frontiers | Frontiers in Education

SYSTEMATIC REVIEW
published: 25 April 2022
doi: 10.3389/feduc.2022.882066

# Barriers and Facilitators in the Transition From Higher Education to Employment for Students With Disabilities: A Rapid Systematic Review

*Gemma Goodall[1]*, Odd Morten Mjøen[1], Aud Elisabeth Witsø[1], Sissel Horghagen[2] and Lisbeth Kvam[1]*

*[1] Department of Mental Health, Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, [2] Department of Neuromedicine and Movement Science, Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology (NTNU), Trondheim, Norway*

OPEN ACCESS

**Edited by:**
*David Pérez-Jorge, University of La Laguna, Spain*

**Reviewed by:**
*Matias Arriagada-Venegas, Universidad de Concepcion, Chile*
*Eva Ariño Mateo, Universidad Europea de Valencia, Spain*

***Correspondence:**
*Gemma Goodall*
*gemma.goodall@ntnu.no*

**Specialty section:**
*This article was submitted to Higher Education, a section of the journal Frontiers in Education*

**Received:** *23 February 2022*
**Accepted:** *15 March 2022*
**Published:** *25 April 2022*

**Citation:**
*Goodall G, Mjøen OM, Witsø AE, Horghagen S and Kvam L (2022) Barriers and Facilitators in the Transition From Higher Education to Employment for Students With Disabilities: A Rapid Systematic Review. Front. Educ. 7:882066. doi: 10.3389/feduc.2022.882066*

Despite legislation promoting equal opportunities for people with disabilities in education and employment, evidence suggests that these environments are far from inclusive. While there is a wealth of evidence on the barriers that people with disabilities face in both higher education and the workplace, there is currently a lack of literature that summarizes knowledge on the transition between these two settings. As such, this rapid systematic literature review aimed to identify barriers and facilitators in the transition from higher education to employment for students and graduates with disabilities. Following PRISMA guidelines, we conducted a systematic search across three databases (PsycINFO, ERIC, and Web of Science) and included 59 studies for review. The included studies reported on research conducted across 20 countries, reporting on various types of disabilities and on different subject areas and professions. In addition to a quality appraisal, we performed a narrative synthesis on the included studies. From the synthesis, we identified numerous barriers and facilitators, and grouped them into seven themes: disclosure; attitudinal barriers and facilitators; accommodations, accessibility; institutional and organizational barriers and facilitators; discipline-specific barriers and facilitators; and disability-specific barriers and facilitators. Overall, findings suggest that students with disabilities must often work beyond their capacity in order to succeed in higher education and access opportunities for meaningful employment. Findings also suggest there is still much to be done in creating inclusive education and employment environments on an international level. Recommendations from this review include developing inclusive disclosure processes and providing education on disabilities for staff in both the education and labor sectors. Finally, we call for collaboration between higher education institutions, employment sectors, and students with disabilities.

**Keywords: higher education, students, disability, employment, transition**

## INTRODUCTION

As individuals, we create our unique identities and life meaning through occupation (Christiansen, 1999). Higher education is a time during which many students will develop professional identities in preparation for entering the world of work (Anctil et al., 2008; Trede et al., 2012; Daniels and Brooker, 2014; Jensen and Jetten, 2015). For students with disabilities, the development of a professional identity is accompanied by the task of managing and developing their identity as a disabled individual (Forber-Pratt et al., 2017). As such, students with disabilities commonly face additional challenges compared to their non-disabled peers. Given the fact that higher education has traditionally been an arena for academics who are considered strong and self-sufficient, students with disabilities often have to work beyond their capacity to prove themselves as competent learners in the face of ableist expectations (Olsen et al., 2020).

Higher education is regarded as one of the most important means to promote work participation for people with disabilities (Molden et al., 2009). However, statistics from across Europe have found that young people with disabilities leave education and training earlier compared to those without disabilities, and more young people with disabilities are neither in employment nor in education and training compared to those without disabilities (Eurostat, 2014). With a wealth of evidence documenting the barriers that students with disabilities face—ranging from discrimination (McLeod et al., 2019; Shaw, 2021), inaccessible environments (García-González et al., 2021), to denial of accommodations or support (Magnus and Tøssebro, 2014; Morgan, 2021)—these statistics are understandable. They are also concerning, however, given that every individual has the right to equal education and equal opportunities for employment.

As of January 2022, 184 countries have ratified the United Nations Convention on the Rights of Persons with Disabilities (CRPD) (United Nations, 2022). This convention promotes the right of persons with disabilities to enjoy life on an equal basis with others and prohibits discrimination on the basis of disability (UN General Assembly, 2007). The CRPD addresses both education and employment, stating that people with disabilities have the right to be provided with reasonable accommodation and the right to inclusive environments. However, despite international legislation for the promotion of equal opportunities and reasonable accommodations, students with disabilities in higher education often have to act on their own initiatives to negotiate and obtain individual accommodations (Magnus and Tøssebro, 2014). Students with disabilities also have to commonly deal with other issues such as stigma, social isolation, and discrimination (McLeod et al., 2019; Smith et al., 2021). Furthermore, students transitioning from higher education wishing to enter the world of work will likely face additional challenges to those without disabilities. Recent evidence suggests that employers are less likely to hire people with disabilities compared to those without (Shamshiri-Petersen and Krogh, 2020; Bjørnshagen and Ugreninov, 2021). Even when a candidate with a disability is successful in gaining employment, they still risk facing issues such as reluctance to accommodation requests, workplace discrimination, and inflexible workplace practices (Erickson et al., 2014; Darcy et al., 2016; Telwatte et al., 2017; Lindsay et al., 2018).

The disparities between legislation and reality for people with disabilities warrants attention. In defining disability as the outcome of the interaction between individual factors (e.g., impairment, personality, and motivation) and contextual factors (e.g., environments, oppression, and support systems), Shakespeare (2013) argues that a relational approach to understanding disability is needed. By looking at disability beyond the terms of "impairment" and instead examining the interaction between these different factors, the experience of people with disabilities can be better understood (Shakespeare, 2013). Framing our work within the Nordic Relational Model of Disability, we recognize the significance of an individual's surrounding environment in relation to the individual's capabilities (Tøssebro, 2004). In order to create more inclusive educational and working environments, barriers and facilitators within these environments need to be identified and assessed. For this review, we adopt the World Health Organization's (WHO) definitions of barriers and facilitators. According to WHO, barriers are "factors in a person's environment that, through their absence or presence, limit functioning and create disability" (World Health Organization [WHO], 2011, p. 301). Contrastingly, facilitators are defined as:

"factors in a person's environment that, through their absence or presence, improve functioning and reduce disability. . .Facilitators can prevent impairments or activity limitations from becoming participation restrictions, since the actual performance of an action is enhanced, despite the person's problem with capacity" (World Health Organization [WHO], 2011, p. 304).

