Physical Activity in Inclusive Postsecondary Education for Students with Intellectual Disability

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Abstract

There has been a growing commitment to the inclusion of students with Intellectual Disability (ID) on college campuses which has resulted in approximately 271 college programs in the United States. Although there is great variability on program structure and supports of these programs, their overall purpose is to assist students to prepare for productive and satisfying adult lives. The purpose of this study was to examine the inclusion of fitness and exercise components in the context of inclusive postsecondary education (IPSE) programs within the United States. Obesity is a major health concern, and people with ID are more than twice as likely to be obese than people without. Non-random purposeful sampling was used to interview nine staff members from different IPSE programs. Data indicated that both IPSE program factors and individual student characteristics may impact the role of exercise and fitness in IPSE. These findings can help guide the development of effective exercise and fitness programs for young adults with ID within the context of postsecondary education.

Keywords: Inclusive postsecondary education, intellectual disability, physical activity, obesity

Due to recent legislation (i.e., Higher Education Opportunity Act of 2008, PL 110-315), funding opportunities (i.e., Transition and Postsecondary Programs for Students with Intellectual Disability [TPSID] programs), and a growing commitment to increasing access to postsecondary education in general, there are now 271 inclusive postsecondary education (IPSE) programs across 48 states in the United States (thinkcollege.net). Inclusive postsecondary education programs aim to assist individuals with intellectual disability (ID) to prepare for more productive and satisfying adult lives, including meaningful careers and being as independent as possible (Uditsky & Hughson 2007). These programs vary greatly in the type of students enrolled and how services are delivered. Some programs allow for dual enrollment of students also enrolled in their K-12 school district, while others serve students who have graduated or completed their K-12 education. Inclusive postsecondary education programs also differ in whether the students live in university housing or commute to campus.

Grigal, Hart, and Weir (2012) categorized IPSE programs into three distinct models: hybrid, substantially separate, and inclusive individualized. The majority of programs in the United states are hybrid models that include classes and activities with students both with and without ID. Classes exclusively with other students with disabilities are often focused on gaining adaptive and daily-life skills and may be called "transition" classes. Substantially separate programs consist of classes only with other students with ID. Inclusive individualized programs offer support designed around each individual student's needs which could include tutoring, peer mentoring, and specialized technology. Some IPSE programs prioritize academic achievement and career development, while others focus primarily on social and adaptive skills as target areas. In a survey of IPSE programs, 34% cited independent living skills as a primary focus, 32% cited employment, with only 18% citing academic achievement.

Inclusive postsecondary education programs aim to provide adults with ID the support they need to enjoy the full range of experiences available in postsecondary settings. As such, these programs are well-poised to address the issues of obesity, nutrition, and exercise in adults with ID. In fact, many IPSE programs have begun to examine needs and supports beyond traditional academic support. Specifically, there appears to be an increased awareness among IPSE

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programs that physical health and wellness can have a significant impact on academic performance and on the acquisition of new skills (Shore et al. 2008). Educators associated with IPSE programs have begun to consider how their roles might not be limited to academic instruction but may also include addressing health-related topics like nutrition, exercise, and other healthy lifestyle choices. However, as IPSE programs develop and implement these supports, there are a number of barriers that must be addressed including physical limitations, side effects of medication, and a lack of healthy food or exercise choices. Thus, research examining barriers and supports associated with optimal health and increased physical exercise for ISPE students is critical.

Although these programs are relatively new and the research is limited, initial data suggest that participation in IPSE programs results increased self-determination, job readiness and initial wages, and social skills (Grigal, Hart, Smith, Domin, & Weir, 2016). However, to date, no research exists that outlines the role of physical activity or exercise in these programs. The National Center for Health Statistics estimates that approximately 38% of adults living in the United States are overweight or obese which puts them at an elevated risk for adverse health outcomes including life-threatening conditions such as heart disease and stroke (National Center for Health Statistics, 2017). For individuals with ID, the rates of obesity are up to 58% higher than adults without disabilities, and obesity and lifestyle-related diseases negatively affect this population at alarming rates (Bandini, Curtin, Hamad, Tybor & Must, 2005; Slevin, Truesdale-Kennedy, McConkey, Livingstone, & Fleming, 2014). Obesity among individuals with ID represents a public health crisis, which has resulted in increased fitness and exercise promotion efforts targeting both prevention and reduction of obesity and obesity-related conditions (Neidert, Dozier, Iwata, & Hafen, 2010). A national blueprint has been issued identifying the need to improve the health of persons with ID. Physical fitness and obesity are two of the primary targets of this blueprint as adults with ID have lower fitness levels than their peers without. (Heller, McCubbin, Drum, & Peterson, 2011; Rimmer & Yamaki, 2006). In their systematic research review, Temple, Frey, and Stanish (2006) stated that nearly two-thirds of adults with ID did not fulfill the minimum physical activity level recommendations published by U.S. Department of Health and Human Services (HHS). Furthermore, the majority of time during the day for people with ID is spent doing sedentary activities, with only 13% of younger adults with ID meeting the HHS minimum recommendations.

