

Service Learning in Physical Therapy Professional Education: Student Reflections of the Special Olympics FUNfitness Program

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ABSTRACT

The Special Olympics (SO) FUNfitness Program involves a comprehensive screening for flexibility, strength, balance, and aerobic fitness for individuals with intellectual disability (ID). Doctor of Physical Therapy students at Indiana State University administer the program yearly as part of the Indiana SO Summer Games. Thematic analysis of student reflections revealed increased awareness of individuals with ID, both beneficial and challenging aspects of the experience, and increased likelihood of working with underserved populations in the future.

Keywords: community engagement, underserved populations, intellectual disability, pro bono

INTRODUCTION

Indiana State University (ISU) has demonstrated a strong commitment to community engagement. The university recently has ranked highly in community engagement by Washington Monthly College Guide (Washington Monthly, 2019). The Doctor of Physical Therapy (DPT) Program at ISU attempts to mirror this philosophy and its mission states, “The program will emphasize ways in which future physical therapists can contribute to the health equity of all, including rural and/or underserved populations.”

Each year, the Indiana Special Olympics (SO) Summer Games are held on the campus of ISU. For the past four years, ISU DPT students have volunteered at this event. Students frequently comment that this is one of the highlights of their time in the program. Anecdotally, it became apparent that the program’s emphasis on community engagement through organized service-

learning activities was valued greatly by students. Many students have commented that the program’s focus on experiential learning was their reason for attending this program versus others. Though the program provides numerous opportunities for community engagement throughout the three-year curriculum, the SO event is the largest and impacts the greatest number of community members.

In 1997, SO began offering free health screens to SO athletes in an effort to reduce health disparities commonly seen in individuals with intellectual disability (ID). Currently, services are offered in the following areas: (a) audiology, (b) dentistry, (c) emotional well-being, (d) health promotion, (e) podiatry, (f) physical therapy, (g) sports physical exam, and (h) vision. The FUNfitness Program was developed in collaboration with the American Physical Therapy Association and it includes measures of flexibility, strength, balance, and aerobic fitness (Special

Olympics, 2019). The program is designed to be delivered by physical therapists, physical therapy assistants, and students of these respective disciplines. The participating SO athletes and their coaches and families are made aware of any physical limitations identified during the screen, and both educational and therapeutic interventions are provided. Athletes who are identified as having significant limitations may receive a referral for formal physical therapy services or physician visit if indicated.

In an effort to better understand the student experience of participating in community engagement activities, faculty within the DPT program required students to provide a written reflection after the SO event in the summer of 2018. In grading these reflections, it became apparent that the experience had a tremendous emotional and intellectual effect on students. The decision then was made to perform a retrospective study using thematic analysis to further explore the meaning of this influential event.

LITERATURE REVIEW

Intellectual Disability and Health Disparities

Individuals with ID are reported to have greater health challenges than the average population. These differences have been attributed to: 1) the way society views people with ID, 2) poor health behaviors, 3) environmental factors, 4) health-related mobility, and 5) inadequate access to health care services (Ouellette-Kuntz et al., 2005). A recent study of 1,424,378 Scottish adults, including over 8,000 individuals with ID, found morbidity to be higher in individuals with ID and that these conditions arise at an earlier age compared to the general population. Specifically, individuals with ID presented with significantly higher prevalence in 14 physical conditions (Cooper et al., 2015). Similarly, data from the United States' Behavior Risk Factor Surveillance Survey and the National Core Indicators Consumer

Survey found that adults with ID reported being in poor health more often than individuals with no disability, and these same individuals were more likely to be obese and to have physical inactivity (Havercamp & Scott, 2015).

The relationship between ID and health outcomes also has been studied using qualitative research methods. A study of multiple stakeholders including parents/guardians, self-advocates, community support professionals, and health care professionals revealed similar findings through the use of focus groups and key informant interviews. Individuals with ID experience health care disparities and inequities in access, knowledge, communication, and quality (Ward, Nichols, & Freedman, 2010).

Additional research has found that these disparities may be even worse for individuals with ID who also belong to racial/ethnic minority groups. One study analyzed U.S. national data including the National Health Interview Survey and the Medical Expenditure Panel Survey. Findings indicated that Latino and Black adults with ID had worse health outcomes than White adults with ID (Magana, Parish, Morales, Li, & Fujiura, 2016). Similarly, it has been reported that individuals with ID who also identify with a racial/ethnic minority group, especially Hispanic Americans, have disadvantages related to health care utilization (Scott & Havercamp, 2014).

