An Exploratory Analysis of Funding, Cost, and Outcome Data for Inclusive Post-Secondary Education Programs

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Abstract

Inclusive post-secondary education (IPSE) programs provide opportunities for individuals with intellectual disabilities (ID) to participate in the college experience. Individuals with ID who complete *any* post-secondary education are more likely to have paid jobs and make higher weekly wages, which are correlated with decreased Social Security enrollment. Little is known, however, about the outcomes of IPSE graduates. Economic evaluations (EEs) are a specific type of evaluation that can demonstrate the cost-effectiveness and return on investment programs provide and can be used to support the continued implementation of effective programs, improve outcomes, and support increased funding and sustainability. An improved understanding of IPSE programs, including their methods, costs, and outcomes, is needed in order to conduct full evaluations. The purpose of this study is to conduct an exploratory analysis of program and participant information to support future full EEs of IPSE programs. The proposed study has three specific aims: 1) to determine potential benefits from participating in IPSE programs and identify the data routinely available to assess these outcomes, 2) to improve understanding of the types of organizational supports received by IPSE programs, including funding mechanisms and other in-kind resources, and 3) to outline costs associated with implementing an IPSE program.

This study used an exploratory case series design with five IPSE programs. Triangulation methods were used to combine data collected from multiple data sources, including pre-and-post interviews with IPSE program directors, financial documents demonstrating funding and cost information for the respective programs, and an existing database with program outcomes. Results showed program directors cited employment, independent living, and social interactions as main outcomes. They also noted, however, that improvements in measurement tools and measurement systems are needed for further evaluations. Programs currently receive most of their funding through program fees and grants from state and federal agencies. Programs also receive a range of in-kind supports from their universities and communities. Funding was one of the greatest barriers encountered, with several identifying a need to expand funding sources and improve their options for private funding. Programs reported that the major portion of their budgets (69-90%) was spent on personnel. A better understanding of budgets and costs that include indirect costs and in-kind contributions is needed. Additional themes for IPSE programs were also recognized and discussed, including relationships, planning and implementation, and sustainability. Suggestions and needs for future EEs were outlined based on the findings of this study, along with recommendations for next steps.

Introduction

In 2018, the employment rates for individuals with disabilities was 37.5%, less than half the employment rate of individuals without disabilities (77.8%; Houtenville & Boege, 2019). Since 2008 this gap in employment rates has had a statistically significant *increase* of 1.7%. This gap is even greater for individuals with ID, who have a 27% employment rate (*The National Report on Employment Services and Outcomes;* 2018). Furthermore, median yearly earnings data for individuals with full-time employment reveal those without disabilities earn almost $5,800 more than those with disabilities (Houtenville & Boege, 2019). Workers with disabilities earn 66 cents to every dollar earned by workers without disabilities, regardless of schedule or occupation (Cheeseman Day & Taylor, 2019). These differing rates demonstrate the disparity that exists in employment for individuals with disabilities.

Employment is considered integral to having a meaningful life in our society and is an indicator of many positive health outcomes (Vancea & Utzet, 2017). Securing a job that provides a living wage has a strong correlation with participating in higher education at any level (Strauss & Howe, 2005; Thoma et al., 2011). There is also a strong inverse relationship between education and enrollment in Social Security Disability Insurance; individuals with higher education levels make up a lower percentage of those receiving Social Security benefits (Livermore et al., 2017; Poterba et al., 2017). However, adults with disability are 2.5 times less likely to obtain their Bachelor's degree than those without a disability (Houtenville & Boege, 2019). In fact, individuals receiving special education services (defined as having an Individualized Education Program [IEP]) during high school are 18 percent less likely to have expectations of obtaining a post-secondary education. Providing opportunities for individuals to participate in post-secondary education improves employment and health outcomes, while also allowing them the valuable opportunity to participate in formative college experiences that can improve quality of life, support increased independent living, and decrease dependency on assistance programs.

Inclusive Post-Secondary Education Programs (IPSE)

Inclusive Post-Secondary Education (IPSE) programs are hosted by colleges and universities and designed to engage students with ID, who have historically been excluded due to their disability status. IPSE programs provide students with the opportunity to participate in the college experience, but also include a specific emphasis on employment. Students participate in internships and receive support in finding jobs after they graduate their programs. Therefore, students who participate in IPSEs are not only able to participate and grow from the college experience, but are able to prepare themselves better for the job market.

Students with disabilities who participate in some type of post-secondary education are more likely to obtain meaningful employment and make substantially higher wages than those who do not participate (Moon et al., 2011; Zafft et al., 2004), emphasizing the important role IPSEs can play in establishing pathways to financial wellness and independent living. In addition, individuals with ID who participate in post-secondary education are 26% more likely to leave vocational rehabilitation services with a paid job, and make 73% higher weekly wages than those who do not (Migliore et al., 2009). The same study showed that students with ID attending IPSE had a 48% employment rate and an average weekly income that was 62% higher than that of youth who left vocational rehabilitation services with jobs but had not attended an IPSE program. However, little research has examined the specific outcomes of participating in established IPSE programs in higher education institutions. One study found that students who

graduated from an IPSE program had an 84% employment rate, which is over triple the national employment rate for individuals with ID, and had a significantly higher hourly wage (Ryan et al., 2019). They also found that IPSE graduates were three times more likely to live independently than the national average. These rates indicate the potential for IPSE programs to improve employment and independent outcomes for individuals with ID.

All IPSE programs utilize person-centered planning to support individual students and incorporate activities across the same focus areas: academic enrichment, career development, community engagement, independent living, and self-determination/advocacy. However, all programs function slightly different, choosing the approach that best works with their home institution. For example, all students graduating from IPSE programs earn a credential, however, some programs offer other alternatives (e.g., a non-degree certificate, field-specific credentials, etc.). Additionally, the fields and area of focus for the students vary across programs and are often influenced by the institution. Each program is also situated uniquely within their institution, using different models and institutional relationships established to support and maintain their program. All programs are designed to be a minimum of 50% inclusive, however, the degree of inclusion and how that is implemented is different between each program. Therefore, due to the variation in IPSE programs across the country, improved understanding of programs and associated outcomes is needed.