Inclusive postsecondary education programs are in the unique position to incorporate exercise into their curriculum, and to assist this vulnerable population in overcoming barriers to fitness and exercise. Within a college or university setting, IPSE students theoretically have access to resources and opportunities that may not be available to other young adults with ID. Despite its importance, no studies have examined fitness and wellness promotion for individuals with ID within the context of IPSE. Exploring how IPSE programs are currently addressing fitness and exercise within their programs could serve to improve supports and programming for students with ID at colleges and universities across the nation.

The purpose of this study was to examine how fitness and exercise are being addressed within the context of IPSE programs within the United States. Specifically, two research questions guided the study: (a) to what extent is physical activity included in IPSE programming; and (b) what are IPSE professionals' perceptions of facilitators and barriers to how IPSE programs facilitate students' fitness and exercise?

Method

This project aimed to increase understanding of the how fitness and exercise is being addressed with students in IPSE programs. This information has the potential to guide the development of more effective exercise and fitness programs for young adults with ID within the context of postsecondary education. To accomplish this aim, semi-structured interviews were conducted with IPSE staff regarding the barriers and facilitators to addressing exercise and physical activity with students with ID.

Participants

A non-random purposeful sampling was used to obtain insights specific to IPSE programs (as opposed to the general population). Participants were recruited from the Think College website (http://www.thinkcollege.net/) that lists each of the IPSE programs in the United States. Think College at University of Massachusetts-Boston serves as the National Coordinating Center for Transition Postsecondary Programs for Students with Intellectual Disability (TPSID) projects. To be included in the current research study, participants needed to be twenty years or older, listed as the staff contact person for an IPSE program on the Think College website, and have been at their current position for at least one year. Administrators and staff members were chosen as these particular individuals allowed for the best chance to glean information related to the research questions. Interaction with participants was limited to a phone interview.

Of the 266 IPSE programs listed on the website at the time, participants were recruited from programs described as "residential," meaning the program allows students with ID to live on the campus of a four-year college or university. This criterion was chosen because students enrolled at residential IPSE programs are more likely to be involved in a wider range of services. Of the 266 IPSE programs listed on the Think College website, 54 programs met the inclusion criteria. Using the contact information posted on the website (name, email, phone), an email was sent outlining the core components of the study and requesting an email response indicating interest in participation (yes/no). Of the 54 programs that were emailed, 13 responded. Of the 13 programs that responded, nine indicated that they were interested in participating in the study. For those who indicated they were interested in participating or who wanted more information, additional details were sent regarding the anticipated time commitment and specific study procedures.

In addition to the demographic information provided in Table 1, it is important to understand that although each of the participating programs met criteria to be an IPSE program, admission criteria and program goals somewhat varied. All of the programs accept students with mild to moderate ID, but one program exclusively admits individuals with ASD. With regards to individual program goals, three of the nine programs included "academics" as a program focus, seven of the nine programs included "independent living," and eight of the nine programs included "vocational training."

In analyzing ground theory interview data, Guest, Bunce, and Johnson (2006) reported that data saturation typically takes place at 12 interviews, therefore the goal was to interview approximately 10 to 12 participants. Ultimately, nine IPSE staff agreed to participate in an interview, which is consistent with recommended sample sizes for qualitative interview studies, which ranges from four (Romney, Batchelder, & Weler, 1986) to 30 participants (Creswell, 1998). The research team determined that a sample of nine meets the recommended threshold and that more interviews would produce risk of informational redundancy (Lincoln & Guba, 1985). To confirm this, the coded data was reviewed and determined that (a) the responses of the first seven interviewees were well represented with existing codes, and (b) new themes did not emerge in the final two interviews that were not already captured by initial codes suggesting that a larger sample size would result in data saturation.

