

Faculty Perceptions Of Integrating College Students With Intellectual Disability And Autism: Evidence From Saudi Arabian Universities

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Abstract

Completing higher education is quintessential to ensure that students with intellectual disability (ID) and autism enjoy successful future outcomes. The integration of students with ID and autism in higher education inculcates the required knowledge, competencies, and experiences to prepare them for independent and successful life. This study investigated the perceptions of university faculty regarding integrating college students with ID and autism in Saudi Arabia. An online web questionnaire survey was conducted among 1,135 faculty members across 26 universities. Data were analyzed using descriptive statistics, comparing variances, and t-test. The results indicated that faculty members had positive perceptions about the integration of students with ID and autism, with significant differences only emerging between those who did and did not undergo disability-related training, suggesting that faculty members who underwent training had higher means in positive perceptions and, therefore, a higher level of willingness to engage with college students with ID and autism. Positive perceptions of university stakeholders can greatly enhance inclusive higher education for students with ID and autism, while positive faculty perceptions can influence various practices that create an appropriate educational venue in which to learn. To meet the needs of students with ID and autism, faculty members require continual special professional development. Colleges or universities that seek to increase the integration of students with ID and autism could develop and reform learning practices and environments for them and ensure supportive and appropriate practices.

Keywords: *intellectual disability, autism, inclusive higher education, faculty, Saudi Arabia.*

Introduction

Saudi Arabia has embraced the inclusion of individuals with disabilities across all educational stages. At the international level, Saudi Arabia's signing of the United Nations Convention on the Rights of Persons with Disabilities was an affirmation of its belief in the rights of individual with disabilities across all life domains. That agreement focused on respecting not only the dignity of such individuals but also their abilities, choices, and independence. It also assured them the provision¹ of equal educational and work opportunities without discrimination. At the local level, policymakers in Saudi Arabia have enacted several regulations enhancing equality and fairness for individuals with disabilities to provide equal access to different services. Therefore, Saudi Arabia has taken substantial strides to ensure the educational, employment, and social rights of individuals with disabilities.

Article 2 of the Provision Code for Persons With Disabilities in Saudi Arabia indicates that education for individuals with disabilities should be provided across all educational

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stages—including kindergarten, general education, vocational training, and higher education—so that it is not only commensurate with their abilities and needs but also facilitates their inclusive education access; continuous evaluation of curricula and services provided in this field is also mandated (King Salman Center for Disability Research, 2000). In Article 14, the Ministry of Education (2016) confirms the significance of providing transitional programs and services for individuals with disabilities to ensure smooth transition from secondary to further education, training, or employment. The Ministry of Education has also directed universities to facilitate the transition of individuals with disabilities to universities so as to increase their chances of enrollment by providing various services and making the necessary, reasonable adjustments in the physical environment to facilitate their universal access to various university buildings. Concerned with providing support services to college students with disabilities, it also encouraged the establishment of units or centers in all public universities to help them succeed (Authority for the Care of People with Disabilities, 2023). Therefore, individuals with disabilities in Saudi Arabia currently have better chances of being involved in an integrated community. Recent educational reforms and policy implementations indicate the development of integrating higher education chances for students with intellectual and developmental disabilities (Gilson et al., 2020).

Since the authorization and establishment of units or centers of services for students with disabilities in institutions of higher education, all public universities in Saudi Arabia have reported raised enrollment rates of students with disabilities in different colleges and programs. Although the Ministry of Education has encouraged the acceptance of individuals with disabilities in all universities, students with intellectual disability (ID) and autism are still scarce. Recent statistics revealed that 5,676 students with disabilities gained admission to 26 Saudi public universities that have units or centers for students with disabilities. Of these students, only 1% had ID and 3% had autism (Authority for the Care of People with Disabilities, 2023). Most students with disabilities who were admitted had physical disabilities (25%), blindness (24%), and deafness (20%). Despite adequate recommendations and efforts, higher education is still limited in terms of creating an inclusive place where students with disabilities can engage under normal circumstances (Valle-Flórez et al., 2021). Therefore, substantial efforts to provide integrated and equal regular education for students with ID and autism should be prioritized.

Universities are places where students develop multiple competencies and skills aimed at preparing them to engage successfully in society. Recent research has confirmed the beneficial role of higher education institutions on all college students, with or without disabilities (Agarwal et al., 2021; Gilson et al., 2020). In particular, research investigating the benefits of students with ID and autism accessing higher education has reported positive results. For instance, Weinkauff (2002) identified several student outcomes in inclusive higher education settings such as the development of academic skills and improvement of self-esteem, confidence, and employment skills. In addition, Zafft et al. (2004) asserted that higher education students with ID showed positive future outcomes by improving their employment skills and competing for high salary job opportunities with reduced amount of support. Previous research also indicated that mentoring and the use of university supports and technology were essential components to promoting academic development and the ability to live independently for students with disabilities in higher education settings (Culnane et al.,

2016; Evmenova et al., 2017; Kelley and Westling, 2013). University venues have embraced students with ID and autism, providing an array of campus-based experiences that develop their skills in three essential aspects—academics, independent living, and employment— leading to better life outcomes (Agarwal et al., 2021; Butler et al., 2016; Miller et al., 2016).