The trend towards IPSE programs was strengthened by the reauthorization of the Higher Education Opportunity Act in 2008 (HEOA). The HEOA defined inclusive higher education and called for the development and funding of sustainable networks of IPSEs across the U.S resulting in increased funding opportunities to help launch and maintain IPSE programs. One major funding stream for IPSE programs is through the U.S. Department of Education's (USDE) Model Comprehensive Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) program. The TPSID mechanism currently provides funding for approximately 50 programs (*Think College*, n.d.). Around 275 IPSE programs exist across 49 states and support an estimated 8,000 students in participating and attending college. Although access to post-secondary education for students with ID has expanded, funding still remains a substantial challenge on both the programmatic and individual levels. Little is understood about the economics of these programs, including costs and effectiveness, which could assist in advocating for increased support. It is difficult to advocate for more and improved funding streams when little is currently known about the financial structures and outcomes of existing programs.

The evaluation of programs is an important process that can help support the implementation of effective programs and improvement of outcomes (*CDC*, 2021). To date, literature supports a positive association between post-secondary education opportunities and improved employment for individuals with ID. However, only a few of these studies specifically evaluate the outcomes of an IPSE program (Grigal & Dwyre, 2010; Ryan et al., 2019), while the others use secondary data categorizing all post-secondary education opportunities into the same group (Migliore et al., 2009; Moore & Schelling, 2015; Sannicandro et al., 2018; Zafft et al., 2004). Economic evaluations (EEs) are a specific type of evaluation that can demonstrate the cost-effectiveness and return on investment programs provide. These types of evaluations are often used to support continued and increased funding (Walcott et al., 2018). Sensitivity analyses can also be conducted within EEs to help compare the effectiveness of various methods and approaches, including the relationships between costs of these methods and their outcomes, aiding in decisions regarding the allocation of resources (Charles et al., 2013). Currently, limited

studies and data evaluating IPSE programs exists, particularly in regards to costs and outcomes other than employment.

An improved understanding of IPSE programs, including their methods, costs, and outcomes, are needed in order to conduct full evaluations that could support improved outcomes and funding. Therefore, **the purpose of this study is to conduct an exploratory analysis of program and participant information to support future EEs of IPSE programs.** The proposed study has three specific aims: 1) to determine potential benefits from participating in IPSE programs and the data available to assess these outcomes, 2) to improve understanding on types of supports received by IPSE programs, including funding mechanisms and other in-kind resources, and 3) to outline costs associated with implementing an IPSE program.

Methods

This study used an exploratory case series design of five IPSE programs. Data was collected through multiple methods, including pre- and post- interviews with IPSE program directors (PDs), financial documents demonstrating funding and cost information for their respective programs, and an existing database used by included programs to collect program outcomes. This study was approved by the IRB at the researcher's institution and all PDs consented to participate. A figure outlining the study design plan can be found in Appendix 1.

Recruitment

A total of five programs participated in the study. Four IPSE programs were recruited to participate in the study through a state-wide inclusive post-secondary education consortium located in the southeast United States. To recruit programs, the researcher first attended a consortium quarterly meeting and gave a 5-minute recruitment presentation to the PDs and staff in attendance. Consortium staff followed up with a recruitment email to all programs. Lastly, the lead researcher sent a final email to the directors of the programs in the consortium. One program (fifth and final program included in the study) outside of the consortium expressed interest, having heard about the study via word of mouth. This program was the only program that was outside of the consortium, however was a member of an IPSE consortium supporting programs in their state, and participated in the pre-interview and shared financial documents.

Table 1: Program Participation in Data Collection

	Program				
	1	*2*	*3*	*4*	*5*
Pre-Interview	x	x	x	x	x
Financial Documents	x	x		x	x
Think College Dataset	x	x	x	x	
Post-Interview	x	x		x	

Note : 'x' indicates program's involvement in that data collection stage

Data Collection

Pre-Interviews with IPSE Program Directors (PDs)

Semi-structured interviews were conducted with PDs of the participating IPSE programs. All interviews were conducted virtually using Zoom and lasted between 60 and 90 minutes. Two researchers were present, with one leading the interview questions and discussion while the other took notes. The interviews started with the PDs' verbal consent for both themselves and the program to participate in the study. The main objectives of these interviews were to 1) establish a relationship with the PD, 2) learn about their program, 3) discuss how they tracked the funding and cost information for their program and the best method to share those documents with the research team. The main themes of funding, costs, and outcomes of IPSE programs were identified at the beginning of the study and helped guide both interviews and the analysis of the program financial documents and Think College (TC) dataset. Notes taken during the interview were summarized and sent to PDs, in efforts to confirm the program-specific information had been accurately represented.

IPSE Program Financial Documents

Programs were asked to share financial documentation and reports they have available related to the funding and expenditure aspects of their program. Programs were asked to identify their sources of funding and revenue from the 2018-2019 and 2019-2020 school years. Programs were also asked to share any documentation that tracked their expenditures from the 2018-2019 and 2019-2020 school years. Every program had their own unique method of tracking their funding and costs. Since all programs are situated in higher education institutions, the main financial tracking and documentation for all programs was housed in the institutions' business and accounting departments. Therefore, director's shared documents related to their own tracking systems, versus the official reports, which were most often budget proposals or reports for their various funding mechanisms. These reports provided data regarding each program's main funding sources, cost categories, and the monetary amounts projected to support each of these categories.

Think College Dataset

All programs that receive funding through the TPSID mechanism complete reports multiple times a year through the Think College database. Think College (TC) is the national coordinating center for TPSID-funded programs (*Think College*, n.d.). The organization houses a platform to report and track outcome data of participants, as well as some program-level data. These reports are designed to be collected from IPSE students at the end of each semester, as well as additional follow-up reports completed after a participant has graduated. The programs have the options to collect follow-up data at 6-month, 1-year, and/or 2-year post graduation from the students. This study assessed questions in the TC dataset that aligned with the key outcomes identified by PDs in their pre-interviews. These outcome themes included education, employment, social and independent living. Use of public supports, such as Social Security and private/public health insurance was also assessed.

