and achieving therapy goals.[46]

Interventions focused on the naturalistic environment

Parent education, support and training may take place within the clinic environment but can also be extended to natural environments such as the child's home and school.[40] To facilitate improved participation and regulation of the child, occupational therapists can suggest activity or environmental modifications that take place within the natural environment.[9,19] This includes advising caregivers on how to adjust tasks' demands to support their child's regulation and participation in daily life.[19,47] Examples of environmental modification include changes in the intensity, complexity or quality of sensory elements in the child's environment.[4] This category of interventions links with that of parent-administered interventions but speaks more specifically to the environment or occupational engagement. Environment and context are essential considerations within occupational therapy practice. This is highlighted both within family-centered practice and ASI treatment literature. The treating occupational therapist should consult with key stakeholders, including the child's parents, caregivers and teachers to suggest contextual activity and routine adaptations that support the child's participation in occupation.[4,14] At the start, it is also important to gauge the willingness and capacity of parents to implement the suggested strategies and adjustments, with the opportunity to provide honest feedback on the usefulness and efficacy throughout.[30]

According to two other South African qualitative studies, parents of children with sensory integration difficulties valued practical strategies that were to be incorporated into the naturalistic environments and routines of the child.[24,35] However, research with larger sample sizes was needed. In the current study, 41.75% of the participants had support that pertained to suggestions from their therapist on how to modify the child's home environment or an

activity itself to meet the sensory needs of their child. Around half of the participants had access to support related to routine modification or activities that can be incorporated into the child's daily routine. This support method related to routines was rated either 'helpful' or 'very helpful' by 94% of the participants, compared to 79% for environmental or activity modification. Therefore, general routine modification was perceived to be the most helpful strategy in this category and could potentially be utilised more frequently by South African therapists working with children with sensory integration difficulties. The parent guidebook for occupational therapy using ASI, mentioned in the literature review, also included the use of routine analysis and modification as a valuable way of supporting parents.[10]

Various authors have advocated for the use of interventions for children with disabilities in their home and communities.[48,49] Home visits can be helpful for monitoring and evaluating the implementation and effectiveness of home programmes, and environmental and activity adaptations.[46] They may also provide an opportunity for coaching, collaborative problem solving and training parents in SBIs within the context they will be implemented.[44] In the current study, there was a very low percentage of participants who had access to home visits. However, therapists were still often making suggestions related to home environment modification and routine changes without observing the child within this environment. The low frequency of home visits could be associated with the resource and time-intensive nature of this support method and brings into question the viability of this support method for a South African practice setting. Telehealth services and electronic communication could be a viable option to assess the child's home environment and provide suggestions when home visits are not logistically possible.[50] As with education seminars and support groups, home visits were not accessible to most of the participants of this study, and this corresponded with lower levels of perceived helpfulness.

Parents have reported increased satisfaction with occupational therapy services when the therapist was able to offer a school visit with feedback to parents thereafter.[33] School visits or classroom observations with parents' feedback was more frequent than home visits with 27.18% of parents having this support available. Most parents rated this to be a 'helpful' or 'very helpful' support method (74% combined). One would assume, that this may be easier for therapists based in school settings to implement, having easier access to the classroom. However, within this setting, therapist and parents have expressed barriers to open communication and parental involvement.[30,31]

South Africa as a unique research setting

When selecting appropriate parental support methods, South African occupational therapists working with children with sensory integration difficulties should also consider factors related to the unique practice context. Factors such as high stress, high crime rates, working parents,

financial constraints, sedentary play and high learner-to-teacher ratios within classrooms can all impact occupational performance and parental involvement.[24] Within government practice settings, access to multidisciplinary and occupational therapy intervention is limited. Within rural areas, children lack access to developmentally appropriate resources to support sensory integration within their homes and schools.[5] As in the current study, previous research on sensory integration therapy in a South African setting has not represented its multiracial and multicultural population in different practice settings or income brackets.[24,35]

In addition, sensory integration is a specialised field of occupational therapy and most advanced ASI-trained South African therapists work within the private sector limiting access to one-on-one intervention for many children.[51] Therapists often face high caseloads along with time and financial constraints, which can hinder their ability to provide family-centered interventions.[5] This highlights the need for interventions that consider the values of parents. Although the quantitative nature of this study provided information on the parental preferences of a larger parental cohort than previous South African studies, it provides limited explanations as to why they preferred some support methods over others.

Implications for practice:

- Occupational therapists working with children with sensory integration difficulties should use multi-component support methods to support parents throughout the therapy process. Consideration should be given to context and parental preferences when selecting and implementing them.
- This study provides a comprehensive list of parental support methods that therapists can use when treating children with sensory integration difficulties, as well as different factors to consider in their selection based on research.

CONCLUSION

Overall, most of the study participants were satisfied with the support they received from their child's occupational therapist. However, when considering this result, the reader should be cognisant of the demographic of the participants. Therapists who were able and willing to distribute the survey to prospective participants had access to direct communication with the parent, and by taking the time to complete the survey, one can assume a certain level of parental engagement in the therapy process. Support methods that were most frequently in place included electronic communication, suggestions for homework activities after sessions and verbal feedback after therapy sessions. Support methods that were rated the most helpful for parents included parent-therapist consultations or feedback meetings, formal assessment and progress reports and electronic communication with the child's therapist. Support methods that were rarely available to parents, had lower levels of perceived helpfulness. For

example, both education seminars and support groups were not often available to parents in the current study, and both support methods were not highly valued by participants in their perceived helpfulness. This could indicate that parents are not exposed to the benefits of parent-focused interventions to which they do not have access. Alternatively, it may indicate that these strategies are not as valuable to South African parents of children with sensory integration difficulties.

However, irrespective of the limitations of the study, the study outlines various parental support methods and factors that can guide South African occupational therapists in their selection of these methods. The provision of family-centered care should be emphasised when training therapists working with children with sensory integration difficulties.

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Conflicts of interest:

The author confirms that there were no conflicts of interest related to this study.

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Chapter 3: Synthesis

3.1 Summary

Occupational performance difficulties and behavioural concerns can place increased demands on parents and caregivers of children with sensory integration difficulties. However, most research regarding sensory integration difficulties has focused on the needs of the child and not the parent (Allen et al., 2021). Practice guidelines stipulate that it is the responsibility of the treating occupational therapist to identify and use appropriate and multi-component family-centered interventions to support parental participation throughout the therapy process (American Occupational Therapy Association, 2014). Parent training and parent-implemented strategies can be an efficient and cost-effective approach when working with children with sensory integration difficulties. Other potential benefits of parent-focused interventions include improved parental knowledge, reduction in parental stress, improved parent-child interaction, improved therapy outcomes and parental feelings of validation and self-efficacy (Miller-Kuhaneck & Watling, 2018; Allen et al., 2021; Cohn, 2000).

There are many ways to support parents and caregivers throughout the therapy process. The selection of appropriate parental support methods and educational content must be evidence-based, specific to the child's difficulties and take into consideration the family preferences (Miller-Kuhaneck & Watling, 2018). When working with various diagnostic groups in paediatric occupational therapy, it can be challenging to implement collaborative partnerships between parents and professionals, especially when parental expectations and preferences are unknown (Blue-Banning et al.,2004). This information contextualised the selection of the study's purpose, aims and objectives.

The purpose of the study was to help South African therapists, in the hope that by understanding the current levels of parental satisfaction and the value parents place on different support methods and educational content, it would serve as a helpful evidence-based guide for therapists within their daily practice. Before this study, there was limited research focussing on the types of support valued by parents of children with sensory integration difficulties, the preferred format of service delivery, and the content of therapist-parent education, particularly within the South African context. Therefore, the aim of this study was to identify what parents of children who attend

occupational therapy for sensory integration difficulties value when it comes to therapist-parent support methods and educational content. The objectives addressing this aim were to identify which supports were already in place, the level of parental satisfaction with this support and the methods of therapist-parent support and educational content that is valuable to parents.

A total of 103 parents of children who attend occupational therapy for sensory integration difficulties within the province of Gauteng completed a self-administered online survey developed by the researcher. Various factors were considered to ensure trustworthy research that would make a unique contribution to this field. Experts assisted in subjecting the survey to a content validity process prior to distribution. Most studies on parent-focused interventions for children with sensory integration difficulties had been limited to parents of children with comorbid autism spectrum disorder (ASD), and this study included parents of children with or without other comorbid diagnoses. The researcher attempted to include various practice settings in Gauteng province to represent a range of practice settings within a South African context. Therapists involved in the distribution of the survey were required to have advanced training in Ayres Sensory Integration® (ASI) to ensure the appropriate identification of study participants.

The results of the study indicated that most of the participants were satisfied with the support they received from their child's occupational therapist. The support methods included in the survey were grouped together to facilitate discussion of the results. The groups included: 1) formal documentation/ information sessions, 2) parent contact time and direction communication, 3) communication during and between therapy sessions, 4) guidance on parent-administered interventions and 5) interventions focused on naturalistic environments. Interesting insights were uncovered regarding actual or perceived helpfulness, and the availability of different methods to support study participants. These results were discussed in conjunction with relevant existing literature. The support methods that were rated the most helpful by the participants included parent-therapist consultations or feedback meetings, formal reports, and electronic communication. The most common therapist-parent support in place was electronic communication, followed by therapy 'homework' and verbal feedback after therapy sessions. The least accessible included parent support groups, parent education seminars, and home visits. A pattern was identified, as the support methods

that were not as accessible to parents were perceived to be less helpful compared to those that were already available. The perceived helpfulness of different education topics showed less variability than that of parent-therapist support methods, and therefore these results were not included in the article submitted for publication.

Overall, the results of the study emphasised the importance of occupational therapists using multi-component parent-therapist support methods with the families they work with, while considering parental preferences and South Africa as a unique practice setting. This study served as a starting point for uncovering parental preferences, which can contribute to the development of more specific guidelines (Hanna & Rodger, 2002). Further research is needed regarding the most effective parent support and education, specifically regarding the duration, dosage and delivery method (Allen et al., 2021).

3.2 Strengths and Limitations of the study

1. Most previous studies on parent-focused interventions for this population, included children with sensory integration difficulties and comorbid ASD. A strength of this study was that it included parents of children with sensory integration difficulties, with or without other comorbidities, which makes the results relevant to a wider demographic.
2. Previous studies in this area, have been limited by insufficient assessment of study participants, which can lead to unreliable results (Miller-Kuhaneck & Watling, 2018). The children of the participants in this study were being treated by occupational therapists who received advanced training in ASI assessment. This was to ensure the appropriate selection of study participants.
3. Although the quantitative nature of this study provided information on parental preferences of a larger parental cohort than previous South African studies, it provides limited explanations as to why parents preferred some support methods and educational topics over others.
4. Despite attempts to gain perspectives from a diverse group of parents and practice settings, the public sector was significantly under-represented within this study. This was partly due to the fact that most ASI-trained therapists willing to help with the distribution of the survey, were based within the private sector. In addition to this, ASI is a specialised field of occupational therapy, and most

ASI-trained therapists work in the private sector. The study also included only participants from Gauteng Province.

5. With a relatively small sample size of approximately 100 participants, the margin of error was calculated at 8%, and the confidence interval was 90%. This could be considered a limitation to the statistical validity of this research, as they are below the ideal percentages of 5% and 95%, respectively.
6. Non-responses from therapists about how many potential participants they shared the survey with made it difficult to determine the final response rate.
7. The data collection process was prolonged due to a delayed response rate and difficulties in recruiting therapists and participants.
8. Although the statistical analysis of the data set provided many descriptive statistics, it did not explore the correlations between the survey answers and the demographic information of the participants.
9. Some limitations inherent in survey research can be considered, such as the inability to control the testing environment and not being able to engage directly with participants to answer questions. The presence of non-response bias can impact reliability of the data set. Due to the anonymity of the participants, further analysis into the demographics of those who chose not to answer could not be carried out (Krenzke, Van De Kerckhove & Westat, 2014).

3.3 Recommendations

3.3.1 Further research in diverse settings

This study identified how to support South African parents of children with sensory integration difficulties in the Gauteng Province of South Africa. However, amongst the participants and practice settings, the majority represented the private sector. Research is recommended on broader and more diverse practice settings in South Africa. This can allow for comparison and a greater understanding of the factors that influence parental preferences and satisfaction.

3.3.2 Further research on specific support methods

This study provided a variety of data on different forms of parent-therapist support. Studies that focus on the effectiveness of specific support methods in the context of sensory integration therapy could be beneficial. For example, electronic communication was the most frequently available support method for study participants. Further research on the content of electronic communication, preferred

platforms, structure, frequency of feedback and actual implementation of 'therapy homework' could provide valuable insight into how to structure such communication to make it more beneficial to the child's family and therapy progress. The viability of support methods that were not as readily available, but have been successful in other practice contexts, such as education seminars and support groups, could also be beneficial.

3.3.3 Education and training

At an undergraduate level, the continued teaching of family-centered practice principles throughout the therapy process should be included in both theoretical and practical ways. For example, therapists should be trained to recognise family and parental preferences during the initial stages of therapy. Paediatric training and fieldwork should emphasise family-centered goal setting, principles for report writing, and the implementation of family-centered interventions.

3.3.4 Parent resources and information

Further development of accessible and user-friendly resources for parents of children with sensory integration difficulties should be researched, developed and distributed. These resources should demonstrate specific consideration to the levels of health literacy and other unique factors that impact South African parents.

3.3.5 ASI accessibility and research

Further research and consideration should be given to the accessibility of advanced ASI training to therapists working outside the private sector in South Africa, and the potential impact thereof. It is recommended that policies are reviewed within the Department of Education, to allow improved access to specialist management for children with sensory integration difficulties within various practice settings.

In addition to the South African Institute of Sensory Integration (SAISI) offering advanced training courses that teach the theory, assessment, treatment and fidelity of ASI, the continued provision of supplementary webinars, guidebooks or short courses that contextualise ASI within family-centered and occupation-centered approaches could provide helpful support to ASI therapists in their provision of multi-component intervention within their day-to-day practice.