An extensive employment gap occurs between working-age individuals with disabilities and ordinary individuals. The latest statistics reveal that almost 63% of Saudi Arabian working-age (25–54 years) ordinary individuals are employed, compared to 18% of those with disabilities (General Authority for Statistics, 2022). Although the statistics on the percentage of Saudis securing competitive employment are limited, international statistics indicate that they are less likely than their ordinary peers to enjoy competitive employment (Hiersteiner et al. 2016; U.S. Bureau of Labor Statistics, 2023). In 2022, in the United States, only 21.3% of individuals with disabilities and 16% of individuals with ID had a secure job compared to their ordinary peers (65.4%) (U.S. Bureau of Labor Statistics, 2023). Due to these low paid job rates, individuals with ID have face poverty, which affects different aspects of their life (Agarwal, 2021; Jahoda et al. 2008). High unemployment rates have resulted in increased enactments of policies and practices—such as access to higher education programs (Avellone et al., 2021)—to ensure the successful transition of individuals with ID to employment (Carter et al., 2012).

Evidence reveals that access to higher education for students with ID and autism is linked to increased job opportunities as contributing adults within their societies. Sannicandro et al. (2018) argued that the future outcomes of students with ID participating in postsecondary education is associated with improved hiring rates, increased weekly income, decreased reliance on government financial support. Research has also confirmed better employment outcomes for students with ID who had higher education compared to those who did not (Grigal & Dwyre, 2010; Moore & Schelling, 2015; Smith et al., 2012). Grigal et al. (2011) affirmed that individuals with ID who completed either a two- or four-year higher education program had greater opportunities of getting a paid job. Smith et al. (2018) also reported that individuals with ID who completed postsecondary education were 14% more likely to maintain paid employment, and 44% of them obtained higher weekly wages than did those without higher education. While evaluations of the integration of individuals with ID and autism into institutions of higher education are significant for ensuring their success, holistic evaluations of the attitudes of different integral university stakeholders are equally important.

Therefore, a nationwide research project on all public universities in Saudi Arabia was conducted to determine administrators', faculty members', and ordinary college students' perspectives toward integrating college students with ID and autism. As recent trends suggest improving postsecondary participation among individuals with ID and autism (Gilson et al., 2020), and as these chances continue to expand, capturing the perspectives of different stakeholders in Saudi Arabian public universities is crucial. This national research project was divided into three studies. This study sought to determine faculty members' perspectives on different variables: gender, position, years of experience, college type, university's geographical location, and prior disability-related training, toward integrating college students with ID and autism.

Researchers have discussed university faculty members' attitudes toward integrating students with disabilities—including those with ID and autism—and reported differing viewpoints. In some studies, many university faculty members were welcoming of the idea of including and providing learning and classroom accommodations for students with ID and autism, demonstrating positive beliefs about the benefits of their accessing postsecondary education (Almutairi et al., 2021; Baker et al., 2012; Gibbons et al., 2015; Jones et al., 2016). Gilson et al. (2020) also reported that university faculty members would be willing to practice

inclusive behaviors with students with ID and autism in their campus. However, many of the factors they predicted would influence the viewpoints of the faculty members regarding their willingness to accept students with ID and autism were not statistically significant. McCabe et al. (2022) highlighted the factors that could motivate university faculty members to include students with ID in their courses such as willing to teach all students, inquisitiveness, colleague encouragement, course subject, and prior experience. Carey et al. (2022) also found that university faculty members expressed a variety of benefits of the inclusion of students with ID in university courses; participants from the study shared unique recommendations for other faculty members who intend to teach inclusive classes such as developing awareness of disability, increasing engagement, preparing with strong pedagogy, improving teaching competencies, structuring course management plans, and meeting students with ID and autism prior to their inclusion in classes.

Other studies, however, reported that university faculty members lacked knowledge about including students with ID and autism in their classes and were not familiar about interacting with them (Gibbons et al., 2015; Love et al., 2019). Moreover, Fekete (2013) indicated that university faculty members believed that student with ID had fewer opportunities for success in institutions of higher education due to their lack of necessary skills. They also highlighted obstacles to including students with ID in their courses and believed that preliminary courses were sufficient for them. Gibbons et al. (2015) also reported that university faculty members believed that ordinary students may feel uncomfortable if students with ID and autism were included in their classes. In addition, faculty members mentioned that including students with ID and autism may change the course routine and monopolize the faculty's time as they would require more attention than would ordinary students (Gibbons et al., 2015).

Research on the perceptions of faculty members regarding the inclusion of students with ID and autism in institutions of higher education in Saudi Arabia is scarce. Moreover, faculty members may lack the experience of dealing with students with ID and autism, leading to adverse impacts on their inclusion in college courses (Carey et al., 2022). This negative impact directly influences the course atmosphere and students' academic progress (Jones et al., 2016). Therefore, a national survey of all public universities was conducted to investigate faculty members' perceptions about the inclusion of students with ID and autism in college programs and courses. The results of the present study would provide a preliminary investigation into the readiness of the environment of public universities in Saudi Arabia with regard to integrating college students with ID and autism. Two research questions are addressed:

- RQ 1: What are the perceptions of university faculty regarding integrating college students with ID and autism in Saudi Arabia?
- RQ 2: Are there statistically significant differences in average faculty perceptions associated with demographic factors (gender, academic rank, years of experience, type of college, university region, and training)?

Method

Study Design

This study employed an online survey to investigate the insights of university faculty members about the inclusion of college students with ID and autism in Saudi Arabia. It attempted to identify the university faculty members' attitudes toward integrating and dealing with college students with ID and autism in their courses. As this study recruited all Saudi public university faculty members whose contact information was publicly available, an online survey presented a practicable and cost-effective approach to reach such a wide range of participants.