Post-Interviews with IPSE Program Directors (PDs)

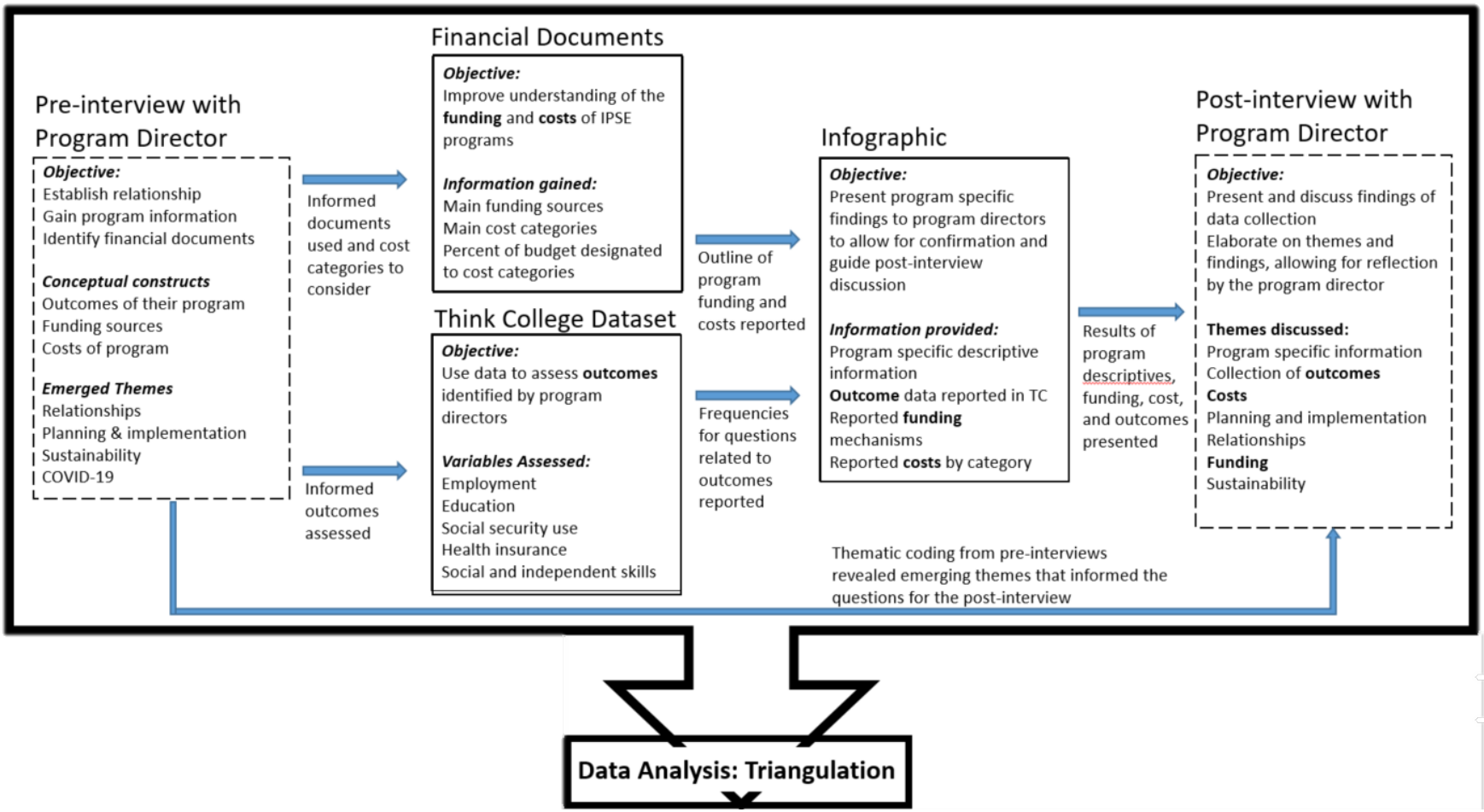
Semi-structured interviews with PDs concluded the study. Interviews were conducted virtually using Zoom approximately four months after the first interview, lasting between 60 and 90 minutes. Two interviewers were also present for these interviews, one leading the discussion while the second took notes. Interview question were informed by the findings from the pre-interviews, financial documents and TC Dataset. Findings were consolidated into an infographic developed by the researchers that included program-specific data, such as number of students accepted and graduated, the frequencies associated to the outcome data reported in Think College, as well as the costs and funding totals shared in the financial documents. The infographic was then used as a tool to support discussion. A sample infographic can be found in Appendix 2. Additionally, questions in the post-interview were developed based on themes identified from the pre-interviews. These themes included: relationship with the university and others, program planning and early stages of implementation, sustainability and COVID-19.

Data Analysis

This study utilized exploratory methods to collect and conduct a descriptive qualitative data analysis. Provisional coding methods were utilized, meaning core themes were identified at the beginning of the study, with the flexibility to add and adjust these themes as needed throughout the collection and analysis (Saldaña, 2021). The pre-identified themes were funding, costs, and outcomes and were informed by economic evaluation literature. Immediately following the pre-interview, both researchers involved reviewed the notes taken during the interview. Attribute coding was utilized to identify program-specific descriptive data. Attribute coding is a method used to extract specific data that provides an overview of a participant or program, as well as provide context for further analysis and interpretation (Saldaña, 2021). Provisional coding was also employed, identifying any additional themes that may have emerged from the interview. The financial documents also used attribute coding. The TC dataset was used to assess program specific outcomes reported by the PDs. Frequency for each outcome-related question was reported. All findings in the data collection process, including themes from the pre-interviews, and findings from the financial documents and TC dataset, were used to create infographics for each program and inform the post-interview questions. Infographics were provided to the PDs in the post-interview and used as a tool to create and support discussion. Once again, researchers reviewed and discussed the notes immediately after the post-interviews to identify quotes and data related to the themes.

Triangulation methods were employed to organize and analyze the data collection methods. Triangulation is an analysis technique that combines multiple data collection techniques to answer the same question, recognizing that more than one method can improve understanding (Patton, 2002). In triangulation, data and results from various methods are brought together to increase credibility and quality. For this study, a triangulation table was developed to organize data from each data collection instrument by theme and program. Not all programs participated in every method of data collection, additionally, not every theme was found from every program and/or method. Table 1 outlines each program's participation in data collection.

Figure 1: Design for the IPSE Exploratory Case Series Design



Results

The results from all data collection methods resulted in the seven themes. In addition to the three pre-identified themes of outcomes, funding, and costs, the additional themes of relationship with the university and others, program planning and early stages of implementation, sustainability, and COVID-19 were identified.

Program Information

Four of the five programs were at higher education institutions in the same southeastern state and belonged to the same state-wide IPSE consortium. The final program that participated was from a Midwestern state and was a member of another state-wide consortium. All 5 programs were held at 4-year universities, with 4 having had 4-6 years of students enrolled in their program and one having had students for 10 years. All programs offer 2-year non-degree certificates, with one program focused on supporting students interested in years 3-4. This program was developed to offer additional educational opportunities beyond the 2-year certificate. One program also offered a 4-year option, in addition to the 2-year certificate. Three programs identified that the elements of student participation was at least 50% inclusive, meaning that at least half of the activities took place in an environment with students outside the IPSE program. Two of the programs identified as being fully inclusive, with no specialized or separate classes. Table 2 has a full breakdown of program details by program.