3.3.6 Policy development and accessible care

In the context of paediatric occupational therapy, family-centered care approaches have the potential to improve therapy progress, therefore, they can be time and cost effective. As already outlined in previous chapters, South Africa is a unique practice setting. Utilising cost-effective and time-effective interventions is of the utmost importance for this practice setting, given the complexity of factors that impact the direct occupational therapy access intervention and the inevitable roll out of the National Health Insurance (NHI) scheme.

It is essential that guidelines and protocols for the treatment of children with sensory integration difficulties are tailored to the South African context and consider family-centered and population-based approaches in combination with traditional direct one-on-one intervention.

3.3.7 Distribution of findings to stakeholders

It is recommended that if the article is approved for publication, it should be shared with the therapists who participated in the distribution of the survey and the parents who requested additional feedback. Should there be delays in the publication of the article or rejection of the article, the researcher will provide a short report on the findings to share with these relevant stakeholders.

Should the article be approved for publication, its inclusion in the SAISI Journal Club could be a helpful way to distribute the information to trained ASI therapists.

3.4 Conclusion

This research report aimed to identify what therapist-parent support methods, and educational content is valued by South African parents. Results of 103 surveys completed by South African parents of children attending occupational therapy for sensory integration difficulties in the Gauteng Province were analysed and discussed. Concluding this research, recommendations were made about the importance of using multi-component parent support methods in the context of family-centered care, and

guidance was provided for South African occupational therapists in their selection thereof.

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List of Appendices

Appendix A: Final Research Survey

Appendix B: Therapist Information Sheet

Appendix C: Principal and School Governing Body (SGB) consent and information sheet

Appendix D: University of the Witwatersrand Human Resources Ethics Committee Approval (Medical).

Appendix E: Content Validity Study

Appendix F: Participant Information Sheet and Consent

Appendix G: Gauteng Department of Education (GDE) Permission

Appendix H: Private Therapist Information Sheet and Permission

Appendix I: South African Journal of Occupational Therapy (SAJOT) Publication Guidelines

Appendix J: Proof of Article Submission to the South African Journal of Occupational Therapy (SAJOT)

Appendix K: Results and Discussion for Objective 4

Appendix L: Additional Data Analysis

Appendix M: Turn-it-in Report

Appendix N: Research Protocol Approval/ Approval of Title

Appendix O: Plagiarism Declaration

Appendix P: Research Protocol

Appendix A: Final Research Survey

1. Is your child attending occupational therapy sessions for sensory integration difficulties?
   - Yes
   - No

2. How old is your child who is attending occupational therapy for sensory integration difficulties?
   - 1 year old
   - 2 years old
   - 3 years old
   - 4 years old
   - 5 years old
   - 6 years old
   - 7 years old
   - 8 years old
   - 9-12 years old

3. How long has your child received occupational therapy intervention for sensory integration difficulties?
   - 3-5 months
   - 6-11 months
   - 1-2 years
   - More than 2 years

4. In addition to sensory integration difficulties, has your child been diagnosed with any of the following conditions?
   - None
   - Attention Deficit Disorder or Attention or Attention Deficit Hyperactivity Disorder
   - Anxiety or Depression
   - Neuromotor difficulties (eg. Cerebral Palsy, muscular dystrophy, spina bifida, spinal muscle atrophy)
   - Learning Disability (eg. dyslexia, dysgraphia, or auditory processing disorder)
   - Other diagnosis (please specify):_____

5. In what setting is your child attending therapy? (Tick all items that are relevant)
   - Private Practice
   - Government School
   - Private School
   - Mainstream School

- Remedial School
- Special Needs School
- Hospital
- Other:_____

6. Does your child attend individual occupational therapy or group therapy?
   - Individual Therapy
   - Group Therapy
   - Both individual and group therapy
   - I am unsure if my child attends therapy individually or in a group

7. Does your child attend occupational therapy in person or online?
   - In-person
   - Online
   - Both

8. How is your child's occupational therapy funded?
   - I pay for my child's therapy
   - My medical aid pays for my child's therapy
   - My child's therapy is included in their school fees
   - My child's therapy is free of charge at their school or institution
   - A third party funds my child's therapy
   - My child's therapy is funded by the government
   - Other:_____

9. How would you rate your involvement in your child's occupational therapy?
   - Very uninvolved
   - Involved
   - Neutral
   - Involved
   - Very involved

10. How satisfied are you with the parent support that you receive from your therapist?
    - Very unsatisfied
    - Unsatisfied
    - Neutral
    - Satisfied
    - Very satisfied

11. Which of the following support methods are available to you as a parent of a child attending occupational therapy for their sensory integration difficulties (with or without an additional fee). Select all options which apply.
    - Parent-therapist consultations or feedback meetings

- Written feedback from your child's therapist after therapy sessions
- Verbal feedback from your child's therapist after therapy sessions
- Formal assessment and progress reports
- In-depth home programs specific to your child's therapy aims
- General Home Programs to support your child's sensory integration
- Training in specific sensory techniques or activities that are to be administered by you as the parent
- Suggestions or ideas about home-activities to do with your child between therapy sessions (ie Homework)
- Parent support groups with other parents of children who are attending occupational therapy
- Sitting in on your child's therapy sessions and observing/asking your therapist questions
- Email/ WhatsApp (or other electronic) communication with your child's therapist
- Parent education seminars about sensory integration difficulties either in person or online
- Suggestions on how to modify your child's home environment, or an activity itself, in order to support their sensory needs
- Home Visits
- Classroom observations or school visits with feedback to you as the parents, on how your child is coping within their learning environment.
- Suggestions of activities which can be incorporated into your child's routine, or modification of their routine to support their sensory needs
- Goal-setting and problem-solving sessions or conversations with your child's therapist
- Other (please name):_____

The following questions are used to determine which support methods are valued by you as a parent. Rate each of the support methods according to how helpful you find them (if they are already in place) or how helpful you think they could be (if they are not in place).

12. Parent-therapist consultations or feedback meetings

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

13. Written feedback from your child's therapist after therapy sessions

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

14. Verbal feedback from your child's therapist after therapy sessions

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

15. Formal assessment and progress reports

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

16. In-depth home programmes specific to your child's therapy aims

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

17. General home programmes to support your child's sensory integration

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

18. Training in specific sensory techniques or activities that are to be administered by you as the parent

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

19. Suggestions or ideas about home-activities to do with your child between therapy sessions (ie Homework)

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

20. Parent support groups with other parents of children who are attending occupational therapy

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

21. Sitting in on your child's therapy sessions and observing/asking your therapist questions

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

22. Email/ WhatsApp (or other electronic) communication with your child's therapist

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

23. Parent education seminars about sensory integration difficulties either in person or online

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

24. Suggestions on how to modify your child's home environment, or an activity itself, in order to support their sensory needs

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

25. Home Visits

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

26. Classroom observations or school visits with feedback to you as the parents, on how your child is coping within their learning environment.

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

27. Suggestions of activities which can be incorporated into your child's routine, or modification of their routine to support their sensory needs

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

28. Goal-setting and problem-solving sessions or conversations with your child's therapist

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

29. Is there any other form of support, currently in place, from your child's therapist that you find helpful?

_____

30. Is there additional support from your child's therapist that you, as a parent, would find helpful in future?_____

The following questions are to determine what content of therapist-parent education is valued by you as a parent. Please rate each of the following topics according to how helpful you find them in relation to your child's therapy

31. Explanations of Sensory Integration Terminology.

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

32. Explanations of specific sensory integration difficulties that your child is experiencing, the underlying cause and how it relates to their functional difficulties.

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

33. Explanations of how other diagnoses are related to sensory integration difficulties.

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

34. Explanations of the theory behind the treatment techniques implemented in therapy and at home.

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

35. Explanations of the link between functional difficulties (at home, school and in the community) and sensory integration difficulties.

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

36. Explanations of the link between behavioural difficulties and sensory integration

o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful

37. Are there other topics that your child's therapist has covered with you that you have found helpful?

_____

38. Is there any other content you would find helpful in relation to your child's therapy?_____

Appendix B: Therapist Information Sheet

Identifying how to support and educate parents of children with sensory integration difficulties.

Dear Ayres Sensory Integration trained therapists,

My name is Stefanie Vieler, I am an Ayres Sensory Integration trained occupational therapist and master's degree candidate at the University of the Witwatersrand. I am conducting research with respect to parents of children with sensory integration difficulties and what they value when it comes to therapist-parent support and education.

What is involved in the study? I am attempting to collect as many surveys as possible from parents of children with sensory integration difficulties who are attending therapy, in the Gauteng Province, and in a variety of therapy settings. To collect the data, parents will receive a survey that will take approximately 15 minutes to complete.

I would like to request your help with distributing my parental survey.

What would your participation be? As an Ayres Sensory Integration® therapist, you have access to parents of children with sensory integration difficulties who are receiving occupational therapy treatment. I would like to request your help in distributing the survey to parents in your network. If you agree to assist with the distribution of the survey, the electronic link will be sent the electronic link to share with your network of parents who meet the inclusion criteria of the study. The survey results will be returned directly to the researcher. During the five-month period of data collection, the researcher may request up to three reminders to be sent to the parents with whom you shared the survey.

Risks and Benefits: There are no risks for you as a therapist to help with the distribution of the survey. The results of the survey will be anonymous and returned directly to the researcher. After the research is finished, the researcher will share the overall results with you as the therapist. The aim of the research is to improve therapist-parent support and communication. The results of the research could be beneficial to you in your own practice and in understanding the needs of the parents of the children you treat in your practice.

Participation is voluntary. Not assisting with distribution of the survey will involve no penalty to you. If you do assist, you may withdraw at any time without penalty or loss of benefits.

If you are interested in helping to distribute the survey please contact the researcher: Stefanie Vieler, 072 651 0512, 813167@students.wits.ac.za.
This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg ("Committee"). A principal function of this Committee is to safeguard the rights and dignity of all human subjects who agree to participate in a research project and the integrity of the research.

If you have any concerns over the way the study is being conducted, please contact the Chairperson of this Committee, who is Professor Clement Penny, who may be contacted on telephone number 011 717 2301, or by email at Clement.Penny@wits.ac.za. The telephone numbers for the Committee secretariat are 011 717 2700/1234 and the email addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Appendix C: Principal and School Governing Body (SGB) consent and information sheet





Ethical Clearance Number: M220910

Principal & SGB Information and Consent From

Identifying how to support and educate parents of children with sensory integration difficulties.

Dear Principal and SGB,

My name is Stefanie Vieler, I am an Ayres Sensory Integration trained occupational therapist and master's degree candidate at the University of the Witwatersrand. I am conducting research with respect to parents of children with sensory integration difficulties and what they value when it comes to therapist-parent support and education.

What is involved in the study? I am attempting to collect as many surveys as possible from parents of children with sensory integration difficulties who are attending therapy in Gauteng in a variety of therapy settings. To collect the data, parents will receive a survey that will take approximately 15 minutes to complete.

I would like to request your help permission to work with the occupational therapists at your school, to help with distribution of the survey to parents of children with sensory integration difficulties receiving occupational therapy services there.

Risks and Benefits: There are no risks to you as a school to participate in this study. The results of the survey will be anonymous and returned directly to the researcher.

After the research is finished, the researcher will share the results with the Gauteng Department of Education. The aim of the research is to improve therapist-parent support and communication. The results of the research could be beneficial to you in your school and therapy teams in understanding the needs of the parents of the children receiving therapy.

Participation is voluntary. Refusal to participate will involve no penalty to you, you may withdraw at any time without penalty or loss of benefits.

1. I have read the above Information Sheet which explains the nature and processes involved in this study;
2. I was given time to read it, or had it read to me, in the language I best understand;
3. I believe that I fully understand why the study is being conducted and what the intended results will be;
4. I understand that there will be no immediate benefit to me, should I agree for my school to participate, nor will I receive any payment; conversely, participation of the school will not cost me anything;
5. I understand that, the participation of the school is voluntary and that I am free to withdraw at any time, without giving any reason, without affecting my medical care or legal rights.
6. The data will be kept as long as it is needed for research purposes. It will be stored electronically on a password protected online database and will only be accessible to the researcher.
7. I have received a range of contact details, listed below. If I require further information or become concerned about any aspect of this study, I am free to speak to any of these contacts.
8. I agree for my school _____ (enter name of school) to participate in the above-mentioned study.

Principal: Signature: Date:

_____ _____. _____

SGB Member: Signature: Date:

_____ _____. _____

If you have any questions, please contact the researcher: Stefanie Vieler, 072 651 0512, 813167@students.wits.ac.za.

Research Supervisor: Marica Botha (Marica.Botha@wits.ac.za)

This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg ("Committee"). A principal function of this Committee is to safeguard the rights and dignity of all human subjects who agree to participate in a research project and the integrity of the research.

If you have any concerns over the way the study is being conducted, please contact the Chairperson of this Committee, who is Professor Clement Penny, who may be contacted on telephone number 011 717 2301, or by email at Clement.Penny@wits.ac.za. The telephone numbers for the Committee secretariat are 011 717 2700/1234 and the email addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Appendix D: University of the Witwatersrand Human Resources Ethics Committee Approval (Medical)

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R49 Ms S Vieler

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M220910

NAME: (Principal Investigator)	Ms S Vieler
DEPARTMENT:	School of Therapeutic Sciences Department of Occupational Therapy Medical School University
PROJECT TITLE:	*Identifying how to support and educate parents of children with sensory integration difficulties*
DATE CONSIDERED:	2022/09/30
DECISION:	Approved unconditionally
CONDITIONS:	This approval applies only to the study sites listed in Annex 1 attached Further sites may be added on presentation of evidence of management approval to the HREC (Med)
NOTE:	If contact information regarding student study participants is required, please contact the Registrar's office - <Nicoleen.Potgieter@wits.ac.za>
SUPERVISOR:	Ms M Botha
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	2023/03/14

This Clearance Certificate is valid for 5 years from the date of approval. An extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office secretariat on the 3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated from the research protocol as approved, I/we undertake to submit details to the Committee. **I agree to submit a yearly progress report**. When a funder requires annual re-certification, the application date will be one year after the date when the study was initially reviewed. In this case, the study was initially reviewed in **September** and therefore reports and re-certification will be due in the month of **September** each year. Unreported changes to the study may invalidate the clearance given by the HREC (Medical).

