

GAS and Single Subject Design to Determine Effectiveness of Sensory Social Group Intervention Protocols on Social Participation in Children with ASD

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Background

- According to the Centers for Disease Control and Prevention (CDC) (2014), the prevalence of Autism Spectrum Disorder (ASD) in the United States is 1 in 68 children.
- Deficits in social communication, social participation, and sensory processing are key limiting factors in functional performance for children with ASD.
- There is limited research available demonstrating the effectiveness of pairing sensory based activities and social skills instruction as a means to improve social participation. However, both sensory integration (SI) and group based social skills instruction have been shown to be effective intervention strategies for children with ASD.
- "Utilizing SI as a treatment approach provides children with the appropriate level of sensory input throughout engagement in activities to enhance participation and social interaction" (Schaaf et al., 2010, p. 106).
- When implementing Social Skills Training (SST), a group format is preferable as children can apply the learned skills immediately in a group activity (Olson, 2010).

Purpose

- To determine the effectiveness of group intervention, pairing sensory based activities (SBAs) with SST to measure improvement of social participation in children with ASD.
- Use of Goal Attainment Scaling (GAS) to create goals and measure performance improvement.



Sensory Social Group

- Children ages 6-12
- Diagnosis of ASD and sensory/social deficits
- Weekday summer camp at Misericordia University
- 15, two hour sessions
- Lead researcher and 7 master's level OT students
- Pairing SBAs and SST
- Daily session format: 4 key components

Circle Time



Social skills introduced and practiced

Obstacle Course



Sensory input to facilitate an adaptive response

Sensory Craft



Daily craft for a sensory tool box

Sensory Snack



Created snacks to engage the senses

Social Skills Rating Form

- Daily data collection sheet
- Based off of the Social Participation Frame of Reference
- Measures the amount of assistance needed in 5 areas:

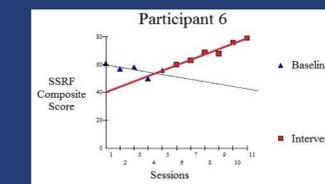
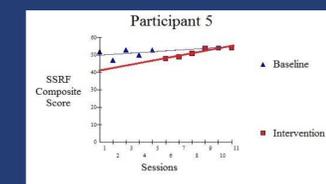
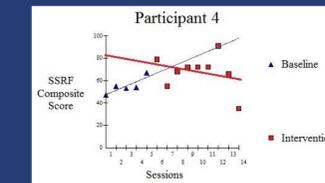
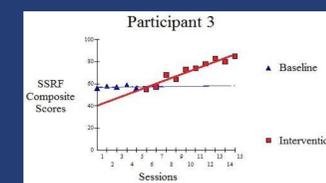
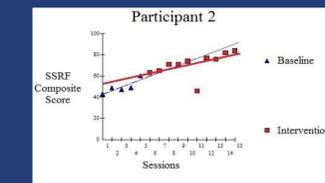
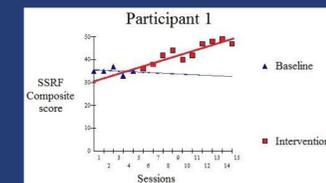
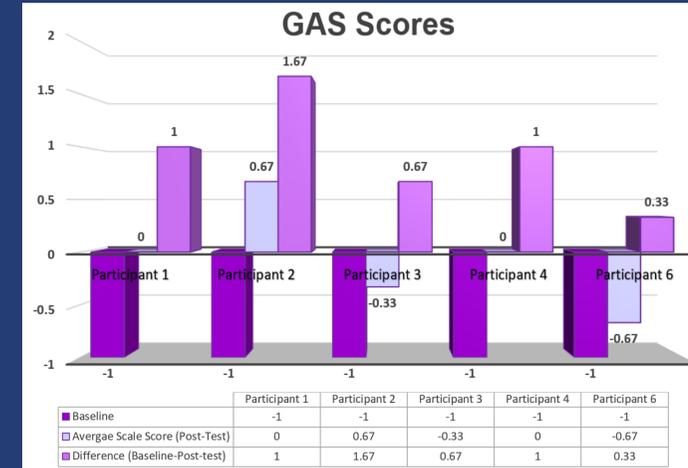
1. Initiating behaviors; 2. Responding Behaviors; 3. Self-Regulation; 4. Emotional Regulation; 5. Peer Interaction

Goal Attainment Scaling (GAS)

Score	Explanation
+2	Much more than expected outcome
+1	More than expected level of outcome
0	Expected level of outcome
-1	Less than expected level of outcome
-2	Much less than expected outcome

- GAS is an evaluative tool that uses outcome scales to establish and organize goals and measure individual progress (Kiresuk, Smith & Cardillo, 1994).
- The lead researcher developed three goals for each participant using this tool based on the Social Skills Rating Form
- "0" is the expected outcome that is developmentally appropriate and achievable.
- Use of an independent evaluator of last two sessions to determine each child's progression or regression towards individual goals