Table 2: Program Information

	Program				
Program Information	*1*	*2*	*3*	*4*	*5*
First year of students	2017	2017	2015	2016	2010
Total students accepted	12	17	14	22	
Total graduates to date	4	7	5	8	
Type of program	2-Year Year 3-4	2-Year Year 1-2	2-Year Year 1-2	2-year Year 1-2	2- or 4- year
Type of credential	Non-degree certificate Industry Options	Non-degree certificate	Non-degree certificate	Non-degree certificate	Non-degree certificate Industry Options
Student Status at Institution	Non-degree students	Continuing Education	Continuing Education	Non-degree students	Non-degree students
Inclusion Rate	>50%	100%	100%	>50%	>50%
Program fee	Yes; $5,000	~$4,000	No	Yes; $4,500	Yes; ~$2,000
Recieves student tuition?	No	Yes; 100%	No	No	Yes; ~75%

Note: Gray area indicates program did no participate in the method of data collection where data was collected.

Outcomes

Outcomes Identified

Programs were asked in the pre-interview what main outcomes they felt their program focused on or provided. *Employment* was named as one of the main outcomes by all 5 programs. More specifically, pre-employment skills, employment seeking skills, career skills, and career readiness were listed as focus outcomes. One program stated they "hope students participating in the program leave with job experience and a resume with documented job experience. [They] aim to have students graduate with a job already lined up or get one soon after graduation." PDs identified multiple activities that supported the development of these skills, including internship opportunities, vocational counseling, setting career goals and plans to support, and other experiential learning opportunities.

Improving independence was the next main outcome discussed by all programs. This was identified by programs in the pre-interviews by outcomes such as improved independent living, self-determination, and self-advocacy skills. Classes and seminars, activities and social time with peer mentors, and goal setting were methods used to support this outcome. Transportation and mobility were also identified by one program, with a goal of supporting increased independence for the student. Another program mentioned that transportation was informally built into their program, since they are located in an urban environment and most students living off campus, many take public transit to commute to their classes. Financial management and health management were two other areas identified by one program as focus areas.

Another main outcome identified by PDs was to improve *interpersonal skills and social connections*. Students were supported in these outcomes, referred to by some directors as "soft skills", through their interaction with peer mentors and through encouraging their participation in courses. Directors in all programs stated that students are also highly encouraged to choose at least one program or extracurricular on campus to participate. These opportunities include intramural sports, student government, and/or any other student-led group.

Tracking and Measuring Outcomes

All IPSE programs use person-centered planning to support student progress and many incorporate processes to track individual outcomes on the micro level while the individual is enrolled in the program. For example, one program explained that they track outcomes related to individual courses – "course by course, semester by semester". Students are given objectives that they must complete for their courses, some objectives are class-specific and some are soft skill-specific, which are then tracked over time. Other programs described the development of an electronic portfolio (or something similar), tracking progress related to course work and/or continuing education units (CEUs) collected throughout the program. These portfolios can then be used to support their job search. One program also described the use of a competency rubric that was developed using the resource *Personal competencies for college and career success* developed by National Collaborative on Workforce and Disability (NCWD, 2016). This resource provides a list of competencies that students participating in higher education can gain our build upon while participating in higher education. The rubric is used to track growth and identify areas of focus for each individual throughout the program.

All programs stated that they utilize TC as their main platform to track long-term student outcomes. Few programs identified formalized systems or processes of collecting follow-up data from the students. One program stated they currently had not formalized a system to collect follow-up data, stating "it's a challenge. The staff and students are so focused on making the trains run on time, day-to-day that the tracking and interviewing of past students from two years ago, and helping them fill out the survey, is something of value but becomes low on the priority." One program said staff (ie: transition coordinator) would reach out to graduated students via email and/or text to complete the follow-up survey. Another program stated that they did some informal collection of follow-up data, using partnerships with other programs and/or community organizations, with which they have a good relationship and the past student is involved, to provide updates on how the past student is doing. The Think College dataset is set-up to collect outcome data at the 6-month, 1-year, 2-year intervals. The analysis of longitudinal outcomes in TC can be found in Table 3.

Challenges in Collecting Outcomes

Although PDs stressed the importance of collecting long-term data from students participating in IPSE programs, numerous challenges were also discussed. To start, 4 of the 5 programs are around 5 years old, meaning the number of graduates from their program is still limited. One program also mentioned that they had limited connection to past graduates due to staff turnover at the program. This director stated that since most of the staff had changed, they found that "familiarity and trust of program staff" was a challenge in collecting follow-up data. Another director stated that they felt students didn't have a full understanding as to the purpose of the follow-up surveys, especially if they were currently unemployed. It was stated it seemed easier to collect follow-up data from students who were employed than students who were still

Table 3: Reporting of Follow-up Outcomes by program

	Program n				
Outcomes	*1*	*2*	*3*	*4*	*5*
# of students graduated	4	7	5	8	
# of students with reported follow-up data	2	4	0	0	
Type of outcome data collected: (6 month, 1 year, etc)	1 year	1 year	N/A	N/A	
Employment					
Employment Status	0 reported	Employed: 2 Unemployed: 2	0 reported	0 reported	
Wages	0 reported	$5.15/hr $10/hr	0 reported	0 reported	
Further education	Taken extra credits: 1	Yes: 4	0 reported	0 reported	
Independent Living					
Living Status	Live with parents: 1 Live with spouse: 1	Live with family: 4	0 reported	0 reported	
Use of Public Supports					
Health Insurance (HI)	0 reported	HI from employer: 0	0 reported	0 reported	
Social Security	0 reported	SSI: 2 SSDI: 2	0 reported	0 reported	
Social Interactions & Social Competence					
Satisfaction with Social Life (4-scale Likert)	Very Satisfied: 2	Very Satisfied: 1 Satisfied: 3	0 reported	0 reported	

Note: This table reports the n for each outcome. "0 reported" means that question had missing data. Gray area indicates program did no participate in the method of data collection where data was collected.

searching or in between jobs. Lastly on the student level, multiple PDs mentioned the effect the COVID-19 pandemic has had on outcomes for their students, causing some students to lose their employment and making it difficult for others to find employment.

Multiple programs mentioned limited resources and the need to focus on the day to day of the program as challenges in collecting longitudinal outcomes. As young programs, directors expressed that most of their energy is focused in establishing the systems needed for successful implementation of their program. Limited access to the output of data collected in TC was identified by one PD. This director stated that it was challenging to access reports from the TC platform, which was compounded by the fact that their account with TC routed through their state-wide consortium. There was also some concern that the initial reason for completing was

for compliance with TPSID protocol. However, since no programs in this study had their TPSID grant renewed in the fall of 2020 (at the start of this study), one director mentioned concern that the collection of follow-up data would become even less of a priority with less holding all programs accountable.