### Aim and Rationale

While there have been numerous literature reviews focusing on disability and higher education in recent years (Toutain, 2019; Kart and Kart, 2021; McNicholl et al., 2021), there is no summary of evidence that addresses how higher education may help or hinder students with disabilities in their transition into the world of work. Thus, the aim of this review is to identify barriers and facilitators in the transition from higher education to employment for students with disabilities. The specific research questions are:

- What are the most frequently reported barriers that hinder students with disabilities in making the transition from higher education to employment?
- What are the most frequently reported facilitators that help students with disabilities make the transition from higher education to employment?
- How do these barriers and facilitators impact outcomes regarding student/graduates' experiences of finding employment?

This review is intended to be broad in its scope—covering different types of disabilities, different disciplines and subject areas, and different countries. In doing this, the findings may hold relevance for numerous fields of research, and may provide

implications that can inform future research and practice on an international level. Furthermore, the findings from this review will also be used to inform the design of a factorial survey experiment exploring the attitudes of Norwegian higher education employees and employees of the Norwegian Labor and Welfare Administration toward students with disabilities in higher education and work.

# MATERIALS AND METHODS

To quickly collect evidence that will inform a national study of higher education institutions in Norway and the Norwegian Labor and Welfare Administration, we deemed a rapid systematic review as the most appropriate choice of method. While there is no agreed definition or methodology for rapid reviews, they are considered as a "streamlined" means of conducting a systematic review whereby information can be produced in a short amount of time (Tricco et al., 2015; Haby et al., 2016). Strategies—or "shortcuts"—such as limiting the literature search, only having one person screen the results, and not conducting a meta-analysis are examples of how the review process can be sped up (Tricco et al., 2015). Haby et al. (2016) suggest that priority should be given to shortcuts that are less likely to impact on the quality or risk of bias of the review, with examples being limiting the scope of the review and limiting data extraction to key characteristics and results. Other reported shortcuts such as not conducting a quality assessment (Tricco et al., 2015) should be avoided.

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) are in the process of developing guidelines for rapid reviews (PRISMA-RR) (Stevens et al., 2018). However, to maintain a systematic approach, we followed the PRISMA guidelines for systematic reviews (Moher et al., 2009) for the reporting of the review.

## Eligibility Criteria

To structure the search, we used the SPIDER strategy (Sample, Phenomenon of Interest, Design, Evaluation, and Research type). SPIDER is an adaption of the PICO formulation for qualitative and mixed methods research (Cooke et al., 2012). The strategy for this review was as follows:

- Sample: students and graduates with disabilities.
- Phenomenon of interest: transition from higher education to employment.
- Design: questionnaire, survey, interview, focus group, case study, cross-sectional study.
- Evaluation: experiences regarding facilitators and barriers.
- Research type: quantitative, qualitative, or mixed methods.

We only considered studies for review if they were published in a peer-reviewed journal and in English or Norwegian language. To limit the number of results, only studies published after 2010 were considered for review.

### Inclusion Criteria

We included studies if they met the following criteria: (a) the study focused on students and/or graduates with disabilities, (b) participants were students in higher education or graduates with disabilities, their parents/guardians, higher education employees, or employers.

### Exclusion Criteria

We excluded studies if they (a) did not explicitly address barriers and/or facilitators, e.g., they only reported employment outcomes without addressing factors that may have influenced these outcomes (b) focused on short-term or vocational training rather than general higher education and (c) focused on students with intellectual disabilities. The decision to exclude participants with intellectual disabilities was to avoid the risk of comparing education programs specifically designed for people with intellectual disabilities with mainstream education programs designed without targeting specific groups of students.

## Information Sources

Electronic databases used for the search were PsycINFO, ERIC and Web of Science Core Collection. Given that this review focuses on an interdisciplinary topic—one that crosses education, sociology, and health—these databases were chosen in order to capture articles within the wide scope of these areas. A combination of Boolean operators (e.g., AND, OR) and truncations (e.g., disabiliti*, graduat*) were used. Search terms are shown in **Table 1**. The search string was the combination of the search terms presented in **Table 1**. The search was performed in the abstract field of PsycINFO and ERIC. For Web of Science, the search was performed in the topic field, which searches title, abstract, and keywords.

The search was first conducted on 8th March 2021, with results being limited to articles published between 2010 and 2020. To ensure the review is up to date with current literature, the search was repeated on 7th January 2022. The same search terms and databases were used, and all searches were limited to articles published between 2020 and 2022.

## Study Selection

The screening and selection of articles were conducted by the first author. After duplicates were removed, titles and abstracts were screened against the inclusion and exclusion criteria. Included articles were then read in full to be assessed for eligibility. Backward citation searching and forward citation tracking was

**TABLE 1** | Overview of search terms.

| Search | Terms |
|---|---|
| #1 | Student* OR graduat* OR postgrad* OR higher education OR university |
| #2 | Disabiliti* OR disab* OR impair* OR developmental disabiliti* OR physical disabiliti* OR learning disorder OR mental health disorder |
| #3 | Employ* OR hir* OR work* OR job* OR career* OR occupation |
| #4 | Facilitat* OR barriers OR enabl* OR support* OR attitude* OR accomodat* OR stigma* OR pathway* OR strateg* OR transition* OR resource* |
| #5 | #1 AND #2 AND #3 AND #4 |

performed on the articles deemed eligible for inclusion, and any additional articles that met the eligibility criteria were included. All co-authors read the included papers and, through joint discussion, came to a consensus on which papers should be included for review.

## Data Extraction and Synthesis

Information regarding country of study, aims, design, participant demographics, methods of data collection, analysis, and main findings was extracted from each study. The results are presented through a narrative synthesis. This review followed the guidance on narrative synthesis as given by Popay et al. (2006, p. 5), who define narrative synthesis as a means of using textual approach to "tell the story" of the findings from included studies. The technique we adopted for narrative synthesis was a thematic analysis of the included studies (Popay et al., 2006). The analysis was inductive and focused on generating themes that captured the different types of barriers and facilitators reported across the studies. Analysis was conducted primarily by the first author. After having read all included studies, all authors discussed the themes, the nature of the themes, and how they should be presented. All authors agreed on presenting the themes in a descriptive manner, using quotes from participants in the included studies to support the presentation of results.

## Quality Appraisal

To assess the quality of evidence in this area, all included articles underwent quality appraisal. The Critical Appraisal Skills Programme [CASP] (2018) checklist for qualitative research was used to assess qualitative studies and the Mixed Method Appraisal Tool (MMAT) version 2018 (Hong et al., 2018) was used to assess quantitative and mixed methods studies.

# RESULTS

## Search and Screening Results

The initial search, conducted in March 2021, returned 8,375 records: 1,501 from Eric, 1,261 from PsycINFO, and 5,613 from Web of Science. An overview of the study selection is shown in **Figure 1**. After removing duplicates, 6,688 records underwent a screening of title and abstract and 6,455 of these were deleted. The remaining 233 records were read in full and assessed for eligibility. This assessment resulted in a total of 41 articles. Reference list checking and forward citation tracking was conducted on these articles to capture any other relevant studies. A further 6 articles were identified from hand-searching, meaning that a total of 47 articles were included for review.