Signature of Principal Investigator Date

Annex 1

Protocol No. M22/09/10 **Ms S Vieler**

Study title: *Identifying Aids to support and educate parents of children with sensory integration difficulties*

Study sites approved under this Clearance Certificate

	Date of HREC (Med) Approval
School sites	
1.	14 March 2023
2.	14 March 2023
3.	21 June 2023
4.	14 March 2023
Private OT Practices	
1.	06 March 2024
2.	18 April 2024
3.	06 March 2024
4.	06 March 2024
5.	14 March 2023
6.	21 June 2023
7.	21 June 2023
8.	23 January 2024
9.	25 September 2024
10.	14 March 2023
11.	18 April 2024
12.	06 March 2024
13.	23 January 2024
14.	23 January 2024
15.	21 June 2023
16.	06 March 2024
17.	23 January 2024
18.	23 January 2024
19.	14 March 2023
20.	18 April 2024
21.	18 April 2024
22.	06 March 2024
23.	23 January 2024
24.	21 June 2023
25.	18 April 2024
26.	23 January 2024
27.	21 June 2023
28.	06 March 2024
29.	23 January 2024
30.	05 March 2024

Professor P Rolf
Chairperson: HREC (Medical)
University of the Witwatersrand, Johannesburg
Date: 25 September 2024

Appendix E: Content Validity Study

Content Validity Document (Blank)

Dear Sensory Integration expert,

Thank you so much for your time and expertise in testing the validity of my research survey. The first round of the content-validity, additional reading and after input from my supervisor, I have decided to do an additional round of content validity testing in order to get the most accurate results.

A survey question is valid if **it measures what it is intended to measure.** This survey has been constructed based on literature as well as my own experience. Any feedback is welcome. Please see attached survey **(please note that questions 1-8 are for demographic data purposes).**

Name:_____

Qualifications:_____

The research objectives are to identify:

1. What therapist-parent support methods are currently in place for parents of children who attend occupational therapy for sensory integration difficulties.
2. The parent's current level of satisfaction of therapist-parent support methods currently in place for their child, who is attending occupational therapy for sensory integration difficulties.
3. Methods of therapist-parent support which are valued and desired by parents of children who attend occupational therapy for sensory integration difficulties.
4. Content of therapist-parent education that is valued and desired by parents of children attending occupational therapy for sensory integration difficulties.

Please rate each of the questions of the survey on the below criteria.

Content validity scales

Degree of relevance:	**Degree of clarity**	**Degree of Simplicity**	**Degree of Ambiguity**
1= Not relevant 2= items need some revision 3= Relevant 4= Very relevant	1= not clear 2= items need some revision 3= clear but needs minor revision 4= very clear	1= not simple 2= items need some revision 3= simple but needs minor revision 4= very simple	1= Doubtful 2= items need some revision 3= no doubt but needs some revision 4= meaning is clear

Question	Degree of relevance:	Degree of clarity:	Degree of Simplicity:	Degree of ambiguity:	Comments
1. Is your child attending occupational therapy sessions for sensory integration difficulties? o Yes o No					
2 .How old is your child who is attending occupational therapy for sensory integration difficulties? o 1 year old o 2 years old o 3 years old o 4 years old o 5 years old o 6 years old o 7 years old o 8 years old o 9-12 years old					
3.How long has your child received occupational therapy intervention for their sensory integration difficulties? o 3-5 months o 6-11 months o 1-2 years o More than 2 years					
4.In addition to sensory integration difficulties, has your child been diagnosed with any of the following conditions? o None o Autism Spectrum Disorder o Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder o Anxiety or Depression o Neuromotor difficulties (eg. Cerebral Palsy, palsy, muscular dystrophy, spina bifida, spinal muscle atrophy) o Learning Disability (eg. dyslexia, dysgraphia, or auditory processing Disorder) o Other diagnosis (please specify):_____					
5.In what setting is your child attending occupational therapy? (Tick all items that are relevant) a. Private Practice b. Government School c. Private School d. Mainstream School e. Remedial School f. Special Needs School g. Hospital h. Other:_____					

Question	Degree of relevance:	Degree of clarity:	Degree of Simplicity:	Degree of ambiguity:	Comments
6. Does your child attend individual occupational therapy or group therapy? o Individual Therapy o Group Therapy o Both Individual and Group Therapy o I am unsure if my child attends therapy individually or in a group					
7. Does your child attend occupational therapy in-person or online? • In-person • Online					
8. How is your child's occupational therapy funded? • I pay for my child's therapy • My medical aid pays for all of my child's therapy • My child's therapy is included in their school fees • My child's therapy is free of charge at their school or institution • A third party funds my child's therapy • My child's therapy is funded by the government • Other:_____					
9. How would you rate your involvement in your child's occupational therapy? o Very uninvolved o Uninvolved o Neutral o Involved o Very involved					
10. How satisfied are you with the parent-support that you receive from your therapist? o Very unsatisfied o Unsatisfied o Neutral o Satisfied o Very satisfied					
11.Which of the following are available to you as a parent of a child attending occupational therapy for their sensory integration difficulties (with or without an additional fee)? Select all options which apply. o Parent-therapist consultations or feedback meetings. o Written feedback from your child's therapist after therapy sessions. o Verbal feedback from your child's therapist after therapy sessions. o Formal assessment and progress reports.					

Question	Degree of relevance:	Degree of clarity:	Degree of Simplicity:	Degree of ambiguity:	Comments
o In-depth home programs specific to your child's therapy aims. o Generic Home Programs to support your child's sensory integration. o Training in specific sensory techniques or activities that are to be administered by you as the parent. o Suggestions or ideas about home-activities to do with your child between therapy sessions (ie. Homework) o Parent support groups with other parents of children who are attending occupational therapy. o Sitting in on your child's therapy sessions and observing/asking your therapist questions. o Email/ WhatsApp (or other electronic) communication with your child's therapist. o Parent education seminars about sensory integration difficulties either in-person or online o Suggestions of how to modify your child's home environment, or an activity itself, in order to support their sensory needs. o Home Visits o Classroom observations or school visits with feedback to you as the parent, on how the child is coping within their learning environment. o Suggestions of activities which can be incorporated into your child's routine, or modification of their routine to support their sensory needs? o Goal-setting and problem-solving sessions or conversations with your child's therapist? o Other (please name):_____					
12. The following questions are used to determine which support methods are valued by you as a parent. Rate each of the support methods according to how helpful you find them (if they are already in place) or how helpful you think they could be (if they are not in place). *(Note: on REDCap these sections will be separated based on the answers to question 11)*					
12a) Parent-therapist consultations or feedback meetings. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12b) Written feedback from your child's therapist after therapy sessions.					

Question	Degree of relevance:	Degree of clarity:	Degree of Simplicity:	Degree of ambiguity:	Comments
o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12c) Verbal feedback from your child's therapist after therapy sessions. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12d) Formal assessment and progress reports. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12e) In-depth home programs specific to your child's therapy aims o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12f) Generic Home Programs to support your child's sensory integration. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12g) Training in specific sensory techniques or activities that are to be administered by you as the parent. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12h) Suggestions or ideas about home-activities to do with your child between therapy sessions (ie. Homework) o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12i) Parent support groups with other parents of children who are attending occupational therapy? o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12j) Sitting in your child's therapy sessions and observing/asking your therapist questions. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12k) Email/ WhatsApp (or other electronic) communication with your child's therapist. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12L) Parent education seminars about sensory integration difficulties either in person or online o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					

Question	Degree of relevance:	Degree of clarity:	Degree of Simplicity:	Degree of ambiguity:	Comments
12m) Suggestions of how to modify your child's home environment or the activity itself in order to support their sensory needs. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12n) Home Visits o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12o) Classroom observations or school visits with feedback to you as the parent on how the child is coping within their learning environment. o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12p) Suggestions of activities which can be incorporated into your child's routine, or modification of their routine to support their sensory needs? o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
12q) Goal-setting and problem-solving sessions or conversations with your child's therapist? o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
13.Is there any other form of support, currently in place, from your child's therapist that you find helpful?					
14. Is there additional support from your child's therapist that you, as a parent, would find helpful in future?					
15. The following questions are to determine what content of therapist-parent education is valued by you as a parent. Please rate each of the following topics according to how helpful you find them in relation to your child's therapy.					
15a) Explanations of Sensory Integration Terminology o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
15b) Explanations of specific sensory integration difficulties that your child is experiencing, the underlying cause and how it relates to their functional difficulties? o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
15c) Explanations of how other diagnoses are related to sensory integration difficulties o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					

Question	Degree of relevance:	Degree of clarity:	Degree of Simplicity:	Degree of ambiguity:	Comments
15d) Explanations of the theory behind the treatment techniques implemented in therapy and at home? o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
15e) Explanations of the link between functional difficulties (at home, school and in the community) and sensory integration difficulties? o Very unhelpful o Unhelpful o Neutral o Helpful o Very helpful					
15f) Explanations of the link between behavioral difficulties and sensory integration? o Very useless o Useless o Neutral o Useful o Very Useful					
16. Are there other topics that your child's therapist has covered with you that you have found helpful?					
17. Is there any other content you would find helpful in relation to your child's therapy?					

Were there any two questions which ask the same thing?

Do any of the questions lead the participant to answer in a particular way?

Additional Comments:

Thank you so much for your time. For any additional questions please contact Stefanie Vieler (Principle Researcher) on 072 651 0512 or 813167@students.wits.ac.za.

Content Validity – Data Analysis

Experts:

1. Liani Austin (B. OT (UP 2005) & SAISI Operations)
2. Marie Greyling (B. Arb (UP), Chairperson of SAISI)
3. Marica Botha (B. OT Stellenbosch, MSc OT (Wits), research supervisor)
4. Ray-Anne Cook (M. OT – SI & ADHD – experienced clinician)
5. Stefanie Kruger (B. Arb (UP), M Occ Ther (UP) – experienced clinician)

Degree of Relevance:

Item	Expert 1- LA		Expert 2 -MG		Expert 3-MB		Expert 4- RAC		Expert 5 - SK		Expert in agreement	I-CVI	UA
Q1	4	1	4	1	4	1	4	1	4	1	5	1	1
Q2	4	1	4	1	4	1	4	1	4	1	5	1	1
Q3	4	1	4	1	4	1	4	1	3	1	5	1	1
Q4	4	1	4	1	4	1	4	1	4	1	5	1	1
Q5	4	1	4	1	4	1	4	1	4	1	5	1	1
Q6	4	1	4	1	4	1	4	1	4	1	5	1	1
Q7	4	1	4	1	4	1	1	0	3	1	4	0.8	0
Q8	4	1	4	1	4	1	4	1	4	1	5	1	1
Q9	4	1	4	1	3	1	4	1	2	0	4	0.8	0
Q10	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q11	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12a	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12b	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12c	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12d	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12e	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12f	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q12g	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q12h	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12i	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12j	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12k	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12L	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12m	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12n	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12o	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12p	4	1	4	1	4	1	4	1	3	1	5	1	1
Q13	4	1	4	1	4	1	4	1	3	1	5	1	1
Q14	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15a	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15b	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15c	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15d	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q15e	4	1	4	1	4	1	4	1	4	1	5	1	1
Q15f	4	1	4	1	4	1	4	1	3	1	5	1	1
Q16	4	1	4	1	4	1	4	1	3	1	5	1	1
Q17	4	1	4	1	4	1	4	1	3	1	5	1	1
Proportion Relevance		**1**		**1**		**1**		**0.97**		**0.86**	**S-CVI/Ave**	**0.97**	
											S-CVI/ UA		**0.84**
	Average proportion of items judged as relevance across the 5 experts									**0.97**			

Degree of Clarity

Item	Expert 1- LA		Expert 2 -MG		Expert 3-MB		Expert 4 RAC		Expert 5 SK		Expert in agreement	I-CVI	UA
Q1	4	1	4	1	4	1	4	1	4	1	5	1	1
Q2	4	1	4	1	4	1	4	1	4	1	5	1	1

Q3	4	1	4	1	4	1	4	1	3	1	5	1	1
Q4	4	1	4	1	3	1	4	1	4	1	5	1	1
Q5	4	1	4	1	4	1	4	1	4	1	5	1	1
Q6	4	1	4	1	4	1	4	1	4	1	5	1	1
Q7	4	1	4	1	3	1	4	1	3	1	5	1	1
Q8	3	1	4	1	4	1	4	1	4	1	5	1	1
Q9	4	1	4	1	4	1	4	1	1	0	4	0.8	0
Q10	4	1	4	1	4	1	4	1	1	0	4	0.8	0
Q11	3	1	4	1	3	1	4	1	4	1	5	1	1
Q12a	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12b	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12c	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12d	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12e	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12f	4	1	4	1	4	1	4	1	1	0	4	0.8	0
Q12g	3	1	4	1	4	1	4	1	1	0	4	0.8	0
Q12h	3	1	4	1	4	1	4	1	3	1	5	1	1
Q12i	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12j	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12k	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12L	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12m	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12n	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12o	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12p	4	1	4	1	4	1	4	1	3	1	5	1	1
Q13	4	1	4	1	4	1	4	1	3	1	5	1	1
Q14	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15a	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15b	4	1	4	1	3	1	4	1	3	1	5	1	1
Q15c	3	1	4	1	4	1	4	1	3	1	5	1	1
Q15d	3	1	4	1	4	1	4	1	2	0	4	0.8	0
Q15e	3	1	4	1	3	1	4	1	4	1	5	1	1
Q15f	3	1	4	1	4	1	4	1	3	1	5	1	1
Q16	3	1	4	1	4	1	4	1	3	1	5	1	1
Q17	3	1	4	1	4	1	4	1	3	1	5	1	1
Proportion Clarity		**1**		**1**		**1**		**1**		**0.86**	**S-CVI/Ave**	0.97	
		Average proportion of items judged as clarity across the 5 experts								**0.97**	**S-CVI/ UA**		**0.86**