In addition to challenges, some programs identified how they could support the collection of longitudinal outcomes of IPSE programs. Two programs plan to develop an alumni group that could improve access and relationships with students after they graduate, ultimately improving ability to collect follow-up data from the students. One director questioned if support could be developed through the consortium or multi-site collaborations to leverage technology to support the collection of follow-up data. The idea revolved around recent improvements of technology and creating a system that could call and record information from students, providing support by reading questions and automatically documenting the results that could further support collection from students with ID.

One director also advised concern and caution in the collection of outcome data for students participating in IPSE programs. Specifically, the director was concerned with the dangers in focusing so strongly on vocational and employment outcomes, probing "are we asking IPSE's to do something that we don't ask college to do?" They pointed out that not all students leave a college experience having fully established their long-term career or professional goals, therefore, we should be careful not to set up these expectations for IPSE programs. Instead, their recommendation was that IPSEs focus on "clearly delineated marketable skills, for example independent living, social, and job readiness skills" and develop validated methods for measuring and reporting them.

Funding & In-kind supports

PDs discussed four main methods of financial support for their programs. These methods include federal grants, state funding mechanisms, program fees, and private funding. Multiple methods of in-kind supports were also mentioned by the PDs. In-kind supports were often provided through student volunteers, institution partnerships, community relationships, and support from the IPSE network.

Federal funding

All programs participating in this study had received federal grant funding through the TPSID mechanism. Four of the five programs received five years of funding through their state-wide IPSE consortium, while the fifth program received 10 years (2 cycles) of funding. However, all 5 programs were notified shortly before this study began that their TPSID funding would not be renewed. Although the financial documents requested from the programs for this study were from the 2018-19 & 2019-20 school years, interviews did reflect this loss of funding for these programs.

PDs recognized the important role TPSID had played in funding their program, with TPSID being one of their main funding sources. The importance of this funding at the beginning stages of the program for the development and implementation was also emphasized. One director stated that the TPSID grant "provided a significant amount of funding to build capacity within the program and throughout the state."

Concern about the discontinued support from TPSID was communicated by multiple directors. One director stated "This year by not receiving the TPSID funding was a bit of a blow.

We knew that the amount of funding would have been less, but it would have helped." Another director expressed that they "Believe the program will make it through, but it has not been good for them. [We] will have a couple 'lean' years, but will be alright". When asked how the loss of TPSID would affect the program, a third director was unsure: "It's hard to say. In the short-term we have less resources. In the long term- I hope it won't be, it will just mean we have to find new ways to fund the program and continue to innovate and morph. But it does take away money that was useful." A final concern about the loss of TPSID was that competition for state-wide grants would become more competitive between the different IPSE programs in the state, having negative consequences for smaller or more rural programs. Additionally, there were concerns about sustainability of the consortium without TPSID funding.

State funding

Three different sources of state funding were identified by the programs. One program identified their state department of developmental disabilities as a funding mechanism utilized, and their support was how their program first began. Four other programs identified their state council on developmental disabilities as a key funding mechanism for their program. Programs used these funds largely to support personnel costs, with two programs also utilizing the funds from the council for scholarships opportunities for students.

The third source of state funding identified by all programs was their states' vocational rehabilitation (VR) agency. Although this funding stream seemed to be important to programs, directors from four of the programs expressed frustration with multiple changes in recent years on the level of support provided and how those funds can be utilized and applied. It was communicated by multiple directors that the inconsistent nature of this funding stream has caused shifts in budget planning and in implementation to best utilize resources multiple years in a row. In programs that are trying to establish stability and sustainability, changes in these main elements put additional strain on program resources and staff.

Program fee

Four of the five programs utilize program fees as one of their main financial resources to support their program. Three programs have a program fee that is in addition to the students' tuition and university fees, ranging from $3,000 - $5,000. For all of these programs, 100% of the program fee goes towards the program and is typically applied to personnel costs. One of these three programs has a relationship with the university that allocated all tuition costs paid to be delegated directly to the program. "When the program was started, a meeting was held with the University of Georgia Bursar's Office, and it was decided that due to the planned size [of the program], student tuition would stay within and go directly towards the program." A fourth program utilizes a "cost recovery program", where families pay one lump sum to the university that includes student tuition, university fees and program fees. Approximately 75% of this total goes back to the IPSE program, while the rest goes to the university. The last program has never charged a program fee. Recent efforts to do so had been denied by the institution leadership with claims that the mechanism wouldn't be approved by the state university systemCT. They are currently working with the institution continuing education director to move forward on collecting a fee in the future.

Private funding

One other method that was identified as providing support is private funding. Private foundations were mentioned by two programs, while another mentioned private funding through university avenues. “Increasing the amount of funds raised or gifts given to the program” was identified as a recent focus by one director, in efforts to decrease reliability on state and federal grants. An interest in finding ways to decrease the current higher reliance on state and federal funding was expressed by multiple directors.

In-kind supports

Multiple avenues of supports, outside of direct monetary contributions, were identified by the directors. All programs recognized the support of their institution and/or specific programs (ie: College of Education or the Honors College) in providing in-kind resources. These resources include graduate research assistants and interns to support personnel needs. They have also contributed opportunities for internships from the students of the IPSE programs. All programs rely on peer mentors from the university, with most of these being student volunteers. In addition to personnel, most programs have office and meeting space provided through their institution, department, or the university’s center for excellence on developmental disabilities.

Challenges

Multiple directors of the participating IPSE programs cited funding as one of the biggest challenges in their role. “One of the biggest challenges [I’ve] encountered has been building and maintaining structure and stability without knowing where funding is going to come from in the future.” This same director described how they often receive calls from parents and high school students about the program, and “it weighs [them] down because it can be difficult to know something could cause the program to shut down.” Another director bluntly stated that funding is a nightmare and is currently not sustainable, which will cause “a set of programs [that] don’t make it.” In efforts to look forward, one director explained that “services for this population are often very tenuously located – when budgets tighten, they are [often the] low hanging fruit” and first to be cut. They went on to say that “hopefully, there will be continued legislative support”, as well as a transition to increase private funding, to support IPSE programs into the future.

Funding for students

This study focused on funding at the programmatic level, however, many directors also mentioned the importance of funding that could support students’ ability to participate. The need to find ways to ensure the opportunity to participate in IPSE programs was available to students of all backgrounds, opposed to only those who could afford it, was a common theme. In response, some programs offer scholarships for students or waive the program fee. Programs also encourage and aid students in applying for individual scholarships offered through their institution or other avenues. The importance of establishing status as a Certified Transition Program (CTP) through VR was also discussed, as this opens the opportunity for students to receive Pell grants. One challenge identified with Pell grants by one director was that “since students are considered part time at the university, they tend to only get half of what they qualify”. Overall, directors expressed the importance of improved financial support for students.

