# 2010 Independent Studies

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Tina Nybladh, MOTS and Jennalee O’Keefe

Purpose: The purpose of this independent study was to identify the use of current treatment methods and strategies used by pediatric occupational therapists in their intervention with children diagnosed with Autism Spectrum Disorder (ASD). Despite attention in the literature to the expanding role of occupational therapy, little is known as to how or whether occupational therapists are incorporating recent intervention methods and strategies into their practice with children diagnosed with ASD. For this study, the researchers examined the relationship between the intervention strategies used by study participants in their work with children diagnosed with ASD in comparison with the existing literature.

Methodology: A non-experimental exploratory survey design was used to gather data from pediatric occupational therapists within the Midwest and Rocky Mountain Regions of the United States. The survey developed explored the role of occupational therapy in the treatment of autism. The survey began with questions related to general demographic information such as: gender, geographic location by state, years of practice, years of experience with targeted diagnosis, educational degree, and facility type. Other categories within the survey included: therapist demographics, assessment, inter-professional collaboration, intervention, models and frames of reference, treatment areas, family involvement, length of treatment, outcomes, and resources. There were a total of 27 questions in this survey all with forced choice responses using a Likert scale. Thirty-seven participants completed the survey; however, ten were discarded due to incompletion. Therefore, there was a total of twenty-seven participants in this research study. Following data collection, descriptive analysis of data was completed.

Conclusions: Although, participants are not using all of the recommended assessments in treating children with ASD the underlying components are being addressed during the assessment process. There is an inter-professional make-up of the team; however, collaboration during assessment intervention occurs infrequently. It appears that occupational therapists are not familiar with theories, models, and frames of reference. This study found that in working with families occupational therapists most consistently gave parents information on intervention strategies for their child with ASD rather than other forms of support. This result was inconsistent with literature recommendations.
Dr. Janet Jedlicka

Annie Van Erem and Emily Schlosser  
Advisor: Dr. Jedlicka

**Weight loss surgery and the impacts on daily occupations.**

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**Bariatric Surgery and the Impacts on Occupations: A Qualitative Study.**  
Emily Schlosser, MOTS and Annie VanErem, MOTS

**Purpose:** The aim of this study was to explore the lived experiences of individuals who had undergone bariatric surgery and the impact weight loss has on occupations.

**Methodology:** A comprehensive literature review was conducted on the affects of obesity, bariatric surgery and the impacts on occupational performance. Based on the findings of the literature review, a qualitative research study using a phenomenological approach was completed. The Model of Human Occupation (MOHO) served as a guide in developing the interview questions and data analysis process. Four female participants who have undergone bariatric surgery were recruited using a purposive sampling method. The participants were interviewed twice using semi-structured interviews. Data was then coded and organized into categories. Themes that emerged from the process illustrated participants’ experiences with weight loss surgery and the impact of weight loss on occupational engagement.

**Results:** The data collected throughout the interview process was organized into four different categories including the history of gaining and losing weight, occupational performance, habituation, and volition. Two assertions emerged from the various themes and categories. The first assertion was the overall quality of life was improved for individuals who had undergone bariatric surgery. The second assertion that emerged was that as individuals lose weight they need to transition into new roles, develop new habits/routines, and implement new coping strategies. The challenges associated with these changes were counteracted by the increased energy levels and productivity in occupational engagement.

**Conclusions:** The results of this study indicate that occupational therapy can assist individuals who have undergone bariatric surgery transition into new roles; develop new habits, routines and coping strategies; and provide education on energy conservation techniques that facilitate increased occupational engagement. Although positive surgery outcomes have been reported, approximately 20% of the patients are unsuccessful with losing weight or maintaining weight loss due to challenges associated with implementing healthy lifestyle changes (Sarwer, Wadden & Favricatore, 2005). Future research is suggested to explore the effectiveness of occupational therapy’s involvement in a comprehensive bariatric surgical program. The research could help define occupational therapy’s role in assisting individuals who have undergone bariatric surgery implement postoperative lifestyle changes.