Participants	Test Measures	Procedures
8 initial participants; 5 final sample size	Sensory Processing Measure (SPM)	Recruitment Screening questionnaire (telephone interview)
Children ages 6-12 years old	Social Responsiveness Scale (SRS-2)	Parent interview (semi-structured) SPM, SRS-2, GARS
Diagnosis of ASD	Gilliam Autism Rating Scale (GARS) *level of ASD	Goal development using GAS
Sensory deficits present	Social Skills Rating Form (SSRF)	Social skills tracking (SSRF)
Single subject design	Goal Attainment Scaling (GAS), SSRF composite scores	Independent Evaluator; Daily ratings



	TREND	SPLIT MIDDLE LINE	BINOMIAL TEST
Participant 1	Positive	Statistically Significant	P value < .05
Participant 2	Positive	No Statistical Significance	P value > .05
Participant 3	Positive	Statistically Significant	P value < .05
Participant 4	Negative	Unstable/Variable Data	P value > .05
Participant 5	Positive	No Statistical Significance	P value > .05
Participant 6	Positive	Statistically Significant	P value < .05

Results

3/6 Participants data showed statistical significance that following the pairing of SBA and social skills training, SSRF scores increased in children with ASD.

5/6 participants showed positive trends in data over the intervention period.

Primary areas of improvement included: ability to self-regulate and engage in prosocial behaviors (turn-taking and body language)

Absenteeism and comorbid diagnoses had a dramatic impact on data collection (number of visits attended, diagnoses of ODD, ADHD, and Down's syndrome). This indicates the future need for more stringent inclusion criteria and reconfiguring of parent questionnaires' and screening tools.

2 participants excluded due to severity of behaviors, leading to group disruption.

Limitations

- No randomization
- Small sample size
- Short Duration
- Adherence to Exclusion Criteria
- Missed Sessions
- 1 female participant

Recommendations

- Increased number of sessions, randomization, and a larger sample size
- An experimental, comparison control group with a variety of genders and ages would increase generalizability
- Retrospective studies should include a follow up, post-test maintenance program

Discussion and Conclusion

- Contributes to the limited research for use of sensory-based techniques and social skills training to increase social participation in children with ASD
- Results are promising, with three participants reaching expected outcomes
 - Improvement in the average scaled score amongst all participants
- This research suggests that through sensory based interventions, children with ASD are able to better regulate their environment resulting in successful learning of pro-social behaviors and overall improvement in social interactions

Acknowledgements

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Service Learning as a Means to Promote Personal Growth and Self-Efficacy: Working with Homeless Populations

Joseph Cipriani, Ed.D., OTR/L, Professor, Department of Occupational Therapy

Introduction

Service learning (SL) is an increasingly used approach in post-secondary education, yet there is a dearth of rigorous research studies on its effects on students who participate (Flecky, 2011).

Sanders et al, (2016) published an article where statistically significant effects on personal growth, personal and community self-efficacy were found, among students who participated in an SL course in their OT education. The author of the current study adapted the Sanders et al. research methodology and applied it to a new population, the homeless, via a semester long SL course for OT students which featured a strong component of structured reflection via reflective journaling. Specifically, the instructor preset questions that encouraged intentional personal and academic reflections, including opportunities to reflect on social and occupational justice, health and well-being.

Purpose

This project explores the effects of a SL course of 8 students on personal growth, community and personal self-efficacy via three assessments.

Service Learning Course

This course was a 3 credit semester long elective in the entry level master of science program in occupational therapy at Misericordia.

The author was the instructor, The class combined class based experiences with fieldwork at two related sites:

- Ruth's Place – an emergency homeless shelter for adult women in Wilkes Barre, PA (Class ran Fall 2016, 2017)
- Manna House, a transitional living program for young adults who were homeless, also located in Wilkes Barre, PA (Class ran Fall 2017)



Method

In the present study, eight students were tested via the Personal Growth Initiative Scale, General Self-Efficacy Scale and the Community Self Efficacy Scale, via a pretest (beginning of class) and posttest (end of class) paired samples design. Informed consent was obtained prior to any data collection.

References

- Flecky, K. (2011). Foundations of service learning. In K. Flecky & L. Gitlow (Eds.) *Service-learning in occupational therapy education: Philosophy and practice*. Sudbury, Mass: Jones and Bartlett.
- Sanders, M.J., Van Oss, T., & McGeary, S. (2016). Analyzing reflections in service learning to promote personal growth and community self-efficacy. *Journal of Experimental Education*, 39, 73-88.

Results

Variable	Pretest Mean	Posttest Mean	t	Sig
Community Self Efficacy	82.6	87.6	-1.39	.21
Personal Growth	31.7	35	-2.47	.04
General Self Efficacy	30.2	31.9	-1.48	.18

Discussion

Despite the low sample size, significant effects were found for increased personal growth, with positive trends towards increased general self efficacy and especially community self efficacy at the time of the posttest. The deliberate use of reflective journaling throughout the semester, both in terms of didactic readings and fieldwork experiences, may have contributed to these changes.

