Virtual Reality Intervention for Incoming College Students with Intellectual and/or Developmental Disabilities: Surveying Behaviors and Intentions of Administrative Support Staff

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Abstract

With over 300 inclusive postsecondary education (IPSE) programs that serve college students with intellectual and/or developmental disabilities (IDD), as well as a nine-and-a-half percent increase in prevalence of IDD among children in the U.S. between 2009–2017, the number of college students with IDD who have unique needs when entering into a college environment will continue to grow. Participatory research with college students with IDD identified a variety of health and wellness needs and produced several prototype ideas that involved technological and computer-based interventions, like virtual reality (VR), to assist in solving these health and wellness related problems. A recent systematic literature review revealed that VR can be used with individuals with IDD to increase skills, is motivational, and is suitable and accessible. Although VR has not yet been established as a recreational therapy (RT) evidence-based practice with individuals with IDD, recent research has suggested that IPSE program administrators support the need for hiring CTRSs within IPSE programs to provide RT services to college students with IDD. To explore feasibility of testing and implementing a VR RT intervention for incoming college students with IDD to increase skills that contribute to readiness for college, an exploratory quantitative research design using the Theory of Planned Behavior was used to survey administrative staff within IPSE programs and campus offices of disability support across the U.S. Results revealed positive behaviors and intentions of administrative staff in regard to adoption and implementation of a VR RT intervention. Results also revealed several implications for the therapeutic recreation profession, as well as need for future research that engages college students with IDD as co-researchers to assist in developing, implementing, and testing feasibility and efficacy of a VR RT intervention.

Keywords: virtual reality, college students, intellectual and/or developmental disability, recreational therapy, therapeutic recreation

Plain Language Summary

- More students with intellectual and/or developmental disabilities (IDD) are going to college than ever before, and they often need extra support to succeed.
- Researchers worked directly with some of these students to learn about their health and wellness needs.
    - The students helped come up with ideas—like using virtual reality (VR)—to address these challenges.
- While VR isn't yet a proven therapy in recreational therapy (RT) for people with IDD, it has shown promise in helping build skills and staying motivated.
- **What we did in this study:** To see if using VR as a support tool in college is a good idea, researchers asked staff at college disability offices and inclusive postsecondary education (IPSE) programs across the U.S. what they thought.
- **Findings:** The survey showed that most staff had a positive attitude about using VR for this purpose.
    - The study also suggests that hiring Certified Therapeutic Recreation Specialists (CTRSs) in these programs could help students with IDD.
- **Conclusion:** The researchers recommend that future studies include college students with IDD as partners in the research process to help design and test these new VR tools.

As of 2016, an estimated eight million Americans had intellectual and/or developmental disabilities (IDD; Karimi, 2016), and more than 300 inclusive postsecondary education (IPSE) programs now serve college students with IDD across the United States (Think College, 2025). Beyond these programs, students with autism (1–2%; Cox et al., 2017) and other IDDs (3%; Raue & Lewis, 2011) also attend college through traditional pathways. With a 9.5% increase in IDD prevalence among U.S. children between 2009 and 2017 (Zablotsky et al., 2019), researchers anticipate significant growth in college enrollment among individuals with IDD (Kuder & Accardo, 2018).

Despite this growing presence, relatively few studies have examined the health and wellness needs of college students with IDD. Recent work (Oakes et al., 2018; Oakes & Weidner, 2025) shows that only one IPSE program in the U.S. currently employs a certified therapeutic recreation specialist (CTRS) to deliver recreational therapy (RT) services tailored to this population. RT is a structured, recreation- and leisure-based process designed to support physical, cognitive, social/emotional, behavioral, and mental health functioning, and services are delivered or supervised by a CTRS (National Council for Therapeutic Recreation Certification, n.d.).