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Professor Breann Lamborn

Jenny Lantgen-Lok & Mike Seabeck  
Advisor: Professor Lamborn

**A Research Study to Explore Casper College Undergraduate Majors’ Perceptions of Educational Curriculum Concerning Occupational Therapy's Role in the Public School System.**

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**A Research Study to Explore Casper College Undergraduate Education Majors’ Perceptions of Educational Curriculum Concerning Occupational Therapy’s Role in the Public School System.**  
Jenny Lantgen-Lok, MOTS and Mike Seabeck, MOTS

**Purpose:** The purpose of this study was to determine the level of knowledge concerning OT roles in the school district setting that undergraduate education majors are receiving at Casper College.

**Methodology:** Data was collected from 57 participants through the use of survey to identify pre-service teachers’ perception of occupational therapy and the education they have received in their coursework.

**Results:** Results of this study indicate that undergraduate education majors at Casper College are receiving less than optimal instruction on the role of OT in school-based practice. Overall 91% of students polled indicated that they had not received education on OT in their coursework. Conclusions: Collaboration between educators and OT is necessary for both professions to operate effectively in a national system of federally mandated services. The lack of
understanding of the role of OT in the public school setting may complicate the collaborative process between OTs and public educators during special education service delivery.

The Role of Occupational Therapy in the Neonatal Intensive Care Unit (NICU).
Sarah Mathieu, MOTS and Gwendalyn Mollerud, MOTS

Purpose: The purpose of this research is to explore the role of occupational therapy (OT) neonatal intensive care units (NICUs). There has been limited research pertaining to the current overall role of OTs in the NICU. In order to explain/demonstrate the multifaceted roles of OTs within the NICU a survey was sent out to 90 NICUs in hospitals throughout the United States (U.S.).

Methods: A non-experimental exploratory research design was used to gather and analyze information from participants. The survey consisted of 16 qualitative and quantitative items, divided into three main areas: NICU work setting and staffing level, professional background items, and NICU practice role and description items. There were 19 respondents; this is a response rate of 21%. Responses were analyzed using Microsoft Word 2007™, Microsoft Excel 2007™, and SPSS 18®. Thirteen surveys that were completed by OTs were included for data analysis.

Results/Conclusions: OTs are employed in some NICU settings across the United States and serve a multifaceted role, such as: providing parent education, stress signal education, positioning, and feeding/pre-feeding, as well as others. The OTs employed in the NICU have previous pediatric experience, an average of 4.9 years. There is a need for collaboration with the American Occupational Therapy Association in order to fully understand the role of OTs employed within the NICU

A Comparative Analysis of Tractor Seating for Individuals with Spinal Cord Injury Using a Pressure Mapping System
Veronica Boeser, MOTS and William Kennington

Purpose: Research is limited in addressing the many factors and variables associated with enabling farmers/ranchers with disabilities and health impairments to sit within and operate dynamic agricultural equipment safely, comfortably, and without integument and musculoskeletal injury. As an initial foray into investigating this problem, an independent study project by graduate students in an occupational therapy program compared the seated pressure distribution of two people with paraplegia. Six testing conditions were completed while participants were seated upon two different tractor seats under static conditions.

Methodology: Using a quantitative cross-over design, two adult subjects with paraplegia meeting the inclusion criteria were recruited using a convenience sampling method to participate in this study. The subjects reported having a complete injury of a motor and sensory function below the level of the lesion T5 and T8. Utilizing a clinical protocol for pressure mapping from XSensor®, each participant completed six trials on two different tractor seats: without a cushion, with a Low Profile® ROHO® air bladder cushion, and with a Mid Profile® ROHO® airbladder cushion. Analysis of the data was conducted through selected clinical methods.

Results: Of the six testing conditions in this particular study, incorporating a Mid Profile® ROHO® cushion is indicated for use on both tractor seats by both subjects in the study to achieve lower overall average pressures,
distribute body weight over a greater surface area, increase immersion and flotation on the seating surface, and lower pressures under bony prominences such as the ischial tuberosities.

**Conclusion:** Due to limited participants in this exploratory study, statistical conclusions cannot be made and generalization of the results to a larger population cannot be drawn at this time. The findings do support the need for future tractor seating studies with people with different disabilities and health impairments within static and dynamic systems. For purposes of clinical decision-making, the independent study provides important information for farm operators with disabilities and health impairments and the professionals providing services to them to better understand the many factors and variables associated with seating in agricultural machinery. Pressure mapping is clearly one clinical tool to be used when considering the seating needs of people with disabilities in agricultural equipment.