Data Collection

The interview protocol used for this study was developed based on the literature and included a total of 11 questions, with additional follow-up questions contingent on participant answers (e.g., "If yes, how? If no, what are your reasons for not including this?"). The interview consisted of a set of four introductory demographic questions, questions regarding if and how physical activity is included in the program curriculum, and questions about barriers and facilitating factors in providing instruction and support in this area. Additionally, the final question included a rating scale from 1-10 at the end of the interview to extract information related to relative importance placed on fitness and exercise (i.e., "On a scale from one to 10, what level priority is exercise in your program?"). Table 2 includes sample interview questions. The interview questions were piloted with two professionals associated with IPSE programs (project coordinators) and then adjusted based on their feedback. Professionals working in or affiliated with IPSE programs across the country were targeted for study enrollment. The interviews were conducted via telephone and took approximately 30 minutes to complete. They were audiotaped and then transcribed to facilitate coding. A grounded theory approach (Flick, 2002) to qualitative research was adopted for analyses. This approach was advantageous when researchers seek to understand phenomenon and acquire in-depth information that is difficult to ascertain through more quantitative methods (Strauss & Corbin, 1990).

Procedures and Analysis

The research procedures were reviewed and approved by the university's Institutional Review Board. The phone interviews were conducted in a private university office and audiotaped to allow later review and coding. The consent process was verbally explained to participants, and their consent was obtained over the phone at the outset of the interview prior to any data collection. All records were kept confidential and no personal identifiers (names and programs) recorded. If the participant mentioned their name or the program's name during the interview, it was removed from the subsequent transcript. Each interview was given a unique pseudonym and all recordings were stored in a locked cabinet with no identifying information. The digital transcriptions were saved on a password-protected device. Only the people who worked on this study were able to access the data. The research team deleted the recording of the participants' interview after transcription.

All of the interview transcripts were read and coded by the first and second authors. Specifically,

the data analysis steps provided by Strauss and Corbin (1997) were followed. Open coding to identify concepts categories and properties was first used, followed by axial coding to develop connections between each category and its sub-categories. The last step involved selective coding to integrate categories and to build a theoretical framework. After coding, theoretical sampling to confirm and sharpen the theoretical framework was conducted until theoretical saturation was achieved, which is "when the marginal value of the new data is minimal" (Strauss & Corbin, 1990, p.110).

As a result of this coding process, three category headings were generated from the data and the initial codes were assigned to one of the resulting themes. Following development of the coding scheme, two independent researchers who are not authors of this manuscript read the transcripts and verified the accuracy and representativeness of the thematic structure. After discussion with the research team, minor modifications were made to the thematic structure. Lastly, to ensure research credibility, member-checking was conducted, a technique used to help improve accuracy, credibility, and validity of a study by giving the data to the members of the original sample to check the authenticity of the work (Lincoln & Guba. 1985). Participants reviewed preliminary results and confirmed that they felt the results were accurate. By doing this, the goal was to determine if participants' viewpoints were accurately translated into resulting theory (Krefting, 1991). In summary, several procedures were utilized before, during and after data collection to improve the trustworthiness of the data (Lincoln & Guba, 1985).

Results

In grounded theory research, a strong category system "emerges" from the data (Strauss & Corbin, 1994). After the data were coded and analyzed, three prevalent themes as to how IPSE programs address fitness and exercise were apparent: (1) Program Structure, (2) Challenges, and (3) Supports. Subthemes within each of these were identified as well. Student-led choices and structured requirements were identified within Program Structure, individual barriers and systems barriers within Challenges, and peer involvement and program resources within Supports. The results are organized using these three primary themes and their subthemes. Prior to reporting the coded results, it was noted that several participants stated appreciation for this project. Furthermore, regardless of exercise and fitness implementation method, rigor, or formalization, data indicate that programs view health and wellness as an important construct within their program, with eight of the nine participants rating health and wellness at least a six out of 10 (1 being least important to 10 being of the utmost importance).

Theme 1: Program Structure

Of the major themes identified, program structure appeared to be the most salient in understanding the current role of fitness and exercise in IPSE programs. Consistently across IPSE programs, values such as self-determination and inclusivity were evident and emphasized. This is an important finding, as these are key components of an IPSE program and are considered best-practice within the ID literature (Griffin & Papay, 2017; Wehmeyer & Abery, 2013). Across the interviews, similarities in program structure were found that have yet to be investigated and are novel. For example, when asked about the level of parent/family involvement within fitness and exercise, nearly all programs reported a "hands-off model" with very limited parental involvement in order to best promote student independence. Interestingly, in stark contrast, the program that did involve parents was quite involved and extensive: "We send home progress reports and a monthly weight log. We think that social life is important and employment too, but you have to be healthy in order to live a life that is to be of high quality." Overall, data indicated significant variability across programs in terms of general structure in delivering services, specifically the extent of autonomy students are afforded in determining their IPSE experience (i.e., student-led choices or structured requirements). Moreover, findings suggest that individual program structure drives the intensity of physical activity implementation.