Suggestions for Future Research

Plan is to replicate this study again with future classes, increasing both the size and heterogeneity of the sample, to see if the preliminary findings mature into statistically significant change in the relevant variables.

Conclusion

The use of reflective journaling hold promise to educators to promote deeper levels of analysis of experiences in service learning classes.

Exploring the Use of Complementary and Alternative Medicine in Occupational Therapy

Perspectives from Fieldwork Educators

Kayleigh Elser, OTS, Jessica Gardiner, OTS, Kaili Higgins, OTS, Jillian Robinson, OTS, Gwen Bartolacci, OTD, OTR/L

Background Info & Literature Review

- There is a rise in the use of complementary and alternative medicine therapies (CAM)
- 4 in 10 adults in the U.S. use CAM therapies
- 1 in 9 children utilized CAM therapies in 2007 (NCCIH, 2016b).
- Diagnoses:
 - Adults with musculoskeletal problems
 - Chronic conditions: back pain, multiple sclerosis (MS)
- “OTs have been using CAM therapies such as meditation, massage, and guided imagery” (AOTA, 2011).

Purpose

- Identify the types of complementary and alternative methods being used by OT practitioners
- Identify the diagnoses and types of clients that are being treated with these methods
- Identify how often complementary and alternative methods are being used by OT practitioners
- Determine if there is a need for students to become more familiar and knowledgeable about different complementary and alternative methods & therapies prior to starting Level II fieldwork (clinical training)

Research Design and Methods

- Qualitative methodologies
- Self-administered questionnaires, semi-structured interviews and phone interviews.

Results

- 150 questionnaires were mailed out
- 17 of questionnaires were returned (11%) and 3 phone interviews were completed
- Themes included “reimbursement” issues and “being open” to using CAM therapies

Demographics of Respondents

Demographics	Number of Respondents	Percentage of Respondents
Years of Experience		
1-5 Years	2	12%
5-10 Years	0	0%
10-15 Years	3	18%
15-20 Years	6	35%
20+ Years	6	35%
Academic Accomplishments		
BS degree in Occupational Therapy	10	59%
MS degree in Occupational Therapy	6	35%
OTD	2	12%
BS/BA degree in another discipline	2	12%
MS/MA degree in another discipline	1	6%
Setting of Practice		
Acute Care Physical Disabilities	7	41%
Acute Care Psychiatric Unit	1	6%
Community Geriatrics	1	6%
Home Health	1	6%
Long-Term Acute Care Facility	1	6%
Nursing Home	3	18%
Outpatient	6	35%
Outpatient Hand Therapy	2	12%
Rehabilitation	5	29%
Skilled Nursing Facility	3	18%

Results

Complementary and Alternative Medicine Fieldwork Educators Currently Use

Treatment Method	Number of Respondents	Percentage of Respondents
Acupuncture	0	0%
Ayurvedic Medicine	0	0%
Craniosacral Therapy	0	0%
Energy Therapies	3	18%
Massage	3	18%
Mind-Body Therapy	1	6%
Movement Therapy	1	6%
Special Diets	0	0%
Qi Gong	0	0%
Tai chi	0	0%
Yoga	5	29%
Other	3	18%

Complementary and Alternative Medicine Fieldwork Educators Would Use

Treatment Method	Number of Respondents	Percentage of Respondents
Acupuncture	1	6%
Ayurvedic Medicine	0	0%
Craniosacral Therapy	6	35%
Energy Therapies	4	24%
Massage	6	35%
Mind-Body Therapy	11	65%
Movement Therapy	10	59%
Special Diets	6	35%
Qi Gong	1	6%
Tai chi	6	35%
Yoga	10	59%
Other	2	12%

Implications for OT Practice

- Focus on education and advocacy
- Increasing one’s own knowledge of CAM and alternative therapies
- Education on the use of CAM and advocating for the use of CAM in conjunction with traditional methods

Conclusion

- Limited knowledge and use of CAM therapies
- Respondents were open to learning more about CAM therapies and incorporating them into practice if more research becomes available supporting their effectiveness.
- The respondents agreed that CAM therapies can be a good adjunct to treatment
- Concerns with reimbursement

Limitations

- The study had limitations which had major effects on the results.
- Limited number of questionnaires and phone interview responses
 - Questionnaire and phone responses to questions were limited
 - Limited to only Misericordia University fieldwork educators
 - Limited locations the questionnaires were mailed out to

Purpose and Research Design

- The purpose of this study was to examine the impact of weighted blankets on physiological parameters of clients with dementia as a means to gauge their stress response.
- Researchers used a mixed method single subject research design.