Emerging studies have begun to identify RT-relevant needs and potential solutions. For example, a systematic review found that although VR is not yet established as an evidence-based RT intervention for individuals with IDD, research in other fields shows

that VR can be motivating, accessible, and effective for building skills among individuals with IDD (Oakes, 2022). Although VR interventions for college students with or without IDD have not been established in leading therapeutic recreation journals (e.g., Therapeutic Recreation Journal, Annual in Therapeutic Recreation, American Journal of Recreational Therapy), research in other disciplines has demonstrated positive outcomes of VR interventions for college students without disabilities (Alanazi, 2023; Xu et al., 2021). At the same time, scholars in therapeutic recreation have identified higher education and IPSE programs as emerging and promising settings where CTRSs are increasingly needed and desired to support students with IDD (Oakes et al., 2018; Oakes & Weidner, 2025).

Given the intersection of growing numbers of college students with IDD, limited RT services, and emerging interest in technology-assisted interventions, the present study examined the feasibility of testing and implementing a VR RT intervention for incoming college students with IDD to build skills related to college readiness. An exploratory quantitative research design was used to survey administrative staff from IPSE programs and campus disability support and accommodation offices across the U.S. Guided by the theory of planned behavior, this study assessed attitudes, behavioral intentions, subjective norms, social norms, perceived power, and perceived behavioral control (Godin & Kok, 1996) related to the potential adoption and implementation of a VR RT intervention.

Related Literature

Growth of IPSE Programs and College Enrollment of Students with IDD

The number of college students with IDD in the U.S. is growing. Thirteen years ago, there were only 160 colleges with an IPSE program for students with IDD. Now, over 300 college campuses have an active IPSE program (Think College, 2025). IPSE programs endeavor to create, expand, and/or enhance high-quality, inclusive higher education experiences to support positive and holistic outcomes for individuals with IDD. Each IPSE program is unique in the provision of varying levels and combinations of person-centered planning within academics, as well as outside of the classroom; both of which are essential for a comprehensive, inclusive environment. The growth of IPSE programs nationwide has resulted in significantly more students with IDD on U.S. college campuses. There has also been a nine and a half percent increase in prevalence of IDD among children in the U.S. over nine years (i.e., 2009–2017; Zablotsky et al., 2019). Researchers predict an exponential increase in rates of college enrollment among individuals with IDD (Kuder & Accardo, 2018). This trend increases the number of college students with IDD both within IPSE programs and across the broader campus population.

Health and Wellness Needs of College Students with IDD

Despite these growing numbers of college students with IDD, only nine published studies have explored various health and wellness needs of college students with IDD. One of these studies engaged college students with IDD and recent graduates with IDD in design thinking and rapid prototyping to brainstorm and build ideas to help solve

common health and wellness problems that the college environment and experience present (Milroy et al., 2021). Of eight prototypes developed by college students and recent graduates with IDD, four prototypes included use of and engagement with technology and computer-based applications (Milroy et al., 2021).

Technology-Based Interventions in Therapeutic Recreation for Individuals with IDD

The field of therapeutic recreation has demonstrated empirical support for the use of technology-based and computer-assisted interventions with individuals with IDD. Prior research has documented the use of computers and tablets to promote community inclusion (Leonard, 2017), socially assistive robots to enhance companionship (Piatt et al., 2016), and online support groups to increase participation in recreation and leisure activities (Sharaievska & Burk, 2018). Collectively, these studies illustrate the versatility of technology-based interventions within therapeutic recreation and their capacity to support social engagement, participation, and quality of life outcomes for individuals with IDD.

Although VR has not yet been established as an evidence-based RT intervention for individuals with IDD, emerging evidence from related disciplines highlights its potential. A systematic literature review examining the use of VR with individuals with IDD across multiple fields found that VR interventions can produce improvements in physical, social, cognitive, activities of daily living, behavioral, and emotional skills (Oakes, 2022). This review further concluded that VR is motivational, suitable, and accessible for individuals with IDD, while also noting that the full potential of VR interventions with this population has not yet been realized and remains an important area for future research.

Within the field of therapeutic recreation, Romoser et al. (2024) used survey methods to examine recreational therapists' perceptions of the usability of a specific VR system (Meta Quest 2). Findings indicated that recreational therapists (N = 22) provided some initial support for the use of this system as a fully immersive VR tool for RT practice (Romoser et al., 2024). Although variability existed in individual usability ratings, no statistically significant differences were observed based on the populations served, including individuals with mental health diagnoses, substance use disorders, neurodevelopmental disorders, physical disabilities, medical diagnoses, combined conditions, and geriatric populations with neurocognitive disorders (Romoser et al., 2024).