Costs

High level cost information was collected from the participating IPSE programs. All programs communicated the complex nature of being situated in a higher education institution

and the difficulties of tracking costs. In the interviews, all PDs agreed that their largest budget item was personnel and that personnel was their first consideration when creating budgets or when deciding how to delegate funds. The next cost categories identified in the interviews were other direct costs, including materials, space, and travel for students and staff to attend various conferences and consortium meetings, with the order varying by program. Three of the programs stated that they also had a line item in their budget dedicated to scholarships for students. Indirect costs made up the final category, with there being indication from multiple programs that the data regarding indirect costs provided in this study may not be accurate representations. Each institution has different requirements in terms of indirect costs that they are responsible in providing to the university. For most of these programs, the institution also provided matched funds for the TPSID federal grant. These matched funds were often in the category of personnel and were often left out of the budget documents provided for this study, indicating the costs of the personnel category may be underrepresented in this study.

The financial documents shared by programs reflected the same information acquired in the interviews. For the three programs that provided financial documents, personnel was the number one cost to programs making up 67-90% of budgets. However for programs that showed personnel making 67% and 75%, the PDs both stated that number seemed low. Programs that included indirect costs showed this category to require the second highest demand for funds. Scholarship funds made up the next highest cost category, for the programs that provided this for students. Other direct costs were next, with variation in both how programs labeled the components that fit this line item.

Relationships

PDs identified relationships with their institution, community, and the IPSE network as integral to the development, implementation, and success of their programs. Establishing relationships with key departments, faculty, and staff at their institution was highly recommended by all directors. Important relationships discussed included key staff in the Registrar, Admissions, and Bursars offices. It was recognized that individuals in these roles were extremely important in setting up and maintaining the administrative elements that allow the program to function at the institution. All programs identified staff turnover in university offices as a challenge. There are many stages in the current process where students can be flagged in the system, therefore each time a staff member is replaced the learning curve begins again. How each program is administratively situated within their institution had some variability. Two programs partner with the office of continuing education for their program, including tuition payments and the certification earned by the student. It was noted that this has allowed some advantageous flexibility for the program. For example, one program is able to direct all tuition dollars paid by students back to the program, as opposed to be paid to the institution. Students are classified as non-degree students in the other 3 programs, running all admissions, payments, and the certification process using the same processes and avenues as degree-seeking students of the institution. The programs using these approaches identified the challenge of working and communicating with multiple different departments, describing scenarios where students were often flagged for their non-degree status. However, one director explained that although there may be additional challenges, they plan to leverage their placement in the institution to advocate for a degree-seeking status in the future.

Relationships with various degree departments, the Honors College, and the athletics department were acknowledged for providing peer mentors, graduate research assistants, and

interns to support the program, as well as providing opportunities for IPSE students to participate in work-study or internships of their own. Disability services was mentioned as an important partnership to build, however challenges were expressed in communicating and balancing their obligations to support IPSE students since they are considered non-degree students, even though they pay student fees. All programs also mentioned that they had developed positive relationships with numerous faculty and instructors at the institution. Most described that they never had an instructor or professor leave the experience unhappy, even those who had minor concerns, and rarely had someone who was not willing to participate.

All programs cited established relationships with community organizations that have yielded internship and employment opportunities for IPSE students. Forming relationships with other programs in the IPSE Network through both their state-wide consortium and other opportunities was cited as helpful in establishing efficient and effective systems, as well as providing various opportunities for technical support. In the past, the consortiums have also proven to be a means of advocating and obtaining additional federal and state funding opportunities. Improved relationships with program alumni was also mentioned as an avenue that could support program implementation, private funding, and collection of outcome data.

Planning & Implementation

Four of the five IPSE programs described a 2-year planning process before taking their first students. One program's planning process included a feasibility study, the development of an advisory council, and stakeholder meetings to discuss potential barriers to implementation. The importance of the development of "critical connections" with university stakeholders and supports during this time was emphasized by the director. Another director reiterated this point, stating that building relationships on campus was a planning priority, in addition to assessing feasibility in the first planning year and program and curriculum development in the second. Another program started with a "pilot" program of two students to help identify potential barriers and relationships that would be needed in the development and initial implementation. A final program didn't mention detail regarding official planning years, however, did create an official business plan for the fiscal office outlining the proposed staff number, student numbers, and program fee, as well as a comparative analysis of other IPSE programs across the country.

After initial planning and implementation, all IPSE programs established their Certified Transition Program (CTP) status through their state VR agency. Obtaining CTP status was explained to both expand opportunities for students to apply for financials supports such as Pell grants, as well as provide a level of quality assurance to their transitional program. The first two years were cited as leading to a lot of growth and development in the programs, with one director explaining that they were "trying to learn from the students and be active listeners with students' families as far as what was and wasn't working from them. A lot of [our] lessons came from working with students' families. [We] took everything that they had learned and created a new design for the program, a clearer path that would create a better system for staff…and made the program more stable."

Most programs identified themselves as having completed the planning phase of development, and most felt that they were currently caught between the implementation stage and evaluation or maintenance stages. "We are trying to develop routines and procedures for handling registration, student support, etc. There are clearly places where we are evaluating but we are still working the components and structures from within the program," explained one director. Another stated, "[I] believe that different parts of the program are in flux with changes

in program staff and changes in focus. Implementing and evaluating as best as possible, but with significant changes in the program mean we are not as far into their development as we would have been." Some programs also expressed that they felt many aspects of their program were close to establishing efficient and effective systems, however the constant flux of funding created additional challenges in finding program stability. "Without [our past] funding we would still be in planning – maybe one or 2 students. With larger funding we could be further along on implementation. We've had enough funding to get us on out of the initial phases of implementation, it has given us fuel to get out on the track. Now the question is if it's enough to keep going."

Sustainability

When asked about efforts to support sustainability, PDs thought IPSE programs did well with adaption, building partnerships, and strong organization capacity. Further efforts to support sustainability identified by PDs included improved evaluation efforts and continued efforts to build political support. Improving funding stability was mentioned by almost every program during the interview. ""I think we do have the ability to be self-sustaining, but I don't believe we can be self-sustaining through the program fee." Other programs also voiced the need for IPSE programs to find diversified funding options that are not reliant on state or federal funds. To support these efforts, one director explained the need for improved communication, "if they want more funding, they need to be sharing those positive student experiences in stories to encourage others to give." Finding ways to support diversity within the students participating programs, including finding ways to financially support their involvement was also mentioned as an important factor to consider when trying to move IPSE programs forward. Finally, one director explained how the creation of an accreditation process could serve to support sustainability "that would go a long way for programs that volunteer to go through the process, to improve and ensure their quality for students."