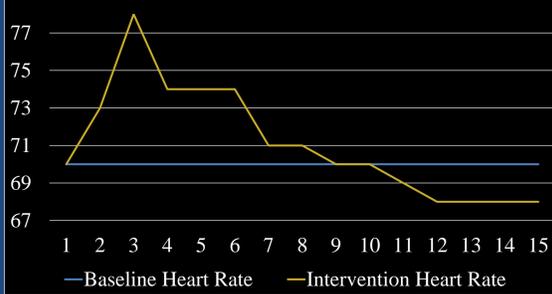
Methods

- Data collection consisted of individualized sessions with the principal investigator present in the resident's room. Patients were seated in their wheelchairs with limited distractions.
- The process began when the principal investigator placed the weighted blanket on the patient for a 15 minute duration.
- Wrist cuffs were placed to obtain blood pressure pre-, mid- and post-intervention.
- Heart rate and pulse oxygen levels were monitored on a minute-basis throughout the intervention via a pulse oximeter.

Background

- Dementia is a severe deteriorative condition that gradually impacts the abilities of an individual to cognitively comprehend and process tasks of daily living.
- From a neuropsychiatric perspective, symptoms of dementia include anxiety, apathy, hallucinations, delusions, and disinhibitions (Fraker, Kales, Blazek, Kavanagh & Gitlin, 2014, p. 4).
- Weighted blankets are a therapeutic modality which provide deep pressure stimulation to the body, this deep pressure is applied equally and replicates the feeling of being held or swaddled (Grandin, 1992, pp. 63-72).
- From a neurological perspective, this deep pressure provides a calming mechanism through a series of intricate neurochemical transmissions.
- One way to quantify anxiety levels is through the monitoring of blood pressure and heart rate. Typically the lower the number, the more relaxed and less anxious the individual is.
- The weight of the blanket was 12 pounds. This was chosen based on the results of a study by Champagne, Mullen, Dickson, and Krishnamurty.

Patient One Heart Rate



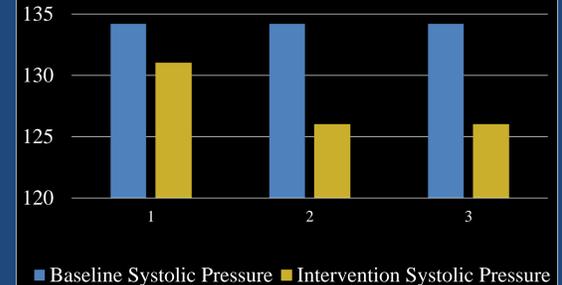
Heart Rate

	Delta Δ	Percentage	Increase/decrease	Effect size
Patient 1	.43	16.6%	Increase	Small
Patient 2	-.09	3.58%	Decrease	Small
Patient 3	-.77	27.9%	Decrease	Small
Patient 4	-1.08	36%	Decrease	Medium
Patient 5	-.33	12.9%	Decrease	Small

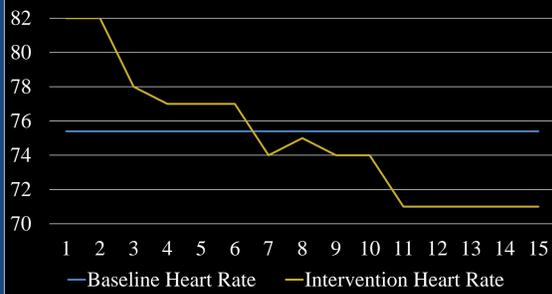
Systolic Blood Pressure

	Delta Δ	Percentage	Increase/decrease	Effect size
Patient 1	-1.40	41.9%	Decrease	Medium
Patient 2	-1.19	38.3%	Decrease	Medium
Patient 3	-1.44	42.5%	Decrease	Medium
Patient 4	4.41	>50%	Increase	Large
Patient 5	-.33	12.9%	Decrease	Small

