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Experiential learning is a valuable teaching tool that provides unique, hands-on learning opportunities for exercise science students and prepares them to work with individuals with intellectual disabilities (ID) in their future profession. Adequate recreational physical activity (PA) is a critical component of improving the overall health in this population, as approximately half of adults with disabilities are physically inactive (Carroll et. al, 2014). The purpose of this study was to design and implement an experiential course in which undergraduate allied health students work with adults with ID, and to subsequently determine the effects of the course on students' attitudes and overall confidence in their work. This was achieved through the development of a partnership with a local disability center in which 12 students designed and implemented a 10-week, play-based recreation program for adults with ID. Student attitudes toward adults with ID were assessed pre-, mid-, and post-course. Self-scored confidence levels were also assessed. This mixed methods study integrated survey responses with focus group and written reflection data to examine student attitudes. Themes of professional skills, program challenges, and ancillary benefits emerged. Results indicated that students left the course with improved confidence in communicating with adults with ID as well as leading them in PA. Further research is warranted to investigate the lasting effects of experiential learning on student attitudes in other health related disciplines, as well as in clinical graduate programs.

THE EFFECTS OF AN EXPERIENTIAL ADAPTED FITNESS COURSE ON  
STUDENTS' ATTITUDES TOWARD ADULTS WITH INTELLECTUAL  
DISABILITIES

by

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Approved by

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Committee Chair

This work is dedicated to CJ and Parker, two friends who opened my eyes to the profound gifts that individuals with disabilities have to offer and to my daughters, Lucy and Elliott, who I hope always celebrate these gifts in others.

APPROVAL PAGE

This dissertation written by Amanda H. Durall has been approved by the following committee of the Faculty of The Graduate School at the University of North Carolina at Greensboro.

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## CHAPTER I

### PROJECT OVERVIEW

Experiential learning is a valuable teaching tool that provides unique, hands-on learning opportunities (Dewey, 1938) for exercise science students and prepares them to work with individuals with disabilities (Stachura & Garven, 2007; Sheppard, Vitalone-Raccaro, Kaari & Ajumobi, 2017; Lim, Leet Tan, Lim & Goh, 2018). Adequate recreational physical activity (PA) is a critical component of improving overall health in this population, as approximately half of adults with disabilities are physically inactive (Carroll et. al, 2014). Adults with intellectual disabilities (ID) have significantly poorer health outcomes than their neurotypically functioning peers, yet limited access to healthcare and preventive health resources keep them from achieving their healthiest potential (Reichard, Stolzle & Fox, 2011). Research indicates that physical activity improves the physical, mental and social health of this population (Taliaferro & Hammond, 2016; Love & Agiovlasitis, 2016; Van Schijndel-Speet et al., 2014). However, barriers such as lack of transportation and caregivers' limited knowledge of PA precludes adults with ID from achieving daily recommended amounts of PA (Taliaferro et al., 2016). The need for weekly PA opportunities for adults with ID can be met through an experiential adapted fitness course. Experiential learning fosters academic and community partnerships which provide personnel, research, and program resources for disability centers (Stachura & Garven, 2003; Shields & Taylor, 2014).

#### **Background**

Very few opportunities for recreational PA exist for adults with ID. This lack of access to PA, coupled with limited access to healthcare, contributes to a life expectancy that is

approximately 15 years shorter than neurotypical individuals (Reichard, Stolzle & Fox, 2011). Caregivers and support personnel without education and experience in the field of exercise science may be unfamiliar with PA guidelines and recommendations and therefore less likely to promote PA for those whom they care for (Van Schijndel-Speet, Evenhuis, van Wijck, van Empelen & Echteld, 2014; Chow, Huang, Choi & Pan, 2016). Exercise science students are suited to fill this educational gap through their need for practical learning. This project prepared students to interact with, advocate for, and care for this population while simultaneously providing community-based, recreational PA to adults with ID (Rimmer, 2017; Bodde et al., 2013; Finlayson et al., 2011; Stachura & Garven, 2007; Sheppard et al., 2017; Lim et al., 2018). Through this experiential course, adults with ID had access to weekly recreational opportunities they may otherwise go without (Bodde et al, 2013), while exercise science students had the opportunity to develop non-traditional exercise programming adapted for a variety of disabilities. These activities focused on achievement, mastery, and enjoyment. Not only did this opportunity support the University's strategic plan, but it ultimately prepared students to become compassionate, knowledgeable professionals who are advocates for societal change (Allport, 1954; Shields et al, 2014).

### **Community and Academic Partnerships**

Disability centers for adults with ID often rely on the efforts of community partners to sustain extracurricular programs due to limitations in government funding. Without community partnerships, the opportunities for recreational PA for adults with ID are highly limited (Rimmer, 2017). Community-based exercise is one way to overcome barriers to PA while providing a space for social engagement, mentorship, and education (Blick, Saad, Goreczny, Roman & Sorensen, 2015; Rimmer, 2017).

Universities are an ideal community partner, as community-based exercise provides opportunities for experiential learning in the academic sector (Stachura & Garven, 2003; Shields et al., 2014). Furthermore, universities offer educational, personnel and research support, resulting in a mutually beneficial relationship. The effects of experiential learning on both students and the disability community should be investigated in greater detail to determine the mutual benefits to practical, community-based education (Shields et al., 2014).