Pitetti and colleagues reviewed the literature for fitness in individuals with Down syndrome and found they have limited cardiovascular and muscular fitness, greater prevalence of overweight and obesity, and reduced participation in daily aerobic activity, and that physical activity level decreases from childhood into adolescence (Pitetti, Baynard, & Agiovlasis, 2013). Another study collected grip strength data from 1,526 adults with ID for comparison with normative data from the general population. The results indicated that people with ID have very low levels of grip

strength throughout their adult lives. For example, subjects with ID who were aged 20-30 years had comparable strength to 75-year-olds in the general population (Cuesta-Vargas & Hilgenkamp, 2015). A related study of 100 adolescents with ID and comparable controls found that measures of balance and lower extremity/trunk strength and endurance were significantly lower in the ID group (Blomqvist, Olsson, Wallin, Wester, & Rehn, 2013). The authors called for future measures to enhance balance and strength in this population.

Service Learning and DPT Professional Education

Service learning is “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (Seifer & Connors, 2014, p. 5). The physical therapy profession has evolved to value service learning in professional education. It has been stated that these experiences are invaluable and should include exposure to diverse populations, opportunities for leadership, and interaction with clients who have issues that may challenge the student’s problem-solving skills (Hoppes, Bender, & DeGrace, 2005). Service learning allows for provision of physical therapy services to individuals who would otherwise go unserved. For example, PT students have provided fall risk assessment for elderly Hispanic populations resulting in increased client awareness of their limitations, while at the same time students received real-world experience in practicing American Physical Therapy Association (APTA) Core Values including altruism, caring, and compassion (Gazsi & Oriol, 2010). Students’ provision of service to older adults has demonstrated improved attitudes toward working with older people, in addition to increased knowledge of the aging process (Beling, 2003).

It has been suggested that service learning may aide in the development of DPT

student development in the area of professionalism. Crandell and others studied the student experience of working in a student-run pro bono physical therapy clinic. The authors conducted student interviews, collected APTA Core Values Self-Assessment Forms, and analyzed student reflections. Conclusions indicated that use of service learning appeared to make a positive contribution to the professional education of students by supporting patient management skills, and enhancing growth of professionalism and core value expressions, especially compassion/caring (Crandell, Wiegand, & Brosky, 2013).

Service learning in physical therapy professional education has been shown to influence students’ perceptions and future desire and willingness to work with underserved populations. A study of 45 DPT students completed pre-/post-surveys as part of coursework in health promotion and wellness. Students performed extensive interventions with multiple underserved populations; analysis of student surveys indicated that students showed improved interest, confidence, and willingness to participate in future community interventions after graduation (Tapley & Patel, 2016). The authors conclude, “Entry-level student PTs, under faculty supervision, are well positioned to address the preventive health needs of populations, especially those lacking in health equity. The need is great and the call is to serve” (Tapley & Patel, 2016, p. 56).

METHODS

The Community Engagement Experience

The annual Indiana Special Olympics Summer Games are held each summer in Indiana on the campus of ISU. For the last two years, the DPT program has administered the FUNfitness Program as part of the multidisciplinary Healthy Athletes event. During the summer of 2018, 100% of first year DPT students were required to participate in the event as part of a class assignment in PPTH 600 Introduction to Physical Therapy.

Students were required to watch training videos prepared by Special Olympics, then participated in a mandatory, two-hour hands-on training session to assure skills with administration of the tests and measures. All DPT students complete a criminal background check prior to enrollment in the program, and receive training in professional behaviors before participation in the event.

During the day of the event, first year DPT students were paired with second year students to ease their anxiety and also to provide an extra layer of supervision. Each major testing area was supervised by a licensed physical therapist. DPT staff also participated in the event and assisted with client check-in, though students were allowed this opportunity as well since it provided meaningful practice in taking medical histories. Students were rotated through various testing areas such as flexibility, strength, and aerobic function, to prevent boredom and to offer more opportunities for learning. The event lasted approximately eight hours.

Students Reflect on Experience

Using the Blackboard online learning platform, DPT students were asked to reflect on their experience of the event, and to indicate if this participation influenced their likelihood of working with underserved populations in the future. The authors performed thematic analysis using the method described by Braun and Clarke (2006). According to this method, thematic analysis is used for identifying, analyzing, and reporting patterns or “themes” within a cluster of comments/commentary. The procedure is described as flexible, with many interpretations and applicability to a variety of data types and disciplines. There are two primary approaches to performing thematic analysis: inductive or “bottom up,” and deductive or “top down.” Our study utilized the inductive method, since we posed no hypothesis and offered no theoretical rationale for any anticipated results. Thus, our analysis

led to development of themes which were data driven without the influence of preconceived expectations.