Within IPSE programs, relatively few researchers have examined the use of technology and computer-based interventions to support non-academic, positive outcomes that directly impact life outside of the classroom among college students with IDD, and none of this work has been conducted within the field of therapeutic recreation. This distinction is noteworthy, as recreational therapists are specifically trained to design and implement recreation-based interventions that incorporate computer activities, technology-based approaches, and virtual reality.

Existing IPSE-related studies have focused on other forms of technology. Evmenova et al. (2019) utilized a wearable technology intervention to increase self-regulation and positive behaviors among college students with IDD, while Watson et al.

(2021) employed computer-based technology to support self-monitoring of person-centered goals for this population. However, a scoping review of the IPSE literature indicates that virtual reality has not yet been explored with college students with IDD as either a recreational therapy or non-recreational therapy intervention.

In contrast, VR has been examined outside the field of therapeutic recreation to evaluate its effectiveness in producing health-related outcomes among older adults and individuals with a range of disabilities and mobility needs (Chau et al., 2021). Participants in this study included individuals with moderate to severe functional dependence, use of walking aids or wheelchairs, mild to severe cognitive impairment, mild-to-severe intellectual disability, and mild to severe visual impairment (Chau et al., 2021). Results demonstrated significant improvements in upper-limb dexterity and cognitive functioning following the VR intervention, and 65.2% of participants reported acceptance of VR and provided positive feedback (Chau et al., 2021). Notably, approximately one-third of participants did not fully accept the VR intervention, potentially due to diagnosis-related challenges such as sensory overload, visual strain, motion or cybersickness, cognitive fatigue, difficulty using equipment, and accessibility limitations (Chau et al., 2021).

Virtual Reality Interventions with College Students without IDD

Even though VR as a RT intervention with college students with or without IDD has not been established within the leading journals of our field (i.e., Therapeutic Recreation Journal, Annual in Therapeutic Recreation, American Journal of Recreational Therapy), researchers in other fields have completed important studies within the last four years that have demonstrated outcomes of VR interventions with college students without IDD. Alanazi (2023) used a VR intervention to increase social interaction and physical activity among college students without IDD. Xu and colleagues (2021) used a VR intervention to assist college students without IDD with managing anxiety, depression, and perceived stress. These findings suggest potential applicability of VR interventions within higher education settings more broadly, yet they also underscore a clear gap in the literature regarding the use of VR interventions specifically designed for and evaluated with college students with IDD within inclusive postsecondary education programs.

Need for CTRSs within IPSE Programs

Researchers in the field of therapeutic recreation have identified higher education and IPSE programs that serve college students with IDD as a promising new workplace setting for CTRSs (Oakes et al., 2018). An exploratory study was completed to better understand knowledge and beliefs of administrative staff within IPSE programs across the United States regarding RT and CTRSs, as well as feasibility and intentions for hiring a CTRS within IPSE programs to provide RT services (Oakes & Weidner, 2025). Results demonstrated that administrative staff collectively reported above average attitudes towards hiring a CTRS to provide RT services to college students with IDD (Oakes & Weidner, 2025). When asked about their intentions to hire a CTRS in the future to provide RT services to college students with IDD, administrative staff's collective score was above average (Oakes & Weidner, 2025). Overall, this study demonstrated that CTRSs are needed and desired by administrators to provide RT services to college students with IDD

(Oakes & Weidner, 2025). This study also recommended that future research is needed to establish evidence-based RT practices to demonstrate that RT service provision meets the specific needs of college students with IDD within IPSE programs (Oakes & Weidner, 2025). An important first step, which this study fulfills, to establishing a VR intervention as an evidence-based RT practice for college students with IDD is to explore the feasibility of testing and implementing a VR RT intervention for incoming college students with IDD.

Method

Research Design

An exploratory, quantitative design was used to explore feasibility of a VR RT intervention for incoming and new college students with IDD. This design was selected due to the novelty of VR-based recreational therapy interventions within IPSE programs, the limited empirical evidence specific to college students with IDD, and the need to first assess feasibility and institutional readiness prior to intervention implementation.