Study Tool

The survey questionnaire that was developed based on not only a literature review of university faculty attitudes toward the inclusion of students with disabilities but also adaptations to items using five relative tools. It was improved to examine faculty members' self-rated perceptions about integrating college students with ID and autism in their classes and consisted of 39 items across three domains: willingness to deal with students with ID and autism (14 items; e.g., "I must adapt all the learning styles for my students in their university courses, whether they are students with ID and autism or ordinary students" and "If I had a choice, I would teach courses involving students with ID and autism"), disability awareness (12 items; e.g., "Students with ID and autism can perform their university duties and obligations like the rest of the ordinary students" and "I understand that reasonable accommodations do not change course content or objectives"), and inclusion of students with ID and autism (13 items; e.g., "Inclusion of students with ID and autism will create a positive learning environment for all students" and "Many of the things faculty do with ordinary students in the classroom are also appropriate for students with ID and autism"). Responses were rated on a five-point Likert scale 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = highly agree, and 5 = strongly agree.

The expert review technique was conducted to evaluate the face and content validity of the survey questionnaire. It was assessed by six special education experts from the faculty of different universities. Their suggested changes were incorporated for further modification. After administering and receiving 50 filled pilot questionnaires, Pearson correlation coefficient was conducted to assess internal consistency validity. The data indicated that all the survey questionnaire items belonged to their dimensions and to the overall score of the questionnaire (see Table 1 and 2). The questionnaire's reliability was also calculated. The Cronbach's alpha coefficient indicated that the total score had high alpha values (.946). The coefficient alphas for each domain exhibited very good reliability (willingness to deal with students with ID and autism was .86, disability awareness was .89, and inclusion of students with ID and autism was .89).

Sample and Sampling Procedures

The study invited all university faculty members in Saudi public universities to participate. The first step was to determine which universities had units or centers of services for students with disabilities. Out of 29 Saudi public universities, 26 had units or centers serving students with disabilities (Authority for the Care of People with Disabilities, 2023). These universities were collapsed into five categories for analysis (north, south, east, west, and central regions). The colleges of faculty participants were also collapsed into three categories for analysis (humanities, science, and health colleges). The recruitment process was limited to include participants whose personal contact information was publicly available, yielding a list of 3,212 university faculty members.

Data Collection and Analysis

Faculty perceptions about integrating college students with ID and autism were collected via a survey questionnaire consisting of 39 items. The survey was administered by sending a series of e-mail invitations, which contained an overview of the research, the expected time for completion, and the URL and the code to access the questionnaire. Weekly email reminders were sent, for two weeks, to encourage participation. Once responses became available, data were imported into the Statistical Package for the Social Sciences (SPSS) for three types of analysis. Descriptive statistics, such as frequencies, computation means, and standard deviations, were conducted to analyze the demographic data (i.e., gender, academic rank, years of experience, type of college, university region, and training) and faculty perceptions about

including college students with ID and autism. One-way analysis of variance (ANOVA) tests were used to identify any differences on faculty responses about integrating college students with ID and autism based on independent variables (i.e., academic rank, years of experience, type of college, and university region). Finally, t-tests were conducted to analyze the differences between gender and training in terms of faculty attitudes toward including college students with ID and autism.

Results

The results can be broken down based on the following: (a) demographic information of the participants, (b) perceptions about integrating college students with ID and autism, and (c) additional results.

Demographic Information of the Participants

Of the 3,212 university faculty members who were invited, 1,135 participated, resulting in a 35.3% response rate. For online questionnaires, a 34% response rate is acceptable (Tourangeau et al., 2013). Out of 1,135 faculty members who completed the questionnaire, 47 % (n = 534) were male, and 53% (n = 611) were female. Of these, 4.4% (n = 50) were teaching assistants, 19.4% (n = 220) were lecturers, 42.9% (n = 487) were assistant professors, 19.7% (n = 224) were associate professors, and 13.6% (n = 154) were full-time professors. Moreover, 15.2% (n = 173) of the faculty members had college teaching experience for five years or less, 33.4% (n = 379) between 6 and 10 years, 33% (n = 374) between 11 and 20 years, and 18.4% (n = 209) more than 21 years. Seventy percent (n = 799) of the participants were from humanities colleges, 19.8% (n = 225) were from sciences colleges, and 9.8% (n = 111) were from health colleges. It is noteworthy that 83% of the current college students with disabilities in Saudi Arabia are enrolled in humanities colleges (Authority for the Care of People with Disabilities, 2023). With regard to university regions, most participants were from the central region 56.5% (n = 641), 17.6% (n = 200) from the west, 10% (n = 114) from the north, 9.7% (n = 110) from the east, and 6.2% (n = 70) from the south. The majority of participants 85.4% (n = 969) underwent no prior staff development training sessions in dealing with students with ID and autism, and only 14.6% (n = 166) had undergone professional development training. Faculty members were asked to express their thoughts about whether college students with ID and autism should be given equal opportunities to learn in Saudi universities. Most 68.2% (n = 774) answered yes, 8.5% (n = 96) answered no, and 23.3% (n = 265) were unsure.

Perceptions about Integrating College Students with ID and Autism

As Table 3 shows, the perceptions of the surveyed faculty members fell between agree and highly agree ($M = 3.3$, $SD = .58$) with regard to integrating college students with ID and autism in their courses. Among the three main dimensions of the questionnaire, faculty members rated disability awareness as the highest ($M = 3.5$, $SD = .64$), followed by the willingness to deal with students with ID and autism ($M = 3.2$, $SD = .63$) and finally the domain of inclusion of students with ID and autism ($M = 3.1$, $SD = .69$).

Of the 39 questionnaire items, faculty member rated the following items the highest: "There is a need to provide universal access to all campus buildings to facilitate the movement of students with ID and autism," "If I agree to have a student with ID or autism in my course, I will be open to modifying my teaching style to give that student an equal opportunity to learn," and "Provision of modifications or accommodations ensures fairness for students with ID and autism" ($M = 4.3$, $SD = .89$; $M = 4.09$, $SD = 1.1$; $M = 4$, $SD = 1.1$, respectively). Respondents rated the following items the lowest "I have been trained to work with students with ID and autism," "Inclusion of students with ID and autism will not require significant changes in course procedures and additional effort," and "It is better to provide learning for students with ID and autism in regular courses and rooms" ($M = 2.21$, $SD = 1.3$; $M = 2.27$, $SD = 1.04$; $M = 2.5$, $SD = 1.04$, respectively).