The Process of Thematic Analysis

Thematic analysis can be approached from a semantic or latent level. We chose the former due to its focus on the explicit meaning of data or surface meanings, versus the latent approach, which attempts to identify underlying ideas or ideologies that might be gleaned from the data. Our approach is more straightforward and accepts comments at face value as opposed to trying to decipher “what did the student REALLY mean?” This approach still allows for inferences to be made based on the clear and pointed statements from students. However, the authors acknowledge this is a subjective process, and the line is sometimes blurred between a direct statement and its interpretation by a third party.

The method of thematic analysis can further be divided into essentialist/realist versus constructionist variations. We chose the former since it allows for the determination of motivations, experience, and meaning in a more straightforward manner, linking meaning and experience in a simplified, linear fashion. In contrast, the constructionist approach posits a complicated relationship between social and cultural norms, which lead to individual experiences without consideration of individual psychological influences. Our goal was to study the individual student and his/her interpretations of this clinical experience rather than a broader, more comprehensive analysis of society and environmental factors. This decision was made due to limitations from the retrospective nature of the study in which only student personal reflections were available. A more comprehensive study of how individuals with ID are perceived would have required a more robust research design with inclusions of multiple variables outside of the student physical therapist. Indeed, it has been purported that “Any personal or private truth cannot replace public truth for scientific

purposes” (Anastasiou & Kaufmann, 2011, p. 369).

The purpose of thematic analysis is to find repeated patterns of meaning in verbal or written communications, usually in the form of recorded focus groups, interviews, etc. Braun and Clarke (2006) described a six-phase, step-by-step process, outlined in Table 1, and the authors followed this procedure precisely. Phase 1 involves “familiarizing yourself with your data.” In our study, the course instructor and study author copied student reflections from Blackboard and inserted them into a Microsoft Word file. Student names were redacted prior to data analysis. Student reflections then were read and re-read multiple times to immerse the authors into the thought processes of our students. We next proceeded to Phase 2: generating initial codes. Codes, within the method of our thematic analysis, were individual student comments, phrases, or full statements related to a focused idea or concept. For example, if a student stated, “I loved the experience of FUNfitness but felt challenged and overwhelmed by the event,” the phrase “I loved the experience” would be a separate code from “felt challenged and overwhelmed.” Though these comments may have been made within the same sentence, they could have ended up in different and unrelated “themes.” We created these codes in a very tedious and time-intensive process using the cut and paste function of Microsoft Word.

Phase 3 of thematic analysis is termed “searching for themes.” The cut and paste function of Microsoft Word was again used to cluster and sort individual codes into related ideas. This was performed initially with a “rough draft.” Then the authors proceeded to Phase 4: reviewing themes. This phase involves refinement of themes and developing clear distinctions between them. The authors were looking for clear patterns in the data. There were some codes that fit within multiple themes, and this is considered acceptable practice in thematic analysis. Finally,

subthemes were identified within each theme to further differentiate codes and to provide a more detailed analysis.

Phase 5 of thematic analysis is referred to as “defining and naming themes.” In this step, the authors refined previously named themes to provide more clarity and conciseness to each theme. This step involved deep reflection on the part of the authors to consider what the theme really means. A description of each theme was written including sample codes and the authors’ interpretation of what the students were trying to convey. Phase 6, the last and final phase of the process, is “producing the report.” The authors then proceeded to write the results and discussion of the thematic analysis in a concise yet complete manner, offering potential interpretations of student comments when warranted.

This study was reviewed and approved by the ISU IRB and categorized as Exempt. The authors have indicated no conflict of interests in the completion and publication of this study.

RESULTS

Overview of Event

During a one-day event in June of 2018, students from all three cohorts of the DPT program at ISU administered the SO FUNfitness Program under the direction of faculty and local clinicians. A total of 50 DPT students participated in the event (30 who were first year students), in addition to two staff members, six core DPT faculty members, and 10 local clinicians. A total of 265 athletes completed the screening process, the majority of whom also received tailored interventions such as home exercise programs and general patient education related to the findings of their evaluation. A total of 31 individuals were identified as requiring further PT services.

Thematic Analysis of Student Reflections

As part of a reflection assignment in PHTH 600 Introduction to Physical Therapy,

Table 1. *The Six Phases of Thematic Analysis*

Phase	Description of the Process
1. Become Familiar with Data	Transcribe recordings, read and re-read, make note of initial ideas
2. Generate Initial Codes	Systematically code interesting features of data Collate related data
3. Search for Themes	Collate codes into potential themes
4. Review Themes	Consider if themes make sense Generate a thematic map
5. Define/Name Themes	An ongoing analysis to determine final themes Name and define themes
6. Produce the Report	Final analysis of data Include good examples to include in report Relate findings to research question and literature
*Adapted from Braun & Clarke, 2006	

a total of 30 first year DPT students were asked to reflect on the experience using the Blackboard online course management system. Students were provided with a list of questions to consider as part of their reflection:

1. What did you enjoy about the Special Olympics FUNfitness experience from a student perspective?
2. Did participating in the FUNfitness Program teach you anything about underserved populations? If so, what?
3. From your perspective, what challenges did you experience in working with Special Olympics athletes?