Community-based adapted fitness programs offer increased accessibility to exercise and the opportunity for professionals to design and advocate for inclusive exercise programs for adults with ID. Many adults with intellectual disabilities “never make the switch from patient to participant” because disability-based healthcare is not integrated into community-based programs that promote active living (Rimmer, 2017, p.154). Those with disabilities that can afford gym access often encounter fitness professionals who are ill equipped to lead inclusive exercise, resulting in further instances of isolation (Rimmer, 2005; Murphy & Carbone, 2008; Dunn & Leitschuh, 2006). Some disability centers offer recreational programs for adults with ID, yet as a whole, this population still does not achieve the recommended amounts of PA necessary for health-related benefits (Bodde et al., 2013; Finlayson et al., 2011). Furthermore, disability centers are often bound to governmental regulations that limit their opportunities for extracurricular activities. These limitations can affect health outcomes for adults with ID, which continually remain poorer than outcomes of neurotypical adults (Dixson-Ibarra & Horner-Johnson, 2014; Krahn, Walker & Correa de Araujo, 2015). The key to making exercise accessible for individuals with disabilities is to equip health practitioners with evidence-based strategies and resources so they can confidently work with any individual, regardless of ability (Rimmer, 2017).

## **Preparing Future Professionals**

Future healthcare professionals should not only be equipped with knowledge and skills, but also positive attitudes that result from a formative understanding of individuals with disabilities. The attitudes of those serving people with intellectual disabilities are critical in influencing the access and depth of care (Shields et al., 2014; Henry, Keys & Jopp, 1996; Alborz, McNally & Glendinning, 2005; Brown, Macarthur, Mckechnie, Hayes & Fletcher, 2010). Furthermore, research indicates that health professionals who display negative attitudes may subsequently negatively impact the effects of an intervention (Gething & Westbrook, 1983). The negative attitudes of healthcare professionals may also affect their future employability (Shields et al., 2014).

One way to improve attitudes towards individuals with ID is to increase one's contact and exposure to this population (Rimmerman, Hozmi & Duvdevany, 2000; Allport, 1954). Prior research indicates that physical therapy students who worked directly with persons with disabilities showed more favorable attitudes toward this population than their peers who lacked the same experience (Stachura & Garven, 2003; Stachura & Garven, 2007). While interaction does not guarantee attitude change, those who understand the dynamics and societal implications of the shared learning experience are more likely to have a positive shift in attitude (Allport, 1954). Experiential learning offers an immersive environment that allows students to uniquely experience shared dynamics and social norms, thus encouraging more positive attitudes and improved confidence levels.

In one study of a community-based adapted fitness program, physical therapy students reported improved attitudes toward individuals with disabilities, improved self-efficacy, and a greater inclination to pursue a career in the disability sector (Shields et al., 2014). Those that want to work with special populations in their future careers should have opportunities to learn

throughout their educational career. Furthermore, some students make decisions regarding career pursuits based on their collegiate experiences. These experiential opportunities should be a routine part of undergraduate health education (Shields et al., 2014).

### **Experiential Learning**

Experiential learning also provides a practical avenue to equip future healthcare practitioners to work with people of differing abilities (Stachura & Garven, 2007; Sheppard et al., 2017; Lim et al., 2018). Kolb proposed the theory of experiential learning through four dimensions: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). Through an active immersion in the environment, students are able to learn in context, conceptualize ideas, and then test them in a “hands on” capacity. Experiential learning provides experiences that traditional classrooms simply cannot offer.

### **Purpose and Aims**

Experiential learning connects the classroom to the community by providing students with the opportunity to learn in practical and innovative ways. However, exercise science students have not been adequately prepared to work with individuals with ID. The purpose of this study was to develop and evaluate an experiential adapted fitness course that allowed exercise science students to learn from adults with ID, while providing recreational opportunities for the adults with ID throughout the week.

**Specific Aim #1:** To develop and implement an experiential adaptive fitness course that prepares undergraduate students to serve adults with ID.

**Specific Aim #2:** To evaluate the influence of the experiential course on students’ confidence levels in working with adults with ID.

**Specific Aim #3:** To evaluate the influence of the experiential course on students’ attitudes toward the disability community.

## **Methods**

This course, “Community Based Adapted Fitness” was developed for a pilot in the spring of 2019. The course was evaluated and modified for re-implementation in the fall of 2019. IRB approval was obtained from the researcher’s home institution and from UNCG at the time the pilot course was created. Modifications were submitted to IRB after the pilot and approved by both institutions in the summer of 2019. This study used a convergent, mixed methods design to examine student attitudes and professional development. Pre-, mid- and post-program data were collected during the fall 2019 semester to evaluate attitudes, confidence and course perceptions. Focus groups and written reflections provided additional data on students’ experiences in the course.

### **Participants and Setting**

Recruitment for the fall 2019 semester was conducted in spring of 2019. Students who were recruited for the fall 2019 term completed an interest form to receive an override into the course. Enrollment for the fall 2019 course was capped at 15, with a final enrollment of 12 (10 females and 2 males). Participants were Juniors (n=5) and Seniors (n=7) identifying as Caucasian (n=11) and multiracial (n=1). All students were Exercise Science majors, with the exception of one student who was a Sport, Outdoor Recreation & Tourism major. Intended career paths after graduation included: exercise physiology (n=1), outdoor recreation (n=1), nursing (n=1), physical or occupational therapy (n=7), public health (n=1) and undecided (n=1)

Adults with ID served by this program were those who were currently receiving services from a local disability center in Southeastern Tennessee. The researcher has an established academic partnership with the center, which led to the development of this experiential course. Adults with ID who participated in the adapted fitness program were those enrolled in the disability center’s community work program. The community work program operates as a

partnership with nine businesses in the local community. These designated sites allow adults with ID from the disability center to work and receive their daily services there each day. Since these sites are off campus from the center's main location, participants are removed from the opportunities and resources that exist at the main campus. Adults with ID who participate in the community work program range in age from 22 to 70 and have a variety of intellectual and physical limitations.