Participants and Recruitment

Participants were administrative staff at U.S. universities and colleges who worked either within an inclusive postsecondary education (IPSE) program or within the institution's designated office responsible for providing accommodations and/or support services to students with disabilities. The sampling strategy targeted one administrative staff member per institution, drawn from either an IPSE program or a disability accommodation/support office.

In October 2021, recruitment emails were sent to a total of 459 unique universities and colleges. This final recruitment sample reflected the inclusion of institutions with IPSE programs and a systematically selected sample of institutions without IPSE programs but with disability accommodation/support offices, after accounting for institutional overlap and eligibility criteria (see Selection of Universities and Colleges).

Selection of Universities and Colleges

Institutions with IPSE programs were identified using the Think College national database, which lists universities and colleges offering IPSE programs for students with intellectual and/or developmental disabilities. At the time of recruitment, 300 institutions were listed in the database and were initially considered for inclusion.

To recruit institutions without IPSE programs, a separate sample of universities and colleges with designated disability accommodation/support offices was identified. These institutions were selected using a standardized approach that included four institutions per state, prioritizing institutions with the highest enrollment, representation across public and private institutions, and inclusion of at least one minority-serving institution (e.g., HBCU, HSI, AANAPISI, NASNTI, or TCU) per state when applicable.

Following this selection process, the IPSE and non-IPSE institutional lists were cross-referenced to remove duplicate institutions (i.e., institutions appearing in both the Think College database and the non-IPSE sampling frame) and to exclude institutions that did not meet eligibility criteria. After removing duplicates and ineligible institutions, the final recruitment sample consisted of 459 unique universities and colleges that were contacted to participate in the study.

Survey Development and Validity

A Qualtrics survey was designed by the principal investigator and co-investigators using best practices for survey design (Pew Research Center, 2021). These best practices included identifying topics to be covered, ensuring relevancy of each question to the research topic, and collaborating with another faculty member (Pew Research Center, 2021). To align with survey research that is descriptive in nature and that utilizes descriptive and basic correlational statistics, close-ended survey questions were used. To establish credibility of the survey, one faculty member within the principal investigator's department determined face validity and peer reviewed the survey before it was distributed. Face validity was determined as the questions were in concurrence with and measured the information of interest (Pew Research Center, 2021). In addition, the survey underwent an informal pilot review by a small group of colleagues with experience in higher education and disability services to assess item clarity, readability, and completion time, resulting in minor wording revisions prior to dissemination. Because the survey was designed to collect descriptive, non-scale-based data rather than to measure latent constructs, internal consistency reliability analyses (e.g., Cronbach's alpha) were not conducted.

Measures and Theoretical Framework

The survey utilized categorical and interval-level survey questions to gauge overall feasibility for a VR RT intervention that would provide incoming and/or new students with IDD an opportunity to engage in realistic VR environments and scenarios with the goal of increasing knowledge and preparedness for common health and wellness topics expected to be encountered in any college experience. Categorical questions (see Table 1) assessed roles of administrative staff, college related health/wellness preparation provided to incoming students with IDD, technology integration into supports provided, feasible purchase method for VR intervention, and feasible payment method for VR intervention. Interval-level questions included questions about fit, student success, intentions to support engagement, perceptions of ability to produce various outcomes, norm beliefs, self-efficacy for facilitation, and perceptions of price of the VR intervention (see Table 2). The Theory of Planned Behavior was used to examine the likelihood of adoption of VR for use with students with IDD and directly informed the interval-level questions in the survey. This psychological theory predicts behavioral intention by linking beliefs and behavior through three unique constructs: (a) favorable or unfavorable attitude toward the behavior; (b) social or subjective norms about a behavior; and (c) perceived behavioral control in avoiding anticipated obstacles (Ajzen, 1991). An example attitude toward behavior question was: I think the described virtual reality intervention could contribute

to the quality of life of college students with IDD. An example subjective norms question was: Implementation of the described virtual reality intervention would be beneficial for college students with IDD. An example perceived behavioral control question was: In my position in my department or unit within the larger university or college, I have control over my ability to ensure the described VR intervention is implemented with college students with IDD. For interval-level questions with Likert scale responses, each scale was from one to four or one to five, with one being the least favorable response and four or five being the most favorable response (e.g. 1 = not successful, 5 = very successful).