More autonomous programs (focus on student-led choices). In a broad sense, student-led choices are decisions made by the individual student. Thus, in this study, student-led choices reflected participants' responses that supported student autonomy and independence to make choices around fitness and exercise. A majority of the programs reported that they did not have a formalized fitness and exercise component within their IPSE program, and that the level of fitness and exercise activities that students are involved in is entirely up to the students. Participants reported that facilitating what students "want to do" is their primary responsibility when delivering services rather than requiring students to engage in specific activities. One program director noted, "we ask them what they are broadly interested in and help facilitate that, but they are not required to do anything related to health and wellness." Another program director made a similar statement, "They have access to

all PE courses, but aren't required to take them." Although programs that structure their services around student autonomy may value health and wellness, they believe that the ultimate decision to engage in fitness and exercise activities decided upon by each individual student.

Similarly, some program staff reported that, although fitness and exercise activities are not required and participating is left up to the student, these options are specifically encouraged:

> They have to choose from a list of electives each semester. It is mainly driven by them, with a little guidance. For example, if we know they have an individual goal to be healthier, we might say, "hey, look, snowboarding seems like a lot of fun." So, it is softly encouraged, but not required.

Another program director commented, "we definitely encourage healthy routines." Other program directors reported that although fitness and exercise activities are encouraged, they are not necessarily referred to during goal-setting and individualized planning. These narratives demonstrate respondents' beliefs that promoting healthy behavior is important, but not to the extent that it interferes with the autonomy and self-determination of their students. These beliefs are reflected in the statements made by two program staff members: "student goals are completely individualized. If they want to be healthier, then we try to put them in a position to be successful, but it is in no way required" and "we encourage it in an indirect sense. We stress independent living (taking care of your own health) … goal setting in that way."

Less autonomous programs (more structured requirements). In this study, structured requirements refer to fitness and exercise activities that the students in the program are required to do. These requirements can be in the form of classes, specific health activities within a general requisite, or hours of exercise per week. Although several programs had fitness and exercise components that were required as a program outcome or goal for all of their students, the type and level of requirements varied, and students had the ability to choose what activities to become involved in and whom to be involved with. As one director stated:

> Health and wellness are tied to our program goals. One of our goals is that we would like each student to know how to be healthy and fit before they leave the program. Within that, we break that down and the students pick what that means to them and we make individual goals.

Another program director noted, "a fitness goal is always included as a part of their person-centered plan. Sometimes this looks like individual goals with their peer mentors such as, 'work out a certain number of times per week.'"

In addition to fitness and exercise activities being tied into program components, a few programs reported that all of the students have specific, required health goals that are measured and monitored throughout the year. These comments suggested respondents believe that if fitness and exercise were to be included in programming, it needed to be delivered in a structured and measurable way. Statements by multiple program directors reflect this sentiment: "we have a five day per week mandatory fitness/involvement;" "they are required to do two activities per weekend. Sometimes those involve exercise (Frisbee, walking to a football game);" and "students start off with a baseline at the beginning of the year and then try to beat it. We measure weight, resting heart rate, and stuff like that…85%-90% of goals are for a healthy lifestyle--nutrition, exercise, general knowledge." Some program directors also reported that they have specific classes that all students have to take: "all students are required to take a Health and Wellness class during their first year."

Theme 2: Challenges

In addition to program structure, challenges to having an exercise or fitness component also emerged as a theme from the data. Within this general theme, individual barriers and systems barriers materialized as specific subthemes. To identify a baseline of student physical activity in IPSE programs, each respondent was asked to estimate what percentage of students in their respective program are relatively active (relatively active defined as at least 30 minutes of exercise three to four times per week), and most of the programs estimated that 60% or less of their students are relatively active each week. With that said, two programs estimated 100% of their students were active.

Individual barriers. For this study, individual barriers to health and wellness referred to what specifically inhibits successful fitness and exercise promotion in for IPSE students. A number of respondents reported that student motivation was a significant barrier to having an exercise component in their program, with one respondent reporting, "a lot of students need prodding, which ends up creating difficult situations for us." Other respondents echoed this sentiment, explaining how they often avoid including exercise activities because they make students feel uncomfortable, and they did not want to push stu-

dents to do something that they do not want to do. One respondent shared that they had actually scaled back their level of exercise and fitness promotion in their program due to a lack of student motivation: "we don't push exercise as much as we used to because of a general unwillingness to participate. Our program needs to learn how to do a better job persuading [our students] that exercise is important."

In particular, some respondents reported that they believed this lack of motivation could be due to a lack of expectations for students with ID early in their social and emotional development. A few respondents cited secondary education as the source for a lack of expectations to exercise. One explained:

> A big barrier that we have encountered is a lot of students were never exposed to physical activity in high school. It wasn't an expectation for them. So, they really did have some habits and lack of motivation because it was a lot more fun for them to play video games during gym rather than exercise.