The updated search, conducted in January 2022, returned 974 records: 35 from Eric, 51 from PsycINFO, and 888 from Web of Science. After removing duplicates, 931 records were screened. Fifty-seven articles were assessed for eligibility, 45 of which were excluded. No further articles were identified from hand-searching, meaning 12 articles were included. Taken with the 47 articles from the search conducted in 2021, the narrative synthesis in this review includes a total of 59 articles.

## Study Characteristics

A total of 59 studies (reported in 59 separate articles) were included for review. The majority of studies ($n$ = 45) were qualitative, 6 were quantitative, and 8 used mixed methods. An overview of main study characteristics and findings is given in **Supplementary Table 1**. Included studies spanned over 20 countries, with the majority being conducted in the United States of America ($n$ = 18), the United Kingdom ($n$ = 14), and Canada ($n$ = 8). Furthermore, research reported in the included studies was conducted across several continents: North America ($n$ = 26), Europe ($n$ = 24), Asia ($n$ = 7), Africa ($n$ = 2), Australia ($n$ = 2), and South America ($n$ = 1).

The majority of studies ($n$ = 42) included solely students (ranging from bachelors, masters, and Ph.D. level) and/or graduates with disabilities as participants. Seven studies did not include people with disabilities, but rather other key actors including parents, tutors, supervisors, nurse preceptors, and clinical supervisors. Ten studies included a mix of participants with and without disabilities. The ages of students and graduates with disabilities included in the studies ranged from 20 to 72. Most studies did not focus on a particular field of education and thus covered a wide range of subjects. However, studies that focused on specific fields focused mainly on professional subjects (health care, social work, nursing, and teaching) ($n$ = 20). Additionally, four studies focused on STEM (Science, Technology, Engineering, and Math) subjects, and 1 focused on media studies. Type and severity of disabilities were varied across the studies, including autism, dyslexia, mental health disorders, chronic illnesses, hearing and visual impairments, physical disabilities, and ADHD.

Most studies aimed to explore students' and graduates' experiences of transitioning from higher education to the world of work ($n$ = 22). Many studies focused more on experiences within higher education ($n$ = 21), exploring factors for success whether that was from the students themselves or from other stakeholders, e.g., lecturers. Other studies focused specifically on experiences and perspectives of students with disabilities undertaking placement as part of their degree ($n$ = 12). A small number of studies focused on graduate experiences related to the workforce ($n$ = 3), and one study looked specifically at the role of trade unions and civil service organizations in helping students achieve their work-related goals. Interviews and focus group discussions were the most frequently used tools for data collection ($n$ = 45), with surveys being the next most popular ($n$ = 15).

## Quality Assessment

The quality assessment of each study is given in **Supplementary Tables 2–4**. Overall, the studies included in this review were of medium to high quality. However, most of the qualitative studies failed to adequately consider the relationship between the researcher and participants ($n$ = 38 out of 45 qualitative studies). Furthermore, the risk of non-response bias was not low for the majority of quantitative studies. Despite these limitations to the included studies, however, their overall quality (as well as the fact

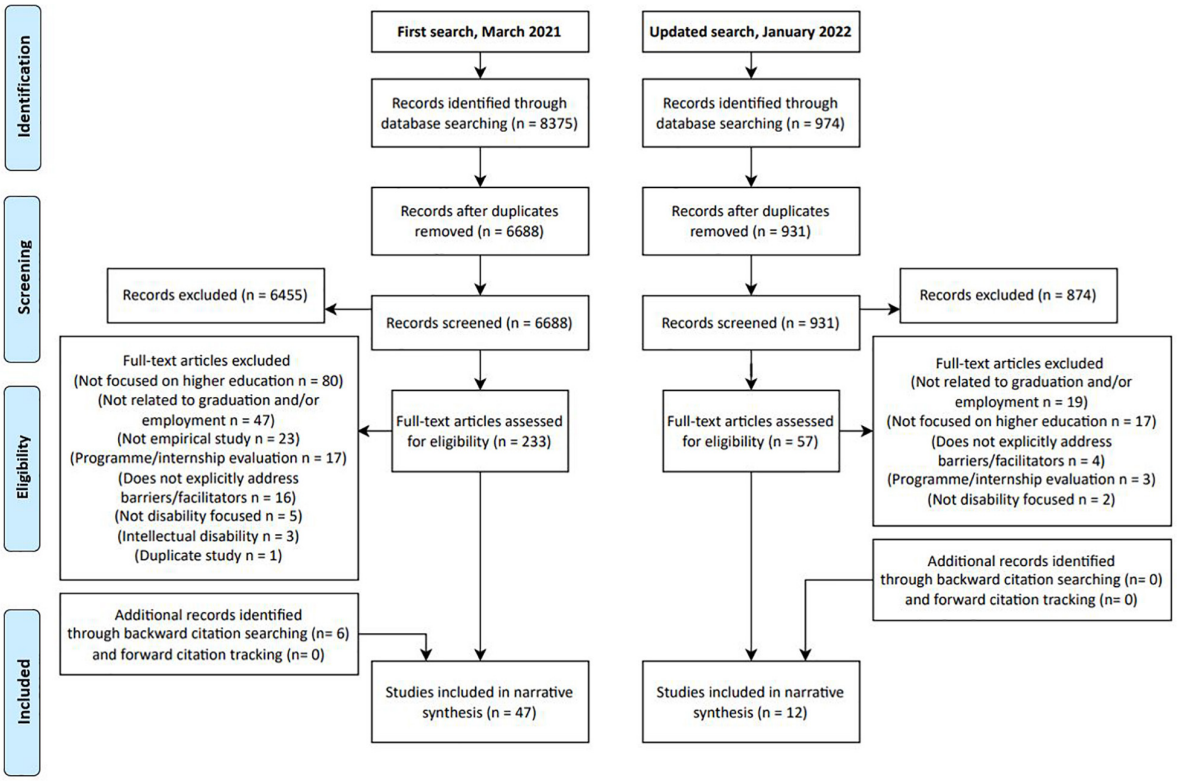


**FIGURE 1 |** PRISMA flow diagram of study selection process. Adapted with permission from Moher et al. (2009).

they are all peer-reviewed) suggests that evidence on this topic is credible and trustworthy.

## Synthesis of Results

From the analysis of findings, we identified numerous barriers and facilitators within higher education, employment, and the transition between these two settings. These were grouped into seven different themes: disclosure; attitudinal barriers and facilitators; institutional and organizational barriers and facilitators; accommodations; accessibility; discipline-specific barriers and facilitators; and disability-specific barriers and facilitators. **Table 2** shows a summary of the barriers reported across the studies, and a summary of the facilitators is shown in **Table 3**.