Additionally, within this reflection they also were asked to answer the question, “Did FUNfitness make you more or less likely to work with underserved populations in your future practice?” Analysis of student responses yielded the following results: More Likely N=20, Less Likely N=0, Neutral N=8, Didn’t Answer Question N=2. Therefore, 66.6% or two-thirds of students reported they were more likely to work with underserved population after this experience.

Thematic analysis was performed on all student reflections using the procedure outlined in the methods section of this paper. One theme that emerged during the analysis represented student thoughts on characteristics of the target population, namely the Indiana SO Summer Games Olympic Athletes. We titled this theme “Understanding the Underserved.” General comments within this theme pointed to the population’s positive attitude, willingness to improve their lives, and that they were “absolutely inspiring.” Within this general theme, two subthemes emerged: Strong Need for Therapy and Awareness of the Population.

Students were struck by the fact that this underserved population appeared to need

physical therapy services more than the typical person. Comments like “they rarely get therapy” and “they need more help than they currently get” describe an awareness of the limited provision of care these individuals receive. Students seem to think they could make a difference and “change their lives,” perhaps by helping to “eliminate health disparities.”

The experience of participating in the SO FUNfitness Program raised awareness in the students’ minds of a potential future patient population. Some students appeared to have never considered working with individuals with intellectual disabilities. One student stated, “I had never really even considered it previously,” and another stated, “There are groups that need PT that I have never thought of.” There seemed to be the element of surprise in their comments as the experience was without doubt novel and new for most. Students reflected that this volunteer activity “opened my mind” and “opened my eyes to a whole patient population.” Sample student reflections are provided in Table 2.

A second theme emerged within the student reflections that we termed “Effect on Therapist.” It was clear from these statements that students perceived a clear benefit from working with this particular underserved population. At the same time, students expressed concern that interacting with this group of individuals can be especially demanding and challenging for the therapist. These two demarcations arose in the data; therefore, we placed comments in one of two subthemes: Beneficial and Challenging.

Comments describing how working with this population can be beneficial to physical therapists were numerous throughout student reflections, outnumbering any other theme/subtheme. It became apparent that students viewed the experience overall in a positive light, and that they anticipate both tangible and intangible rewards for future work with these populations. Comments like

Table 2. *Understanding the Underserved (Theme 1): Sample Student Comments*

<p><u>General Comments</u></p> <p>“Have the most positive attitude”</p> <p>“Many athletes were absolutely inspiring”</p> <p>“They were so willing to improve their lives”</p> <p>“How much joy I saw it brought these athletes”</p> <p><u>Subtheme: Strong Need for Therapy</u></p> <p>“Need care more than most”</p> <p>“I could really change their lives”</p> <p>“Made me aware that this group exists in our society and has needs that should be addressed”</p> <p>“People who really needed it and really deserved it”</p> <p>“Liked the feeling of helping a pop[ulation] of people that are often overlooked or underserved”</p> <p><u>Subtheme: Awareness of the Population</u></p> <p>“Opened my eyes to a whole patient population I may not have thought too much about”</p> <p>“Opened my mind to working with underserved populations”</p> <p>“I had never really even considered it previously”</p> <p>“Opened my eyes to the benefits of working with underserved populations”</p> <p>“There are groups that need PT I have never thought of”</p>

“extremely rewarding” and “made my heart full” point to how working with this underserved population may create job satisfaction. There were indeed many reflections that reinforced the rewarding aspect of this experience. One student comment perhaps summarized this point: “You can’t help but have a smile on your face the whole time you are working with them!” Finally, students recognized this experience is “unique” and how working with this population in the future may offer a good change from the daily routine of the typical physical therapist.

Within the main theme, “Effect on Therapist,” some students recognized that work with underserved populations could offer special challenges. One concern seemed to be the amount of energy required to sustain this type of work and how this might affect the physical therapist. One student stated, “I was

worn out that evening,” and another, “Not sure I have the energy to do this regularly.” This may be related to the fact that individuals with intellectual disabilities may “require constant stimulation or supervision,” as one student described the process. The idea that working with this population is challenging may not, however, be totally a negative perception since some students seemed to embrace the idea. One student described it as a “fun challenge,” another as a “greater challenge for myself,” and an additional student stated it “challenged me to be creative.” Yet another student pointed to the need to be “innovative” due to the challenge of motivating the client. It seems clear from these reflections that students clearly recognize there could be obstacles along the way, but seem to also embrace these obstacles as a personal challenge that could enrich their professional lives. Sample student reflections are provided in Table 3.