Another respondent mentioned that exercise is not included within Individualized Education Program (IEPs) as they should be, thus contributing to their lack of motivation:

> I don't think health and wellness is a big part of most IEPs. I think a lot of [lack of motivation] stems from the fact that nobody expected them to really participate in sports or do some of those things that other high school students are prone to do.

In addition to motivation, respondents noted that limited knowledge surrounding basic gym usage creates barriers. Respondents argued that without a foundational knowledge of how to use the equipment in the gym, exercise opportunities are greatly reduced. As one respondent noted, "another big barrier is a lack of knowing how to use the equipment. If they don't know how to use the equipment, they are much less likely to work out." Along the same lines, respondents reported that having students that do not know how to properly use the equipment at the gym leads to serious safety concerns. This is a major barrier, as one participant explained, "basic safety in the gym is a big thing that we need to address."

Systems barriers. For this study, systems barriers referred to systematic barriers to exercise and fitness promotion that are not related to individual students within the program. For example, this theme includes general organization within the program, various program limitations, hierarchal challenges within the college or university, and financial constraints.

A common system barrier among respondents was a lack of trained staff explicitly associated with the program to assist with exercise and fitness promotion. Respondents shared that without staff that are trained in fitness, their programs are unable to "make exercise activities adaptable" or "demonstrate how to use the gym equipment." Also, having a trained fitness staff member can help to overcome bureaucratic obstacles, as one respondent explained, "there used to be a point on campus when our students weren't allowed to use the rec center because administrators thought it wouldn't be safe."

In addition to trained fitness staff within the program, restraints such as time and finances were other significant systematic barrier identified by participants. With regards to time, programs reported that they simply did not have enough hours in the day to include fitness within their current goals and activities. As one respondent said, "time is an issue and our biggest barrier. We cannot fit fitness and health and wellness into the normal structure of our daily activities." Respondents also reported how financial restraints impact their ability to offer fitness options to students. As one staff member noted:

> It costs money to sign up for classes that they are interested in outside of our curriculum. If they are interested in archery, they are required to have the necessary equipment and generally they cannot afford that. PE credits are $1000 per class and are only 1 credit. So, honestly, we encourage them not to take PE courses just because of the cost.

Theme 3: Supports.

Supports to having an exercise or fitness component also emerged as a theme from the data. Within this general theme, peer involvement and resources materialized as specific subthemes.

Peer involvement. Utilizing volunteers and peer mentors within their IPSE program was a common theme across all programs, with some having "mentors assigned to each student through an undergraduate course" and one program having up to 500 undergraduate student volunteers at their disposal. General roles of volunteers and peer mentors varied greatly across programs, with some programs having them focus on campus integration while others focused on social skills. Related to exercise and fitness promotion, one program reported using their peer mentors to facilitate structured activities: "our mentors informally set up times to exercise as a group several times per week." One IPSE staff member shared that "some

students would rather go with a mentor to a class until they are uncomfortable going on their own." Another added, "if they don't have a social mentor go with them, it is much less likely that they will go and participate in fitness activities." Others reported that they "always have students and volunteers present during our workouts to help motivate the [IPSE] students and provide the individualized attention that they require." Using volunteers and peer mentors in this way is intentional, according to one staff member who noted "facilitating health and wellness is one of the big things that we try to get [peer mentors] to do."

In addition to volunteers and peer mentors, other IPSE students sometimes facilitated their peers' fitness as well. This influence could be direct ("we had a student who wanted to be a personal trainer be roommates with a student who wanted to lose weight. It was ideal because they helped each other out!") or indirect ("just having each other as peers is a big influence to want to be better").

Program resources. Classes, either general university undergraduate classes or classes unique to the IPSE program, were significant resources that facilitated fitness and exercise among programs. In some programs, students were required to take classes on a variety of topics: *Health, Leisure Skills, Inclusive Fitness, Group Fitness,* and *Dance*. Some programs created a way to simultaneously individualize classes while promoting fitness. As one respondent said, "we had one student take a country swing class. That was more of a social goal for her, but obviously swing dancing for a couple hours every week is great exercise." In fact, the act of walking to and from classes was identified by one respondent as an exercise in itself: "it is a big campus, so the fact they are going from their dorms to their classes is good because they are getting solid walking in every day."

In addition to classes, extracurricular activities also proved to be great resources to facilitate exercise. Examples of extracurricular activities among programs included rock climbing, Zumba, bowling, walking club, running club, intramural sports, swim club, group walks, and yoga. In addition, at one university, an IPSE tried out for and made the club baseball team on his own.