### Disclosure

The most frequently reported barrier among students and graduates was their concern over disclosing a disability (Stein, 2012; Atkinson and Hutchinson, 2013; Walker et al., 2013; Luckowski, 2014; Cunnah, 2015; Easterbrook et al., 2015; Nolan et al., 2015; Clouder et al., 2016; Nolan and Gleeson, 2017; Vlachou and Papananou, 2018; Ali et al., 2020; Grimes et al., 2020; Saltes, 2020; Vincent, 2020; Odame et al., 2021; Shpigelman et al., 2021; Sullivan, 2021). These concerns stemmed mainly from the fear that disclosure would result in stigma from peers, faculty staff, placement educators, and/or employers. In academia, students felt that they were treated differently by their professors after disclosure (Grimes et al., 2020) and some were concerned that students without disabilities would perceive them as receiving "special treatment" if they were to disclose (Walker et al., 2013). Some participants also feared that disclosing their disability would impact future employment prospects (Cunnah, 2015; Easterbrook et al., 2015; Grimes et al., 2020; Vincent, 2020; Odame et al., 2021). This fear seems to be well justified based on other findings from the review, which suggest that some students and graduates who did disclose their disability experienced negative reactions from prospective employers (Cunnah, 2015; Vincent, 2020; Li et al., 2021; Odame et al., 2021; Sullivan, 2021). For example:

"One the comments [my daughter] got was 'if we knew you had Asperger's then we wouldn't have hired you' and that's what was said and she freaked out and started crying. . ." interview quote from Vincent (2020, p. 18).

"Your appearance (using a wheelchair) will affect our corporate image." "That's the kind of blatant discrimination I experienced at job interviews." interview quote from Li et al. (2021, p. 6).

However, key actors within academic and professional environments including instructors, professors, and tutors expressed the importance of disclosure, warning that they could not offer help if they were not made aware of a student's disability (Ashcroft and Lutfiyya, 2013; Cunnah, 2015; Nolan et al., 2015; Langørgen et al., 2020; Palan, 2021). Disclosure was considered especially important in clinical professions:

**TABLE 2 |** Barriers in the transition from higher education to employment.

| | Higher education | Transition to work | Employment |
|---|---|---|---|
| **Barriers** | | | |
| **Disclosure** | • Concerns that disclosure would lead to stigma<br>• Negative reactions when disclosing disability to academic staff<br>• Lack of support in disclosing | • Concerns disclosure impacts future employment prospects<br>• Employers no longer wishing to interview candidates after disclosure | • Concerns that disclosure would lead to stigma<br>• Negative reactions when disclosing disability to employer<br>• Lack of support in disclosing |
| **Attitudinal barriers** | • Stigma and negative attitudes from staff and students without disabilities<br>• Ableist expectations<br>• Lack of understanding on disability among higher education staff and administration | • Employer bias during recruitment process | • Stigma and discrimination within the workforce |
| **Institutional and organizational barriers** | • Lack of information and support given to staff<br>• Students having to find information independently | • Lack of transition programs<br>• Lack of guidance from careers services<br>• Time constraints during placements | |
| **Accommodations** | • Lack of knowledge on how to provide accommodations for students<br>• Lack of support in receiving accommodations<br>• Staff concerns in providing accommodations | • Lack of communication between placement providers and education institutions—results in difficulties for staff in providing accommodations | • Fewer accommodations available compared to higher education |
| **Accessibility** | • Architectural and physical barriers on campus<br>• Inaccessible learning material<br>• Limited course choices<br>• Denied access to courses of interest | • Inaccessible recruitment process<br>• Transportation issues hindering access to internships and work experience | • Transportation issues<br>• Architectural and physical barriers in workplaces<br>• Difficult to access meaningful employment |
| **Discipline-specific** | • Competitiveness and demand of STEM subjects<br>• Stigma during clinical placement<br>• Concerns for patient safety in health professions | | |
| **Disability-specific** | • Having multiple disabilities is correlated with worse grades and less intention to graduate compared to having a single disability | | |

"Where things really begin to break down is usually when the disability is not disclosed and is then disclosed mid-placement. This usually means the student is struggling, there is no official information on disability and there is no information on reasonable accommodations" interview quote from Nolan et al. (2015, p. 495).

In some instances, disclosing a disability acted as a facilitator in receiving adequate support. Students and graduates who had positive experiences of disclosing their disability felt that the process opened doors to accessing support services and enabled them to receive help that they would not have received otherwise (Ashcroft and Lutfiyya, 2013; Cunnah, 2015; Ali et al., 2020). Foundation doctors in Walker et al. (2021) expressed positive experiences of disclosing their disability, stating that it helped colleagues become more accepting through understanding their differences. In the context of employment, Gillies (2012) found that some participants felt that the openness in disclosing their disability at the beginning of their employment set the relationship with their employer off to a good start. However, these positive instances do not represent the majority of experiences reported across the included studies. Difficulties with disclosure prompted students and graduates to question when the right time is to disclose a disability, with many criticizing the lack of an inclusive and supportive disclosure process (Nolan et al., 2015; Nolan and Gleeson, 2017; Vlachou and Papananou, 2018; Grimes et al., 2020; Vincent, 2020).

## Attitudinal Barriers and Facilitators

Many participants with disabilities across most studies had experienced some form of stigma throughout the journey from higher education to work. In the context of higher education, students and graduates reported experiences of social isolation, discrimination, prejudice from classmates, and negative attitudes from tutors, staff, and faculty (Stumbo et al., 2011; Atkinson and Hutchinson, 2013; Strnadová et al., 2015; da Silva Cardoso et al., 2016; Shpigelman et al., 2016, 2021; Vlachou and Papananou, 2018; Grimes et al., 2020; Hamilton et al., 2021; Li et al., 2021; Morgan, 2021; Sullivan, 2021; Walker et al., 2021). Negative attitudes were also directly communicated from university staff during interview studies. For example, when discussing students with disabilities who require support, one lecturer commented "I don't believe there is the time or the inclination of staff out there to nurture or babysit people" (interview quote from Evans, 2014, p. e43). This quote reflects an overall lack of understanding and awareness toward people with disabilities—something which was reported by many students in relation to the higher education institutions, academic staff, and peers across the included studies (Stumbo et al., 2011; Walker et al., 2013; da Silva Cardoso et al., 2016; Sgroi, 2016; Accardo et al., 2019; Cage and Howes, 2020; Hamilton et al., 2021; Pesonen et al., 2021; Shpigelman et al., 2021). This lack of awareness may be a contributing factor to the ableist expectations reported by participants in more recent studies included in

**TABLE 3 |** Facilitators in the transition from higher education to employment.

| | Higher education | Transition to work | Employment |
|---|---|---|---|
| **Facilitators** | | | |
| **Disclosure** | • Accessing support through disclosure<br>• Inclusive and supportive disclosure processes | – | • Openness about disability leading to positive relationship with employer |
| **Attitudinal facilitators** | Support from friends, peers, and family<br>• Positive relationships and support from students without disabilities<br>• Support from lecturers/professors<br>• Self-determination and motivation of students | • Support from placement supervisors | • Support from supervisors and colleagues |
| **Institutional and organizational facilitators** | • Use of disability support services | • Use of the careers service<br>• Being provided with a mentor<br>• Collaboration between educational institutions and employers<br>• Support from Civil society organizations | - |
| **Accommodations** | • Use of assistive technology<br>• Formal accommodation procedures | – | • Employers providing and paying for accommodations e.g., assistive technology |
| **Accessibility** | – | • Work experience<br>• Networking | – |
| **Discipline-specific** | • Experience with own disability leading to interest in certain topic, e.g., healthcare | | |
| **Disability-specific** | • Holding certain strengths and skills because of a specific disability, e.g., students with autism finding strength in their attention to detail and strong working memory<br>• Having unique competence in e.g., healthcare due to disability | | |

the review (Cage and Howes, 2020; Epstein et al., 2020; Saltes, 2020).