Table 3. *Effect on Therapist (Theme 2) Sample Student Comments*

<p><u>Subtheme: Beneficial</u></p> <p>“I would find it more gratifying”</p> <p>“Overall a great and unique experience”</p> <p>“Really rewarding”</p> <p>“It can help myself with my personal weaknesses with professionalism”</p> <p>“They are so caring and loving which can be a good change from some of your normal patients”</p> <p><u>Subtheme: Challenging</u></p> <p>“Challenged me to be creative”</p> <p>“I was worn out that evening”</p> <p>“Some individuals with disabilities require constant stimulation or supervision”</p> <p>“Not sure I have the energy to do regularly”</p> <p>“It would be challenging due to need to be innovative treating and motivating client”</p> <p>“Communication was difficult”</p>
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A third major theme was identified that related to students’ perceptions of their desire to work with underserved populations after graduation. We termed this theme “Future Disposition.” Within this major theme we identified three Subthemes: Likely, Limited, and Guarded.

A large group of students’ reflections seemed to indicate they were likely to participate in future opportunities to work with underserved populations. Some indicated the event made them even more motivated. Students commented “I am now more comfortable and willing” and “I wanted to work with underserved populations even before I came here, and am encouraged even more!” One student mentioned being more likely to participate now since the event improved his or her awareness of the barriers preventing them from getting care. One student believed the event “expanded my horizons” for opportunities within the PT profession.

Though some students expressed great eagerness to participate in future opportunities to work with underserved populations, others made it clear they wished to do this on a

limited or part-time basis. These individuals seemed to be interested in “a variety of populations” and didn’t “want to solely focus on that population.” These comments were nonetheless positive and affirmative in their intention to include these groups in future work, which is depicted in this student comment: “I definitely want to work with them in the future alongside other populations.”

The final subtheme within the main theme “Future Disposition” was “Guarded.” These individuals expressed some ambivalence such as “I am on the fence” and “I saw the positive and negatives.” Comments clustered within this subtheme expressed some level of uncertainty yet feelings of plausibility for future possibilities. One student stated he or she was “trying to keep an open mind.” An interesting finding of this thematic analysis is that not a single student comment indicated being less willing to participate in future work with underserved populations as a result of this event. In fact, no students stated they had no intention of future participation. Sample student comments are provided in Table 4. The

overall thematic map is demonstrated in Figure 1.

Table 4. Future Disposition (Theme 3): Sample Student Comments

Subtheme: Likely

“I am now more comfortable and willing”

“Made me want to get out there more to better my community”

“I wanted to work with us pop[ulation] even before I came here, and am encouraged me even more!”

“This will allow me to expand my horizons for possibilities within PT”

“More likely because I have a better understanding of the barriers preventing specific pop[ulation] from getting treatment they deserve”

Subtheme: Limited

“I am not sure if I want to focus my practice on underserved populations but I do want to include this sector of people”

“Open to working with them at different times throughout my career”

“I would very much enjoy working with this population but want to work with a variety of populations”

“I still don’t want to solely focus on that pop[ulation]”

“I definitely want to work with them in the future alongside other pop[ulations]”