Covid-19

Multiple programs mentioned ways in which the COVID-19 pandemic had disrupted their programs, disrupting short-term and therefore long-term outcomes for their students and program. Put directly, one director stated that the pandemic has "knocked everyone sideways" causing decreased outcomes and enrollment. A majority of programs mentioned that the pandemic had influenced their enrollment for at least the 2020-2021 school year, with three stating that they fell below their anticipated new enrollments by almost half. In some cases, the lower enrollment negatively affected the programs growth trajectory with concerns that it may extend into the fall of 2021. One program, which is located at an institution in a rural part of their state, explained that "they typically invite students from outside the area that can live in the dorms, and COVID-19 threw that practice off-track." Another program commented on balancing multiple challenges in one year, "Having COVID-19 occur alongside the TPSID and VR [vocational rehab] funding losses has been very difficult" this year.

In addition to outcomes for graduates, directors expressed concern about outcomes for current students. These concerns were mostly mentioned in terms of soft-skills acquired during attending classes and with their peer mentors due to campuses and/or programs being closed. It was expressed that the key component of inclusion that is a major pillar of IPSE programs was extremely limited during the pandemic year. "Students aren't having the experiences they had,

simply because they're not available to any student." Therefore, directors had concern over the skills that are often developed in these environments for the current students.

Discussion

The findings from this exploratory study provide a foundation of program information from 5 IPSE programs about 1) identifying potential benefits from participating in IPSE programs and the data available to assess these outcomes, 2) the funding and in-kind support received, 3) a baseline understanding of the costs associated with running an IPSE program, and 4) an overview of the planning and implementation of these IPSE programs, including challenges faced and successes. These findings can support future evaluations. Walcott et al (2018) provide an example of an EE, describing steps for conducting a benefit-cost analysis (BCA) in an undergraduate education program, which compares program costs with monetized outcomes. Relevant to an IPSE program, this example measures the change in student's potential future earnings for every dollar spent on the program. Our results will be applied to the steps outlined by Walcott et al (2018), showing gaps and next steps for conducting an EE for IPSE programs.

Step one: Establish the approach. All EEs must first define the study control group and study perspective. The control group acts as a baseline, allowing us to understand the costs and outcome differences due to the program. Current practices compare those who participate in higher education opportunities to those who don't (Migliore et al., 2009; Moore & Schelling, 2015; Sannicandro et al., 2018), therefore the control group would be those who don't attend any higher education after high school. Eventually, future EEs could compare different types of higher education or vocational training. Determining the study perspective provides guidance to the types of costs that will be included, options include taking the perspective of the student, organization, governmental, and societal. This decision is driven by the research question and how the data will be used.

Table 4: Example Ecomonic Evaluations for IPSE programs

Type of Evaluation	Unit	Summary Measure	Formula	Sample Evaluation Question (EQ)
Cost-effectiveness Analysis (CEA)	Natural Units	Cost-effectiveness Ratio	$\frac{Cost\ of\ program}{Effect\ of\ Program}$	Compares cost of program with impacts. EQ: For every dollar spent on an IPSE program, how are employment rates influenced for IPSE graduates?
Benefit-Cost Analysis (BCA)	Dollars	Benfit-cost Ratio	$\frac{Benefit\ of\ Program}{Cost\ of\ Program}$	Compares program costs to program benefits EQ: How much does a IPSE graduate's future potential future earnings increase for every dollar spent on the program?
Return on Investment (ROI)	Dollars	Percent Return	$\frac{Benefit\ -Cost}{Cost\ of\ Program}$ x 100%	Reports the percentage of the cost that is returned as a benefit. EQ: How many years would it take for a IPSE graduate to pay for their IPSE program in increased employment and decreased public supports?

Step two: Demonstrate program effectiveness. PDs identified employment, independent living, and interpersonal skills/social connections as the main outcomes of IPSE programs (Grigal & Dwyre, 2010; Ryan et al., 2019). Past studies have demonstrated that participation in an IPSE program can improve employment rates and wages. One study also found improvements in independent living for those who participated in their IPSE program. However, these studies are limited in number as well as their generalizability, therefore better understanding of effectiveness is needed. The TC dataset is a great resource for collecting and evaluating IPSE programs, but this study demonstrated that programs did not have complete data, leaving room for bias. This was also demonstrated in the challenges expressed by the directors, stating that it

was more difficult to collect data from those who were not employed. Future studies need to assess the effectiveness of the main outcomes using larger samples, compared to their established control group. Longitudinal data is also needed to demonstrate the long-term effects of participation. Additionally, improved methods of measuring outcomes, particularly in terms of independent living and social interaction, are needed.