Despite the resounding reports of negative attitudes, a common source of support for some in higher education were the positive attitudes from other students, including those without disabilities. There were numerous instances where students without disabilities provided support by helping make learning material more accessible, e.g., sharing lecture notes (Strnadová et al., 2015; Kunnath and Mathew, 2019). Developing friendships and social networks with other students was also seen as a facilitator for success within higher education (Stack-Cutler et al., 2015; Vlachou and Papananou, 2018; Accardo et al., 2019). Positive attitudes—expressed through emotional, social, informational, financial, material, and physical support—from those outside of the educational environment, such as friends and family, also helped students and graduates in achieving their goals (Stein, 2012; Berry and Domene, 2015; Stack-Cutler et al., 2015; Strnadová et al., 2015; da Silva Cardoso et al., 2016; Li et al., 2021; Pesonen et al., 2021; Sefora and Ngubane, 2021).

Other key actors within educational environments could also provide support, with a small number of students commenting on individual support they had receiving from certain supervisors, tutors, or lecturers (Stack-Cutler et al., 2015; da Silva Cardoso et al., 2016; Vlachou and Papananou, 2018; Vincent, 2020; Hamilton et al., 2021; Pesonen et al., 2021). In some instances, university professors went beyond their role as educators and helped prepare students for the transition to work: "[She] helped me with eye contact a lot and how to interact socially as a professional. So, she taught me how to act in job interviews and some things that maybe you should and shouldn't say" (interview quote from Pesonen et al., 2021, p. 9). Some students also experienced positive attitudes from placement supervisors, who would provide students with positive feedback or emotional support (Luckowski, 2014; Langørgen and Magnus, 2020). Interestingly, Ashcroft and Lutfiyya (2013) found that the positive attitudes of nurse educators was influenced by higher years of teaching experience and past experience of teaching someone with a disability. Despite these instances of support, however, many students and graduates felt that they had to work extra hard—sometimes beyond their capacity—to prove themselves as good students, future practitioners, or as competent employees (Georgiou et al., 2012; Atkinson and Hutchinson, 2013; Easterbrook et al., 2015; Sgroi, 2016; Antonelli et al., 2018; Langørgen and Magnus, 2020).

Negative attitudes also made the transition to the world of work additionally challenging. Some graduates experienced employer bias during the recruitment process (Sgroi, 2016; Kunnath and Mathew, 2019; Odame et al., 2021). For example, some participants reported that—despite an invitation to interview—employers refused to interview them upon learning of the candidate's disability (Kunnath and Mathew, 2019; Odame et al., 2021). Participants who had managed to gain employment reported discrimination within the workforce and negative attitudes from professionals (Gillies, 2012; Atkinson and Hutchinson, 2013; Sgroi, 2016; Antonelli et al., 2018). The competitive and productivity-driven nature of the workforce can create an atmosphere of discrimination for people with disabilities (Gillies, 2012). However, there were also a few instances of positive attitudes and support from work supervisors reported among graduates in employment. For example,

employed STEM graduates in Stumbo et al. (2011) reported that their supervisors were important facilitators in helping them socialize in the workplace. One graduate with a visual impairment working in the NHS reported that she had developed a helpful relationship with her supervisor, who took a "hands-on" approach to discussing and developing helpful strategies for her to work with her impairment (Atkinson and Hutchinson, 2013).

It is also important to note that attitudes of motivation, determination, and aspiration among the students and graduates themselves acted as facilitators toward achieving success in their academic and professional goals (Luckowski, 2014; Berry and Domene, 2015; Strnadová et al., 2015; Clouder et al., 2016; da Silva Cardoso et al., 2016; Accardo et al., 2019; Sefora and Ngubane, 2021; Sullivan, 2021; Walker et al., 2021). For example, positive thinking acted as an important personal resource for students with disabilities: "I think just having the attitude that I'm going to take this on and I'm going to be good at it and that's all that's going to matter really helped" (interview quote from Berry and Domene, 2015, p. 83). The motivation of students was also considered as an important asset to placement supervisors (Ashcroft and Lutfiyya, 2013; Bettencourt et al., 2018; L'Ecuyer, 2019).

## Institutional and Organizational Barriers and Facilitators

Findings from the review suggest that services provided by higher education institutions play a pivotal role in the transition from higher education to work. However, the evidence on the efficiency of these services is varied. There were numerous instances where career services and career-focused activities provided by the higher education institutions helped facilitate the transition to employment for students and graduates (Berry and Domene, 2015; Stack-Cutler et al., 2015; Huber et al., 2016; Nolan and Gleeson, 2017; Hadley, 2018; Vincent, 2020; Pesonen et al., 2021). Participants valued opportunities such as mock interviewing, resume writing, social networking, career fairs, and job search assistance that were offered through these services. A particularly helpful facilitator reported by students was having a mentor helping with the transition from college to employment (Lund et al., 2014; Nolan and Gleeson, 2017; Antonelli et al., 2018; Accardo et al., 2019; Collins et al., 2019). Furthermore, having a mentor with a disability was seen as a valuable asset to students and trainees (Lund et al., 2014; Nolan and Gleeson, 2017). A recent study also highlighted the value of civil society organizations, which were found to help graduates with disabilities access the labor market, advise on issues of discrimination and benefits, and help with broader public policy concerns (William and Cunningham, 2021).

However, there were also instances where students and graduates felt that they had been let down by career services or were not made aware of them during their time at university (Vickerman and Blundell, 2010; Vincent, 2020; Pesonen et al., 2021). For example, one student reported:

"I have had to go there myself to get some actual support. . . And the only real support they've given me is just kind of tips for writing a CV. . .interviews and employment. . . but other than that, there's not really been any supporting in finding a job. . ." interview quote from Pesonen et al. (2021, p. 8).

Disability support services were helpful in some instances, and students felt that accessing these services early-on in their higher education provided benefits with receiving support (Stumbo et al., 2011; Georgiou et al., 2012; Stein, 2012; Bettencourt et al., 2018; Vlachou and Papananou, 2018; Ali et al., 2020; Vincent, 2020; Pesonen et al., 2021; Shpigelman et al., 2021). Students with autism in one study found it particularly beneficial when career services and disability support services collaborated in providing autism-specific pre-employment provision (Vincent, 2020). However, as with the career services, the disability services were not always perceived by students as helpful and some also reported that they were not made visible to students (Vlachou and Papananou, 2018; Morgan, 2021). Furthermore, numerous participants with disabilities reported an overall lack of support from the University in general, commenting on the lack of any assistance with accommodations, lack of assistance with job searching or internship guidance, and the lack of transition programs in helping with employment opportunities (Easterbrook et al., 2015; Strnadová et al., 2015; da Silva Cardoso et al., 2016; Sgroi, 2016; Cage and Howes, 2020; Odame et al., 2021).