Degree of Simplicity

Item	**Expert 1- LA**		**Expert 2 -MG**		**Expert 3-MB**		**Expert 4- RAC**		**Expert 5- SK**		**Expert in agreement**	**I-CVI**	**UA**
Q1	4	1	4	1	4	1	4	1	4	1	5	1	1
Q2	4	1	4	1	4	1	4	1	4	1	5	1	1
Q3	4	1	4	1	4	1	4	1	3	1	5	1	1
Q4	4	1	4	1	3	1	4	1	4	1	5	1	1
Q5	4	1	4	1	4	1	4	1	4	1	5	1	1
Q6	4	1	4	1	4	1	4	1	4	1	5	1	1
Q7	4	1	4	1	3	1	4	1	3	1	5	1	1
Q8	4	1	4	1	4	1	4	1	4	1	5	1	1

Q9	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q10	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q11	4	1	4	1	2	0	4	1	4	1	4	0.8	0
Q12a	4	1	4	1	4	1	3	1	1	0	4	0.8	0
Q12b	4	1	4	1	4	1	3	1	4	1	5	1	1
Q12c	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12d	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12e	4	1	4	1	4	1	2	0	3	1	4	0.8	0
Q12f	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q12g	4	1	4	1	4	1	4	1	1	0	4	0.8	0
Q12h	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12i	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12j	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12k	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12L	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12m	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12n	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12o	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12p	4	1	4	1	4	1	4	1	3	1	5	1	1
Q13	4	1	4	1	4	1	4	1	3	1	5	1	1
Q14	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15a	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15b	4	1	4	1	3	1	4	1	3	1	5	1	1
Q15c	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15d	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q15e	4	1	4	1	3	1	4	1	4	1	5	1	1
Q15f	4	1	4	1	4	1	4	1	3	1	5	1	1
Q16	4	1	4	1	4	1	4	1	3	1	5	1	1
Q17	4	1	4	1	4	1	4	1	3	1	5	1	1
Proportion Simplicity		**1**		**1**		**0.97**		**0.97**		**0.84**	**S-CVI/Ave**	**0.96**	
		Average proportion of items judged as simplicity across the 5 experts.								**0.96**	**S-CVI/ UA**		**0.78**

Degree of Ambiguity

Item	**Expert 1- LA**		**Expert 2 -MG**		**Expert 3-MB**		**Expert 4 RAC**		**Expert 5 SK**		Expert in agreement	I-CVI	UA
Q1	4	1	4	1	4	1	4	1	4	1	5	1	1
Q2	4	1	4	1	4	1	4	1	4	1	5	1	1
Q3	4	1	4	1	4	1	4	1	3	1	5	1	1
Q4	3	1	4	1	4	1	4	1	4	1	5	1	1
Q5	4	1	4	1	4	1	4	1	4	1	5	1	1
Q6	4	1	4	1	4	1	4	1	4	1	5	1	1

Q7	4	1	4	1	3	1	4	1	3	1	5	1	1
Q8	3	1	4	1	4	1	4	1	4	1	5	1	1
Q9	4	1	4	1	3	1	4	1	1	0	4	0.8	0
Q10	3	1	4	1	4	1	4	1	1	0	4	0.8	0
Q11	3	1	4	1	3	1	4	1	4	1	5	1	1
Q12a	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12b	4	1	4	1	4	1	3	1	4	1	5	1	1
Q12c	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12d	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12e	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12f	4	1	4	1	4	1	4	1	1	0	4	0.8	0
Q12g	3	1	4	1	4	1	4	1	1	0	4	0.8	0
Q12h	4	1	4	1	4	1	3	1	3	1	5	1	1
Q12i	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12j	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12k	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12L	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12m	4	1	4	1	4	1	4	1	4	1	5	1	1
Q12n	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12o	4	1	4	1	4	1	4	1	3	1	5	1	1
Q12p	4	1	4	1	4	1	4	1	3	1	5	1	1
Q13	4	1	4	1	4	1	4	1	3	1	5	1	1
Q14	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15a	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15b	4	1	4	1	3	1	4	1	3	1	5	1	1
Q15c	4	1	4	1	4	1	4	1	3	1	5	1	1
Q15d	4	1	4	1	4	1	4	1	2	0	4	0.8	0
Q15e	4	1	4	1	3	1	4	1	4	1	5	1	1
Q15f	4	1	4	1	4	1	4	1	3	1	5	1	1
Q16	4	1	4	1	4	1	4	1	3	1	5	1	1
Q17	4	1	4	1	4	1	4	1	3	1	5	1	1
Proportion Simplicity		**1**		**1**		**1**		**1**		**0.87**	**S-CVI/Ave**	**0.97**	
	Average proportion of items judged as ambiguity across the 5 experts.									**0.97**	**S-CVI/ UA**		**0.86**

Appendix F: Participant Information Sheet and Consent

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

FACULTY OF HEALTH SCIENCES

PARTICIPANT NFORMATION

Identifying how to support and educate parents of children with sensory integration difficulties.

Dear Parent,

My name is Stefanie Vieler, I am an Ayres Sensory Integration trained occupational therapist and master's degree candidate at the University of the Witwatersrand. I am conducting research on parents of children with sensory integration difficulties and what you value when it comes to therapist-parent support and education. I would like to invite you to participate in the research study.

What is involved in the study? The researcher is attempting to collect as many surveys as possible over a five-month period, from parents of children with sensory integration difficulties who are attending therapy, from a variety of provinces, and in a variety of therapy settings. To collect the data, you will receive a survey that will take approximately 15 minutes to complete.

Risks: There are no risks for you to participate in this study.

Benefits of being in the study: The results of this research hope to contribute to the body of knowledge of regarding therapist-parent support and education. Your participation in the study could contribute to programmes that could benefit you as a parent and your child who is receiving occupational therapy treatment.

Confidentiality: Although your therapist assisted with the distribution of this survey, the survey results will be returned directly to the researcher. Therefore, your personal information and the results of the survey will be kept confidential.

Participation is voluntary: refusing to participate will not involve a penalty. You may discontinue participation at any time with no consequences.

Results of the study: After completing the survey, if you want to be informed of the results of the study, please contact the researcher using the below information.

PARTICIPANT CONSENT

Identifying how to support and educate parents of children with sensory integration difficulties

1. I have received a Participant Information Sheet which explains the nature and processes involved in this study, which is attached hereto;
2. I was given time to read it, or had it read to me, in the language I best understand;
3. I believe that I fully understand why the study is being conducted and what the intended results will be;
4. I understand that there will be no immediate benefit to me, should I agree to participate, nor will I receive any payment; conversely, participation will not cost me anything but my time;
5. I understand that, even if I initially consent to participate in the study, my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without affecting my medical care or legal rights.
6. The data will be kept as long as it is needed for research purposes. It will be stored electronically on a password protected online database and will only be accessible to the researcher.
7. I have received a range of contact details, listed below. If I require further information or become concerned about any aspect of this study, I am free to speak to any of these contacts.
8. I agree to participate in the above-mentioned study.

I agree to all of the above and to participating in the study: Yes / No *

(*The above will be a link/ tick box on REDCap. If the participant doesn't agree they cannot access the questionnaire)

This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg ("Committee"). A principal function of this Committee is to safeguard the rights and dignity of all human subjects who agree to participate in a research project and the integrity of the research.

If you have any concerns over the way the study is being conducted, please contact the Chairperson of this Committee, who is Professor Clement Penny, who may be contacted on telephone number 011 717 2301, or by email at Clement.Penny@wits.ac.za. The telephone numbers for the Committee secretariat are 011 717 2700/1234 and the email addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Contact details:

Stefanie Vieler, Principal Investigator, phone number. 072 651 0512, or by email at 813167@students.wits.ac.za

Marica Botha, Supervisor, 082 335 6386 or by email at marica.botha@wits.ac.za

Professor CB Penny, Chairperson of the Human Research Ethics Committee (Medical) at the University of Witwatersrand, on telephone no. 011 717 2301, or by email at Clement.Penny@wits.ac.za. Ms. Z Ndlovu or Mr. Rhulani Mkansi, Committee Secretariat, telephone numbers: 011 717 2700 or 1234, or by e-mail at: Zanele.Ndlovu@wits.ac.za or Rhulani.Mkansi@wits.ac.za

Appendix G: Gauteng Department of Education (GDE) Permission

GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	**26 January 2023**
Validity of Research Approval:	**08 February 2023– 30 September 2023** **2022/16**
Name of Researcher:	**Vieler SA**
Address of Researcher:	**Unit 16,St Hilaire**
	7 Karen Street
	Lyme Park/ Sandton
Telephone Number:	**072 651 0512**
Email address:	**813167@students.wits.ac.za**
Research Topic:	**Identifying how to support and educate parents of children with sensory integration difficulties**
Type of qualification	**Masters**
Number and type of schools:	**25 LSEN Schools**
District/s/HO	**15 Districts**

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

27/01/2023

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below are met. Approval may be withdrawn should any of the conditions listed below be flouted:

Office of the Director: Education Research and Knowledge Management
7th Floor, 17 Simmonds Street, Johannesburg, 2001
Tel: (011) 355 0488
Email: Faith.Tshabalala@gauteng.gov.za
Website: www.education.gpg.gov.za

1. *The letter would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.*
2. *The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.*
3. ***Because of the relaxation of COVID 19 regulations researchers can collect data online, telephonically, physically access schools, or may make arrangements for Zoom with the school Principal. Requests for such arrangements should be submitted to the GDE Education Research and Knowledge Management directorate.***
4. ***The Researchers are advised to wear a mask at all times, Social distance at all times, Provide a vaccination certificate or negative COVID-19 test, not older than 72 hours, and Sanitise frequently.***
5. *A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s has been granted permission from the Gauteng Department of Education to conduct the research study.*
6. *A letter/document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs, and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.*
7. *The Researcher will make every effort to obtain the goodwill and cooperation of all the GDE officials, principals, and chairpersons of the SGBs, teachers, and learners involved. Persons who offer their cooperation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.*
8. *Rsearch may only be conducted after school hours so that the normal school program is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.*
9. *Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.*
10. *Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.*
11. *It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.*
12. *The researcher is responsible for supplying and utilising his/her research resources, such as stationery, photocopies, transport, faxes, and telephones, and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.*
13. *The names of the GDE officials, schools, principals, parents, teachers, and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.*
14. *On completion of the study, the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.*
15. *The researcher may be expected to provide short presentations on the purpose, findings, and recommendations of his/her research to both GDE officials and the schools concerned.*
16. *Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a summary of the purpose, findings, and recommendations of the research study.*

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

.....

Dr. Gumani Mukatuni
Acting CES: Education Research and Knowledge Management

DATE: 27/01/2023

Office of the Director: Education Research and Knowledge Management
7th Floor, 17 Simmonds Street, Johannesburg, 2001
Tel: (011) 355 0488
Email: Faith.Tshabalala@gauteng.gov.za
Website: www.education.gpg.gov.za

Appendix H: Private Therapist Information Sheet and Permission

Ethical Clearance Number: M220910

Identifying how to support and educate parents of children with sensory integration difficulties.

Dear Ayres Sensory Integration® trained therapists (Level C2 and above),

My name is Stefanie Vieler, I am an Ayres Sensory Integration trained occupational therapist and master's degree candidate at the University of the Witwatersrand. I am conducting research with respect to parents of children with sensory integration difficulties and what they value when it comes to therapist-parent support and education.

What is involved in the study? I am attempting to collect as many surveys as possible from parents of children with sensory integration difficulties who are attending therapy, in a variety of therapy settings. To collect the data, parents will receive a survey that will take approximately 15 minutes to complete.

I would like to request your help with distributing my parental survey.

What would your participation be? As an Ayres Sensory Integration® therapist, you have access to parents of children with sensory integration difficulties who are receiving occupational therapy treatment. I would like to request your help in distributing the survey to parents in your network. If you agree to assist with the distribution of the survey, the electronic link will be sent to share with your network of parents who meet the inclusion criteria of the study. The survey results will be returned directly to the researcher. During the five-month period of data collection, the researcher may request up to three reminders to be sent to the parents with whom you shared the survey.

Risks and Benefits: There are no risks for you as a therapist to help with the distribution of the survey. The results of the survey will be anonymous and returned directly to the researcher. After the research is finished, the researcher will share the overall results with you as the therapist. The aim of the research is to improve therapist-parent support and communication. The results of the research could be beneficial to you in your own practice and in understanding the needs of the parents of the children you treat in your practice.

Participation is voluntary. Your refusal to assist with the distribution of the survey will involve no penalty to you, you may withdraw at any time without penalty or loss of benefits.

If you are willing to help with the distribution of the survey. Please sign below and return it to the researcher. Thereafter, further details will be communicated to you.

Name of the Practice:	
Practice Owner Email:	
Practice Owner Cell:	
Practice Owner Signature:	
Date:	

If you have any questions, please contact the principle researcher Stefanie Vieler, (072 651 0512, 813167@students.wits.ac.za).

Research Supervisor: Marica Botha (Marica.Botha@wits.ac.za)

This study has been approved by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg ("Committee"). A principal function of this Committee is to safeguard the rights and dignity of all human subjects who agree to participate in a research project and the integrity of the research.