= 1.2, respectively) in terms of their perceptions about integrating college students with ID and autism. The complete details of all 39 questionnaire items are given in Table 3.

Additional Results

An additional analysis exhibited further results. First, a one-way ANOVA was performed to examine any differences in faculty responses about integrating college students with ID and autism based on their academic rank, years of experience, type of college, and university region. This revealed no significant differences in faculty perceptions— $F(4, 1130) = 1.64, p = .16$ —on faculty academic rank. It also revealed no significant differences in faculty perceptions on faculty years of experience, type of college, and university region— $F(3, 1131) = 2.49, p = .059$; $F(2, 1132) = .65, p = .52$; $F(4, 1130) = 2.3, p = .057$ —respectively. Second, a t-test was conducted to determine differences between faculty gender and faculty training in terms of their attitudes toward including college students with ID and autism. This analysis revealed no significant differences between male ($M = 3.25, SD = .57$) and female ($M = 3.26, SD = .6$) faculty members, $t(1133) = -.32, p = .75$, suggesting that both perceived integrating college students with ID and autism similarly. It is noteworthy that even though two separate male and female departments have been established in all Saudi universities, both programs follow the same academic plans (Alhossan & Trainor, 2017). In contrast, the analysis revealed significant differences between faculty members who had staff development training sessions in dealing with students with ID and autism ($M = 3.6, SD = .54$) and those who had not ($M = 3.2, SD = .57$), $t(1133) = 8.44, p = .001$, suggesting that those who underwent training had higher means in positive perceptions—implying a higher level of accepting college students with ID and autism in their classes—than did who had not (see Table 4).

Discussion

This study investigated university faculty members' perceptions about including college students with ID and autism in their courses, because Saudi universities are still in the initial stages of admitting them. The findings of the study were supportive and encouraging. Overall, the surveyed faculty members indicated positive perceptions. Their mean ratings fell between agree and highly agree ($M = 3.3, SD = .58$) indicating their willingness to include college students with ID and autism. In addition, they highly rated all three questionnaire dimensions: disability awareness ($M = 3.5, SD = .64$), willingness to deal with students with ID and autism ($M = 3.2, SD = .63$), and inclusion of students with ID and autism ($M = 3.1, SD = .69$). This result indicated strong positive perceptions among faculty members in all universities across the country about having college students with ID and autism and provides evidence that most of the integral stakeholders of the Saudi public universities are welcoming toward those students. These encouraging results were supported by Lopez-Gavira et al.'s (2021) study, which found that the positive perceptions of university faculty members towards college students with disabilities enhances inclusion. These findings also align with previous research findings that university faculty members hold positive perceptions about students with disabilities in their classes (Almutairi et al., 2021; Gilson et al., 2020; Pérez-Esteban et al., 2023). The increase in positive perceptions toward including such students predicts a turning point in inclusive higher education for students with ID and autism.

Among the 39 questionnaire items, "There is a need to provide universal access to all campus buildings to facilitate the movement of students with ID and autism," "If I agree to have a student with ID or autism in my course, I will be open to modifying my teaching style to give that student an equal opportunity to learn," and "Provision of modifications or accommodations ensures fairness for students with ID and autism" were the highest rated. Thus, faculty members emphasized the importance of providing feasible adjustments to ensure that college students with ID and autism participate as much as do ordinary students. These findings

support the argument of Fossey et al. (2017), who articulated that reasonable adjustments foster inclusive college education for students with disabilities. García-González et al. (2021) pointed out that traditional architecture was one of the greatest barriers preventing inclusive higher education. Danso et al. (2019) also confirmed that architectural obstacles increase isolation for students with disabilities. The surveyed faculty members emphasized that they are open to modifying their teaching style to provide better learning opportunities for college students with ID and autism. They also asserted the importance of implementing modifications and accommodations to grant equal learning opportunities for such students. These findings support previous studies that described how university faculty members adapted various evaluation strategies for students with disabilities by extending project deadlines and tests times, using technical supports, and using alternative assessment (Encuentra & Gregori, 2021; Valle-Flórez et al., 2021). Lopez-Gavira et al. (2021) contend that university faculty members are a key figure in ensuring inclusive education for students with disabilities.

On the other hand, the items “I have been trained to work with students with ID and autism,” “Inclusion of students with ID and autism will not require significant changes in course procedures and additional effort,” and “It is better to provide learning for students with ID and autism in regular courses and rooms” were lowest rated. The significance of holding staff development training to deal with students with ID and autism was obvious not only because the item on faculty training was the lowest rated but also because other findings indicated significant differences between participants who did and did not receive training on how to interact with students with ID and autism, suggesting that those who did had more positive attitudes toward accept college students with ID and autism in their courses than did those who did not. Although they had limited professional development on this matter, faculty members were willing to accept college students with ID and autism. These findings aligned with those of Alhaznawi and Alanazi (2021) and Waitoller and Thorius (2016), who reported that faculty who had prior disability-related training or experience had positive perceptions and practices toward inclusive education.