Data Analyses

Qualtrics survey data were downloaded, cleaned, and entered into IBM SPSS version 26. Analysis included descriptive statistics and a chi-square analysis, which were selected to summarize response patterns and examine associations among categorical variables consistent with the exploratory design of the study. Given the modest sample size and uneven distributions across several variables, analyses were intentionally limited to descriptive and bivariate methods to preserve statistical validity and interpretability. Due to the preliminary aim of assessing feasibility and implementation readiness rather than prediction or causal inference, more advanced multivariate analyses were not appropriate. Although effect sizes and confidence intervals were considered to complement significance testing, they were not consistently reported because limited sample size reduced their stability and interpretive value within this exploratory context. Responses with missing interval-level data were not included in chi-square analysis but were included in descriptive statistics for categorical data. For interval-level questions, mean and standard deviation were calculated, while total number and percentage were calculated for categorical questions. Chi-square analysis was utilized to test for a relationship between whether the participant was administrative staff within the IPSE program or designated office that provides various accommodation and/or support services to students with disabilities, and how successful the administrative staff member thought an incoming or new college student with IDD would be engaging in the VR RT intervention. A p-value greater than or equal to 0.05 was considered statistically significant.

Results

Because the study focused on perceptions of IPSE program and disability support office administrative staff regarding the feasibility of testing and implementing a VR recreational therapy intervention for incoming college students with IDD, demographic variables emphasized respondents' professional roles and institutional contexts (see Table 1). A total of 62 responses were received from the 459 individuals invited to participate, resulting in an approximate response rate of 13%. Results from descriptive statistics for all questions with categorical responses (see Table 1) revealed that the majority of administrative staff who completed the survey worked within their university's IPSE program (n = 44, 71.0%). Most administrative staff reported that college related health and/or wellness preparation was provided to college students with IDD (77.4%) and technology was integrated into supports for these students (71.7%). Most administrative staff reported that the most feasible purchase method was acquiring the

VR recreational therapy intervention at the program or office level to serve groups of students (65.9%). The most feasible payment method was identified as the use of internal funds (33.3%).

Results from descriptive statistics for all questions with interval-level responses (see Table 2) revealed that administrative staff on average perceived overall fit of and students' success with the VR RT intervention as being slightly above the median (i.e., 3.00) for fitting and successful, respectively. On average, administrative staff scored slightly above the median (i.e., 3.00) for agreeing that they would intend to support VR engagement (M = 3.08, SD = 0.70). Of eight behavioral belief questions, administrative staff believed the VR RT intervention would most positively impact critical thinking skills, quality of life, social skills, and language skills among college students with IDD. On average, administrative staff fell right in between disagreeing and agreeing that people who are important to them would believe they should support incoming or new college students with IDD in engaging in the VR RT intervention. On average, administrative staff more than slightly agreed that people who are important to them would allow incoming or new college students with IDD to engage in the VR RT intervention. Of the six positively worded attitudinal questions, administrative staff on average scored slightly above the median (i.e., 3.00) for agreeing that the intervention would be good, beneficial, safe, and wise to implement. On average, administrative staff scored slightly less than that median (i.e., 3.00) for agreeing that they would feel confident in their perceived behavior control to influence and facilitate engagement of incoming or new college students with IDD in the VR RT intervention. Administrative staff reported an average reasonable price for the VR RT intervention per college student with IDD as $87.58, and an average reasonable price for the VR RT intervention per IPSE program and/or disability accommodation or support office as $852.72. These estimated reasonable prices also align closely with the off-the-shelf cost of the Meta Quest 2.

When exploring if a relationship existed between whether an administrative staff member worked within the IPSE program or designated office for disability accommodations and/or support services, and how successful they believe incoming or new college students with IDD would be in engaging in a VR RT intervention, a significant relationship was revealed, $X^2(8, N = 52) = 15.846^a$, $p = 0.045$, with a small effect size as indicated by Cramer's V, suggesting a modest magnitude of association between variables. Administrative staff members who worked within the IPSE program had a higher mean (M = 3.28) compared to administrative staff members who worked within the university's designated office for disability accommodations and/or support services (M = 2.87).