University gymnasiums and weight rooms were also mentioned as resources that help facilitate exercise. All respondents reported that their students currently have access to the college/university gym or student recreation center to exercise, just as any other student at their college or university would. Within the gym, common equipment used by IPSE students included treadmills, stair masters, ski-machines, and free weights. All respondents reported that their students have access to a trained fitness instructor at the university gym, but most programs reported that accessing these trainers would cost extra money separate from the IPSE program fees.

Certain resources within the university and community also were identified as a facilitating factor for fitness. For example, one program reported that they partner with their university's Department of Public Health Sciences "for food nutrition and healthy living." This respondent added that together: "We conduct various baseline assessments on IPSE incoming freshman each year, such as heart rate, BMI, and strength tests, then we monitor progress through the year." Programs also cited collaboration with university and college athletic teams (e.g., men's basketball team, football team, and golf team); campus recreational therapy groups; and university dieticians. One program used their connection with the student health center to facilitate a paid internship for an IPSE student who wanted to be a physical trainer, which "worked out perfectly." Community groups also were great resources, as one program partnered with a group that specializes in inclusive activities and participated in off-campus whitewater rafting.

Discussion

There are a number of environmental factors that may hinder individuals with ID from engaging in physical activity and result in a sedentary lifestyle which puts them at increased risk for obesity. These factors are largely attributed to the settings and contexts where individuals with ID live, work, and engage in recreation, which often present varying degrees of opportunities to be physically active. Physical activity represents a broad range of activities that result in the expenditure of energy (Leung, Siebert, & Yun, 2017). There are a number of well-documented benefits from physical activity including the primary and secondary prevention of chronic diseases (e.g., cardiovascular disease, diabetes, cancer, hypertension, obesity, depression, and osteoporosis), with the maintenance of a healthy weight and reduction of obesity as one of the primary outcomes (Janssen & LeBlanc, 2010; Warburton, Nicol, & Bredin, 2006). One study investigated the physical activity levels of individuals with ID and their peers, presenting data that suggested employment of people with ID, especially in jobs that require manual labor, moderately increased their physical activity and significantly improve their health status (Finlayson et al., 2007).

Because people with ID require more support to health promotion and preventative services than the general population, their level of exercise is excep-

tionally dependent on supports in their respective settings. For instance, Pan, Liu, Chung, & Hsu (2015) demonstrated that adolescent students with ID are less involved in moderate to vigorous activity during school recess and called for more structured recess and recreation opportunities to promote engagement for this population in these settings. In contrast, settings can be structured to a point where they are restrictive and inhibit opportunities for people with ID to exercise. For example, Son and Jeon (2017) described how, due to time and financial restraints, simple abdominal exercises were introduced to adults with ID at a community residential care facility. They reported that these exercises had a positive impact on correcting posture and were relatively easy to implement, therefore making the case for similar facilities to allocate resources to allow for more targeted exercise programs. In addition to setting factors, caretakers themselves play a pivotal role in providing access to physical activity for people with ID. One study used interviews of adults with ID to investigate barriers and facilitators to a healthy lifestyle, finding that providers' knowledge was both a significant barrier or facilitator of healthy behaviors (Caton et al, 2012). Service providers who did not place a high value on physical activity were less likely to facilitate or advocate for such opportunities.

These risks are exaggerated in people with ID, therefore the consequences of obesity are particularly problematic to this group who already experience social and health disparities (Biswas, Vahabzadeh, Hobbs, & Healy, 2010). Individuals with ID experience a number of barriers to achieving a healthy weight, such as low physical activity levels (Bartlo & Klein, 2011; Hilgenkamp, van Wijck, & Evenhuis, 2012; Temple & Walkley, 2003), social and economic factors (Lioret, Maire, Volatier, & Charles, 2007), unhealthy lifestyle choices (Mikulovic et al., 2014) and poor nutrition (Humphries, Traci, & Seekins, 2009). Thus, exploring and investigating various perceptions surrounding these barriers and potentially beneficial interventions and supports is critical. In this study, the role of exercise and fitness in IPSE programs was examined given that these settings are increasingly available as important programs found to increase positive adult outcomes for those with ID (Grigal et al., 2016). It was found that both IPSE program factors and individual student characteristics impact the role of exercise and fitness in IPSE.

According to the respondents, less than half of students in their IPSE programs are relatively active. Previous studies have linked obesity with a lack of physical activity in college students (Desai, Miller, Staples, & Bravender, 2008; Huang et al., 2003), but this study is the first to document this phenomenon in college students with ID. With regards to individual factors, respondents suggested that motivation as well as a lack of basic knowledge surrounding fitness and exercise were significant barriers in the implementation of fitness and exercise components in IPSE programs. Having students who are unmotivated to exercise can obviously create resistance to exercise programs, and a lack of knowledge restricts fitness options and often leaves individuals disengaged. Motivation as a barrier to exercise in ID populations is documented within the literature (Frey, Buchanan, Rosser Sandt, 2005), as is a lack of awareness surrounding healthy weight management in college students (Lowry et al., 2000). However, this is the first study to examine these barriers within an IPSE context.