If you have any concerns over the way the study is being conducted, please contact the Chairperson of this Committee, who is Professor Clement Penny, who may be contacted on telephone number 011 717 2301, or by email at Clement.Penny@wits.ac.za. The telephone numbers for the Committee secretariat are 011 717 2700/1234 and the email addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Appendix I: South African Journal of Occupational Therapy (SAJOT) Publication Guidelines

South African Journal of
SAJOT Occupational Therapy

Guidelines for Publishing in the South African Journal of Occupational Therapy

The South African Journal of Occupational Therapy (SAJOT) accepts scientific articles, scientific letters, scoping /systematic/integrative reviews, commentaries, opinion pieces and book reviews for publication.

The language of the Journal is English (abstracts may be provided in Afrikaans or the Vernacular as well as in English).

All articles that are published in SAJOT may be found at www.sajot.org.za, www.scielo.org.za. EBSCOHost, Google Scholar or OTDBASE. In addition, articles are preserved via Portico which is a digital preservation service provided by ITHAKA, a not-for-profit organisation with a mission to help the academic community use digital technologies to preserve the scholarly record and to advance research and teaching in sustainable ways.

POST-ACCEPTANCE PUBLICATION FEES

In line with the policy of most Open Access Journals, all submissions to the SAJOT are subject to a publication fee of R5000-00 (Approx. US$350) per article once the submission is accepted for publication.

The fee is waivered in the following instances:

- If at least one of the listed authors of the article is a member of the Occupational Therapy Association of Southern Africa (OTASA). (Proof of OTASA membership will be verified by the OT office prior to publication.)
- If an application for exemption is submitted and subsequently granted by the OTASA Chairman of the Publications Committee (see details below).
- If the submission is either a book-review, commentary or opinion piece.

This post-acceptance publication fee will be applied to cover both retrospective and prospective processes involved in peer-reviewed articles, including:

- Peer-review management
- Manuscript preparation (e.g., copy editing)
- Journal production (e.g., layout)
- Open-access online publication and hosting
- Indexing (e.g., PubMed)
- Archiving

Please note that authors from LMIC countries (particularly those in Africa) may also apply for exemption from or reduction of the publication fee.

Applications for exemption from the publication fee can be made to the chair of the publications committee Helen Buchanan (helen.buchanan@uct.ac.za)

Those authors eligible for payment of fees will receive an invoice from the OTASA office and payment will need to be made to OTASA within the stipulated time.

GUIDELINES FOR SUBMISSION

The following are included in these instructions:

1. General guidelines and instructions – procedure and presentation
2. Summary of Guidelines for authors
   - 2.1 Guidelines for authors of research articles (quantitative and qualitative)
   - 2.2 Additional Guidelines for authors of qualitative research
   - 2.2 Guidelines for authors of scientific letters
   - 2.3 Guidelines for publishing a review: literature -, scoping -, systematic -, rapid -, integrative -, narrative -, rapid -, and meta-analysis review
   - 2.4 Guidelines for writing an opinion piece
   - 2.5 Guide to writing a commentary
   - 2.6 Instructions for book reviews
3. Guide to submitting an article online.

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The relevant guidelines to authors (which follow) must be consulted for the layout and the format of the article, tables, diagrams and referencing.

1. GENERAL GUIDELINES & INSTRUCTIONS (APPLICABLE TO ALL SUBMISSIONS)

- Manuscripts must be submitted via the SAJOT web site; the author must retain a copy of the script.
- New/unregistered authors must submit the title page of the submission to the Editor-in-Chief, at sajot@otasa.org.za. A username and password will then be provided to enable the author to complete the online article submission. (See Guide to submitting an article online below).
  Users already registered as authors do not need to go through a repeat of the registration process but simply use their existing username and password.
- Users who are having problems with the username and password should contact the Editor-in-Chief at sajot@otasa.org.za
- Please insert a note in the 'footer' that gives the title of the article and the date at each submission.
  This is important for tracking purposes and will ensure that the correct version of the script is used for publication.
  This footnote will be removed at publication.
- The main manuscript must contain all illustrations, tables, graphs or photographs. Supplementary files need to be loaded with the submission of research articles, scientific letters, reviews, commentaries, and opinion pieces. The following 3 supplementary files are required:

- A title page with affiliations of authors at the time of the study as well as a section on the contribution of each listed author (refer to "Authorship criteria" under Policies), a declaration of any conflicts of interest, funding and data availability.
- 15 multiple-choice questions (MCQ's) see format in APPENDIX A below.
- Plagiarism Check report / certificate

The Manuscript

- The manuscript needs to be uploaded first. This should include the abstract if applicable and all the illustrations, tables, graphs should be included in the correct place within the manuscript.
- Please include the **ethics clearance number** and from whom it was obtained (if applicable to the study). The ethical clearance certificate must be available if requested. The ethical clearance number must also be recorded in the article when it is submitted for publication **as part of the methodology section of the article.**

Supplementary files:

1. **Title Page**

Each Manuscript must include a separate Title Page loaded as a Supplementary File. When submitting the article do not include any author information on the article itself

This page **must** include:

The title of the article	
For each author	full name
	all academic degrees and where these were obtained
	present post held and affiliation
	status as undergrad student or postgrad student at time of research and affiliation
	complete address
	telephone number
	e-mail address
	*ORCID number
	HPCSA number and OTASA membership number if applicable
	Ethical clearance number – Institution where obtained
	Acknowledgments, sources of funding and conflict of interests
	Names and email address of suggested reviewers As a special request the author is asked to provide the names, place of work, and email contact details of two people who they believe have the skills and expertise to review the article

*The **ORCID** must also be recorded in the relevant place on the SAJOT web site when the article is being submitted using **http//: and not https://** on the electronic submission page. To obtain an ORCID reference number and to learn about the benefits of being registered, go to: **www.orcid.org** . The ORCID will be included as part of the metadata of your article when it goes to publication. Please check that the ORCID number resolves to the author's name before submitting

Contribution of the authors, including funding

Contribution of the author in the manuscript/research process needs to be described. To claim authorship, each author must meet ALL 4 the criteria listed in the **PUBLICATIONS AND MALPRACTICE POLICY** document available on the website. In cases where contributing authors do not meet all 4 the criteria, they should be listed under 'Acknowledgements' in the main manuscript.

Conflict of interests

Conflict of interests in terms of sponsorship and funding need to be declared. Any funding received must be stated

Data availability

The availability of data for 10 years post-publication should be indicated - either from the corresponding author or a database.

2. The Multiple-Choice questions (MCQs)

- For CPD purposes, 15 multiple choice questions with the correct answer clearly marked should be set. See format in Appendix A
- Criteria for the setting of the MCQ content as prescribed by the HPCSA are that they should be
  - clear and concise, reflecting understanding
  - each MCQ question must have only one possible correct answer and may be
  - multiple choice stem with multiple or single answers,
  - true/ false – maximum 20%;
  - should contain no commercial product promotion and/ or satire

3. Plagiarism Check report / certificate

'Cross Ref' or 'Turn-it-in' or 'Authenticate' certificate must be attached with an acceptable level (usually 15% or less depending on the use of terminology in the manuscript

REFERENCING:

Vancouver style referencing is used and each reference in the text must be indicated by a number in the text. This number should be inserted in superscript without brackets e.g.[12]. A reference list should be provided on a separate numbered page following the article text. References must be cited **in the order that they appear in the text.**. Please check references from predatory journals are avoided. Predatory journals can be checked at https://predatoryjournals.com/journals/ or https://beallslist.net/.

ALL references must be linked through **CrossRef, i.e., each reference must show its DOI number** (if it has one). To find the DOI number go to **https://search.crossref.org/**. A window that askes to copy and paste or type in the title of the article or book and search. The full information on the article will appear. **Please note** that the DOI reference must be spaced so that it falls on one line and is not split between two lines. See examples of referencing below:

See what styles to use in Mendeley and Endnote to format references and examples of referencing in Appendix B.

General Requirements

	Abstract (words)	Pages	Tables and figures	Words (without tables and references)	References
Research Articles	200	±16-19	8	5000-7000	Max 35 for the literature review section. Max 60 references
Scientific Letters	n/a	±5-8	2	1400-2500	Max 15
Reviews	200	±16-19	8	5000-7000	Max 60 references
Opinion Piece	200	±5-8	2	1500-2000	Max 15
Commentary	200	±5-8	2	1500-2000	Max 15
Book Reviews	n/a	n/a	n/a	500	

Manuscripts must be clearly typed in **MS Word 1.5 spacing with a legible font (Arial, size 11 is preferable)**. Set English (South Africa) as the default language. Occupational therapy and occupational therapists should not be capitalised or abbreviated.

Use no more than three levels of headings as follows

- 1st level headings are **BOLD AND IN UPPERCASE**
- 2nd level headings are **Bold, lowercase**
- 3rd level headings are not bold but *Lowercase and in italics*

If quoting from a reference the following format must be used: Gibson[2:30] stated that "Occupational therapy is an important service for the rehabilitation of persons suffering from HIV/AIDS". where 2 is the reference number and 30 is the page number on which the quote appears. All quotes from literature must be in quotation marks " ". Quotes from participants in qualitative research should be in quotation marks and italics.

Tables must be editable and should have the heading at the top of the table and labelled with Roman letters e.g., Table II.

Figures must be editable and should be labelled at the bottom of the figure with Arabic numbers e.g., Figure. 2.

Tables and figures (which may include graphs) **should not be scanned** but formatted and included in place in the manuscript. Figures should be clear to the reader when photocopied.

Figures which consist of illustrations, diagrams or photographs may be of any size. They must be very sharp, taken close-up, and photographs should have a lightish, over-all tone and without dark backgrounds. If the photograph, diagram and illustrations photocopy well, they will print well. Please check this before you send the manuscript.

The following websites may be helpful for authors to consult either during the research process or during the write up process:

- Equator Network (http://www.equator-network.org/), a database library that allows you to find and use reporting guidelines for different study designs. Provides a decision tree and examples that assist you with choosing the most appropriate reporting guideline for your study.

- Typeset (https://www.typeset.io/), an online research communication platform that autoformats documents and helps ensure they are 100% compliant with journal submission guidelines.
- Authoraid (http://www.authoraid.info/en/), a free global network that provides online mentoring, collaboration, and support for researchers in low and middle-income countries.
- Standards for Reporting Qualitative Research: A Synthesis of Recommendations (https://journals.lww.com/academicmedicine/fulltext/2014/09000/standards_for_reporting_qualitative_research__a.21.aspx)

POST-SUBMISSION PROCESS:

Desk Edit Stage:

All submissions will undergo a desk-edit by an editorial team member. During this process, the assigned editor will check the following:

- whether all general requirements as outlined in the Table above have been met;
- the overall contribution of the article to the profession and whether it falls within the scope and aim of SAJOT;
- whether all supplementary files have been submitted in the required format;
- whether all listed authors meet the authorship criteria
- the general 'readability' of the manuscript, format, referencing etc.

Based on the above, the assigned editor will decide whether:

- the article can be accepted and sent for review
- some minor revisions are required before sending the manuscript for review,
- the article needs to be re-submitted anew for consideration (soft decline)
- to decline the article

Review Stage

Once accepted for review, two suitable reviewers are assigned to review the manuscript. All manuscripts undergo two anonymous double blind peer reviews. The reviewers are required to comment on the knowledge claim, scientific worth and clinical relevance of the article and its suitability for publication in SAJOT. (To ensure a blind review see section below). The comments are returned to the authors by the editor with a directive (based on the recommendations of the reviewers) for further action required. Recommendations could be:

- to accept the article without revision;
- to request some revisions to be made;
- to subject the article to a second review round;
- to decline the article.

Copy-Editing Stage

Once the final, revised version of the manuscript has been uploaded, it will be sent to the Copy-editing phase of the workflow. During this stage, two editors will edit the article and prepare it for conversion to PDF. The authors will then be requested to perform a final proofread of the copy-edited manuscript and when required, the final PDF version thereof. After approval from the authors, the submission will be scheduled for publication.

INTELLECTUAL PROPERTY AND COPYRIGHT

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All work is published under a Creative Commons Attribution 4.0 Non-Commercial International Creative Commons (CC-BY-NC-ND) . For further information, see https://sajot.org.za/index.php/sajot/publication-ethics-malpractice-policies

Checking the Manuscript before Submission
Confirmation that the following items **have been attended to** will be required as part of the submission process.

- The submission has not been previously published, nor has it been before another journal for consideration (or an explanation has been provided in Comments to the Editor).
- The submission file is in Microsoft Word file format.
- All references have been checked to see that they comply with the requirements (see References above).
- The text is Arial 11, 1.5 spaced; employs italics, rather than underlining (except with URL addresses); and all figures and tables have been placed in the text.
- The text adheres to the stylistic and bibliographic requirements outlined above
- The instructions for Ensuring a Blind Review have been followed.
- A colleague has read the article to provide objective peer input, inconsistencies, spelling and grammar in addition to running a spell-check with English, South Africa as the default setting. Authors for whom English is a second language should have their article edited by a professional English-language editor or editing service. During the review process, articles may be returned to the author to arrange such a service, if improvements to language and clarity are required.
- 15 Multiple Choice Questions (MCQs) based on the article content are prepared in the supplementary file section of the article submission. In addition, it is advisable to email these to the managing editor at sajot@otasa.org.za . **NB The article will not be sent for review until these have been received or posted on the web site.**
- The details of all the authors have been included in the submission.
- Ethical approval for the study has been sought and explained in the article and an approval number is given but the institution where obtained is replaced by XXX to ensure a blind review.
- The title of the article is on the article submission- see Title page
- The abstract has separately been included in the submission block on the webpage and is also included in the **Manuscript**.
- The article has undergone a **plagiarism check**.
- Permission has been obtained from the co-authors to publish the article and to use their names.
- The relevant acknowledgements have been provided at the end of the manuscript.
- As a special request the author is asked to provide the names, place of work, and email contact details of two people who they believe have the skills and expertise to review the article.