Discussion

Results revealed several noteworthy findings. A greater proportion of respondents were IPSE administrative staff (n = 44) compared to disability support office administrative staff (n = 18), potentially suggesting differential levels of engagement or perceived relevance of VR recreational therapy interventions across institutional roles. This imbalance may reflect the closer alignment of IPSE administrative staff responsibilities with the daily needs, supports, and transition planning of college students with IDD,

raising the question of whether IPSE staff are more attuned to or invested in interventions designed to support this population. In contrast, disability support office administrative staff typically serve a broader population of students with disabilities, and therefore may interact less frequently with students with IDD specifically. The question is also raised of whether or not this could be a result of the majority of support provided by disability offices being academic in nature, and some students with IDD might already receive academic support from the IPSE program. For example, through one university's IPSE program, they provide inclusive and immersive college education tailored to young adults with IDD (Think College, 2021). On the other hand, this same university's Disability Resources Office provides disability resources to any student with disabilities to assist or advise with any disability issue. Their goal is to provide academic accommodations, increase awareness and outreach, and maintain physical accessibility.

Overall, administrative staff perceived the VR recreational therapy intervention as most likely to support key functional outcomes for students with IDD, particularly critical thinking, quality of life, language skills, and social skills. Researchers outside of the field of therapeutic recreation that have implemented and tested VR interventions with individuals with IDD have found benefits to participation that include increased social skills (e.g., Cheng & Chen, 2010; Roberts-Yates & Silvera-Tawil, 2019), cognitive skills (e.g., Den Brok & Sterkenburg, 2015; Tamar et al., 2009), and activities of daily living skills (e.g., Mengue-Topio et al., 2011; Toffanlini et al., 2018). Other researchers revealed that the use of VR with older adults and individuals with various disabilities, including mild to severe intellectual disability, produced significant improvement in cognitive function (Chau et al., 2021). Additionally, a recent systematic literature review based on the results of VR research with individuals with IDD in fields other than therapeutic recreation has demonstrated the potential of using and the need of testing the use of a VR RT intervention with individuals with IDD to produce outcomes in the physical, cognitive, social, and behavioral/emotional domains (Oakes, 2022). This research supports findings from this study regarding beliefs of administrative staff for skill development among incoming and new college students with IDD who would participate in the VR RT intervention. Additionally, the IPSE program administrators' beliefs for skill development among incoming and new college students with IDD are also supported by the empirical evidence of CTRSs in a recent study providing support for the use of a specific VR system (i.e., Meta Quest 2) with various populations, including individuals with neurodevelopmental disorders (Romoser et al., 2024).

It is also worth noting that the majority of the theory of planned behavior responses were close to the median possible score (i.e., 3 out of 5), which may reflect ambivalence or uncertainty rather than neutrality or disengagement. Scores clustering around the midpoint suggest that administrative staff may be cautiously open to the use of a VR recreational therapy intervention but lack sufficient information, experience, or institutional clarity to express stronger agreement or disagreement.

This raises the question of whether this pattern reflects uncertainty regarding their own capacity to support implementation, limited familiarity with VR-based interventions, or questions about the intervention's effectiveness with college students with IDD. The perceived behavioral control finding ($M < 3$) further supports the interpretation that

administrative staff may perceive barriers to implementation that are structural or role-based rather than skill-based, such as access to trained personnel, resources, or institutional support. Importantly, this does not necessarily indicate a need for administrative staff themselves to acquire intervention-specific skills, as recent research (Oakes & Weidner, 2025) revealed that IPSE program administrative staff believe that the provision of RT services by Certified Therapeutic Recreation Specialists (CTRSs) is both feasible and needed within IPSE programs for college students with IDD. Together, these findings suggest that future implementation efforts should focus on workforce capacity, training infrastructure, and clarity of roles rather than solely on changing individual attitudes.