Subtheme: Guarded

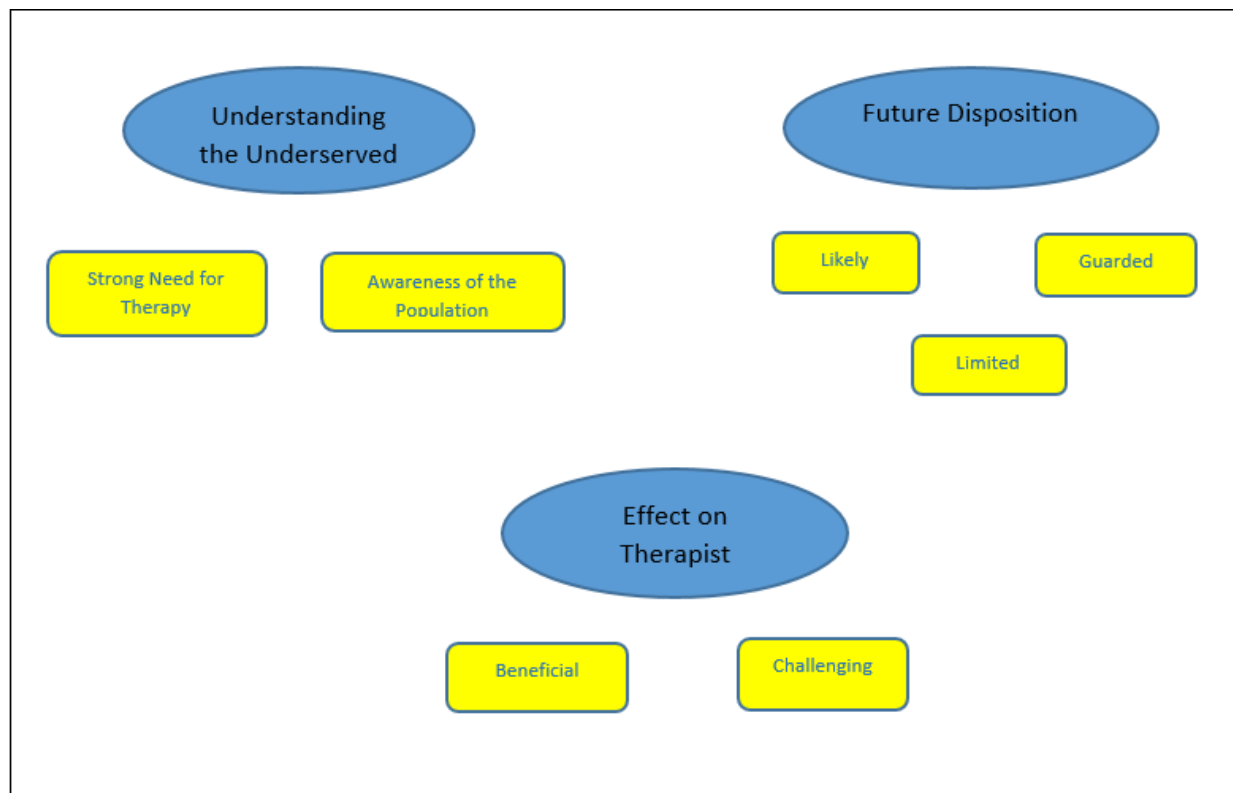
“Not more or less likely”

“Saw positive and negatives of working with us pop[ulation]”

“Trying to keep an open mind”

“I am on the fence about working with this pop[ulation]”

“Definitely wouldn’t avoid working with them”

Figure 1. Thematic Map

DISCUSSION

Thematic analysis of student reflections related to the SO event revealed an enhanced awareness of this particular underserved population, namely individuals with intellectual disabilities. Given that this population is less visible in health care settings (Ouellette-Kuntz et al., 2005), it is possible that students rarely encounter them in clinical experiences. Many of the clients presented with physical impairments, which numerous students commented on as being an eye-opening experience. As previously mentioned, research has suggested that individuals with ID present with impaired balance, strength, and endurance (Blomqvist et al., 2013). During the SO screening event, it was the norm rather than the exception for students to

find physical limitations, certainly more than they would see in the usual healthy adult population.

An element of students' increased awareness of this population was the impression that they truly needed physical therapy services. There is research indicating the need for and efficacy of physical therapy services for individuals with ID. For example, a meta-analysis of 27 articles addressing physical therapy services in patients with Down syndrome indicated that interventions have potential benefit, specifically when addressing strength and balance deficits (Ruiz-Gonzalez et al., 2019). Another study of adults with ID demonstrated that with successful completion of a 12-week physical therapy program featuring therapeutic exercise, there were significant improvements in gait and

balance and a reduction in falls (Crockett, 2015).

Theme 2 from this analysis suggests that working with underserved populations has an effect on the student therapist. In the related field of nursing, one author has suggested that service learning can develop compassion, which “helps students learn to care for others who may not be like them” (Brown, 2013, p. 7). In DPT students, it has been shown that service learning directs students to reflect on professionalism and core values, especially caring/compassion (Crandell, Wiegand, & Brosky, 2013).

Related to Theme 2, Effect on Therapist, published research suggests that working with underserved populations can be challenging. It also has been suggested that working with challenging populations can be beneficial for DPT student professional development (Hoppes, Bender, & DeGrace, 2005). Similarly, in a study that included 12 physicians, 3 physician assistants, 8 nurse practitioners, and a dentist, investigators found that these providers “had a strong sense that they were serving humanity and took pride in making a difference. Each appeared to thrive on the challenge of creatively dealing with their patients’ complex human needs with limited health care resources” (Li, Williams, & Scammon, 1995). Both the current study and other research support the idea that working with underserved populations can be challenging, but that some practitioners choose to embrace this challenge. Barriers of providing physical therapy services for individuals with lifelong disabilities have been identified as: 1) extra time required to work with patients having complex conditions, 2) lack of insurance reimbursement, and 3) lack of practitioner experience with these populations (Orlin, Cicirello, O’Donnell, & Doty, 2014). It has also been reported that in administration of exercise and balance training for adults with ID, inability to follow directions and patient compliance with home programs sometimes pose special challenges

(Crockett et al., 2015). This seems to be consistent with our student reflections related to communication problems during the SO event.