Ensuring a blind review

To ensure the integrity of the blind peer review of the submission to this journal, every effort is made to prevent the identities of the authors and reviewers from being known to each other.

It is primarily the duty of the author to remove any possible identification from the text submitted as indicated below. The reviewer is obliged to keep his/her comments/opinions about the article confidential and communicate these only to the editor; should the reviewer

have prior knowledge of or involvement with (incidental or otherwise) the author or the article in question, the editor should be informed of the situation and the situation reviewed if needed.

The editor is the only person who has access to all the information about authors and reviewers. Any issues concerning a review / edit/ authorship / copyright etc. about a SAJOT submission must be brought to the attention of the editor directly – the editor is the only person authorised to deal with these issues and will do so in a strictly confidential manner.

This process applies to the authors, editors and reviewers (who upload documents as part of their review), checking to see that the following steps have been taken with regard to the text and the file properties:

- The authors of the document have deleted their names from the text, and substituted "Author".
- This includes ensuring that the names used in the acknowledgements section have also been substituted with an X. Names will be inserted during the copy edit process.
- With Microsoft Office documents, author identification should also be removed from the properties of the file.

See how to remove your Identity from track changes and comments on documents in Appendix C

2. GUIDELINES FOR AUTHORS

2.1 GUIDELINES FOR AUTHORS OF RESEARCH ARTICLES (for Additional Guidelines for authors of QUALITATIVE RESEARCH, click here)

Articles submitted to the SAJOT must be original and must not have been published elsewhere. Articles should contain new information, have a unique knowledge claim that add to existing knowledge, resolve controversy or provoke thought and discussion. The content of the article must justify the length, which should be about **16-19 pages** (between **5000- 7000 words**).

Authors should consult the article "The pitfalls of "salami slicing" which highlights focusing s on *quality* rather than *quantity* of publications" by Fenseca M. Editage Insights. Nov 4; 2013.https://www.editage.com/insights/the-pitfalls-of-salami-slicing-focus-on-quality-and-not-quantity-of-publications

FORMAT:

Abstract, Implications for Practice and Keywords

The article must be accompanied by an abstract not **exceeding 200 words** in length. The abstract must contain a succinct structured summary of the study: headings should be used in the abstract (introduction, methodology, results, conclusion). There should be no references or abbreviations in the abstract.

The implications for Practice should be clearly and concisely stated using bullet points under a separate heading. This should not be a repetition points mentioned in the Conclusion section of the manuscript.

Key words: a list of "key words" which contain words that might be helpful for tracking your article. Try not to 'repeat' key words from the title of the article, as this will limit the search opportunities.

Introduction

This should provide a brief rationale for the study and an outline of the research aims or questions. The introduction should present a clear indication of the need for and purpose of by the article. Authors should not assume that the readers know the context in which the article is set. The content needs to be organised in a coherent and logical manner and may require concise descriptions and definitions of terms to elucidate the content as well as the aim of the study. The literature review may be included in the introduction.

Literature Review
A separate review of the relevant literature can be provided. This should be a critical appraisal of the current relevant literature identifying the limitations in the work already conducted on the subject and a rationale for the study.

The aim or objectives of the study should appear at the end of the literature review

Methods
The section on research methods should include (when appropriate):

- the research design used,
- the population and criteria for selecting the population sample,
- the research tools used,
- the method of data collection,
- the methods used to analyse the data including details of the statistical methods, information on validity, reliability, trustworthiness and credibility.

Details of the ethical clearance and informed consent must be provided without the name of the institution at this stage (replace name with XXXX)

Results/Findings

The results must be presented in a way that makes them accessible to the readers and are clearly linked to the aims and methods of the research.

Discussion

The discussion should summarise the main findings and explore the reasons for these. New knowledge must be highlighted, and the limitations of the study given. The implications for occupational therapists and or other health professionals/groups/ contexts must be outlined and the contribution that the study makes to the current state of knowledge of the profession/s stated. Limitations must also be discussed.

Conclusion

The conclusion must be brief, drawing the article to a close by relating the results to the aim of the research and indicating the key findings this research has added.

Acknowledgements
All assistance and funding for the research must be acknowledged and any conflict of interests stated.

Tables and figures
Articles may include up to eight (8) tables or figures and should be numbered and clearly labelled and included in the manuscript in the appropriate place. All figures, tables, and images will be published under a Creative Commons CC-BY license, and permission must be obtained for use of copyrighted material from other sources (including published/adapted/ modified/partial figures and images from the internet). It is the responsibility of the authors to acquire the licenses, follow any citation instructions requested by third-party rights holders, and cover any supplementary charges.

For additional information, please see the 'Image manipulation' section at policies and publication ethics

3 GUIDE TO SUBMITTING AN ARTICLE ONLINE

Prepare the article as described above.

The following are the steps to follow:

Go to www.sajot.co.za. Log in using the "username" and "password" that has been given to you. Click on the tab **"New Submission"**. The following are the steps as enumerated on the web site:

Step I – Starting the submission:

Journal section
Select the relevant category of the submission in this section from the drop-down box.

Submission check list
Ensure that you, the author, have done **ALL** the things mentioned in the submission check list and confirm this by placing a check in the relevant box. See the section **Checking the manuscript before submission** . Please note that failure to comply with all the items mentioned could result in the article being returned to you and thus an unnecessary delay in the publication process.

Copyright notice
Click to accept the copyright provisions as seen on the web site.
You may also send a note to the editor in the box provided.
Click **save and continue** at the bottom of the page, this will enable you to move on to the next stage of the submission process.

Step 2 – Upload the submission

Follow the steps for uploading your article.

Upload manuscript file
NB it is important that you upload the file containing the complete article here. Do not include any information about the authors on the article.
To upload – Click on the browse button, locate the file containing the article on your computer, click on it so that the name of the file appears in the window, and then click the **upload** button. This is the only place where the main article can be uploaded.
Click **save and continue.**

Step 3 – Entering the submissions metadata:

Authors– Information about **all** the authors must be provided here.

The bio statement box should be used to complete the details of all the qualifications of the authors (i.e. degree and where obtained.) as well as the place of work and position held. Please include each author's ORCID number in the relevant box.
Title and abstract – Please copy / type in the full title of your article into the box provided. Paste in a copy of the abstract into the block provided.
Indexing –ignore this section.
Supporting agencies – complete if relevant e.g. funding organisation.
Click **save and continue**

Step 4 – Uploading supplementary information:

Please note that there are two steps here:
Step 4 and Step 4a. In step 4 all Supplementary files must be uploaded: a title page, plagiarism report, the 15 MCQs. Each file is uploaded separately and saved. Click save and continue to upload each file which will bring up step 4a where you can add the information needed to identify the supplementary information. The only compulsory window is the title window.
Click save and continue. This will bring you back to step 4 again where another file can be uploaded. Each supplementary piece of information is added as new file

Step 5 – Confirming the Submission

Click **Finish Submission**. Please remember to do this otherwise your submission will not be recorded. It is very important to note that once you have confirmed the submission you will be unable to make changes to your main document. However, you will be able to add supplementary files. This should be done before the article is sent into the review stage by the editor.
Any changes that you wish to make to the article itself may need to be done via a completely new submission depending on the extent of the revisions required.

Resubmission of Manuscript after Desk Edit
The article will be desk edited by the journal editor after submission. The article may be returned to you by email within a week to amend issues such as formatting, referencing and obvious issues with content. The article or may require major revision or be rejected at this stage if it is not suitable for SAJOT.

If there are issues that need to be addressed before the manuscript can be sent for peer review and you should complete these and return the manuscript to the editor by email as soon as possible (2 weeks) so the review process can start.

Resubmission of Article after Revisions/Amendments
The outcome of the review will be emailed to you and will be available on the SAJOT webpage under **Review** on your article page. **A list of changes made or highlighted changes in the text of the article must be included so revisions can be reviewed or edited.** The article should be resubmitted within 4 weeks. Make sure any comments and track changes are unidentified if submitted for rereview (Appendix C)

Once the author has dealt with these amendments suggested by the editor, a new version of the article must be uploaded. Scroll to the section at the bottom of the **Review page** of your article to the section labelled **Editor Decision**. There you will see the box **Upload author version**. Please post your revised copy here -.

Help with this submission process can be obtained by emailing the Editor-in-Chief at sajot@otasa.org.za

APPENDIX A - FORMAT FOR MCQ's

EXAMPLE 1:

STEM WITH ALTERNATE ANSWERS

Multiple correct answers (combine these into only ONE possible correct answer).

	QUESTION	POSSIBLE ANSWERS	CORRECT
5	The advantages of standardised testing to assess visual perception include:		
a	short, quick assessment times	a, b and d	
b	an objective score on which to base decisions about the need for therapy	b and d	X
c	that tests can be carried out by untrained individuals	b, c and d	
d	they can evaluate progress and determine the effectiveness of interventions	c, d and e	
e	the tests take fatigue and test anxiety into account in the scoring	all the above	

EXAMPLE 2:

STEM WITH ALTERNATE ANSWERS

One correct answer

	Question	Possible answers	Correct
11	In order to obtain an equal distribution of children from each of the four age groups included in the sample, the researchers used:		
a		A random sampling method	
b		A convenient sampling method	
c		A stratified sampling method	X
d		Saturation sampling	

EXAMPLE 3:

TRUE/FALSE

	Question	Possible answers	Correct
8	Disability rights enforcement strategy are important in advancing disability rights and occupational freedom.		
		True	X
		False	

APPENDIX B : STYLES TO USE WHEN REFERENCING AND EXAMPLES OF REFERENCING

In **Mendeley** - the *Council of Science Editors – Citation Sequence (numeric)* provides the correct referencing. DOI numbers must be entered with the http://dx.doi.org/ prefix into the Mendeley programme and these need to be linked in the reference list using CNTL K in the reference list. **All date of access, URLs and publishers must be removed** from Mendeley reference programme for journal articles.

In **Endnote** - use *Council of Science Editors (CSE)* or *PLOS (you will need to change the style to remove brackets and superscript numbers* – https://libguides.library.cqu.edu.au/c.php?g=760903&p=6317474) to provide the correct referencing. In endnote DOI numbers will also have to be added to references in Endnote with a http://dx.doi.org/ prefix.

Examples of referencing

Journal article

Format: Author. Article title. Journal. Year; Volume (No): Page numbers. DOI number
Barnard-Ashton P, Adams F, Rothberg A, McInerney P. Digital apartheid and the effect of mobile technology during rural fieldwork. South African Journal of Occupational Therapy. 2018; 48(2): 20-25. doi: https:// doi.org/10.17159/23103833/2018/vol48n2a4 **or** http://dx.doi.org/10.17159/23103833/2018/vol48n2a4.
Journal names must be written out in full and capitalised but not italicised. Please not that this format must be used NOT doi:10.17159/23103833/2018/vol48n2a4,

Book

Format: Author(s). Book title. Edition. City: Publisher; Year. DOI if one is available
De Vos AS, Strydom H, Fouché CB, Delport CSL. Research at Grass Roots: A primer for the Social Sciences and Human Service Professions. Pretoria: Van Schaik Publishers; 2011. https://doi.org/10.4102/hsag.v2i3.337

Chapter (Section) in a Book

Format: Author(s). Chapter title. Book title. Editor. City: publisher; Date/Year published: page numbers. DOI number
Amis, M. Silk, M. Eisenhart, M. Freeman, K. deMarrais, J. Preissle, R. Roulston, E. St. Pierre, K. Howe, P. Lather, Y. Lincoln, G. C. In: Annella, D. Polkinghorne & H. Torrance. Chapter 10, Standards for Evaluating Qualitative Research. In: Understanding and Evaluating Qualitative Educational Research. M Lichtman, Editor. New York: Sage Knowledge; 2011: 253-260.
doi: https://dx.doi.org/10.4135/9781483349435.n10

Webpages

Format: Author(s)(may be corporation or organisation).Name or title of webpage. the **date accessed and the URL.**
South African Government. Special Needs Education: Education White Paper 6. 2021 [accessed 2021 Jan 12]. https://www.gov.za/documents/special-needs-education-education-white-paper-6

APPENDIX C: REMOVING IDENTITY FROM COMMENTS AND TRACK CHANGES ON DOCUMENTS

For Microsoft 2010-2019 (Windows):

- Under the File menu select "Info".
- Click on the "Inspect Document" icon.
- Uncheck all the checkboxes except "Document Properties and Personal information".

- Run the document inspector, which will then do a search of the document properties and indicate if any document property fields contain any information.
- If the document inspector finds that some of the document properties contain information it will notify you and give you the option to "Remove all," which you will click to remove the document properties and personal information from the document.

For **MacIntosh Word** (and future versions)

- Under the File menu select "Properties."
- Under the Summary tab remove all of the identifying information from all of the fields.
- Save the File.
- For **PDF files**:
- With PDFs, the authors' names should also be removed from Document Properties found under File on Adobe Acrobat's main menu.