Institutional and organizational barriers also hindered academic staff and placement educators/supervisors. Many staff felt that there needed to be better policies in place to enable them to provide support to students with disabilities (Ashcroft and Lutfiyya, 2013; Walker et al., 2013; Nolan et al., 2015; Bettencourt et al., 2018; Collins et al., 2019; L'Ecuyer, 2019; Epstein et al., 2020; Langørgen et al., 2020). Faculty staff in one study commented on the tenure system prioritizing research productivity over teaching and, thus, the participants believed that improvement in teaching required individual investment beyond the daily structures and demands of academic life: "I would love to be a better teacher. I would love to have time to read pedagogy, but that's not happening" (interview quote from Bettencourt et al., 2018, p. 19).

In terms of placement, poor communication with the disability services department, or in some cases the higher education institution as a whole, resulted in difficulties for placement educators when it came to evaluating and supporting students with disabilities (Ashcroft and Lutfiyya, 2013; Langørgen et al., 2020). For example, one nursing educator expressed her frustration over the lack of consistent guidelines resulting in reasonable accommodations being developed independently and differently by each educator from course to course:

"What really bothers me is having no strategies or structures in place so we have to go through the same thing every time. It's a waste of time. There needs to be coordination or smoother application of these processes" interview quote from Ashcroft and Lutfiyya (2013, p. 1320).

## Accommodations

Despite many universities and employer organizations worldwide adopting disability policies that promote the right of people with disabilities to receive reasonable accommodations, many students and graduates across the included studies experienced

little to no support in receiving accommodations. Students often had to act as their own advocates to receive accommodations (Accardo et al., 2019). However, the students' efforts were not always successful. For example, there were reported instances of lecturers refusing to provide lecture notes or refusing to let students use assistive technology such as a frequency modulation system (Strnadová et al., 2015; Shpigelman et al., 2021). Denial to such accommodations can hinder access to learning material, and thus be detrimental to the success of students as they try to reach their goals. Additionally, numerous students avoided asking for accommodations due to fears of offending professors, drawing attention to themselves, or receiving negative attitudes from other students without disabilities (Easterbrook et al., 2015; Grimes et al., 2020; Shpigelman et al., 2021), e.g., "Often times the professors aren't using the microphone that's in the lecture hall, they are just projecting with their voice. . . I could say something and get them to use it but it comes to a point where you don't want to conflict with their teaching style. . . You can't be expected to get full access always. You have to go in knowing that you're not going to get everything you need" interview quote from Easterbrook et al. (2015, p. 1513).

Students who did receive accommodations were sometimes subject to negative experiences as a consequence of receiving support. Some students experienced negative responses from faculty and staff for gaining accommodations (da Silva Cardoso et al., 2016). Students receiving accommodations in clinical placements were considered as less competent professionals (Epstein et al., 2020). There was a particularly negative incident reported by Luckowski (2014), where a student had declared her disability to the university's disability department, but her clinical instructor was reportedly negative toward her using accommodations during placement and threatened her with failure if she were to continue reporting conflicts with the Americans with Disabilities Act (ADA) accommodations. This resulted in the student failing the course, and ultimately the program.

Findings from the studies suggest numerous reasons as to why university and placement educators are reluctant to provide accommodations to students. For example, placement educators had to determine the balance between supporting students by providing accommodations while still helping them reach professional standards (Walker et al., 2013; Nolan et al., 2015). A main concern among university staff was that providing accommodations to students with disabilities could create a sense of dependence and limit their chances of succeeding in the workplace, which may be less accommodating compared to higher education (Bettencourt et al., 2018; Collins et al., 2019). This concern may be well-justified, with Kim and Williams (2012) finding that reasonable workplace accommodations were sometimes denied by employers, and Kunnath and Mathew (2019) finding that employed graduates did not receive any accommodations in the workplace. Furthermore, participants in one study suggested that the employment sector is not as accommodating as the education sector (Collins et al., 2019). Contrastingly, however, Stumbo et al. (2011) found that workplaces were willing to pay for assistive technology and workplace accommodations for graduates working in STEM.

Despite negative reports from the included studies, it should be noted that there were positive instances of students receiving reasonable accommodations. Students who received accommodations felt that these helped them successfully complete their course of education (Hinman et al., 2015). One study also suggests that grades improved as a result of receiving accommodations (Stein, 2012). However, from the included studies, it was clear that rather than there being support structures in place to ensure requests for reasonable accommodations were fulfilled, the students would often have to rely on the generosity of professors, lecturers, or other students to help them in receiving necessary accommodations.

### Accessibility

Facilitators and barriers regarding accessibility spanned across issues such as physical access, transportation, access of essential information, course access, and access to meaningful employment. In terms of physical access, numerous campuses had architectural barriers such as steep wheelchair ramps or old buildings that lacked wheelchair access (Strnadová et al., 2015; Vlachou and Papananou, 2018; Collins et al., 2019; Saltes, 2020; Hamilton et al., 2021; Li et al., 2021; Shpigelman et al., 2021). A university reported in Zárate-Rueda et al. (2021) lacked ramps and lifts all together, which resulted in classmates having to carry students between classrooms. Additionally, some workplaces reportedly had inaccessible office spaces and restrooms (Gillies, 2012; Kim and Williams, 2012; Kunnath and Mathew, 2019).

Accessibility was particularly problematic during the transition from higher education to work. Numerous participants were limited with participating in internships or work experiences due to transportation issues (Joseph and Robinson, 2012; Kim and Williams, 2012; Sgroi, 2016; Antonelli et al., 2018; Odame et al., 2021). There was one instance where a student with a physical disability was denied the opportunity to take an internship located less than a block away because his faculty believed it was inaccessible (Sgroi, 2016). Given that work experience was reported as a key facilitator to accessing employment (Cunnah, 2015; Hadley, 2018), not being able to obtain work experience meant that participants struggled with job competition. Other access-related barriers hindered the transition to employment. For instance, job adverts sometimes lacked clarity (Vincent, 2020). Additionally, organized job fairs, training programs, and information sessions did not always consider the needs of students with disabilities, making them inaccessible (Odame et al., 2021).

Accessing meaningful employment relevant to the participants' qualifications was reportedly challenging (Kim and Williams, 2012; Antonelli et al., 2018; Vincent, 2020; Hamilton et al., 2021; Lessy et al., 2021; Li et al., 2021; Morgan, 2021; Odame et al., 2021; Palan, 2021). A particularly troubling finding stemmed from studies conducted in Asia and Africa, with students with disabilities often being denied access to particular courses or majors (Kunnath and Mathew, 2019; Li et al., 2021; Morgan, 2021; Odame et al., 2021; Palan, 2021; Sefora and Ngubane, 2021).

However, even when students did have the autonomy to make their own decisions, they would sometimes rule out certain

career paths based on their disability and fitting into the work environment:

"...it's not equal and it's not going to be equal today or tomorrow and as disabled people and disabled graduates, we need to accept that too and you need to make your choices about what is more important to you" interview quote from Nolan and Gleeson (2017, p. 237).