The importance of peer involvement to facilitate individual fitness was also an important finding. Within the IPSE literature, benefits of peer involvement have been well documented (Blumberg & Daley, 2009; Jones & Goble, 2012). Peer involvement and social interaction has been found to increase exercise participation (Stanish & Temple, 2012), but their influence has not been studied within an IPSE context. The respondents perceived time and money as program factors that created barriers to implementing exercise and fitness activities with IPSE students. This mirrors previous research that shows finances and scheduling are often identified as barriers to exercise in other populations (Reichert, Barros, Domingues, & Hallal, 2007).

Respondents also perceived collaboration as a program-level facilitator. Benefits of collaboration between ISPEs and administrators, faculty, staff, and students in the college or university where they reside has been argued for before. The literature suggests that collaboration with IPSE programs can be mutually beneficial for the program as well as the collaborative partners. Folk, Yamamoto, and Stodden (2012) reported that IPSE programs can be a transformative process for not only the students, but for (postsecondary education) institutions and support agencies and concluded that "collaborative interagency teaming is a powerful method to inform and empower the implementation of change and stimulate new opportunities and approaches for transition services for students with ID" (p. 261). The respondents noted many benefits for university staff and students who helped incorporate exercise and fitness within an IPSE program.

Variability across IPSE program structure is not a novel finding, as this variability has been previously reported (Grigal et al., 2012). Further, considering that there is no mandated requirement for an explicit percentage of services needing to be student-specific

or mandated by the program, it appears that individual program philosophies may influence important decision-making at both the program and individual level. This was perhaps the most influential finding from the interviews, as the level of fitness and exercise implementation appeared to be largely due to program approach or philosophy. This finding parallels similar suggestions of the key role that stakeholders' beliefs play in the management of obesity in individuals with ID (Jinks, Cotton, & Rylance, 2011). The extent of exercise implemented within each program generally was determined by program philosophy in delivering services: person-centered versus program-centered (see Figure 1). Programs that leaned towards a more person-centered philosophy tended to give their students more autonomy in deciding whether or not to exercise, how to exercise, when to exercise, etc. Conversely, programs that leaned towards a more program-centered philosophy were more regulated in general, including increased requirements and direction of their students' exercise. Differences in program structure and philosophy may lead to different outcomes, and the field would benefit from additional research to understand which IPSE structures and activities are associated with positive results in students with ID, such as engagement, decreased body mass, and improved social emotional competencies (i.e., self-esteem and body image) (Flanagan 2013; Hawkins, Stegall, Weber, & Ryan, 2012; Rubbert, 2014).

Limitations and Future Directions

The findings of this study should be interpreted with caution as this study has several noteworthy limitations. First, being a qualitative study, findings cannot be extended to wider populations with the same degree of certainty that a larger quantitative study might provide (Atieno, 2009). Also, the data are self-report and thus information is provided from IPSE staff members' personal experiences and perspective. Future research should examine perceptions of students with ID to better understand their perspective on the importance, facilitators, and barriers of physical activity of their program as well as their motivation toward and self-efficacy regarding exercise. A second limitation of this study is that programs that were residential four-year IPSE programs was the focus, so the findings may not generalize to other types of IPSE programs; specifically, respondents represented a relatively small number of residential IPSE programs (nine out of 54), and no respondents were recruited from non-residential programs. Future research should target the multiple configurations of IPSE programs to develop a comprehensive understanding of available fitness activities and supports. Likewise, the impact of optional versus mandated program components on IPSE students' fitness and exercise is an important question for future work.

With new IPSE programs being established at a rapid rate, researchers have an opportunity to develop a comprehensive and nuanced picture of fitness and exercise programming for students with ID. For example, future studies should look into the role that experiences in secondary education play in respect to barriers to fitness and health in the ID population, as was mentioned by several respondents. Specifically, examining whether transition plans and IEPs include exercise and fitness goals, and how K-12 schools facilitate fitness and exercise for students with ID would be important information for developing new interventions and supports. Additional studies evaluating the specific techniques and methods that IPSE programs use to promote fitness are needed to establish these approaches: acceptability, effectiveness, and generalizability.