The finding that 66% of students reported they were more likely to work with underserved populations in future practice as a result of the SO event is unique to this study. However, this finding is consistent with published research using health care students in service learning in general. For example, it has been reported that medical students participating in service learning activities with older adults reported an increased interest in working in geriatrics as a career (Laks et al., 2016). Tapley and Patel reported increased willingness to work with underserved populations in the future after participation in DPT service learning projects for health promotion in low-income elderly and homeless women (Tapley & Patel, 2013). A study of Canadian physical therapy students found that 64.9% of students were “very willing” to deliver rehabilitation to adults with ID, and 31.1% were “quite willing.” Only 4% reported feeling “a little willing” (Vermeltfoort et al., 2014). Follow-up questioning indicated that predictors for participation were past “adequate positive experience” and “adequate education or knowledge.” Students in the “a little willing” category cited “inadequate knowledge” as a common explanation for their reservations.

In a study of U.S. physicians providing health care to underserved populations, four predictors of participation were identified: 1) practitioner is a member of an underserved ethnic or minority group, 2) past participation in the National Health Service Corps, 3) strong interest in practicing in an underserved area before attending professional school, and 4) growing up in an underserved area (Rabinowitz & Paynter, 2000). It is interesting to note that exposure to underserved populations in medical school did not predict future service, which is in contrast to the findings of this study.

CONCLUSION

The current study has limitations which reduce the strength of inferences that can be made from these results. One major limitation is that the retrospective nature of the study only allowed for analysis of student reflections based on the few prodding questions that were posed as part of the service learning assignment. No attempt was made to evaluate the SO athletes' experience, or other societal perspectives related to individuals with ID who receive care. The study was also limited in that no objective data was collected and analyzed; the study focused on the individual subjective experience of the student physical therapist.

There is a social responsibility for physical therapists to contribute to health and wellness at a societal level (American Physical Therapy Association, 2019). This includes efforts to meet the health needs of underserved or disadvantaged populations. Imparting this responsibility and monitoring growth in professionalism is a challenge in physical therapy education. Opportunities in which students can provide both preventative screening and referral for care in underserved populations may help decrease health disparities and improve the students' empathy and desire to engage with the population.

This study contributes to a growing body of work demonstrating student physical therapist participation in service learning. As the students were able to identify the individuals with ID that underwent screening are particularly in need of therapy services. This experience provided student physical therapists an opportunity to increase their awareness of this population and increased the likelihood of working with similar underserved populations in their future practice. Future research should explore the education entry-level DPT students receive related to working with individuals who have

ID. Students in this study expressed surprise at how this population is in such great need of physical therapy services. The authors surmise that curricular change in DPT educational programs may be indicated to include additional training in ID-related information.

REFERENCES

- American Physical Therapy Association
Code of Ethics for the Physical Therapist. Retrieved from http://www.apta.org/uploadedFiles/APTAorg/About_Us/Policies/Ethics/CodeofEthics.pdf#search=%22CODE%20OF%20ETHICS%22
- Anastasiou, D., & Kauffman, J. (2011). A social constructionist approach to disability: Implications for special education. *Council for Exceptional Children, 77*(3), 367-384.
- Beling, J. (2003). Effect of service-learning on knowledge about older people and faculty teaching evaluations in a physical therapy class. *Gerontology & Geriatrics Education, 24*(1), 31-46.
- Blomqvist, S., Olsson, J., Wallin, L., Wester, A., & Rehn, B. (2013). Adolescents with intellectual disability have reduced postural balance and muscle performance in trunk and lower limbs compared to peers without intellectual disability. *Research in Developmental Disabilities, 34*, 198-206.
- Brown, E. (2013). Develop student compassion through service-learning. *Journal of Christian Nursing, 30*(4), 234-137.
- Crandell, C. E., Wiegand, M. R., & Brosky Jr, J. A. (2013). Examining the role of service-learning on development of professionalism in Doctor of Physical Therapy students: A case report. *Journal of Allied Health, 42*(1), 25E-32E.