### **Measures**

Several measures were used in this study. A student survey that included an established and validated measure of attitudes, along with confidence ratings and a course evaluation was completed pre-, mid- and post-course. Additionally, course reflections and a focus group were included for analysis.

**Student Survey.** The student survey included demographics, The Scale of Attitudes Toward Disabled Persons (SADP, Appendix B) (Antonak, 1981), and a self-assessment on students' confidence and experience in working with adults with ID. The SADP is a 24-item survey that uses a 6-point likert scale ranging from -3 ("I disagree very much") to +3 ("I agree very much"). Scores are reversed for negative questions, a sum total is calculated, and a constant of 72 is added to all scores. This instrument uses total scores of 0 to 144 with higher scores indicating more favorable attitudes. The survey has demonstrated reliability by consistently showing Cronbach alpha indices ranging from .77 to .87. Further, this survey also demonstrated acceptable construct validity when correlated with other attitude surveys (Chan et. al, 1984). In addition to the SADP, questions regarding basic demographic information were added. Students were also asked about their prior experience and confidence levels in working with adults with ID with questions that were developed by the researcher for this study (Appendix C). These questions used a likert scale response ranging from strongly agree to strongly disagree.

**Course Evaluation Survey.** The final, post-program survey asked students to evaluate the course (Appendix C). Evaluation questions were developed by the researcher for the purpose of this study. Using a 6-point likert scale of strongly agree to strongly disagree, students rated their confidence in four areas: communication, leadership, equality and professional development. Students also used the 6-point likert scale to respond to the following statements:

1. The course developed my ability to interact with diverse groups of people
2. The course improved my knowledge of intellectual disabilities
3. The course improved my attitudes toward individuals with intellectual disabilities
4. The course improved my understanding of the challenges this population faces
5. The course developed my leadership skills.
6. This course helped prepare me for my future profession.

A final open-ended question asked students to include anything else they felt was relevant to share.

**Focus Group.** At the end of the semester, all students (N=12) elected to participate in a focus group at the conclusion of the semester that allowed them to elaborate on their personal growth, preconceived biases and perceptions of the disability community (Appendix D). Focus groups were scheduled during the regular class time, which lasted 50 minutes, and four students attended each session. The researcher-led focus groups started with primary questions and then students were occasionally asked to elaborate in certain areas. All focus groups were audio-recorded and transcribed verbatim for analysis. Focus group questions allowed students to elaborate on their experiences in the course, affirm or deny changes in attitudes toward the disability community and provide open-ended feedback on the course as a whole.

**Written Reflections.** As part of their assignments in the course, students completed two “Most Valuable Experience” reflections (MVE, Appendix E) over the course of the 10 weeks of



program implementation. One MVE was completed between weeks one through five and the other was completed between weeks six through ten. Students were asked to complete the MVE when they had a highly memorable or deeply moving experience at their site. While there may be many of these that occur, they were asked to document the one that was most meaningful to them.

## **Procedures**

**Course Development and Implementation.** On the first day of class, students were provided with an overview of the course. A teaching assistant provided students with an overview of the study, offered to answer any questions and gave students the informed consent documents. All students in the course consented to participate in the study. After completing the informed consent, student were granted access to the preliminary survey, which was entered into Question Pro and administered electronically. The first unit in the course was lecture format and focused solely on disability education. Presentations were given by the disability center's medical director, community services director, behavioral analyst, and recreation director. These lectures provided students with formative knowledge on the disability rights movement and practical tips for interacting with individuals with disabilities. At the conclusion of the education unit, but prior to direct contact with adults with ID, students were surveyed again.

Unit two began the on-site programming. During the subsequent 10 weeks, students worked in pairs to implement play-based, recreational programming at their assigned community site. Students drew knowledge from prior education in exercise science courses for the development of each session and were allowed full autonomy in planning to meet the needs of their specific participants. The actual recreation component of the session lasted approximately 30 minutes to accommodate for attention deficits, sensory needs, and activity mastery. Students were also allowed to incentivize participants with stickers, other trinkets such as bubbles or plastic necklaces, or their favorite activities. Each day concluded with optional rewards,

additional opportunities for interaction, and clean up. Over the course of the 10-week program, students submitted their two Most Valuable Experience reflections.

Upon conclusion of the 10-week program, students were provided the post course survey, which also included the course evaluation questions. Students also participated in the focus group, which was led by the researcher. The semester ended with student presentations to peers, faculty and the executive team of the disability center outlining their work at their respective sites.

## **Results**

The following sections present the results of the student survey, the course evaluation, as well as the focus group and reflection findings.

### **Survey Results**

Ten students completed all three surveys. Mean scores on the SADP were 105.80 (SD = 10.93) prior to the course, 105.20 (SD = 10.83) after the educational unit, and 115.50 (SD = 13.24) post course. A one-way repeated measures ANOVA was calculated to compare student attitudes over time. The overall time effect was significant,  $F(2,8) = 10.43, p < .05$ , eta-squared = .723. Attitude scores did not change from pre- to mid-course surveys, but the change between the mid- and post-course surveys was significant,  $F(1,9) = 17.29, p = .002$ , eta-squared = .658.