### Discipline-Specific Barriers and Facilitators

While findings from the review suggest that students with disabilities across many disciplines experience similar barriers, some studies highlighted additional challenges that come with certain subject areas. The biggest concern of supervisors, nurse preceptors, and clinical educators within professional education was that of patient safety (Ashcroft and Lutfiyya, 2013; Evans, 2014; Hinman et al., 2015; Nolan et al., 2015; Epstein et al., 2020; Philion et al., 2021). Additionally, some clinical instructors were resistant to providing accommodations as they believed accommodations risked students not reaching the required level of competence in order to practice in healthcare (Evans, 2014; Epstein et al., 2020). There was also a sense of ableism from instructors who felt that nursing students had to "fit in" with other students who did not have disabilities:

"I know that many of them [students with disabilities] rely on technology, some carry around an iPad or a laptop. That's not going to help them in clinical... because no other nurses are doing that, why are you being different? Why do you need that to help you?" Interview quote from Epstein et al. (2020, p. 3).

Negative attitudes in nursing were also reported by Shpigelman et al. (2016), who found that nursing students held negative attitudes toward colleagues with disabilities, as well as toward people with disabilities in general. Despite the findings of negative attitudes, however, Ali et al. (2020) reported some positive placement experiences and found that students with disabilities had no difficulties in communicating with patients or learning practical clinical skills. However, students reported difficulties with writing up clinical notes. This is a concern expressed by placement educators in other studies (Walker et al., 2013; Evans, 2014).

STEM subjects were seen as additionally challenging compared to non-STEM subjects, with studies highlighting the demanding and competitive nature of STEM (da Silva Cardoso et al., 2016; Bettencourt et al., 2018). The large class sizes of STEM subjects meant that even minor accommodations created time restraints for staff (Bettencourt et al., 2018). STEM students with disabilities expressed that students without disabilities were not open to teamwork and therefore did not want to help them (da Silva Cardoso et al., 2016). Stumbo et al. (2011) also found that STEM students were more likely to report career barriers of access, negative attitudes, and increased health problems in comparison to non-STEM students. Additionally, Bellacicco and Pavone (2020) reported that students with disabilities could be penalized in accessing "hard" degree courses, due to their selectivity and expected commitment.

Two studies also found that academia as a potential career path can be challenging for students with disabilities due to its rigid expectations and high social demands (Saltes, 2020; Vincent, 2020). Ali et al. (2020) also found that students with dyslexia were less likely to pursue careers in research due to difficulties with spelling and written assignments.

### Disability-Specific Barriers and Facilitators

While all barriers and facilitators reported above are connected with disability in general, some studies included in the review reported barriers and facilitators related to specific types of disabilities. For example, some participants saw strengths in their disabilities. Participants with autism believed that their dedication, attention to detail, ability to commit to a project, and strong working memory all served as skills that could be applied to future employment (Vincent, 2020). Some participants in health professions considered their disability as a unique competency, as it enabled them to relate to service users and respond to patients' needs (Epstein et al., 2020; Langørgen and Magnus, 2020). However, other participants pursuing healthcare professions were concerned that their disabilities might affect the care of patients:

"...sometimes I even question myself. Is that gonna be a good fit for me with my ADD (attention-deficit disorder) because I am kind of like over—like I have problems focusing on certain things" interview quote from Luckowski (2014, p. 259).

While a number of different disabilities were present in the included studies, mental health disorders and less visible disabilities were considered harder to disclose (Easterbrook et al., 2015). Students believed that mental health issues and chronic illnesses are treated differently and under prioritized in comparison to other disabilities (Luckowski, 2014; Grimes et al., 2020; Hamilton et al., 2021):

"...some thought it [chronic illness] was an excuse not to turn up to lectures... I felt that people seemed to view invisible and visible illnesses and completely differently. Those with clear disabilities were treated with more understanding than those with invisible from my point of view" interview quote from Hamilton et al. (2021, p. 13).

In terms of the influence of disability type and severity on success-related outcomes, Fichten et al. (2016) found that students reporting multiple disabilities are less likely to intend to graduate, and have worse scores related to academic performance and persistence. However, positive findings from Bellacicco and Pavone (2020) suggest that the severity of disability was not associated with employment opportunities.

## DISCUSSION

This rapid review has identified the most commonly reported barriers and facilitators in the transition from higher education to employment for students and graduates with various types of disabilities. While the barriers and facilitators were grouped into different types (disclosure, attitudinal, institutional, accommodations, accessibility, discipline-specific, and disability-specific) they are complex and interactional. For instance, barriers to receiving accommodations were often linked to the attitudes of staff—and these barriers could become increased in certain disciplines, e.g., healthcare professions. Educational and

training experiences could become even more complex based on the student's type of disability, for example those with mental health issues or chronic illnesses.

## What Are the Most Frequently Reported Barriers That Hinder Students With Disabilities in Making the Transition From Higher Education to Employment?

From the findings, it appears that concerns with disclosure—linked with attitudinal barriers—are the cause of most issues. If a student decides not to disclose due to fears of discrimination, they may not receive the accommodations that they need to participate and achieve their goals in higher education, placement, and employment. On the other hand, some students and graduates in the included studies experienced discrimination and negative attitudes once having disclosed their disability. This issue was particularly difficult for students with less visible disabilities. This is a serious cause for concern, considering that legislation such as the UN CRPD prohibits discrimination on the basis of disability (UN General Assembly, 2007). The findings suggest that while people with disabilities are participating in higher education and work, they are still being discriminated against through inflexible work practices and reluctance in the provision of accommodations. It is especially concerning when taking into consideration that we reviewed research from across a 12-year timespan, and the same issues regarding disclosure, accommodations, and attitudes were consistent across the studies.

Shakespeare argues that even if discrimination on the basis of disability were to be eradicated, people with disabilities would still be disadvantaged by factors such as not being able to work 7-h days or 5-day weeks (2013). He writes "Creating a level playing field is not enough: redistribution is required to promote true social inclusion" (2013: 91). In the context of our review, it is not enough that students with disabilities are given an opportunity to participate in higher education and placement settings—they are still disadvantaged by academia's view of the "ideal student." For instance, even when professors, supervisors and placement educators are willing to work with students with disabilities, some still hold them to ableist expectations, e.g., "You're just going to have to work hard. You may have to work harder than somebody else" (Bettencourt et al., 2018, p. 19). As such, we need to find ways of educating these key actors on the importance and necessity of reasonable accommodations and accessibility.

## What Are the Most Frequently Reported Facilitators That Help Students With Disabilities Make the Transition From Higher Education to Employment?

Most frequent facilitators reported across the studies were specific individuals who had provided some kind of support to the students or graduates with disabilities. This support could consist of help from other students in making learning material more accessible (Strnadová et al., 2015; Kunnath and Mathew, 2019), encouragement from professors who helped prepare students for the transition to work (Pesonen et al., 2021), or placement supervisors who provided positive feedback and emotional support (Luckowski, 2014; Langørgen and Magnus, 2020). Civil society organizations are particularly helpful in providing career schemes and advice to help students access the labor market (William and Cunningham, 2021). Furthermore, employers could play a positive role in the work participation of graduates by providing reasonable accommodations or helping them socialize in the workplace (Stumbo et al., 2011).