The present findings also revealed some of the fears and concerns of the faculty members. They still had reservations that having college students with ID and autism will add an additional burden to their duties and efforts. Alhaznawi and Alanazi (2021) also found that the vast majority of the faculty members agreed that dealing with college students with high incidence disabilities requires extra efforts. These concerns may lead to most of the respondents preferring to provide learning for students with ID and autism in specialized courses and classrooms, isolated from ordinary students. However, they responded to various questionnaire items that they would feel comfortable and satisfied when students with ID and autism are included in university courses. These findings should be interpreted cautiously because integrating college students with ID and autism is in the initial, ambiguous stages in Saudi Arabia. Faculty members’ fears concerns are reasonable because the full inclusion for students with disabilities usually passes through phases from isolation to least restrictive environment. Another explanation for these findings is that faculty members have been hesitant about placing students with ID and autism in regular classes due to their lack of disability-related training or experience. These findings contradict the results from some previous works, which argued that faculty members or administrators who have positive perceptions about integrating college students with ID and autism tend to place them in traditional courses and classes with their peers (Almutairi et al., 2021; Gibbons et al., 2015; McCabe et al., 2022).

The results further revealed that none of the various predictive variables (gender, academic rank, years of experience, type of college, and university region) showed significant differences in terms of faculty perceptions. These findings reflect the good impression that the vast majority of an integral component of universities—faculty members—are paying substantial attention to integrating college students with ID and autism. Therefore, based on their currently high perceptions to include college students with ID and autism in Saudi universities, we predict a promising future for the postsecondary education of such students.

Implications for Practice

This study has significant practical implications that can fill certain gaps in the integration of college students with ID and autism. The vast majority of faculty members reported inadequate disability-related knowledge and experiences. It is very important for college students with ID and autism to demand that all universities stakeholders are well-prepared for their integration. To meet the needs of students with ID and autism, faculty members need continual special professional development. Professional development related to disability can be improved by participating in activities, such as training sessions, conferences, professional consultations for faculty members, and professional tutoring. These findings are useful for colleges or universities that seek to increase the acceptance and integration of students with ID and autism. They could develop and reform learning practices and environments for students with ID and autism and ensure supportive and appropriate practices. These findings provide guidance for facilitating and supporting the diversity and integration of students with ID and autism in higher education.

Implications for Future Research

Further in-depth research is needed to better understand some issues. For example, the study findings relied on responses gathered from faculty members currently working at universities. There is a need for a comprehensive understanding of all faculty members' attitudes toward the integration of college students with disabilities. Therefore, the attitudes of the faculty members who are currently pursuing further education should also be determined. More research is needed to address in greater detail the outcomes of integrating college students with ID and autism. The present study only revealed that faculty members are willing to provide various types of modifications, accommodations, and a supportive environment to enhance inclusive higher education for students with ID and autism. However, these findings cannot ensure successful outcomes for these students in higher education unless longitudinal and efficacy studies are conducted. In addition, separating students with ID from those with autism may reveal a different angle from the current faculty perceptions and beliefs. Lastly, a guidance study should be conducted to highlight examples of successful faculty training projects related to disability.

Limitations

This study has certain limitations. First, because of the lack of existing literature related to inclusive higher education for students with disabilities in Saudi Arabia, the study depended on the international framework to investigate faculty perceptions about integrating college students with ID and autism in the Saudi Arabian context. Second, the distribution of the questionnaire was limited to participants whose personal contact information was publicly available via department websites. Unfortunately, some university websites provide limited or no contact information, potentially affecting the study sample size. Finally, this study only gathered perceptions of faculty members working in universities at the time the questionnaire was distributed. Questionnaires were not distributed to a considerable proportion of faculty members because they are currently in scholarship pursuing further education.

Conclusion

Positive perceptions of university stakeholders can greatly enhance inclusive higher education for students with ID and autism. Positive faculty perceptions particularly influence various practices that create an appropriate educational venue in which to learn. In Saudi Arabia, university faculty members express their willingness to accept college students with ID and

autism in their courses. What stands out from the findings is that they were very willing to provide various kinds of modifications and accommodations to meet the needs of students with ID and autism and to undergo professional development training to deal effectively with such students. This would positively influence all significant practices needed to enhance inclusive higher education for students with ID and autism.

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Disclosure statement

The author has no conflicts or financial of interest to declare.

Notes on contributor

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References

- Agarwal, R., Heron, L., & Burke, S. (2021). Evaluating a postsecondary education program for students with intellectual disabilities: Leveraging the parent perspective. *Journal of Autism & Developmental Disorders*, 51, 2229–2240.
<https://doi.org/sdl.idm.oclc.org/10.1007/s10803020-04676-0>
- Alhaznawi, A., & Alanazi, A. (2021). Higher education faculty staff members' attitudes toward students' inclusion with high incidence disabilities in Saudi Arabia. *World Journal of Education*, 11, 51–61.
- Alhossan, B. A., & Trainor, A. A. (2017). Faculty perceptions of transition personnel preparation in Saudi Arabia. *Career Development and Transition for Exceptional Individuals*, 40, 104–112.
<https://doi.org/10.1177/2165143415606665>
- Almutairi, A., Kawai, N., & Alharbi, A. (2021). Faculty members' and administrators' attitudes on integrating students with intellectual disability into postsecondary education. *Exceptionality*, 29, 29–40. <https://doi:10.1080/09362835.2020.1727330>
- Avellone, L., Camden, J., Taylor, J., & Wehman, P. (2021). Employment outcomes for students with intellectual disabilities in postsecondary education programs: A scoping review. *Journal of Postsecondary Education and Disability*, 34, 223–238.
- Baker, K., Boland, K., & Nowik, C. (2012). A campus survey of faculty and student perceptions of persons with disabilities. *Journal of Postsecondary Education and Disability*, 25, 309–329.
- Butler, L., Sheppard-Jones, K., Whaley, B., Harrison, B., & Osness, M. (2016). Does participation in higher education make a difference in life outcomes for students with intellectual disability? *Journal of Vocational Rehabilitation*, 44, 295–298.
<https://doiorg.sdl.idm.oclc.org/10.3233/JVR-160804>
- Carey, G., Downey, A., & Kearney, K. (2022). Faculty perceptions regarding the inclusion of students with intellectual disability in university courses. *Inclusion*, 10, 201–212.
<https://doiorg.sdl.idm.oclc.org/10.1352/2326-6988-10.3.201>
- Carter, E., Austin, D., & Trainor, A. (2012). Predictors of postschool employment outcomes for young adults with severe disabilities. *Journal of Disability Policy Studies*, 23, 50–63.
<https://doi.org/10.1177/1044207311414680>
- Culnane, M., Eisenman, L., & Murphy, A. (2016). College peer mentoring and students with intellectual disability: Mentors' perspectives on relationship dynamics. *Inclusion*, 4, 257–269.
<https://doi.org/10.1352/2326-6988-4.4.257>
- Danso, A., Atuahene, B., & Agyekum, K. (2019). Accessibility of built infrastructure facilities for persons with disabilities. *Annals of the Faculty of Engineering Hunedoara - International Journal of Engineering*, 17, 185–192.
- Encuentra, E., & Gregori, E. (2021). Online readiness in universities from disabled students' perspective. *Digital Education Review*, 39, 172–191.