Summary and Implications

This study is important given the high degree of obesity and associated health problems in adults with ID. Interview respondents indicated a number of program and individual factors that may support or inhibit students' physical activity within four-year residential IPSE programs. Interestingly, despite the variability in how fitness and exercise services were delivered, nearly all programs valued health and wellness as important to their program (at or above a 6 on a scale from 1-10). It was also found that fitness-related content and activities may reflect programs' underlying foundational philosophies with student-focused versus program-mandated programming as the primary distinguishing feature (see Figure 1). However, the extent to which one philosophy or approach promotes better fitness and exercise outcomes has yet to be determined and should be investigated further.

One of the primary factors reported to influence IPSE students' level of physical activity was the value and practice of allowing individuals with ID to make their own life choices. Within a health and wellness context, the data suggest some programs believe that young adults with ID that attend their program should never be explicitly told where or how often to exercise (i.e., these choices are left to each individual student), and other programs believe it to be their responsibility to develop structured exercise or fitness components and require that students attend them. Given the tremendous problem with obesity and its association with a number of diseases, poor health outcomes, and the vulnerability of this population to

these conditions, consideration of more structured fitness components in IPSE programs must be balanced with educators' desire to promote self-determination and freedom of choice for young adults with ID.

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Table 1

Demographic Information of Participants and their Respective Programs

Participant Number (Role)	**Highest Degree Attained**	**Disability-Related Work (yrs.)**	**Postsecondary Education Work (yrs.)**	**Program Existence (yrs.)**	**Students**
Mean		17.11	6.94	6.66	57
1 (Program Coordinator)	Ed.S.	18	1.5	8	29
2 (Program Director)	Ph.D.	10	3	8	23
3 (Program Director)	Ph.D.	39	16	8	258
4 (Peer Support Coordinator)	B.S.	8	2	1	14
5 (Program Administrator-Admissions & Business Dev.)	M.A.	20	6	4	70
6 (Co-Principal Investigator/ Faculty Advisor)	M.A.	25	5	2	10
7 (Program Director)	M.A.	20	15	6	38
8 (Program Coordinator)	M.A.	4	4	8	18
9 (Assistant Program Coordinator)	M.A.	10	10	15	53

Table 2

Sample Interview Questions

Topic	Sample Questions
Barriers	• What are some barriers to having an exercise or fitness component in your program? • Can you provide an example of a student who has struggled to have a healthy lifestyle due to an existing health condition?
Facilitators	• How are peers with and without disabilities involved in existing exercise or fitness programs? • How are parents and families involved in existing exercise or fitness programs? • In your opinion, how do you feel that Postsecondary Education programs could improve the facilitation of student health and wellness?
Program Structure	• Does your university or your specific program promote exercise or fitness activities? • How have you modified your curriculum to support healthy lifestyles for the students?

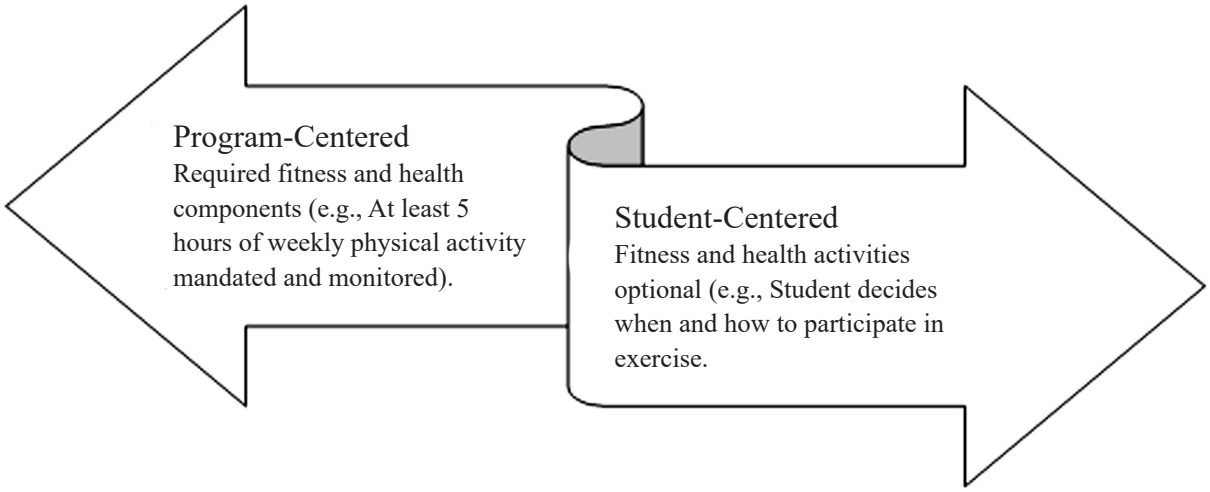

Figure 1. How IPSE program philosophy in delivering services can influence the extent of exercise implemented.