Confidence ratings were also analyzed over time with ANOVA. In all four areas, students' (N=10) confidence levels improved over the course, with lower scores indicating more confidence. Further tests examined changes between pre and mid as well as mid and post. Changes were significant between the mid-course and post-course surveys for communication,  $F(1,9) = 6.00, p = .037$ , eta-squared = .400, and leading PA,  $F(1,9) = 9.00, p = .015$ , eta-squared = .500, but not significant between pre-course and mid-course surveys. Confidence in treating adults with ID as equals and working with adults with ID in the future did not change

significantly between any time points. However, students rated themselves as highly confident across the three iterations in both these areas. For most ratings, confidence improved slightly from pre to mid, but had the greatest improvement at the post-course assessment.

Table 1. Changes in SADP and Confidence Scores throughout Semester

Measures	pre M±SD	mid M±SD	post M±SD	F	P	eta-squared
SADP	105.80±10.93	105.20±10.83	115.5±13.24	10.430	.006*	.723
Overall Confidence	6.6±2.41	5.7±1.64	4.40±.699	7.741	.013*	.659
Confidence Sub-Scale Measures						
Communicate	1.70±.675	1.60±.516	1.20±.422	4.800	.043*	.545
Lead PA	2.00±.943	1.70±.675	1.20±.422	8.500	.010*	.680
Treat Equally	1.30±.483	1.00±.00	1.00±.00	3.857	.081	.300
Work with in Future	1.60±.699	1.40±.699	1.00±.00	3.302	.090	.452

\* $p < 0.05$

### Course Evaluation

All students in the course (N=12) completed the course evaluation. Students responded to all statements with choices of “strongly agree” or “agree” (Appendix C). More specifically, in response to the two statements of “The course developed my ability to interact with diverse groups of people” and “The course improved my attitudes toward individuals with intellectual disabilities”, students unanimously marked “strongly agree”.

Table 2. Responses to Course Evaluation Questions

	The course developed my ability to interact with diverse groups of people.	The course improved my knowledge of intellectual disabilities.	The course improved my attitudes toward individuals with intellectual disabilities.	The course improved my understanding of the challenges this population faces.	The course developed my leadership skills.	The course helped prepare me for my future profession.
<b>Strongly Agree</b>	100%	67%	100%	92%	83%	67%
<b>Agree</b>	0%	33%	0%	8%	17%	33%
<b>Undecided</b>	0%	0%	0%	0%	0%	0%
<b>Disagree</b>	0%	0%	0%	0%	0%	0%
<b>Strongly Disagree</b>	0%	0%	0%	0%	0%	0%

Students were also provided with an open-ended question to add any other thoughts about the course. Responses from this open-ended question were coded in Atlas.ti. The predominant theme was that students left the course feeling better prepared to interact with and care for others who were different from them. Students cited that they were able to develop empathy from learning in a non-traditional setting. One student stated, “This course teaches you not only about the technical ways of interacting with individuals with disabilities, but, more importantly, it teaches you how to empathize with them. Books and classrooms cannot teach you that.” The opportunity to expand their knowledge and develop life skills were also mentioned as crucial components of career preparation.

### **Focus Groups and Reflections**

All students in the course (N=12) elected to participate in the focus groups. Focus groups were recorded using digital voice recorders and transcribed using Otter. The researcher verified the accuracy of the transcriptions and made any necessary corrections. Transcriptions were then transferred into Atlas.ti for analysis. A combination of open coding and in-vivo coding was used

in both the focus group transcriptions and the MVEs. The focus groups were coded first, with the research questions in mind. Codes that were relevant to the study aims of confidence, attitudes, and experiential learning were identified. Open coding resulted in similarities in preliminary codes, which the researcher then combined to streamline the data through the process of axial coding (Strauss & Corbin, 1990). From the focus groups, 27 codes were created and sorted into three primary groups of: professional skills, program challenges and ancillary benefits.

The MVEs were coded twice in separate formats. The first round of coding used data grouped by responses to question, meaning all student responses to the same question were examined together. Then, in an effort to evaluate context, each student's individual responses were analyzed separately, meaning each student's answers to all questions were examined together. This secondary analysis provided richer context to the situations that students described. Context allowed the researcher to modify any original codes to more accurately explain the data. Because the MVEs reported situational experiences, these codes were not grouped into themes. Instead, the researcher used frequency to determine which codes were more prevalent. Frequently used codes that fit the three focus group themes were then combined into the primary themes. It is important to note that there were codes that emerged from the MVE analysis that were not relevant to the primary themes and therefore not included in the analysis. However, these additional codes provide opportunity for additional research questions to be developed at a later time.

The researcher used integration through merging to combine the quantitative and qualitative data in this mixed methods study (Creswell & Plano Clark, 2011; Fetters, Curry & Creswell, 2013). This approach involves collecting both types of data at the same time and then analyzing them separately (Zhang & Creswell, 2013). Quantitative and qualitative data was

combined and compared, allowing for a deeper understanding of the causes of attitude change in students throughout the semester (Fetters, Curry & Creswell, 2013).

