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A PILOT STUDY OF THE EFFECT OF A SENSORY DIET ON THE IN-SEAT BEHAVIOUR OF GRADE ONE LEARNERS IN THE CLASSROOM.

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, in fulfilment of the requirements for the degree of Masters of Science in Occupational Therapy.

Johannesburg, 2009

Declaration

I, Maria Demopoulos declare that this research report is my own work. It is being submitted for the degree of Master of Science in Occupational Therapy in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

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Maria Demopoulos (Signature of Candidate)

25th day of February 2009

Dedication:

I am honoured to recognise my parents, the late Panayioti and Panayiota Demopoulos; relatives who have been second parents to me, John and Natalie Philippedes and Lyle and the late Maro Edelstein as well as my siblings, Despina and Dino Demopoulos, Chris Philippedes and Zarko and Maria Mitjatovic, as the individuals that inspired this research.

They have deeply touched my life with their dedication to their family. Their perseverance to meeting and overcoming life's challenges is my source of inspiration, safety and strength.

Abstract:

Children with difficulties in processing sensory input often have difficulty in maintaining an optimal level of arousal for learning when seated in the multisensory busy classroom. Occupational Therapists (OT) commonly function as consultants to assist teachers to develop strategies to help promote the classroom performance of these students. This pilot study used a simple pre-test post-test quasi-experimental research design to analyse a classroom intervention strategy (sensory diet) recommended to teachers by OTs to promote an appropriate level of arousal for these children. Trends of decreased undesirable (distractibility, poor task execution; impulsivity, working too fast, poor planning) and increased undesirable (restless, overactive and fidgety, disorganized on self and in work, difficulty getting down to work, slow work pace) in-seat behaviours were noted. However, all trends were not found to be statistically significant. Implications of these results for therapists working with students with SPD and their teachers are discussed.

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Operational Terms:

1. Adaptive response: A successful response to an environmental challenge.[1]

2. Sensory Integration: a complex set of processes (including modulation, perception and practic functions) in the central nervous system organising sensation for use. This term also refers to a frame of reference for treatment of children who have difficulty with these neural functions. [2]

3. Sensory Processing: handling of sensory information by neural systems including the functions of receptor organs, peripheral and central nervous systems.[2]

4. Sensory diet: the daily total of sensorimotor experiences needed by a person to adaptively interact with the environment. [3]

5. Sensory Modulation: the intake of sensation via typical sensory processing mechanisms such that the degree, intensity and quality of response is graded to match environmental demand and that a range of optimal performance/adaptation is maintained. [4]

6. Responsiveness: behavioural manifestation of sensory modulation. The individual with a sensory modulation disorder may behave with under-responsivity or over-responsivity to sensory input. [5]

7. Self regulation: coping mechanisms employed by an individual which are calming and organising for the central nervous system.[5]

List of Abbreviations:

- Occupational Therapy (OT)
- Sensory Integration (SI)
- Sensory Processing Disorder (SPD)
- Reticular Formation (RAS)
- Sensory Processing Disorder (SPD)
- Central Nervous System (CNS)
- Autonomic Nervous System (ANS)
- Sensory Modulation Disorder or Disruption (SMD)
- Dorsal Column Medial Lemniscus (DCML)
- Diagnostic and Statistical Manual Text Revised (DSM-IV-TR)
- Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (DC: 0-3R)
- Regulation Disorders of Sensory Processing (RDSP)
- Attention-Deficit Hyperactivity Disorder (ADHD)
- Autistic Spectrum Disorder (ASD)
- Pervasive Developmental Disorder (PDD)
- Learning Difficulties (LD)

- Sensory Integration and Praxis Tests (SIPT)
- Short Sensory Profile (SSP)
- Electrodermal reactivity (EDR)
- Rapid Eye Movement (REM)
- Randomised Control Trial (RCT)
- Standard Deviation (SD)
- Incidence Rate Ratio (IRR)