Patient One Systolic Pressure



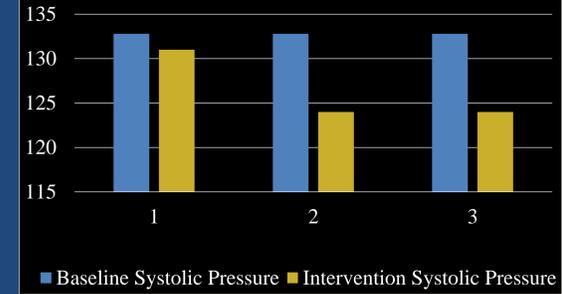
Patient Two Heart Rate



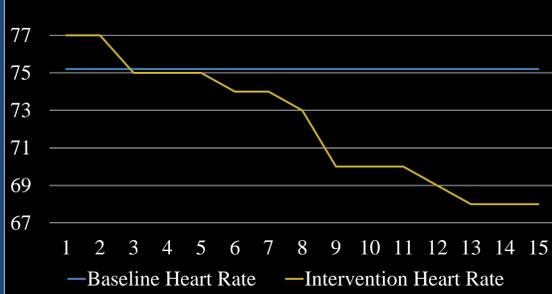
Quantitative Results

- Results were quantified via the effect size measurement of the delta index (Δ). The ES Method of calculating Δ determines the magnitude of the effect of the intervention in comparison with the baseline (Bloom, Fischer, & More, 2009, p. 474). To better match the methodology of the study, a modified classification system of Δ was used. This modified classification system was proven to provide accurate results when using single-system data (Parker & Vannest, in press).
- Within the context of the study, Δ indicates a negative effect of weighted blankets on stress responses. This negative effect is the result of an overall decrease in heart rate and systolic blood pressure.
- Data was additionally placed into graphs to provide a visual representation of the effectiveness of the intervention. For both heart rate and blood pressure, a pre-intervention mean which consisted of the 10 previous vital signs collected by nursing staff at the unit. This mean was collected to provide a baseline to compare with intervention data.

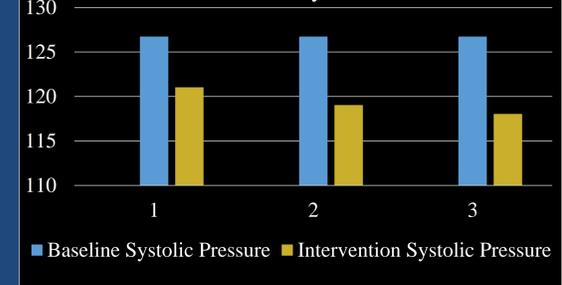
Patient Two Systolic Pressure



Patient Three Heart Rate



Patient Three Systolic Pressure



Qualitative Results

The Behavior Rating Scale (Adapted from Pittsburgh Agitation Scale) monitors four areas of behavior. All areas of behavior were measured on a zero to four scale with zero indicating absent behavior and four indicating severe behavior.

Patient 1:

- Aberrant vocalizations: 0 \rightarrow 0
- Motor Agitation: 2 \rightarrow 1
- Aggressiveness: 0 \rightarrow 0
- Resisting Care: 0 \rightarrow 0

Patient 2:

- Aberrant vocalizations: 2 \rightarrow 1
- Motor Agitation: 3 \rightarrow 1
- Aggressiveness: 2 \rightarrow 0
- Resisting Care: 2 \rightarrow 1

Patient 3:

- Aberrant vocalizations: 1 \rightarrow 0
- Motor Agitation: 2 \rightarrow 0
- Resisting Care: 0 \rightarrow 0
- Aggressiveness: 0 \rightarrow 0

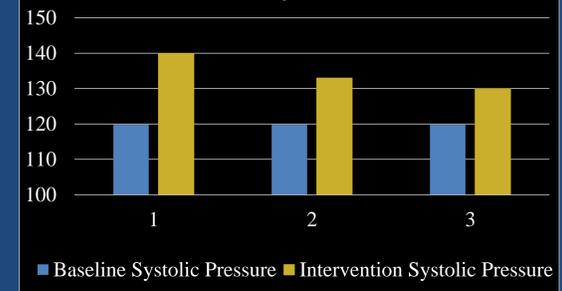
Patient 4:

- Aberrant vocalizations: 3 \rightarrow 1
- Motor Agitation: 2 \rightarrow 1
- Aggressiveness: 0 \rightarrow 0
- Resisting Care: 3 \rightarrow 2

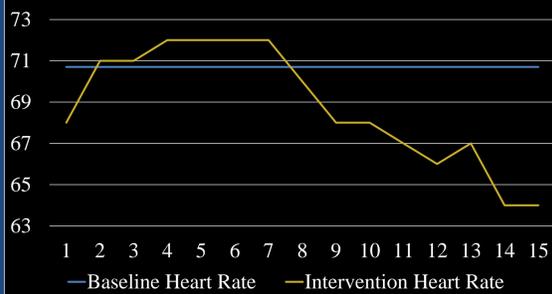
Patient 5:

- Aberrant vocalizations: 1 \rightarrow 1
- Motor Agitation: 1 \rightarrow 0
- Aggressiveness: 0 \rightarrow 0
- Resisting Care: 0 \rightarrow 1

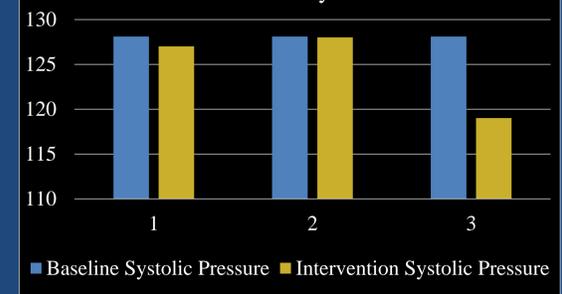
Patient Four Systolic Pressure



Patient Five Heart Rate



Patient Five Systolic Pressure

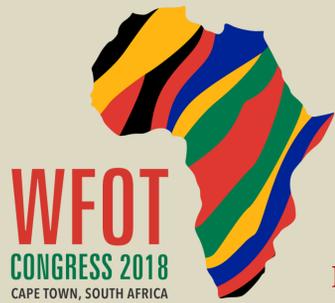


Note: Baseline indicates the average of 10 consecutive pre-intervention heart rates.