**Professional Skills.** Throughout this experience, students were able to develop their professional skills in creative and innovative ways. Students reported that the course challenged them to come up with new ways to motivate and encourage participants. They also mentioned this could easily translate in their future careers as clinicians as they counsel others to complete tasks that may be difficult for them to do. A number of references alluded to personal growth. Students explained how the course built their self-efficacy, while challenging them to be creative.

Communication was another prominent area of growth during the course, as students had to communicate with participants with limited vocabularies, those who were non-verbal and others who had poor receptive speech. Ultimately, they found unique ways to overcome these barriers and build lasting connections with many participants. One student explained this as:

...having three or four different ways to explain one singular activity, because guaranteed the first time you try, it won't work. You have to think of another way to say it so that somebody else understands. It makes sense for you, but it doesn't make sense for them. So you have to think about every little aspect of what you're trying to explain so that you can break it down into chunks or you can break it down into individual steps or you can say it as a whole.

Finally, students spoke about the empathy that they developed toward the participants that they served. Developing this emotion was something that they mentioned could not be taught in the classroom, and the more contact time they had with their population, the stronger the emotional connection became.

**Program Challenges.** The second area of focus was program challenges. Within this code group there were three primary areas that students discussed. Overwhelmingly, participant attitudes were mentioned the most. Students explained that they often had to focus on bringing a

positive attitude every time they entered their site. While some simply did not want to participate, other participants provided ample doses of energy and exuberance to motivate the group. Students picked up on leadership dynamics among participants and worked to feed off of the energy of those individuals. This was a critical factor in engagement because many participants had an initial hesitation to engage in the daily activities. One student explained this by saying, “I think that it stems from the fact that they've never tried it or never wanted to try it. And they are afraid of getting hurt. Or they're afraid of their falling or pushing themselves too far and pulling or breaking something-anything like that.”

Students also mentioned that self-efficacy was a big factor in engagement. If a participant knew they were not going to be successful at an activity, they were less likely to try it. However, this was not the case for all participants. Many, even after initial bouts of failure, were persistent enough to keep trying until they mastered the task. Students carefully navigated the dynamic of jumping in for assistance when needed if a participant did not ask for help outright.

Lastly, another difficulty that students discussed was the issue of challenging participants in a way that was not too difficult, but also without “babying” them. Identifying a therapeutic threshold for activity, while also treating the participants as equals proved, at times, difficult for students as they worked with individuals with ID. However, students found unique ways to navigate this and still pushed participants to at least try.

If it was something that we knew was challenging for them, like with, when- we call it baseball, we use the pool noodle and a beach ball for them. We would typically give them like five shots, you know, but if it was something that we knew that was going to be really challenging, or they didn't we thought maybe they wouldn't be super crazy about we wouldn't make them do it for a longer amount of time.

**Ancillary Benefits.** Lastly, there were a number of additional benefits that emerged from the partnership that this course created. Most notably, it increased participant to participant

interaction among adults with ID. The program, structured around group activities, provided an opportunity for participants to socialize with each other. While this might seem like an obvious outcome, students noted that participants took this opportunity not just to socialize, but also to encourage and to cheer each other on.

Secondly, as the weekly sessions transpired, students and participants alike were able to have more candid interactions as they better understood how the other party communicated. Participants would laugh and joke around with students as they engaged in activities. During the semester when students were occasionally absent due to illness, the participants were deeply concerned and asked about their well-being.

Finally, and perhaps most importantly, the course evoked in students a deeper societal understanding on the inequities and marginalization of this population. Students said they had no idea what a large proportion of adults with ID existed in their own neighborhood, which then prompted them to consider this disparity on a national and even global level. Interestingly, many also said they had worked with children with special needs, but had not truly considered the impact of the aging adult with disabilities and other comorbidities. A couple students were shocked when they realized some of their oldest participants lived in a group home. The course helped students also understand the impact of these needs from a public health perspective, which the researcher believed helped them grasp the importance of being able to serve this community in the future.

### **Most Valuable Experiences**

Throughout all of the MVEs, a number of consistent themes emerged. Most notably, students explained how they were able to build connections with many participants, which then enhanced their ability to communicate with them. This also allowed them to better understand participant preferences. They could then adapt the activities to participants in more unique ways,



which resulted in deeper levels of engagement. Furthermore, they identified biases early on in their leadership styles which helped them to curb the limitations they placed on their participants. They were often surprised by participant outcomes when implementing a new activity or asking them to perform a task. By building trust with their groups, they left with a sense of pride in what their participants were able to accomplish. They also expressed tremendous levels of joy and happiness that they derived from not only serving their participants, but by simply developing friendships and spending time with them. One student explained this as follows:

“I am more motivated to come up with fun and interactive activities for my participants. This was an experience that will stay with me for a long time. It reminded me of how beneficial it is to provide a service and to be able to contribute to another person's happiness.”

### **Discussion**

Students left the course better prepared to work with adults with ID and having more favorable attitudes toward this population. Students also indicated that the experiential format of the course provided an immersive experience, which resulted in a deeper connection to the work they provided. This aligns with prior research, which indicates that physical therapy students who worked directly with persons with disabilities showed more favorable attitudes toward this population than their peers who lacked the same experience (Stachura & Garven, 2003; Stachura & Garven, 2007). While interaction does not guarantee attitude change, those who understand the dynamics and societal implications of the shared learning experience are more likely to have a positive shift in attitude (Allport, 1954).