Implications for Inclusive Postsecondary Education

Several implications can be drawn from this study. Findings suggest that IPSE programs may be particularly well positioned to lead the design, implementation, and evaluation of VR recreational therapy interventions for college students with IDD, given their close alignment with this population and their programmatic focus on holistic student support. Rather than reflecting simple differences in survey participation, the pattern of responses underscores the central role that IPSE programs play in coordinating services that extend beyond academic accommodations. This finding aligns with a recent study examining IPSE program administrators' intentions to hire a Certified Therapeutic Recreation Specialist (CTRS) to provide RT services to college students with IDD, in which administrators' collective intention score was slightly above average (i.e., 3.00; Oakes & Weidner, 2025). Together, these findings suggest administrative readiness to integrate specialized RT services within IPSE programs, reinforcing prior evidence that CTRSs are both needed and desired to support college students with IDD (Oakes & Weidner, 2025). As CTRSs pursue roles within IPSE programs or contractual partnerships to deliver RT services, VR-based interventions represent a promising modality for expanding evidence-informed practice. Accordingly, IPSE programs may serve as ideal contexts for piloting innovative RT interventions, as they offer existing infrastructure, interdisciplinary collaboration, and sustained access to college students with IDD across academic, social, and community domains, and strengthening partnerships between CTRSs and IPSE programs may facilitate the development and sustainability of inclusive, evidence-based supports for students with IDD in higher education. Such partnerships may also support systematic evaluation of intervention feasibility, acceptability, and outcomes, while creating clear pathways for translating VR-based RT interventions into routine practice within higher education settings.

Results of behavioral belief questions proved to be promising as they revealed such high administrative belief that the VR RT intervention would positively impact various skills among students with IDD. This finding also aligns with a recent study that asked about IPSE program administrators' attitudes and beliefs about hiring a CTRS in the future to provide RT services to college students with IDD. This study demonstrated that the IPSE program administrators reported average scores above the median (i.e., 3.00) for attitudes and beliefs about RT interventions implemented by CTRS to be able to produce a variety of increased skills among college students with IDD (Oakes & Weidner, 2025). With established research outside the field of therapeutic recreation reporting success

with participation of college students without IDD and individuals with IDD in VR interventions, CTRSs within the field of therapeutic recreation could partner with IPSE programs to target, test, and document these outcomes (i.e., increase in critical thinking skills, quality of life, social skills, language skills) along with other outcomes of interest with incoming college students with IDD. While utilizing VR interventions as RT interventions, CTRSs can make use of assessment, planning, implementation, evaluation, and documentation skills to systematically collect data that can contribute to the scientific testing of these specific outcomes.

Implications for Future Research

Through this survey, several implications for future research within the field of therapeutic recreation came to light. To establish use of VR as an evidence-based RT intervention for individuals with IDD, it is recommended that future research within the field of therapeutic recreation include pilot studies to test and document outcomes of VR interventions implemented by a CTRS with college students with IDD. Future research in the field of therapeutic recreation should also engage college students with IDD as co-researchers to assist in developing and ultimately implementing and testing feasibility and efficacy of a VR RT intervention. This future research should strive to increase various skills that contribute to the readiness for the college environment of students with IDD. In addition, future investigations should purposefully sample across diverse institutional types and IPSE program structures to better understand contextual factors that may influence adoption, implementation, and effectiveness of VR-based RT interventions.

Limitations

Although this exploratory study produced important results, some limitations are worth noting. The scope of this study was limited by both the timeline for the study and volunteered responses from survey respondents. Since there were no incentives in place for completing this survey and the survey was open for about three weeks, a total of 62 participants completed the survey out of a total of 459 individuals that were emailed a survey invitation. This likely reflects a degree of self-selection bias, as administrative staff with greater interest in VR, recreational therapy, and/or innovative interventions may have been more inclined to participate. With 44 IPSE program administrative staff completing the survey compared to only 18 disability accommodation/support office staff, results are somewhat skewed to reflect more perspectives of IPSE program administrative staff. This limits the ability to make robust or statistically meaningful comparisons between the two groups. However, this response rate was expected due to the survey being about use of VR with students with IDD, and the sole purpose of IPSE programs is to support these students. While it would have been valuable to conduct more advanced statistical analyses instead of the descriptive approach adopted, the sample size was relatively too small, limiting statistical power and the appropriateness of multivariate modeling. Although effect sizes and confidence intervals were considered as alternatives to sole reliance on significance testing, these were not consistently reported due to the exploratory nature of the study and the limited response rate across several variables. Given the small sample size (n = 62), findings from this study are not generalizable. However, the responses still represent a sizable portion of a small community.