Note: Baseline indicates the average of 10 consecutive pre-intervention systolic pressures.

Conclusion

The results of the study indicate that weighted blankets decrease stress responses in individuals with dementia. The majority of patients experienced a decrease in heart rate and systolic blood pressure throughout the intervention. Results from the Behavior Rating Scale demonstrate a decrease or stagnation across all domains of behavior. In conclusion, the results of this study signify weighted blankets have the potential to reduce stress and agitation in patients with dementia. While this study illustrates the effectiveness of weighted blankets by decreasing stress responses in patients with dementia, additional studies with higher levels of evidence should be conducted to provide a higher degree of validity and reliability.



Facilitating Educational Impact and International Cooperation through Accreditation Council for Occupational Therapy Education (ACOTE®) Accreditation

Ellen McLaughlin, Ed.D., OTR/L, FAOTA, Misericordia University, Dallas, Pennsylvania; ACOTE Roster of Accreditation Evaluators
 Pamela Roberts, Ph.D., OTR/L, SCFES, CPHQ, FAOTA, Director of Academic and Physician Informatics; Professor and Director of Physical Medicine and Rehabilitation, Cedars-Sinai Health System, Los Angeles, California; Chair, ACOTE

Opportunities and Barriers in the Current International Climate

Opportunities

- ❖ Programs can attain a *distinct recognition status* that separates themselves from their competitors.
- ❖ The program's *international profile is enhanced*.
- ❖ ACOTE accreditation status may be a **marketing strategy** as it may be desirable to students who may wish to be further educated or work in the US following graduation, as the current process for NBCOT verification has been perceived to be time intensive.
- ❖ **Improved awareness and knowledge** of varied social, educational and health care systems for all involved.
- ❖ Until recently, internationalization of accreditation has been *promoted by globally focused organizations* such as CHEA, UNESCO and others..
- ❖ May encourage more students from US to obtain their occupational therapy education at a non-US program.

Barriers

- ❖ The 2027 mandate for doctoral entry level education to receive ACOTE accreditation may be seen as a barrier by many non-US occupational therapy programs.
- ❖ International higher education is being considered by some as a highly volatile business lately due to concerns related to Brexit, VISA restrictions imposed by the US and other countries, and growing trends toward nationalism rather than globalization.
- ❖ Language barriers need to be considered and planned for.
- ❖ Varying opinions exist as to which standards must be interpreted in a strictly consistent manner and which are open to more subjective interpretation based on culture and context.
- ❖ The need for evaluator training to understand different educational systems and to recognize issues of complexity when applying standards to a non-US program exists.

Standards that May Differ in Interpretation in International Settings

A Standards: General Requirements

A2.4, A2.6, C1.11 All refer to how OT practitioners are regulated in a particular jurisdiction

A2.4 Specifies use of an alternative and equivalent external review process for evaluating degrees obtained outside of the US for faculty requirements

A2.7 Content in the curricula must reflect geographical area served by the program

A4.6, A4.8 Refer to US terminology to track "felony" convictions and privacy laws (FERPA)

A6.4 Requires incorporation of AOTA philosophical base

A6.6 Organization of syllabi may need to match general US requirements



B Standards: Content Requirements

B3.0 Occupational therapy theoretical perspectives may need to address common US approaches

B4.4 Intraprofessional OT and OTA collaboration

B4.11, B4.20, B4.28 terms primary care, deep thermal and electrotherapeutic modalities, care coordination and case management

B4.8, B5.1, 5.2, 5.4, 5.5 All contain elements related to state and national policy, regulation, politics, etc.

B7.1 AOTA Code of Ethics and Standards of Practice

C 1.10 requires a minimum of 24 weeks of Level II experience

C Fieldwork (Practice Placement) Standards and Doctoral Experiential Standards

Proposed doctoral standard D1.3 requires a 14 week doctoral experiential component

Potential Benefits to International Educational Collaborations

**PREPARES GLOBAL PRACTITIONERS * ENHANCES CLINICIANS * FACILITATES BROADER EDUCATIONAL COMMUNITIES
 BROADENS PERSPECTIVES * PROMOTES COLLABORATIVE EDUCATION AND RESEARCH**

Studying in a non-US country and being exposed to additional US perspectives promotes adaptation to varying circumstances.

ACOTE's interpretation of standards applied around the world may broaden, and can potentially impact perceptions of the larger educational community. The profession may have enhanced potential to produce global practitioners if students have graduated from a curriculum validated by more than one country.