Some limitations existed in this study. First, the course was an elective. Students who self-selected into the course had a genuine desire to work with this population and likely entered the course with favorable attitudes, which left limited room for change. Additionally, some students also had prior experience in working with persons with disabilities. Their confidence and

skill sets were higher than others were. While significance was noted in the quantitative analyses, indicating improvement in these areas, these advantages could have affected the qualitative data. The researcher was careful to note this in the analysis and focused on the areas of change in those who came in with little to no experience.

As the course moves forward and subsequent opportunities emerge, some potential changes could be made to improve the course. Although the course was originally open to pre-health majors, clearly there is an opportunity for any student to become a more empathetic individual as a result of this experience. The course was highly effective at improving communication, which is a fundamental skill that could benefit any undergraduate student, regardless of career. Having majors from a variety of backgrounds, not limited to sociology, anthropology, psychology and the like could enrich the learning experience for all students as they collectively identify disparities for this population in their respective fields. There are a number of ways to improve the overall health and wellbeing of this population. Mental health services, art, music therapy and intentional socialization would be positive additions, should a collaborate project with these departments emerge. Aside from these basic skills, ultimately, this shared experience allows students to practice empathy as they work to understand their personal feelings and attitudes toward this population. By authentically addressing one's personal attitudes and beliefs, subsequent growth and personal development can emerge, creating well-rounded professionals and persons in society.

Further research in this area is warranted to examine student attitudes in the undergraduate and graduate settings. Additionally, best practices for experiential learning are continually evolving, as it is evident that experiential learning offers an immersive environment that allows students to uniquely experience shared dynamics and social norms. Those that want to pursue a professional career focused on disabilities should have opportunities to learn from and

engage with population throughout their educational career. These experiential opportunities should be a routine part of undergraduate health education as universities seek to prepare well-rounded and empathetic professionals who are equipped to treat everyone (Shields et al., 2014).

## CHAPTER II

### DISSEMINATION

Local dissemination is paramount to the success of this community partnership with the disability center. Therefore, a brief report will be provided to the disability center at the conclusion of the spring 2020 semester as a means to highlight the collaborative work between the two institutions. The researcher will also provide her contact information for any personal follow up to questions that may arise from the information presented. The hope is that this executive report will highlight the need for interdependent relationships that foster service-based learning for students in a manner that enriches the lives of individuals with disabilities. The goal of this report was to provide the disability center staff, Board, and participants' families with a snapshot of the need for and goals of the course in a less scientific manner. In the long term, this report will be expanded into a scientific manuscript and submitted to journals of experiential learning.

#### **Brief Report**

The purpose of this brief report is to highlight the partnership between the University's Health and Human Performance Department and the disability center. Specifically, this report will provide an overview of the adapted fitness course led by Exercise Science students and share not only how it is changing students' attitudes toward individuals with disabilities for the better, but also how it is encouraging students to consider careers devoted to caring for this population.

#### **Rationale**

Community-based exercise is one way to overcome barriers to physical activity (PA) while providing a space for social engagement, mentorship, and education (Blick, Saad,

Goreczny, Roman & Sorensen, 2015; Rimmer, 2017). Universities are an ideal community partner, as community-based exercise provides opportunities for experiential learning in the academic sector (Stachura & Garven, 2003; Shields et al., 2014). Furthermore, universities offer educational, personnel and research support, resulting in a mutually beneficial relationship for community partners.

Community-based adapted fitness programs offer increased accessibility to exercise and the opportunity for professionals to design and advocate for inclusive exercise programs for adults with ID. Those with disabilities that can afford gym access often encounter fitness professionals who are ill equipped to lead inclusive exercise, resulting in further instances of isolation (Rimmer, 2005; Murphy & Carbone, 2008; Dunn & Leitschuh, 2006). As a whole, this population does not achieve the recommended amounts of PA necessary for health-related benefits (Bodde et al., 2013; Finlayson et al., 2011). Furthermore, we understand that disability centers are often bound to governmental regulations that limit their opportunities for extracurricular activities. These limitations can affect health outcomes for adults with ID, which continually remain poorer than outcomes of neurotypical adults (Dixson-Ibarra & Horner-Johnson, 2014; Krahn, Walker & Correa de Araujo, 2015).

The key to making exercise accessible for individuals with disabilities is to equip health practitioners with evidence-based strategies and resources so they can confidently work with any individual, regardless of ability (Rimmer, 2017). The purpose of this course was to better prepare these future clinicians with the necessary skills, empathy and insight to treat all individuals, regardless of ability.

### **Course Overview**

At this institution, most of the undergraduate students who are exercise science majors plan to enter physical therapy or occupational therapy programs after graduating. Therefore, the

need to prepare these pre-clinical students to serve individuals with a variety of health conditions, skills, and abilities is critical.



Figure 1. Student Gives Participant High Five

This course was 15 weeks (a semester) in duration. The first three weeks consisted of education on the disability rights movement, advocacy, the Special Olympics and the history of the Disability Center. These lectures provided students with formative knowledge and practical tips for interacting with individuals with disabilities.

During the subsequent 10 weeks, every Monday, Wednesday and Friday from 1:00pm to 1:50pm, students worked in teams of two at one of six assigned community sites to implement play-based, recreational programming. Students drew knowledge from prior education in exercise science courses for the development of each session and were allowed full autonomy in planning to meet the needs of their specific participants.