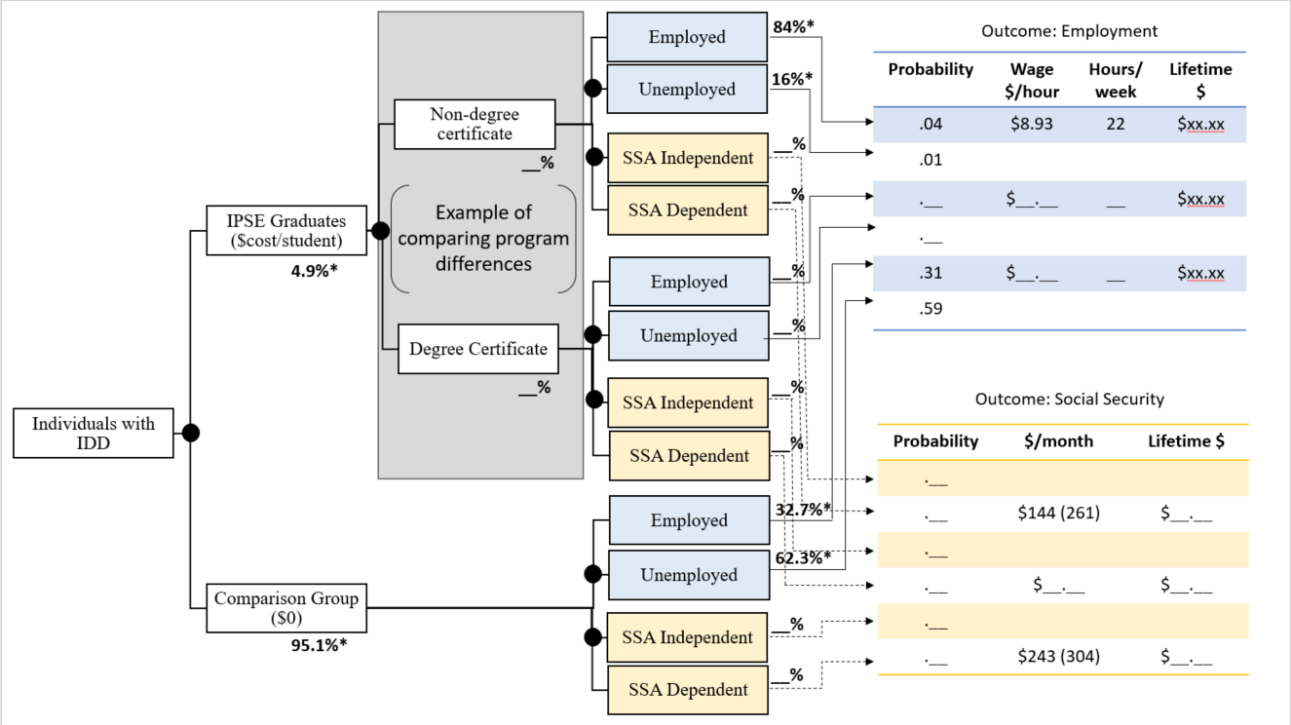
Step three: Estimate program costs. This study outlined the costs and in-kind support received by IPSE programs, showing personnel (both budgeted and volunteer) create the vast majority of the budget. However, full EEs need a more precise measure of costs. The information collected in this study could help the creation of a cost journal, commonly used in micro-costing techniques in economic evaluations, to establish a thorough reporting of IPSE cost data (including in-kind)(Charles et al., 2013). It could also be used to inform a less rigorous gross-estimate approach that focuses on expenditures (Walcott et al., 2018). Either way, future studies need to establish more reliable and valid cost data for programs that reflects the diverse nature of IPSE programs.

Step four: Estimate program benefits. This study established the main outcomes for IPSE programs as employment, independent living, and social interactions, however these outcomes need to be translated into monetary benefits for some EEs. Similar to costs, the perspective of the study needs to be considered. Benefits for employment from higher education programs are often expressed by considering the increase in average wage and the increase in hours worked per week. Independent living has shown effectiveness in an IPSE program (Grigal & Dwyre, 2010; Ryan et al., 2019), however, ways to capture the monetary value of independence, social interactions, and other outcomes are still needed. Currently, programs measure independence through their living situation or through social determination measures. A societal approach could monetize independence by assessing reliance on Social Security and other public supports, or the graduates' use of work-provided insurance versus Medicaid. Higher education has been shown to be correlated with lower use of public supports (Livermore et al., 2017; Poterba et al., 2017), studies are now needed to demonstrate what level of difference an IPSE can make.

Step five: Model & conduct economic evaluation. Once the proper research exists to support the effectiveness, costs, and benefits of participating in IPSE programs, modeling and conducting the EE is next. Figure 1 shows a decision tree for a sample EE, based on a control group of no higher education. Table 4 shows an outline of the different types of EEs, what they measure, and what result can be applied.

Step six: Conduct a sensitivity analysis. This study outlines some key differences in IPSE programs related to planning and implementation. All IPSE programs have similar approaches and goals, however, there are large variations between programs. Sensitivity analyses in an EEs allow for comparisons to be made across and between these differences, finding which one may or may not have improved effectiveness or benefits for the cost (Charles et al., 2013; Walcott et al., 2018). Programs could use these EEs to improve outcomes or reduce costs. Funders could use this information to provide support and encourage improved understanding of the most effective approaches. Future studies need to identify the key and important differences in IPSE programs across all stages of development and maintenance.

Figure 2: Decision Tree for an Example Economic Evaluation



Limitations

This study was conducted during a challenging year. The COVID-19 pandemic resulted in higher education faculty and staff in constant flux and pressure to recruit, retain, and support students that undoubtedly influenced the availability of IPSE PD's participation in this study. Additionally, all programs participating in this study were informed their federal TPSID grant would not be renewed. These additional stresses on programs and PDs contributed to lower recruitment in the study and inconsistent participation from programs who agreed to be in the study. Although the ideal study would have had all programs able to contribute to all components of data collection, the author feels enough information was collected from the programs to obtain a foundation to build future evaluations and studies. The author also believes that the challenges in this study are an extension and reflection of challenges that these programs face in balancing limited resources, supporting the need for continued resources to fully support their programs.

The records shared through financial documents and the Think College dataset were not complete. The financial documents used to improve understanding of funding and cost were not official records kept by the university, but instead were documents kept by the program faculty and staff and were often reflective of budgets instead of tracking expenditures. Therefore, all data must be reviewed with the understanding that they are approximates. Although these data are not specific, the authors feel that the data extracted from these documents still provides a foundation for understanding the cost priorities and needs of IPSE programs.

Implications and Future Research

IPSE programs have great potential to improve access and participation in higher education, ultimately improving employment rates and decreasing reliance on public supports (ie Social Security and Medicaid) for individuals with ID. However, funding for these programs is not stable and literature to support their importance is limited. With over 275 IPSE programs in existence across 49 states (*ThinkCollege, n.d)* and over $100,000,000 invested in new and existing programs over the last 15 years through federal TPSID grants (*Funding Status*, 2020), further evaluation of these programs would generate evidence that these programs are effective and lead to improved employment, decrease use of public supports, and improved independent living. This study outlined foundational knowledge that can be used for the future implementation of IPSE programs and further EE. Not only can an EE demonstrate the long-term monetary effects of an IPSE program from an individual and societal level, it can also show the level of supports programs need to plan, implement, and achieve sustainability, providing guidance to funders on how to best support at each stage. Future evaluations can also improve on the understanding of outcomes associated with these programs, leading to improved programmatic elements that may further improve employment and decrease public support reliance.

Future research building on this study should be mindful of two main considerations. First, expectations that are not applied to others attending post-secondary education and to students without ID should not be applied to students within IPSE programs. In addition, not all outcomes related to participation in IPSE programs can and should be equated to a monetary value. Although evaluation and EEs can help support future funding and improve outcomes and experiences associated with IPSE programs, inclusion improving quality of life, and providing opportunities for individuals with ID to thrive are valuable and go beyond a dollar amount. Therefore, it is recommended that future research be sure to also highlight the non-monetary benefits IPSE programs provide throughout the study.

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Appendix 1: Sample Infographic