- Evmenova, A., Graff, H., & Behrmann, M. (2017). Providing access to academic content for highschool students with significant intellectual disability through interactive videos. *Focus on Autism and Other Developmental Disabilities*, 32, 18–30. <https://doi.org/10.1177/1088357615609307>
- Fekete, D. (2013). Faculty attitudes toward students with intellectual disabilities in postsecondary educational settings (Publication No. 3594663) [Doctoral dissertation, Wayne State University]. ProQuest Dissertation Publishing
- Fossey, E., Chaffey, L., Venville, A., Ennals, P., Douglas, J., & Bigby, C. (2017). Navigating the complexity of disability support in tertiary education: Perspectives of students and disability service staff. *International Journal of Inclusive Education*, 21, 822–832. <https://doi.org/10.1080/13603116.2017.1278798>
- García-González, J., Gómez-Calcerrada, S., Hernández, E., & Ríos-Aguilar, S. (2021). Barriers in higher education: Perceptions and discourse analysis of students with disabilities in Spain. *Disability and Society*, 36, 579–595. <https://doi.org/10.1080/09687599.2020.1749565>
- General Authority for Statistics. (2022). Register-based labour market statistics- Q3, 2022. <https://www.stats.gov.sa/en/814>
- Gibbons, M., Cihak, D., Mynatt, B., & Wilhoit, B. (2015). Faculty and student attitudes toward postsecondary education for students with intellectual disabilities and autism. *Journal of Postsecondary Education and Disability*, 28, 149–162.
- Gilson, C., Gushanas, C., Li, Y., & Foster, K. (2020). Defining inclusion: Faculty and student attitudes regarding postsecondary education for students with intellectual and developmental disabilities. *Intellectual and Developmental Disabilities*, 58, 65–81. <https://doi.org/10.1352/1934-9556-58.1.65>
- Grigal, M., & Dwyre, A. (2010). Employment activities and outcomes of college-based transition programs for students with intellectual disabilities. (Think College Insight Brief, Issue No. 3). Institute for Community Inclusion.
- Grigal, M., Hart, D., & Migliore, A. (2011). Comparing the transition planning, postsecondary education, and employment outcomes of students with intellectual and other disabilities. *Career Development and Transition for Exceptional Individuals*, 34, 4–17. <https://doi.org/10.1177/0885728811399091>
- Hiersteiner, D., Bershadsky, J., Bonardi, A., & Butterworth, J. (2016). Working in the community: The status and outcomes of people with intellectual and developmental disabilities in integrated employment—Update 2. Human Services Research Institute.
- Jahoda, A., Kemp, J., Riddell, S., & Banks, P. (2008). Feelings about work: A review of the socioemotional impact of supported employment on people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 21, 1–18. <https://doi.org/10.1111/j.1468-3148.2007.00365.x>
- Jones, M., Harrison, B., Harp, B., & Sheppard-Jones, K. (2016). Teaching college students with intellectual disability: What faculty members say about the experience. *Inclusion*, 4, 89–108. <https://doi.org/10.1352/2326-6988-4.2.89>
- Kelley, K., & Westling, D. (2013). A focus on natural supports in postsecondary education for students with intellectual disabilities at Western Carolina University. *Journal of Vocational Rehabilitation*, 38, 67–76. <https://doi.org/10.3233/JVR-120621>
- Lopez-Gavira, R., Moriña, A., & Morgado, B. (2021). Challenges to inclusive education at the university: The perspective of students and disability support service staff. *Innovation: The European Journal of Social Sciences*, 34, 292–304. <https://doi.org/10.1080/13511610.2019.1578198>
- Love, M., Baker, J., & Devine, S. (2019). Universal design for learning: Supporting college inclusion for students with intellectual disabilities. *Career Development and Transition for Exceptional Individuals*, 42, 122–127. <https://doi.org/10.1177/2165143417722518>

McCabe, L., Hall, C., Carter, E., Lee, E., & Bethune-Dix, L. (2022). Faculty perspectives on the appeal and impact of including college students with intellectual disability. *Inclusion*, 10, 71–86. <https://doi-org.sdl.idm.oclc.org/10.1352/2326-6988-10.1.71>

Miller, K., DiSandro, R., Harrington, L., & Johnson, J. (2016). Inclusive higher education is reaping benefits for individuals with intellectual disabilities: One program’s story. *Think College Insight Brief*, Issue No. 29.