### **Types of Activities**

Equipment used by students:

- Hula hoops
- Cones

- Agility Ladders
- Parachute
- Bean bags
- Bluetooth Speaker to play music
- Balloons & Balls



Figure 2. Students Lead Participants in Parachute Activity

The actual recreation component of the day's session lasted approximately 30 minutes to accommodate for attention deficits, sensory needs, and activity mastery. Participant needs and interests were the primary focus throughout the planning, as students worked diligently to make activities fun, engaging and effective at increasing both fine and gross motor skills and participants' abilities. Students were incredibly creative in their mode of delivery and developed activities such as: obstacle courses, modified sports, chair exercises and even dance and yoga-based movements.

### **Student Outcomes**

Students were given a survey at the beginning, middle and end of the course. The survey included the "Scale of Attitudes Toward Disabled Persons" (SADP, Antonak, 1981) and questions about student confidence levels when working with those with disabilities. Scores on

the SADP improved from the beginning of the course to the end, which indicated student attitudes towards adults with ID improved as a result of their interaction with participants over the course of the semester.

Furthermore, students cited the course as an excellent tool to prepare them for their future careers. Their communication skills, creativity and leadership were all enhanced as a result. Many students who took the course had never interacted with anyone with a disability before. This experience provided a unique opportunity to do so in a way that fostered connection, personal relationships and physical activity. By interacting with participants over the course of ten weeks, students are better able to invest in those whom they serve, learn their abilities and needs, and tailor creative and engaging recreational programming that improves the lives of adults with ID. This partnership has deeply changed the students' lives for the better.

### **Student Perspectives**

The course evoked in students a deeper societal understanding on the inequities and marginalization of this population. Students said they had no idea what a large community of adults with ID existed in their own neighborhood, which then prompted them to consider this disparity on a national and even global level.



Figure 3. Student Shares Hug with Participant



“I am more motivated to come up with fun and interactive activities for my participants. This was an experience that will stay with me for a long time. It reminded me of how beneficial it is to provide a service and to be able to contribute to another person's happiness.”

“This course teaches you not only about the technical ways of interacting with individuals with disabilities, but, more importantly, it teaches you how to empathize with them. Books and classrooms cannot teach you that.”

### **Future Recommendations**

This is a critically important partnership that provides keen insight into the lives of a very important population. For students, this also is a unique chance to learn through experiences, interactions, trial, and error. Therefore, continuation of the course is paramount to both student learning and improving the lives of participants. Participant engagement is another primary factor for the course's success. It has become clear after the past two semesters that having new students at the site each semester can be challenging for participants, as it takes time to open up and develop trust. To this end, the course has been modified to include “meet and greet” days where students simply go to their sites in the beginning to introduce themselves and learn about their participants. This has proven to be a helpful feature in increasing engagement and early adoption of the program by participants. We look forward to this continued partnership and thank you for the opportunity to serve alongside you.

## CHAPTER III

### ACTION PLAN

This study has the potential to offer a new approach to academic entities who wish to build partnerships with the local disability community. While there are mutual benefits in a community-focused partnership, the most important part of this work was the opportunity to improve the lives of adults with ID, while preparing exercise science students to work with individuals of differing abilities.

#### **Current Plans**

Currently, the course continues to run each semester with minor changes implemented to accommodate student feedback. In order to help recruitment, students from the fall 2019 course created a promotional video describing their experiences in the course. Their hope in doing so was to encourage other students to participate. Continuing to promote the course as the instructor, along with student input will be key in keeping enrollment at a sustainable level.

The researcher plans to present the findings of the brief report to the executive team and Board of the local disability center in the spring of 2020. This will further the partnership by allowing these individuals to have their questions answered and show them the steps that the University is taking to continue disability education in a variety of settings outside of exceptional education.

#### **Future Ideas**

The researcher has future plans to continue this disability focused research. More importantly, this work provides students with opportunities that did not exist prior to the partnership with this organization. Ideally, this research will validate the benefits of developing

the experiential course. The hope is that additional experiential courses can be created to serve this population in a way that provides students with additional sources of learning.

At the conclusion of the pilot course last semester, the researcher along with a group of students wrote an article about the course for *Exceptional Parent* magazine, which was published in January of 2020. Sharing the non-conventional aspect of the program in alternative mediums will allow the researcher to make connections with other professionals and with family members. This is especially important with this population as people often gravitate to the “feel good” stories and tend to shy away from the unknown. The “unknown” has contributed to the marginalization of this population over time. This type of promotion is a wonderful way to tell the narrative of those who may have never had the opportunity or capacity to share their own. It will also be a complement to this qualitative research due to the creative expression this format lends itself to.

At the University level, the researcher envisions future collaborations with the physical and occupational therapy departments. It would be ideal to also evaluate attitudes of students who are in these graduate programs and closer to clinical practice. There is room for the development of future courses to adequately prepare graduate students to work with this population as well. Most of the existing research looks at these outcomes in clinical programs. The researcher also plans to present work at her institution’s research conference, in the hopes of initiating some of these partnerships with other departments. As the course continues to grow and more data is collected, she plans to submit for presentations with regional conferences.

Locally, the continued partnership with the disability center will also allow access to other age groups. The center’s main campus is where activities for school-aged children take place. Currently, this program only serves older adults. By investing in parent input, the development of additional recreational programs outside of Special Olympics may be a

possibility. For students who want to work with children in the future, this will be a necessary addition to the current offering.

### **Advocacy**

Ultimately, the researcher plans to continue this type of preparatory work for the mutual benefit of future clinicians and for adults with ID. By collaborating with other departments and disability centers, as well as presenting at local and regional conferences, the hope is that other academic programs will continue to think outside the box and develop sustainable experiential opportunities within their community.