- Cooper, S., McLean, G., Guthrie, B., McConnachie, A., Mercer, S., Sullivan, F., & Morrison, J. (2015). Multiple physical and mental health comorbidity in adults with intellectual disabilities: Population-based cross-sectional analysis. *BMC Family Practice*, *16*(110). doi:10.1186/s12875-015-0329-3
- Crockett, J., Finlayson, J., Skelton, D., & Miller, G. (2015). Promoting exercise as part of a physiotherapy-led falls pathway service for adults with intellectual disabilities: A service evaluation. *Journal of Applied Research in Intellectual Disabilities*, *28*(3), 257-264.
- Cuesta-Vargas, A., & Hilgenkamp, T. (2015). Reference values of grip strength measured with jamar dynamometer in 1526 adults with intellectual disabilities and compared to adults without intellectual disability. *PLoS ONE*, *10*(6). doi:10.1371/journal.pone.0129585
- Gazsi, C., & Oriol, N. (2010). The impact of a service learning experience to enhance curricular integration in a physical therapist education program. *Journal of Allied Health*, *39*(2), 61-65.
- Havercamp, S., & Scott, M. (2015). National health surveillance of adults with disabilities, adults with intellectual and developmental disabilities, and adults with no disabilities. *Disability and Health Journal*, *8*, 165-172.
- Hoppes, S., Bender, D., & DeGrace, B. (2005). Service learning is a perfect fit for occupational and physical therapy education. *Journal of Allied Health*, *34*(2), 47-50.
- Laks, J., Wilson, L., Khandelwal, C., Footman, E., Jamison, M., & Roberts, E. (2016). Service learning in communities of elders (SLICE): Development and evaluation of an introductory geriatrics course for medical students. *Teaching and Learning in Medicine*, *28*(2): 210-218.
- Li, L., Williams, S., & Scammon, D. (1995). Practicing with the urban underserved: A qualitative analysis of motivations, incentives, and disincentives. *Archives of Family Medicine*, *4*(2), 124-33.
- Magana, S., Parish, S., Morales, M., Li, H., & Fujiura, G. (2016). Racial and ethnic health disparities among people with intellectual and developmental disabilities. *Intellectual and Developmental Disabilities*, *54*(3), 161-172.
- Orlin, M., Cicirello, N., O'Donnell, A., & Doty, A. (2014). The continuum of care for individuals with lifelong disabilities: Role of the physical therapist. *Physical Therapy*, *94*(7), 1043-1053.
- Pitetti, K., Baynard, T., & Agiovlasitis, S. (2013). Children and adolescents with Down syndrome, physical fitness and physical activity. *Journal of Sport and Health Science*, *2*, 47-57.
- Rabinowitz, H., & Paynter, N. (2000). The role of the medical school in rural graduate medical education: Pipeline or control valve? *The Journal of Rural Health*, *16*(3), 249-53.
- Ruiz-Gonzalez, L., Lucena-Anton, D., Salazar, A., Martin-Valero, R., & Moral-Munoz, J. (2019). Physical therapy in Down syndrome: systematic review and meta-analysis. *Journal of Intellectual Disability Research*. *63*(8), 1041-1067.
- Scott, H., & Havercamp, S. (2014). Race and health disparities in adults with intellectual and developmental disabilities living in the United States. *Intellectual and Developmental Disabilities*, *52*(6), 409-418.
- Seifer, S., & Connors, K. (2019). Faculty toolkit for service-learning in higher education. Retrieved from http://ccph.memberclicks.net/assets/Documents/FocusAreas/he_toolkit.pdf

- Special Olympics. (2018). 2018 End of Year Special Olympics Health Golisano Report. Retrieved from <https://www.specialolympics.org/our-work/inclusive-health>
- Tapley, H., & Patel, R. (2016). Using the PRECEDE-PROCEED model and service-learning to teach health promotion and wellness: An innovative approach for physical therapist professional education. *Journal of Physical Therapy Education, 30*(1), 47-59.
- Vermeltfoort, K., Staruszkiewicz, A., Anselm, K., Badnjevic, A., Burton, K., Switzer-McIntyre, S., Yeung, E., & Balogh, R. (2014). Attitudes toward adults with intellectual disability: A survey of Ontario occupational and physical therapy students. *Physiotherapy Canada, 66*(2), 133-140.
- Ward, R., Nichols, A., & Freedman, R. (2010). Uncovering health care inequalities among adults with intellectual and developmental disabilities. *Health and Social Work, 35*(4), 280-290.
- Washington Monthly. (2015). College Guide Rankings 2015 – National Universities. Retrieved from <https://washingtonmonthly.com/college-guide/college-guide-rankings-2015-national/>
- Wise, H. H., & Yuen, H. K. (2013). Effect of community-based service learning on professionalism in student physical therapists. *Journal of Physical Therapy Education, 27*(2), 58-64.

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