Ministry of Education. (2016). Regulatory guide for special education. <https://departments.moe.gov.sa/EducationAgency/RelatedDepartments/boysSpecialEducation/DocumentLibrary/Manualsandregulations/Pages/default.aspx>

Moore, E., & Schelling, A. (2015). Postsecondary inclusion for individuals with an intellectual disability and its effects on employment. *Journal of Intellectual Disabilities*, 19, 130–148. <https://doi.org/10.1177/1744629514564448>

Pérez-Esteban, M., Carrión-Martínez, J., & Ortiz Jiménez, L. (2023). Systematic review on new challenges of university education today: Innovation in the educational response and teaching perspective on students with disabilities. *Social Sciences (2076-0760)*, 12, 245. <https://doiorg.sdl.idm.oclc.org/10.3390/socsci12040245>

King Salman Center for Disability Research. (2000). The provision code for persons with disabilities in the Kingdom of Saudi Arabia. King Salman Center for Disability Research.

Sannicandro, T., Parish, S., Fournier, S., Mitra, M., & Paiewonsky, M. (2018). Employment, income, and SSI effects of postsecondary education for people with intellectual disability. *American Journal on Intellectual and Developmental Disabilities*, 123, 412–425. <https://doi:10.1352/1944-7558-123.5.412>

Smith, F., Grigal, M., & Shepard, J. (2018). Impact of postsecondary education on employment outcomes of youth with intellectual disability served by vocational rehabilitation. (Think College Fast Facts, Issue No. 18). Institute for Community Inclusion, University of Massachusetts Boston.

Smith, F., Grigal, M., Sulewski, J. (2012). The impact of postsecondary education on employment outcomes for transition-age youth with and without disabilities: a secondary analysis of American Community Survey data. (Think College Insight Brief, Issue No. 15). Institute for Community Inclusion, University of Massachusetts Boston.

The Authority for the Care of People with Disabilities. (2023). The role of disability units and centers within Saudi universities towards empowering students with disabilities. <https://apd.gov.sa/en/research-center>

Tourangeau, R., Conrad, F., & Couper, M. (2013). *The science of web survey*. Oxford University Press.

U.S. Bureau of Labor Statistics. (2023). Persons with a disability: Labor force characteristics summary. <https://www.bls.gov/news.release/disabl.nr0.htm>

Valle-Flórez, R., de Caso Fuertes, A., Baelo, R., & García-Martín, S. (2021). Faculty of education professors’ perception about the inclusion of university students with disabilities. *International Journal of Environmental Research and Public Health*, 18. <https://doiorg.sdl.idm.oclc.org/10.3390/ijerph182111667>

Waitoller, F., & Thorius, K. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review*, 86, 366–389. <https://doi.org/10.17763/1943-5045-86.3.366>

Weinkauf, T. (2002). College and university? You’ve got to be kidding: Inclusive postsecondary education for adults with intellectual disabilities. *Crossing Boundaries*, 1, 28–37.

Zafft, C., Hart, D., & Zimbrich, K. (2004). College career connection: A study of youth with intellectual disabilities and the impact of postsecondary education. *Education and Training in Developmental Disabilities*, 39, 45–53.

Table 1 Pearson Correlation Coefficients between Items and Their Dimensions and Overall Questionnaire Score

Item Correlati Correlati Item Correlati Correlati Item Correlati Correlati s on to on to the s on to on to the s on to on to the their total their total their total dimensio score dimensio score dimensio score ns ns ns

| | | | | | | |
|----|---------|---------|----|---------|---------|----|
| 1 | **0.602 | **0.567 | 14 | **0.685 | **0.704 | 27 |
| | **0.733 | **0.746 | | | | |
| 2 | **0.601 | **0.557 | 15 | **0.272 | **0.286 | 28 |
| | **0.47 | **0.343 | | | | |
| 3 | **0.618 | **0.58 | 16 | **0.757 | **0.641 | 29 |
| | **0.592 | | | | | |
| 4 | **0.611 | **0.567 | 17 | **0.689 | **0.553 | 30 |
| | **0.627 | **0.519 | | | | |
| 5 | **0.451 | **0.549 | 18 | **0.624 | **0.506 | 31 |
| | **0.62 | **0.611 | | | | |
| 6 | **0.386 | **0.357 | 19 | **0.757 | **0.655 | 32 |
| | **0.402 | **0.266 | | | | |
| 7 | **0.509 | **0.317 | 20 | **0.328 | **0.441 | 33 |
| | **0.419 | **0.365 | | | | |
| 8 | **0.543 | **0.418 | 21 | **0.559 | **0.41 | 34 |
| | **0.504 | | | | | |
| 9 | **0.618 | **0.56 | 22 | **0.557 | **0.422 | 35 |
| | **0.579 | | | | | |
| 10 | **0.487 | **0.444 | 23 | **0.729 | **0.678 | 36 |
| | **0.655 | **0.656 | | | | |
| 11 | **0.526 | **0.457 | 24 | **0.789 | **0.698 | 37 |
| | **0.763 | **0.745 | | | | |
| 12 | **0.348 | **0.234 | 25 | **0.837 | **0.732 | 38 |
| | **0.747 | **0.73 | | | | |
| | **0.582 | **0.603 | 26 | **0.783 | **0.658 | |
| 13 | **0.747 | **0.743 | | | | 39 |

Note. ** Significant Correlation at 1%.

Table 2 Pearson Correlation Coefficients between the Dimensions and Overall Questionnaire Score

| Dimensions | No. of items | Correlation to the total score |
|--|--------------|--------------------------------|
| Willingness to deal with students with ID and autism | 14 | **0.897 |
| Disability awareness | 12 | **0.864 |
| Inclusion of students with ID and autism | 13 | **0.916 |

Note. ** Significant Correlation at 1%.