Additionally, as this study was designed as a pilot feasibility investigation, it did not aim to examine common or distinct institutional characteristics across participating programs, and future studies should intentionally incorporate such analyses with larger and more representative samples.

Conclusion

Along with a systematic literature review that reveals potential of VR to produce positive outcomes among individuals with IDD (Oakes, 2022), this exploratory study makes an important contribution by shedding light on potential behaviors and intentions of administrative staff within IPSE programs and disability accommodation/support offices at U.S. universities and colleges in regard to adoption and implementation of a VR RT intervention for incoming students with IDD. Students with IDD are quickly becoming a regular part of U.S. university and college campuses, and many of them have unique support needs when entering into this new environment. Recent publications (Oakes et al., 2018; Oakes & Weidner, 2025) also support the start of CTRSs working within IPSE programs to provide RT support services to college students with IDD. Since VR interventions outside of the field of therapeutic recreation have been shown to produce a variety of physical, social, cognitive, daily living, behavioral, and emotional outcomes among individuals with IDD, results of this exploratory study demonstrate potential and support for future research within the field of therapeutic recreation that designs, implements, and tests a VR RT intervention for incoming college students with IDD.

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Table 1

Categorical Response Data (N = 62)

VARIABLE	*n* (%)*
Role of admin	
IPSE* program	44(71.0)
Disability accommodation/support office	18(29.0)
College related health/wellness preparation	
Yes	41(77.4)
Technology integration into supports	
Yes	38(71.7)
Feasible purchase method	
Purchase for each IPSE program or each disability support office for group of students	27(65.9)
Purchase for each individual student	7(17.1)
Other	7(17.1)
Feasible payment method	
Additional tuition funds from students with IDD*	3(7.7)
Private pay funds from applicable students with IDD	6(15.4)
Medicaid waiver funds from applicable students with IDD	5(12.8)
Internal funds	13(33.3)
Other	12(30.8)

Table 2

Interval-Level Response Data (N = 62)

	VARIABLE	*M* (*SD*)*
Intervention Costs	Reasonable intervention price per individual student	$87.58 ($122.60)
	Reasonable intervention price per IPSE* program and/or disability accommodation/support office	$852.72 ($1332.40)
Intention	Participant intent to support VR* engagement	3.08 (0.70)
Behavioral Beliefs	VR contribution to quality of life	3.16 (0.55)
	Social benefit of VR engagement	2.94 (0.68)
	Social skill promotion	3.12 (0.70)
	Increases fine motor skills	2.79 (0.68)
	Increases language skills	3.00 (0.65)
	Increases reading and writing skills	2.67 (0.72)
	Helps with critical thinking skills	3.19 (0.67)
	Leads to career/employment opportunities	2.85 (0.68)
Subjective Norms	Norm belief in peer support of intervention	2.46 (0.86)
	Norm belief in allowing intervention	3.18 (0.55)
Attitudes	Intervention is good	3.07 (0.63)

	VARIABLE	*M* (*SD*)*
	Intervention is beneficial	3.07 (0.55)
	Intervention is safe	3.07 (0.50)
	Wise to implement	3.02 (0.68)
	Responsible to implement	2.95 (0.65)
	Necessary to implement	2.56 (0.77)
Perceived Behavioral Control	Confidence facilitating engagement	2.95 (0.65)
Feasibility - Fit	Fit of intervention into daily schedule	3.08 (1.00)
	Fit of intervention into programming	3.31 (1.06)
	Fit of intervention into interests	3.11 (1.03)
Feasibility - Success	Student success in engaging in game	3.17 (1.00)
	Student success in desirable outcome	3.12 (0.96)

**NOTE. M* = mean, *SD* = standard deviation, IPSE = inclusive postsecondary education, VR = virtual reality