May open up opportunities for collaborative educational programming, online alliances and student faculty exchanges.

May initiate collaborative research on the student and faculty experience, as well as outcomes across boundaries.

Can more readily permit fieldwork/practice placement for non-US students in the US, which informs and broadens practice and perspectives in both countries.



Background Info & Literature Review

- Psychosocial factors are important to address within practice due to their contribution to clients' well-being and participation in occupation.
The Accreditation Council for Occupational Therapy Education (ACOTE) has Standard C.1.7 implemented to ensure that students have at least one fieldwork placement in a setting where psychological and social factors are the primary focus (ACOTE, 2015).
A study by Hayden, Cause-Upton, and Fehringer (2015) found that students who completed a psychosocial fieldwork placement were better able to utilize therapeutic use of self to address clients needs.
Concerns have been identified for the lack of availability of psychosocial fieldwork placements for students (Hayden et al., 2015; Rydeen Kautzmann, Cowan & Benzing, 1995).
Rydeen et al. (1995) suggested use of faculty-led placements as they were shown to increase students' confidence, clinical skills, and ability to connect theory and practice.

Significance

Currently, the ACOTE Standard C.1.7 is broadly interpreted; therefore, this study hopes to provide a resource for academic fieldwork coordinators to provide insight and guidance when designing and assigning psychosocial fieldwork placements.

Purpose

Investigate differences between faculty-led and non-faculty-led pediatric psychosocial fieldwork groups on students' understanding of psychosocial factors within the occupational therapy department of Misericordia University

Research Question

How does faculty-led versus non-faculty-led pediatric psychosocial fieldwork facilitate or enhance students' ability to understand psychosocial factors?

Research Design and Methods

- Research Design: Mixed methodology consisting of both qualitative and quantitative data.
Population: Purposeful sampling utilized to select students in academic cohorts of 2017, 2018, and 2019 in faculty-led and non-faculty led level I pediatric psychosocial fieldwork placements
Instruments: Survey questionnaire, Interviews, Digital recorder
Data Analysis: Quantitative results analyzed utilizing descriptive statistics
Qualitative data results analyzed by employing open, axial, and selective coding processes.

Results

Qualitative Survey Results

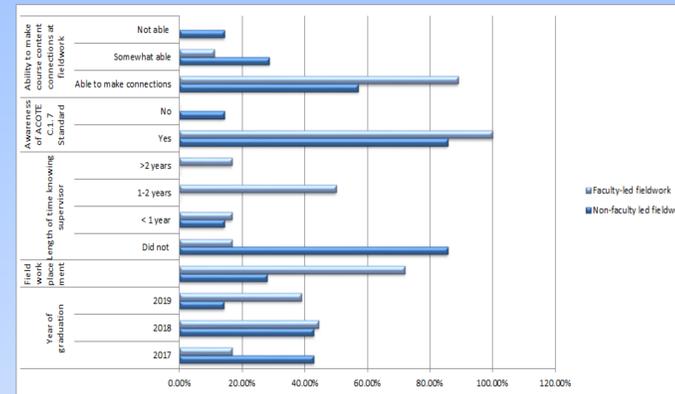
Table with 3 columns: Category, Faculty-Led, Non-Faculty-Led. Rows include Students' Ability to Make Coursework Connections and Students' Definition of Psychosocial Factors.

Qualitative Interview Results

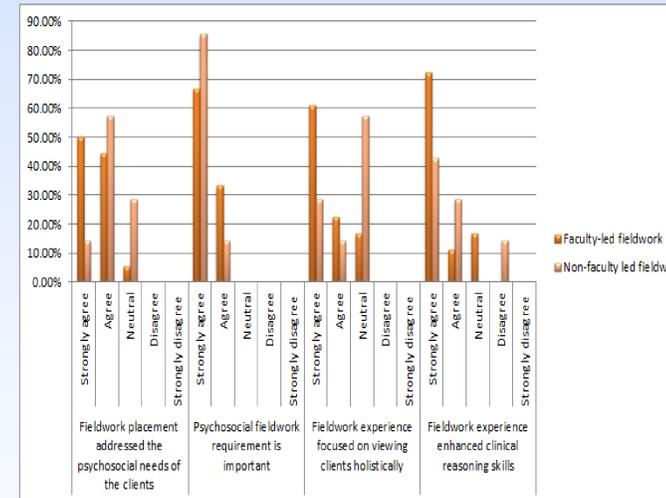
Table with 3 columns: Category, Faculty-Led, Non-Faculty-Led. Rows include Supervisory Relationship, Integration of Coursework Materials, Need for Addressing Mental Health, Definition of Psychosocial Factors, Understanding of psychosocial factors, Most Important Settings to address psychosocial factors, and Occupational therapy's role in incorporating psychosocial factors into practice.