Appendix J: Proof of Article Submission to the South African Journal of Occupational Therapy (SAJOT)

Submission Acknowledgement External Inbox ×

Blanche Pretorius via Khulisa Journals Unsubscribe 14:57 (5 minutes ago)

to me

Stefanie Pyne-James:

Thank you for submitting the manuscript, "Occupational therapy support methods valued by parents of children with sensory integration difficulties" to South African Journal of Occupational Therapy. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Manuscript URL: https://journals.assaf.org.za/index.php/sajot/authorDashboard/submission/21293
Username: svieler

If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

South African Journal of Occupational Therapy

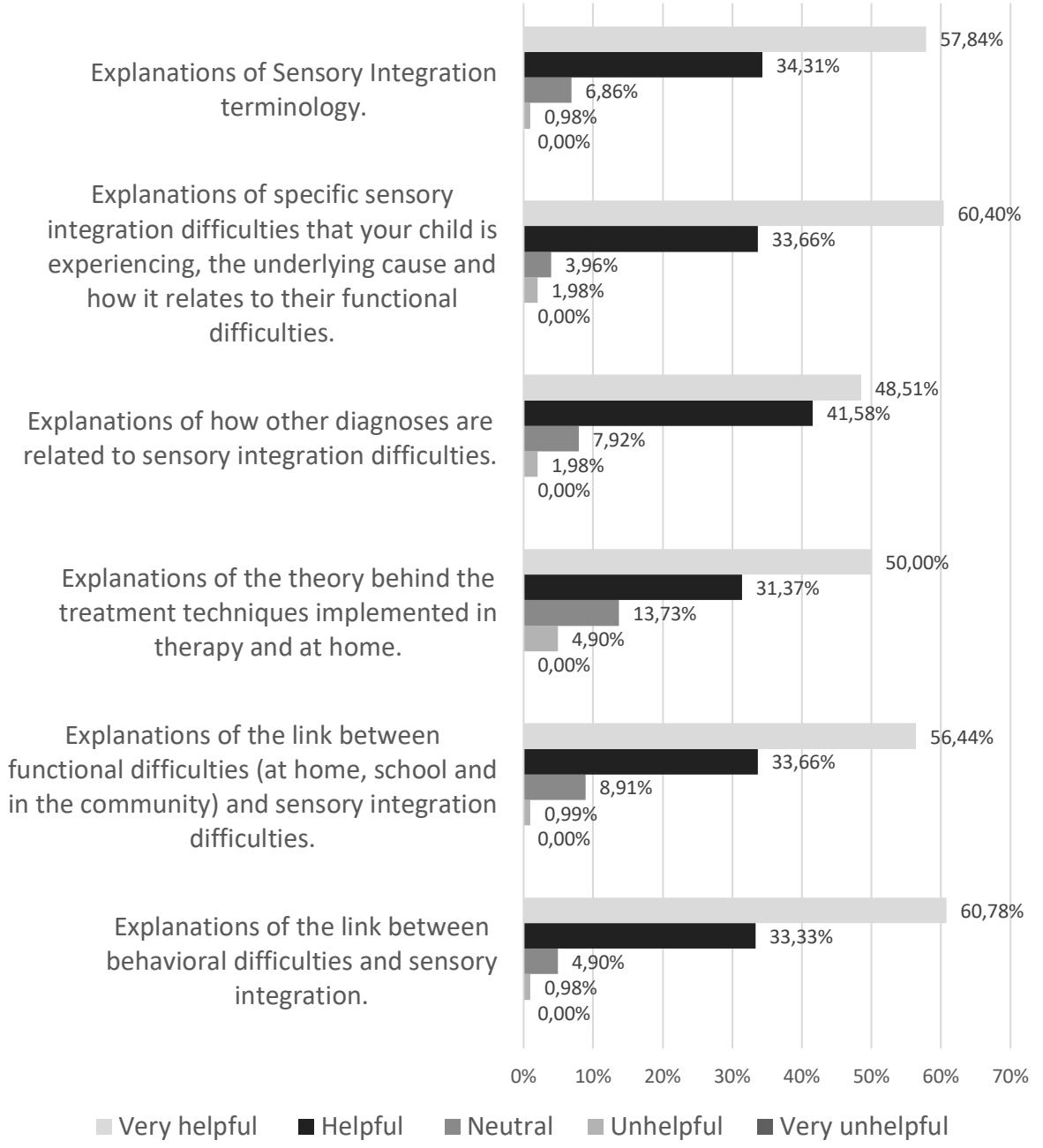
unsubscribe

Reply Forward

Appendix K: Results and Discussion for Objective 4

Objective 4: The content of the therapy-parent education that parents of children attending occupational therapy for sensory integration difficulties value and want.

Figure 3: Helpfulness of Parent Education Content



Results:

The results of parents' perceived helpfulness of the various education topics did not differ significantly. Overall, all the topics were perceived to be helpful by most participants of the study. By a small margin, the topic titled "explanations of the link between behavioural difficulties and sensory integration" received the highest "very helpful" ratings from the participants. The highest number of neutral responses (13.73%) was for the topic titled "explanations between the treatment techniques implemented in therapy and at home". Less than 2% of the participants selected "unhelpful" or "very unhelpful" for any of the proposed topics.

Discussion:

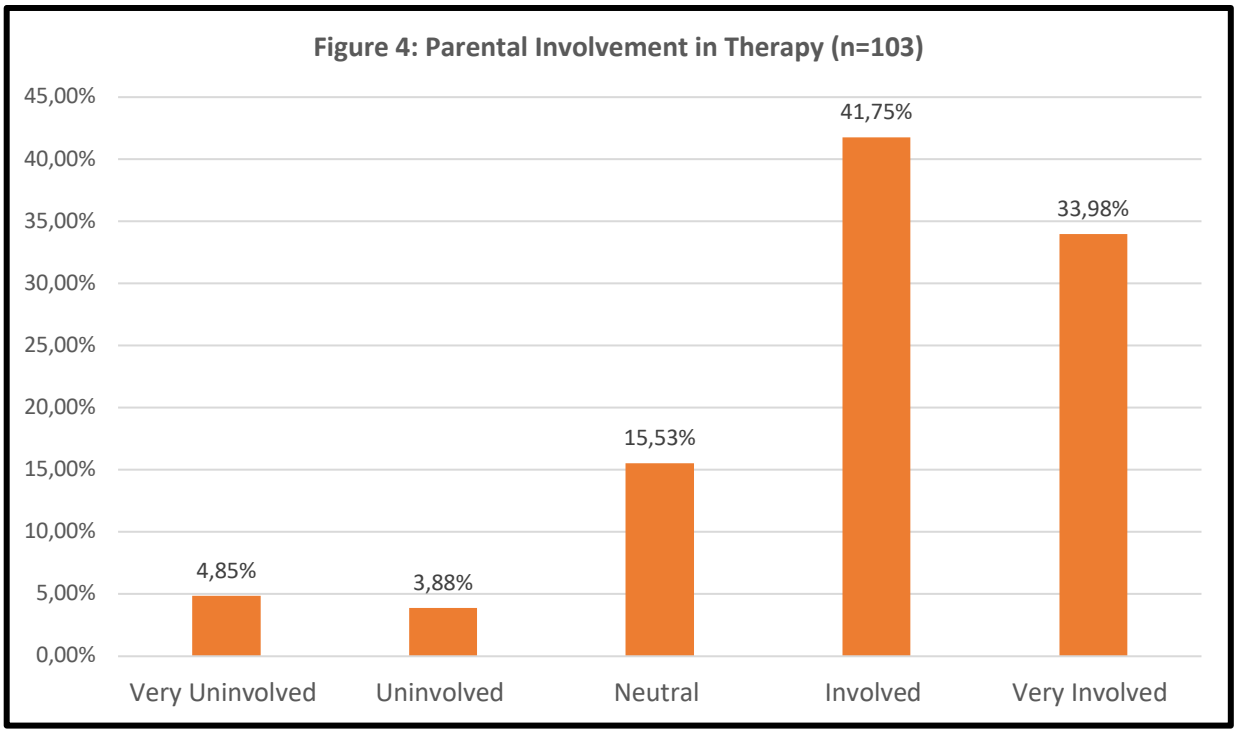
The benefits of parental education include reframing of parental understanding and shifting of expectations, validation of parental feelings, and parental empowerment (Kuhaneck & Watling, 2018). Education seminars were rarely accessible to study participants and compared to the other support methods within the current study, information sessions were rated poorly by participants in terms of their perceived helpfulness. Interestingly all the topics of educational content were, in general, rated very positively. This may indicate that while parents are interested in the topics proposed, the delivery of the information may not be perceived as helpful in a seminar type format. However, there are various other opportunities for information sharing within the other support formats, for example, formal reports, parent consultations and communication during and between sessions.

Another study by Preece et al. (2017) was conducted, which investigated which education content was relevant and appropriate to parents of children with ASD. This study was carried out in three different European countries. Most parents (75%) identified "understanding sensory integration and development" as important content for parental education about ASD. Behavioural management was one of the top four topics prioritised by parents, reflecting the results of the current study with "explanations of the link between behavioural difficulties and sensory integration" receiving the highest "very helpful" ratings from the participants.

This European study indicated that, overall, parents preferred training to take place on weekends and close to home. However, between the different countries, there were statistically significant differences in multiple items of the survey. For example, between the three countries, work schedules and childcare issues had varying impacts

on the parent's ability to attend training. This highlights the need for continued context-specific research. Within a South African practice setting, little is known about the various factors that can impact the perceived helpfulness of parent education seminars, as well as the factors that impact accessibility and parental preferences.

Appendix L: Additional Data Analysis



Question 9 of the research survey asked participants to rate their level of involvement in their child's therapy and the results are summarised above in figure 4. However, this data was excluded from the discussion as it did not pertain directly to the answering of the research objectives.

Appendix M: Turn-it-in Report

Identifying how to support and educate parents of children with sensory integration difficulties

by Stefanie Amanda Vieler

Submission date: 13-Feb-2025 09:03PM (UTC+0200)
Submission ID: 2587785434
File name: 3493_Stefanie_Amanda_Vieler_Identifying_how_to_support_and_educate_parents_of_children_with_sensory_integration_diffic_52234982.docx (571.11K)
Word count: 29101
Character count: 179123

Identifying how to support and educate parents of children with sensory integration difficulties

ORIGINALITY REPORT

9%	6%	7%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

1%

★ wiredspace.wits.ac.za

Internet Source

Appendix N: Research Protocol Approval/ Approval of Title

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

08 September 2022
Person No: 813167
PAG

Miss SA Vieler
PO BOX 44063
Linden
2195
South Africa

Dear Miss Stefanie Vieler

Master of Science in Occupational Therapy: Approval of Title

We have pleasure in advising that your proposal entitled *Identifying how to support and educate parents of children with sensory integration difficulties* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

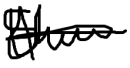
Appendix O: Plagiarism Declaration

PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

SENATE PLAGIARISM POLICY
I, **Stefanie Pyne-James (nee Vieler)** (Student number: **813167**) am a student registered for the degree of **MSc Occupational Therapy** in the academic year **2024**.

I hereby declare the following:

1. I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
2. I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
3. I have followed the required conventions in referencing the thoughts and ideas of others.
4. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.
5. I have included as an appendix a report from "Turnitin" (or other approved plagiarism detection) software indicating the level of plagiarism in my research document.

Signature:  Date: 23 February 2025

Background and Need

1.1 Introduction and Literature Review

Sensory integration is defined by Ayres (2005, p.5) as the process of "organisation of sensations for use". These sensations include sight, smell, taste, touch, and vestibular and proprioceptive senses. Ayres Sensory Integration® (ASI) is a specific treatment approach used by occupational therapists working in the field of paediatrics. ASI outlines the development of typical sensory integration and it also defines sensory integrative dysfunction. Sensory integration difficulties refer to a wide range of difficulties in processing sensory information. This is when the way in which sensations are "detected, transduced, and transmitted through the nervous system" is flawed (Smith Roley et al., 2007, p. 2). This is often related to deficits in motor skills, academic learning, attention, and behaviour. Specific patterns of sensory integrative dysfunction have been identified through factor analysis and extensive research, for example somato-dyspraxia, visuodyspraxia, bilateral integration and sequencing dysfunction as well as dyspraxia on verbal command (Smith Roley, 2007). Both sensory integrative difficulties and dysfunction can affect a child's occupational performance in daily activities (Smith Roley et al., 2007). These occupational performance difficulties, as well as behavioural concerns can increase the demands and stress placed on caregivers and parents.

The ASI theory also outlines specific principles to guide therapists in their intervention. One of these specific principles outlines that the intervention plan should be family-centred and be done in collaboration with important people in the child's life such as their teachers and caregivers (Smith Roley et al., 2007). Allen et al. (2021), highlight the importance of multicomponent interventions, which is the development of a variety of intervention approaches to assist families, based on their needs; however, majority of the research focuses on the child's needs and not the parents.

Therapist-parent support methods and education include a variety of interventions carried out by the occupational therapist to promote family-centred care. Examples

include interventions that focus on psychoeducation, help with parenting skills, parent-child interaction and play, family routine, parent-performed somatosensory strategies, contextual and activity adaptations (Miller-Kuhaneck & Watling, 2018). Parents of children with sensory integration difficulties have the desire to develop a better understanding of their child's behaviour and how to support them (Cohn, Miller & Tickle-Degnen, 2000) and it is the responsibility of the occupational therapist to identify and use appropriate methods to teach parents about their child's difficulties (American Occupational Therapy Association [AOTA], 2014).

These are interventions that focus on promoting child and family strengths, as well as sharing information with caregivers (Miller-Kuhaneck & Watling, 2018). Parents have reported the numerous benefits of better understanding their child's own behaviour from a sensory integration perspective. This process of reframing their understanding of their children can help facilitate a shift in expectations of their child, validate their feelings, and enable them to advocate and support their child. This acceptance of the child from his parents also contributes to his improved sense of self-worth (Cohn, 2000). Other benefits of parent-focused interventions include altering a child's behaviours, improving parental stress and well-being, as well as improving parent-child interaction. Parent training and parental-implemented strategies can be an efficient and cost-effective approach for families when it is carefully structured by the therapist (Kuhaneck & Watling,2018).

A systematic review that evaluated the effectiveness of parent and teacher education and coaching interventions with children experiencing challenges in sensory integration and processing highlighted the importance that therapists encourage more participation and participation of parents in their child's therapy in clinic and school settings (Miller-Kuhaneck & Watling, 2018). They identified that educational programs for parents and teachers could result in positive outcomes, in a short period of time. Despite the results of this study establishing some evidence for the effectiveness of parent-focused interventions, it acknowledged the limitations inherent in that fact that only four other studies fit the inclusion criteria for the systematic review. Among other recommendations, it was suggested that more research is needed on parents' needs and desires for specific content and the most effective methods of parent-focused interventions. This study also highlighted the importance of parent-focused

interventions that are specific to the child's difficulties that are identified through a thorough assessment and clinical reasoning by the occupational therapist using ASI theory.