Table 3 Descriptive Statistics of the Questionnaire Items

| Willingness to deal with students with ID and autism | | M | SD |
|--|---|-----|-----|
| 1 | Provision of modifications or accommodations ensures fairness for students with ID and autism | 4 | 1.1 |
| 2 | I must adapt all the learning styles for my students in their university courses, whether they are students with ID and autism or ordinary students | 3.8 | 1.1 |

| | | | | |
|----|--|-----|------|--------------------|
| 3 | If I agree to have a student with ID or autism in my course, I will be open to modifying my teaching style to give that student an equal opportunity to learn | 4.1 | 1.02 | |
| 4 | Curriculum and curricular modifications made for students with ID and autism will have a positive impact on ordinary students in the classroom | 3.3 | 1.2 | with ID |
| 5 | Curriculum and curricular modifications made for students with ID and autism will have a negative impact on ordinary students in the classroom | 3 | 1.2 | with ID |
| 6 | Curriculum and curricular modifications made for students with ID and autism will not impact ordinary students in the classroom | 2.7 | 1.2 | with ID and autism |
| 7 | My course content is appropriate for students with ID and autism | 3 | 1.2 | autism |
| 8 | There are many places where the participation of students with ID and autism is appropriate; my lecture hall is one of them | 3.1 | 1.2 | ID and |
| 9 | The presence of modifications and accommodations for students with ID and autism in my course will not distract ordinary students and/or me | 3 | 1.1 | |
| 10 | I have the knowledge and ability to work with students with ID and autism in my course | 2.6 | 1.2 | ID and autism in |
| 11 | It is easy to modify my course description and syllabus for students with ID and autism | 3.1 | 1.2 | students |
| 12 | I have been trained to work with students with ID and autism | 2.2 | 1.3 | |
| 13 | I am willing to use assistive technology that can facilitate learning for students with ID and autism | 3.9 | 1.1 | learning |
| 14 | If I had a choice, I would teach courses involving students with ID and autism | 3.3 | 1.2 | with ID |
| | Total | | 3.2 | .63 |
| | Disability awareness | | | |
| 15 | Students with ID and autism are able to develop critical thinking skills as well as can ordinary students | 3.2 | 1.1 | thinking skills as |
| 16 | Students with ID and autism will be able to successfully complete undergraduate programs | 3.3 | .97 | complete |
| 17 | Students with ID and autism will be able to successfully complete diploma programs, especially professional diplomas | 3.6 | .93 | complete |
| 18 | After graduation, students with ID and autism are likely to get the same level of jobs as are ordinary students | 2.8 | 1.03 | the |
| 19 | Students with ID and autism can perform their university duties and obligations as well as can ordinary students | 3 | 1.1 | duties and |
| 20 | Students with ID and autism will contribute to my course | 3.3 | 1 | |
| 21 | There is a need to provide universal access to all campus buildings to facilitate the movement of students with ID and autism | 4.3 | .88 | buildings |
| 22 | I understand that reasonable accommodations do not change course content or objectives | 3.6 | 1.1 | course |
| 23 | I understand that reasonable modifications or accommodations enable students with ID and autism to have the same educational opportunities as their ordinary peers | 3.6 | 1.01 | enable |
| 24 | Being in a regular course will enhance the challenge of academic development for students with ID and with autism | 3.6 | .99 | academic |
| 25 | I believe that students with ID and autism can participate in all aspects of college life, including the classroom environment | 3.5 | 1.02 | aspects of college |
| 26 | The accommodations offered to students with ID and autism will enhance their independence | 3.8 | .96 | will |
| | Total | | 3.5 | .64 |

Inclusion of students with ID and autism

| | | | | |
|----|--|-----|------|-------------------------------|
| 27 | Inclusion of students with ID and autism will create a positive environment for all students | 3.3 | 1.1 | learning |
| 28 | It is better to provide learning for students with ID and autism in regular courses and rooms | 2.5 | 1.2 | in |
| 29 | Many of the things faculty do with ordinary students in the classroom are also appropriate for students with ID and autism | 2.9 | 1.1 | classroom are |
| 30 | It is easy to maintain order in a class with students with ID and autism | 3.1 | 1.1 | autism |
| 31 | Not accepting students or isolating them in special classes has a negative impact on the social and emotional development of students with ID and autism | 3.5 | 1.1 | a negative impact |
| 32 | Inclusion of students with ID and autism will not require changes in course procedures or any additional effort | 2.3 | 1.03 | significant |
| 33 | The behavior of students with ID and autism will set a good example for ordinary students | 3.8 | 1.04 | example for ordinary students |
| 34 | Students with ID and autism will not monopolize a faculty member's time and will not need more attention than do ordinary students | 2.7 | 1.1 | member's time |
| 35 | Administrators and policy makers should place students with ID, autism, and ordinary students in the same university courses | 3.2 | 1.2 | ID, autism, and |
| 36 | When students with ID and autism are included in university courses, it will give them a better chance to prepare themselves for life | 3.5 | 1.1 | courses, it will |
| 37 | I will feel comfortable and satisfied when students with ID and autism are included in university courses | 3.3 | 1.1 | and autism are |
| 38 | Students with ID and autism do not hinder the learning of ordinary students | 3.2 | 1.1 | ordinary students |
| 39 | Students with ID and autism do not affect the effectiveness and quality of faculty teaching during the lecture | 3.2 | 1.2 | |
| | Total | 3.1 | .69 | |
| | Total across dimensions | 3.3 | .58 | |

Table 4 Differences between Training in Terms of Faculty Perceptions about Integrating College Students with ID and Autism

| Variable | N | M | SD | t | df | p |
|----------|-----|-----|------|-----|------|------|
| Training | Yes | 166 | 3.6 | .54 | 8.44 | 1133 |
| | No | 969 | 3.19 | .57 | | |