Results

Quantitative Survey Results



Quantitative Survey Results: Likert Scale



Limitations

- Students have various levels of academic and clinical experiences since study subjects are from 3 different academic grades (2017, 2018, 2019).
Time lapse between the time individuals had the psychosocial pediatric placement and time of interview.
72% of respondents were from faculty-led placements, while 28% were from non-faculty-led placements.
Generalization of results are limited since the study only examined the Misericordia occupational therapy department.

Conclusions

Evidently, nontraditional placements are beneficial for students' understanding of psychosocial factors. Students in FLP obtained a greater holistic view on psychosocial factors and the impact that they have on occupation compared to their counterparts. The results from the study also encourage further research to explore how FLP versus NFLP influence students' overall learning during level I fieldwork experiences.

Implications for OT Practice

- Researching students' understanding of psychosocial factors during fieldwork is important to clinical skill development as future practitioners.
Results from this study can be utilized to:
Assist other universities when developing alternative level I pediatric psychosocial fieldwork placements
To fill the fieldwork placement gap and be an alternative to traditional level I fieldwork placements.

References

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Horticulture within Mental Health Practice in Occupational Therapy: Assessments, Interventions, Innovations, and Research

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Introduction

The therapeutic use of gardening has a rich history within occupational therapy dating back to at least the 1930s (Wagenfeld, 2013), and references exist back to ancient times. There has been an extensive amount of literature written about the therapeutic benefits of working with plants, but there is an almost unlimited amount of opportunities for occupational therapy professionals to incorporate horticulture and nature within their practice. Although horticulture has often been criticized as having minimal evidence as to its effects, in fact there is an ever-expanding established research base on the therapeutic benefits of this intervention.



Sample Assessment

The *Interaction with Nature* scale (IWN) (Wagenfeld, Toews, & Stevens, 2016) was designed to measure the impact of a therapeutic planting activity on the emotional state of women incarcerated on a mental health unit at an Iowa state prison. The two-sided pre/posttest card contains four visual analog scales to measure perceived movement of four emotional states: sadness-happiness, anger-peacefulness, stressed-calm, and hopelessness- hopefulness. Each scale is anchored with emojis, a simple and universal means to convey personal feelings which users find useful for conveying information. Preliminary analysis shows Cronbach's Alpha scores of .906 pretest and .947 posttest respectively.



Possible Interventions

The *Interaction with Nature* scale has been used to measure the impact of a therapeutic horticulture activity the emotional state of female offenders with identified mental health diagnoses, inpatients at an adult psychiatric hospital, and staff at a mid sized office.

Think Aloud!

Take a sticky note and-

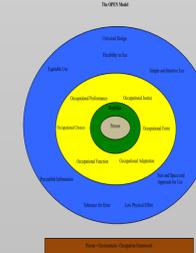
1. Identify clients for whom the *IWN* could be used to measure the impact of a therapeutic horticultural activity on emotional state.
2. Think of a specific therapeutic horticultural activity that could be used with the selected clients.
3. Place your completed sticky note on the poster. If you would like to see the final results, please provide us with your email.

Sample Innovation

As part of a grant to expand the gardening capabilities and enhance biophilia at the Nikkei Manor Assisted Living Facility and Kokoro Kai Adult Day Care Center in Seattle, funds were provided to design and install a vertical garden for the second-floor balcony. To best meet the unique needs of the predominantly aging Japanese American residents and attendees of the day care program, an interdisciplinary participatory design process was facilitated by an occupational therapist and landscape designer and several staff and volunteers. 41 residents and day care attendees participated in a three-station activity to help inform how the vertical garden was to look and to determine the dimensions for optimal usability.

One activity station had two card sorts to inform what the garden would look like and what planting theme it would contain. Two other stations looked at four different anthropometric measures to guide the dimensions and specifications of the vertical garden.

The participatory design process combined preference with human structure and function; bringing together the skills of landscape design with occupational therapy. Approaching the process as an interdisciplinary team provided information on what the participants wanted the garden to look like and be planted with. The process also yielded the information needed to design the garden so that it is universally accessible to this unique user group.



Selected Research

A systematic review of the benefits of horticultural therapy (HT) on persons with mental health conditions was conducted by Cipriani et al. (2017). A review of research from 1992 through 2015 located 14 studies. Eleven of 14 studies reported statistically significant findings in support of HT for at least one dependent variable. The findings were found in a variety of settings, mental health conditions, and with both genders. This review found moderate initial evidence that HT can improve client factors and performance skills.

A qualitative research project by Cipriani et al. (2018) explored the value and meaning of the Greenhouse Program, a horticultural therapy initiative including a worker role, and its impact on recovery goals of residents with severe and persistent mental illness at an adult, long-term psychiatric facility. Findings revealed two main themes, relating to the essence of the program and personal growth of the participants, supplemented by six sub-themes. The findings suggest that initiatives, such as the Greenhouse Program, are an appropriate intervention that occupational therapy professionals can use in adult inpatient psychiatric facilities.

Selected References

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