Finally, the most important part of this work is the opportunity that it offers for each participant with intellectual disabilities. The need is both significant and urgent. Without universities partnering with the disability community to learn more about those with special needs, the field of Exercise Science will lack valuable insight as to how to best serve everyone. The work of this dissertation can be replicated on a variety of levels in affordable and mutually beneficial ways when academia serves the needs of its community.

Furthermore, through the collaborative efforts of other institutions and disability centers, these programs can be replicated and shaped to further enhance the quality of life of adults with intellectual disabilities. Until the gap in this field is bridged through inclusion, exercise will continue to benefit only those who have access to it. Through this work, the hope is that a new area for the researcher's institution and community will sustainably serve those who need it the most.

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## APPENDIX A

### SCALE OF ATTITUDES TOWARD DISABLED PERSONS (SADP)

The statements presented below express opinions or ideas about people who are disabled. There are many differences of opinion. Many people agree and many people disagree with each statement. Your opinion is requested. Mark the appropriate number, from -3 to +3, which best corresponds with how you feel about the statement. There are no right or wrong answers. You should work as quickly as you can, but don't rush. There is no time limit. Please respond to every statement.

Key:

-3: I disagree very much	+1: I agree a little
-2: I disagree pretty much	+2: I agree pretty much
-1: I disagree a little	+3: I agree very much

1. Disabled children should not be provided with a free public education
2. Disabled people are not more accident prone than other people
3. A disabled individual is not capable of making moral decisions
4. Disabled people should be prevented from having children
5. Disabled people should be allowed to live where and how they choose
6. Adequate housing for disabled people is neither too expensive nor too difficult to build
7. Rehabilitation programs for disabled people are too expensive to operate
8. Disabled people are in many ways like children
9. Disabled people need only the proper environment and opportunity to develop and express criminal tendencies
10. Disabled adults should be involuntarily committed to an institution following arrest.
11. Most disabled people are willing to work.
12. Disabled individuals are able to adjust to a life outside an institutional setting.
13. Disabled people should not be prohibited from obtaining a driver's license.
14. Disabled people should live with others of similar disability.
15. Zoning ordinances should not discriminate against disabled people by prohibiting group homes in residential districts.
16. The opportunity for gainful employment should be provided to disabled people.
17. Disabled children in regular classrooms have an adverse effect on other children.
18. Simple repetitive work is appropriate for disabled people.
19. Disabled people show a deviant personality profile.
20. Equal employment opportunities should be available to disabled individuals.
21. Laws to prevent employers from discriminating against disabled people should be passed.



22. Disabled people engage in bizarre and deviant sexual activity.
23. Disabled workers should receive at least the minimum wage established for their jobs.
24. Disabled individuals can be expected to fit into competitive society.

APPENDIX B  
SUPPLEMENTAL SURVEY QUESTIONS

What is your age?

Younger than 18

18-20

21-29

30-39

40-49

50-59

60 or older

What is your gender?

Female

Male

Other, please specify

What is your ethnicity?

White

Black or African-American

American Indian or Alaskan Native

Asian

Native Hawaiian or other Pacific islander

From multiple races

Some other race (please specify)

In terms of credit hours, what is your academic standing?

Freshman

Sophomore

Junior

Senior

What is your current major?

Dietetics

Exercise Science

Health & Physical Education

Sport, Outdoor Recreation & Tourism

Other, please specify

What is your intended career path after graduation?

Exercise Physiology / Cardiac Rehabilitation

Group Fitness / Personal Training / Strength & Conditioning

Outdoor Recreation

Physician Assistant, Nursing, or Medical School

Physical Therapy / Occupational Therapy

Public Health

Therapeutic Recreation

Undecided

Other, please list:

Prior to this course, have you ever had the opportunity to interact with an adult with an intellectual disability

Yes / No

Prior to this course, have you ever had the opportunity to work with an adult with an intellectual disability in which you provided some type of service or direct care (e.g. camp counselor, caregiver, direct support professional)

Yes / No

### **Confidence Questions**

Strongly agree, agree, undecided, disagree, strongly disagree

1. I am confident in my ability to communicate with an individual with an intellectual disability
2. I am confident in my ability to lead physical activity for individuals with intellectual disabilities
3. I am confident in my ability to treat an individual with ID as an equal.
4. I am confident in my ability to work with an adult with ID in my future profession.

### **Course Evaluation Questions** (post survey only)

Strongly agree, agree, undecided, disagree, strongly disagree

1. The course developed my ability to interact with diverse groups of people
2. The course improved my knowledge of intellectual disabilities
3. The course improved my attitudes toward individuals with intellectual disabilities
4. The course improved my understanding of the challenges this population faces
5. The course developed my leadership skills
6. This course helped prepare me for my future profession.
7. Please provide any other comments related to the course. (open)

APPENDIX C  
FOCUS GROUP QUESTIONS

Overall, how would you describe your experiences in the course?

Explain how the course either changed or affirmed your prior attitudes toward this population.

Is there anything else you would like to add about your thoughts on this population or this experience?

APPENDIX D

MOST VALUABLE EXPERIENCE FORM

Name:

Date of Experience:

What happened? How did it happen? Give a brief description of the experience and provide context.

What were your immediate thoughts and responses when it happened?

What are your thoughts now?

What is it that made the moment a "valuable" learning experience to you?

What have you learned about working with adults with ID from this?

Is there anything else you'd like to share?