Similarly, the scoping review by Allen et al. (2021) of the effectiveness of coaching parents of children with sensory integration difficulties had limitations, only four articles fitting their inclusion criteria. They were able to provide some evidence for the effectiveness of these parent-focused coaching intervention, but identified the need for further research. Coaching interventions were defined as a partnership between the parent and the therapist in which there is an exchange of information and the provision of emotional support. It was suggested that there is not currently enough evidence to prescribe a manual or fidelity of the most effective methods of parent coaching and education, specifically the duration, dosage, and method of delivery. In addition to this, they identified the need for studies that bring to light the types of support valued by parents and the preferred format of service delivery (Allen et al., 2021).

The qualitative study by Smit et al. (2017) provides a perspective from South African parents. This study identified the general facilitators and barriers experienced by parents of children attending ASI therapy. Some of the barriers identified by Smit et al. (2017) included limited information regarding their child's therapy, use of jargon, and limited collaboration in implementation of home programs.

Therefore, abroad and within a South African context, more research is needed on the needs and desires of parents of children with sensory integration difficulties, as well as on identifying their preferred content and therapist-parent support methods.

1.2 Problem Statement

Multiple studies have found that parents experience dissatisfaction with the information available about their child's sensory integration therapy as well as limited detail to explain their child's behaviour (Miller-Kuhaneck & Watling, 2018). The researcher has experienced the same disconnect in her own practice as a sensory integration occupational therapist, feeling unsure of how to best support parents of the

children in therapy. The potential benefits of parent-focused interventions include improved parental knowledge, improvement in child therapy goals, reduction of parent stress, and parents experiencing an improved sense of competency and self-efficacy in helping their children (Allen et al., 2021, Miller-Kuhaneck & Watling,2018). Despite these benefits, parent-focused interventions have been described as “under-used” (Allen et al., 2021, p.2). Within a South African context (Smit et al., 2017), some of the barriers experienced by parents of children with sensory integration difficulties included limited information regarding their child’s therapy, the use of jargon and limited collaboration in the implementation of home programs. In the context of Ayres Sensory Integration® therapy as a whole, there is currently limited research that brings to light the types of support valued by parents and the preferred format of service delivery (Allen et al., 2021). Additionally, there is also limited research on what parents want and need in terms of the content of parent education interventions (Miller-Kihaneck & Watling, 2018).

1.3 Research Question

What therapist-parent support methods and educational content are valued by parents of children who attend occupational therapy for sensory integration difficulties?

1.4 Aim of the study

To identify what parents of children who attend occupational therapy for sensory integration difficulties value when it comes to therapist-parent support methods and educational content.

1.5 Research Objectives

The objectives are to identify:

5. What therapist-parent support methods are currently in place for parents of children who attend occupational therapy for sensory integration difficulties.
6. The parent’s current level of satisfaction of therapist-parent support methods currently in place for their child, who is attending occupational therapy for sensory integration difficulties.

7. Methods of therapist-parent support which are valued and desired by parents of children who attend occupational therapy for sensory integration difficulties.
8. Content of therapist-parent education that is valued and desired by parents of children attending occupational therapy for sensory integration difficulties.

1.6 Significance and Justification of the Study

Personally, the researcher hopes that the findings from this study help guide her daily practice on the best ways to support and empower parents of the children she treats. In addition, to help other occupational therapists working in the field of ASI in a South African context, to use support methods that are valued by parents, as well as to tailor the content of the education to meet the needs of parents. For parents, it is an opportunity for their voices to be heard and to empower them to be more involved in their child's therapy journey. For both the therapist and the parent, it aims to strengthen their working relationship. If we are aware of the current levels of satisfaction of parents, what types of support, and the content of therapist-parent education they value, this can help therapists in providing better parent-focused interventions. Subsequently, these findings could be further explored for the development of parent education programs or fidelity manuals for parent-focused interventions within the context of ASI. If these are shown to contribute significantly to the advancement of therapy objectives, it can reduce the duration of therapy and ensure faster patient turnover. Subsequently, this evidence could be used to advocate for the inclusion of such programs in treatment protocols in schools and within private practices. They could also be used as motivation for medical aids to provide more funding for effective parent-focused interventions as a means of reducing medical costs.

Methodology

2.1 Study Design

The study design will be quantitative in nature. It will be a non-experimental, cross-sectional descriptive study design with the use of a survey as the data collection method (Siedlecki, 2020).

2.2 Study population and study setting

The study population is the parents of children with sensory integration difficulties who are receiving regular occupational therapy intervention in Gauteng, South Africa, by an Ayres Sensory Integration® trained therapist in either a private practice or public school setting.

2.3 Sampling strategy and sample size

The research sampling method will be nonprobability sampling, namely convenience sampling and snowball sampling (Etikan, et al.,2016). To recruit participants for the study, the researcher will contact the South African Institute for Sensory Integration (SAISI) to distribute information to recruit occupational therapists trained in sensory integration, practicing in Gauteng within the above study settings, to assist in the distribution of surveys to parents who meet the inclusion criteria. Recruited therapists will be encouraged to share the information with other ASI trained therapists in Gauteng. The researcher will also contact ASI therapists in their own personal network to help with the distribution of the survey. The researcher will attempt to recruit therapists in both private practice as well as public schools within the Gauteng province. According to the SAISI directory on their website, there are 109 ASI-trained practicing therapists within the Gauteng province. There is limited research around average caseloads of children treated per day by ASI therapists in South Africa. One source suggested occupational therapists in general treat between five to eight patients per day (Centra Healthcare, 2011). Given this, the researcher made a conservative estimate that each ASI-trained therapist would have at least 15 children who would meet the study inclusion criteria on their caseload. This would be a total population size 1635. Using a 5% margin of error, 90% confidence interval and 50% response distribution, the ideal sample size was calculated at 233. Sample size was calculated using Raosoft software. If the researcher is unable to reach this response rate, they will reflect on presence of nonresponse bias in their findings (Finchman, 2008). The researcher will ask the recruited therapists to keep track of the number of parents to whom they distributed the survey.

Inclusion Criteria:

- Parents of children, between 12 Months and 8 years of age, who attend regular (at least once a month), Ayres Sensory Integration® occupational therapy intervention with a certified therapist due to sensory integration difficulties or a diagnosed sensory integrative dysfunction.
- The child may be receiving sensory integration therapy in a private practice or public school setting.
- The child may have a co-morbid diagnosis of Autism Spectrum Disorder, ADHD, Dyslexia, or Cerebral palsy.

Exclusion criteria:
- Parents of children who have been attending therapy for less than 3 months
- Parents of children receiving therapy outside of Gauteng province.
- Parents of children who are receiving therapy from the Department of Health.

2.4 Data Collection Measures

The data will be collected through a self-administered survey (Appendix A). The survey has been developed by the researcher and will undergo a content validity study before being sent to therapists who agree to assist with its distribution to parents who meet the inclusion criteria. The survey will be distributed and the data will be captured by the Research Electronic Data Capture (REDCap) software. The data will be returned directly to the researcher.

2.5 Research Procedure

The first step in the research process was the development of the research question and objectives and the presentation thereof to the Occupational Therapy Department at the University of Witwatersrand. Thereafter, the research protocol was submitted to the assessors committee where approval of the title was granted. The next step is submission of the protocol to the Ethics Committee of the University of Witwatersrand. Following this submission, and upon receiving provisional approval, the researcher will requested approval from the Gauteng Department of Education (GDE) and then will resubmit to the Ethics Committee for final approval. Thereafter the researcher will conduct a content validity study of the parent survey. Details for this are outlined under “Research Instrument”.

Thereafter, the researcher will begin recruiting ASI trained therapists in Private Practice and within the LSEN schools listed in the GDE application, to assist with distribution of the survey. The researcher will contact SAISI (South African Institute of Sensory Integration) to request assistance in recruiting these Gauteng-based sensory integration trained therapists. For the therapists working in public school settings, relevant permission from their specific school will be gained before distribution of the survey begins. Private therapists agreement to help with the distribution of the survey will constitute their permission as outlined in the therapist information sheet. Once relevant permissions are approved and recruited therapists have agreed to distribution of the survey, data collection will begin. The survey will be distributed via a REDCap electronic link and the responses will be returned directly to the researcher. During data collection, the researcher will share a reminder with the recruited therapists over Whatsapp to pass onto parents in order to achieve optimum response rate. Following data collection and data analysis the report and article for publication will be written and finally, the research report will be submitted for examination.

2.6 Ethical Considerations

The following forms will be disturbed to prospective participants as well as therapists involved in recruiting of participants for the study:

3. Therapist Information Form (Appendix B).
4. Participant Information and Consent (Appendix C).

Ethical clearance and consent will be obtained from the following:

6. Participant Consent – this will be a tick box on the REDCap survey before proceeding to answer the questions (Appendix D)
7. University of the Witwatersrand Human Resources Ethics Committee (Medical).
8. The Department of Education in Gauteng province will be contacted for permission (Appendix E).
9. If any public-school based therapists agree to help with distribution of the survey, permission will be gained from the specific schools that they work before conducting data collection at this specific site.

Measures for ensuring ethical research processes (Moss, 2021):

4. Voluntary Participation: Participation in this study will be voluntary and any of the participants are free to withdraw at any time without any consequences.

5. Confidentiality: The confidentiality of all participants will be protected as the surveys are numbered. Any of the participants' personal information will be kept on a password-protected excel spreadsheet that only the researcher will have access to. No personal information from participants will be published.
6. Data Storage: All data collected from the study will be stored on a password protected computer, no paper surveys will be collected. The data will be kept for as long as it will be needed for research purposes. After the research is complete, the data will be deleted from the researcher's laptop and will stored on a secure password protected online database which only the researcher will have access too.
7. Precautions: Completion of the survey has no risks. When the survey is completed, the results will only be accessible to the researcher and therefore the parents will be free to answer the questionnaire honestly.

2.7 Rigor and Validity

1. Ensuring Validity:
    a. Statistical validity: If the actual calculated sample size is not reached due to a low number of responses, this will be taken into consideration using the response rate to clarify the research results. In order to ensure that the data from the survey are statistically valid, a minimum of 60 surveys will be completed. This will be to ensure an element of margin of error when drawing conclusions about the data set.
    b. Content validity: Please refer to the "Research Instrument" section below which outlines in detail how content validity of the survey will be ensured.
    c. External validity and generalisability of the data: the researcher will be sure to discuss the generalisability of the data captured.
8. Ensuring Objectivity:
    a. Consult experts in the development of questionnaires to ensure that the questions are not leading and are not influenced by researcher biases.
    b. The researcher will not distribute the survey to the parents of her own clients.
    c. The surveys will be returned directly to the researcher and not to the treating therapist.

2.8 Research Instrument:

The research instrument will be a survey that has been compiled by the principle researcher (Appendix A). The researcher has consulted literature in construction of the survey. The researcher will conduct a content validity pilot study of the survey, before distributing it to the participants. This is to make sure that the survey is measuring what it is intended to measure (Tahedoorst, 2016). The researcher will recruit five sensory integration trained therapists to assist with testing the content validity of the survey questions. After conducting a brief introductory session explaining the research objectives. The panellists will complete Appendix K (see attached). The content validity ratio (CVR) will be calculated using the Lawshe method. All non-essential questions will be eliminated from the questionnaire. Unclear questions will be edited and clarified and additional content suggestions will be added (Tahedoorst, 2016).

3. Data analysis plan

	Types of data	Data Source	Descriptive statistics	Statistical tests (Optional)
Demographics	Nominal	Survey (SI Difficulty, Comorbid diagnosis, therapy setting, Individual/ group)	- Frequency - Mode	
Demographics	Ratio	Survey (Age of the Child, Length of therapy)	- Mean	
Objective 1 – Current support in place	Ordinal*	Survey	- Frequency - Mode - Median	T-Test
Objective 2 – Satisfaction with support	Ordinal*	Survey	- Frequency - Mode - Median	T-Test
Objective 3 - Value placed on methods of support	Ordinal*	Survey	- Frequency - Mode - Median	T-Test
Objective 4 - Value placed on content of education	Ordinal*	Survey	- Frequency - Mode - Median	T-Test

*Ordinal data will be collected with a 5-point Likert scale.

Note regarding descriptive statistics vs statistical tests: The data will be analysed primarily with descriptive statistics in order to meet the objectives of the study. If the data set lends itself to such, T-Tests will be conducted to determine if there is any significance between the descriptive statistics of objectives 1-4 in relation to different

demographics. This will be for additional analysis if possible, but it not pertinent in reaching the objectives of the study.

4. Project timeline

	2022												2023											
Research Procedure	**Jan-Mar**			**Apr-Jun**			**Jul-Sept**			**Oct-Dec**			**Jan-Mar**			**Apr-Jun**			**Jul-Sept**			**Oct-Dec**		
Development of research question and departmental presentations																								
Development of protocol and submission to assessors meeting																								
Submission of protocol to Wits Ethics Committee																								
Access permission from Department of Education and Schools																								
Content validity study of parent survey																								
Recruiting of therapists through SAISI																								
Data Collection																								
Reminders to be sent																								
Data Analysis																								
Write-up																								
Submission of a publication																								
Submission for examination																								

5. Project budget

The researcher will apply for Faculty of Health Science grant. If unsuccessful, funding for this research proposal will be self-funded.

Item	Explanation	Cost
Telephone Cost	Communicate with therapists recruited to assist in the distribution of the survey.	R500
Data costs	Data for communication with therapists assisting with distribution of the survey.	R200
Printing Costs	For printing of the research proposal and report	R300
SAISI advert	Initial advert	Free
	R350 per advert after initial advert	R700
	Total	**R1800**

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