Motivation from the students themselves was also an important facilitator for success, especially in times of challenge (Luckowski, 2014; Berry and Domene, 2015; Strnadová et al., 2015; Clouder et al., 2016; da Silva Cardoso et al., 2016; Accardo et al., 2019).

## How Do These Barriers and Facilitators Impact Outcomes Regarding Students/Graduates' Experiences of Finding Employment?

The findings from this review suggest that the experiences of students and graduates are highly mixed. While some participants reported that facilitators such as institutional support and supportive social relationships helped find employment (Pesonen et al., 2021), others reported that they were also able to find employment despite the lack of support (Hadley, 2017, 2018). Students who did not receive necessary, reasonable accommodations often struggled academically, leading to some students having to drop out of their course (Cage and Howes, 2020) or to others failing the program (Luckowski, 2014).

Overall, the included studies suggest that students and graduates with disabilities have to work harder than students without disabilities to prove their competence and to access meaningful employment. One potential reason for this is due to the medical model of disability still remaining more widely accepted than social or relational models, such as the Nordic Relational Model of Disability. From this review, it is clear that many staff, students without disabilities, and supervisors consider disability as a problem related to the individual; a problem which the student must work to overcome. This is very much in line with the tenets of the medical model of disability (Shakespeare, 2006). Taken together with the ableist expectations that exist in academia, a medical model perspective toward disability can pressure students with disabilities into working beyond their capacity. It can also pressure them into passing as non-disabled or, as Langørgen and Magnus write, into "coping in silence" (2018: 611).

## Limitations

A limitation of this study is that the screening and selection of articles was conducted by a single author, as is common with rapid literature reviews (Tricco et al., 2015). However, the potential for selection bias must be acknowledged. In an

effort to reduce this bias, all authors reviewed and read the included studies to agree on whether they met the inclusion criteria. Another potential limitation is that this review only included studies that concerned higher education in relation to post-education goals. Many studies had to be excluded as they did not address the transition to work after education. The findings from these studies would have surely provided further insight into barriers and facilitators encountered by students with disabilities throughout the course of higher education. However, given that this is a rapid review, and our aim was to focus on the transition to work, it was beyond the scope of this rapid review to include all articles related to the overall experience of higher education.

### Implications for Future Research

Future studies should further address the topic of disclosure among students and graduates with disabilities. Our review has highlighted the struggle that many students experience with regard to disclosing their disability, especially those with less visible disabilities. Future work needs to identify what resources are needed to help create inclusive disclosure processes that are free from negative consequences, as well as which key actors should be the persons helping students to disclose.

Furthermore, future research should explore what drives negative attitudes toward disability, and how these can be challenged and shaped into inclusive attitudes. Following this review, we have planned to conduct a factorial survey experiment (Auspurg and Hinz, 2015) with the aim of identifying the specific factors that influence the judgment and attitudes of key stakeholders in education and employment settings. While this literature review was undertaken to inform the design of a Norwegian study, the findings of the review highlight the need to conduct similar research on an international level.

### Implications for Future Practice

Regarding implications for future practice, higher education institutions should seek to improve structural and organization policy, so that support is in place for both staff and students when it comes to disclosure, accommodations, and accessibility. Careers services and disability services within higher education institutions should also work closely with placement providers and employers in ensuring that the transition to work is accessible and inclusive. As Wehmeyer et al. (2019) suggest, career development and transition processes require interdisciplinary and interagency collaboration. Developing opportunities for higher education institutions, placement providers, employers, and students with disabilities to collaborate in reaching solutions may be the way forward for addressing the issues identified in this literature review.

Finally, students with disabilities in higher education are eager for change. Throughout the studies numerous students and graduates called for more awareness and understanding toward disability. Including students and graduates with disabilities as co-researchers, collaborators, and ambassadors in both research and practice will help facilitate such awareness and understanding.

## CONCLUSION

Overall, the findings from this review emphasize the amount of work that needs to be done in not only helping students with disabilities transition from university to work, but also in improving both university and workplace environments. It is clear that different types of barriers cannot be tackled as individual entities (e.g., issues of accommodations) but they instead need to be considered in relation to one another. Only through collaboration and the study of complex environment-person interactions can we move forward in working toward truly inclusive work and education environments.

## DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author/s.

## AUTHOR CONTRIBUTIONS

GG, OM, AW, and LK contributed to the conceptualization and design of the review. GG conducted the search, screening, and data extraction, and wrote the original draft of the manuscript. OM, AW, SH, and LK reviewed and edited the draft. All authors contributed to the synthesis of findings, revision and editing of the final draft, and approved the submitted version.

## FUNDING

This work was supported by funding from the Research Council of Norway (Norsk Forskningsråd), under project number 303710: "Pathways to the world of work for students with disabilities in higher education."

## ACKNOWLEDGMENTS

We would like to thank all collaborators within the "Pathways to the world of work for students with disabilities in higher education" project for their insights and discussions relating to the work conducted in this review.

## SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2022.882066/full#supplementary-material

## REFERENCES


Accardo, A. L., Bean, K., Cook, B., Gillies, A., Edgington, R., Kuder, S. J., et al. (2019). College access, success and equity for students on the autism spectrum. *Journal of autism and developmental disorders* 49, 4877–4890. doi: 10.1007/s10803-019-04205-8

Ali, K., Kisielewska, J., Subhan, M. M. F., and Tredwin, C. (2020). How does dyslexia impact on the educational experiences of healthcare students? A qualitative study. *European Journal of Dental Education* 24, 154–162. doi: 10.1111/eje.12479

Anctil, T. M., Ishikawa, M. E., and Tao Scott, A. (2008). Academic identity development through self-determination: Successful college students with learning disabilities. *Career Development for Exceptional Individuals* 31, 164–174. doi: 10.1177/0885728808315331

Antonelli, K., Steverson, A., and O'Mally, J. (2018). College graduates with visual impairments: A report on seeking and finding employment. *Journal of Visual Impairment & Blindness* 112, 33–45. doi: 10.1177/0145482x1811200104

Ashcroft, T. J., and Lutfiyya, Z. M. (2013). Nursing educators' perspectives of students with disabilities: A grounded theory study. *Nurse Education Today* 33, 1316–1321. doi: 10.1016/j.nedt.2013.02.018

Atkinson, K., and Hutchinson, J. O. (2013). Transition from higher education to National Health Service for visually impaired physiotherapists: an interpretative phenomenological exploration. *British Journal of Visual Impairment* 31, 32–46. doi: 10.1177/0264619612466101

Auspurg, K., and Hinz, T. (2015). *Factorial survey experiments*. San Diego, CA: Sage Publications.

Bellacicco, R., and Pavone, M. (2020). After higher education: exploring the transition to employment for graduates with disabilities. *Alter* 14, 159–174.

Berry, S. J., and Domene, J. F. (2015). Supporting postsecondary students with sensory or mobility impairments in reaching their career aspirations. *Career Development and Transition for Exceptional Individuals* 38, 78–88. doi: 10.1007/s10803-016-2894-2

Bettencourt, G., Kimball, E., and Wells, R. S. (2018). Disability in postsecondary STEM learning environments: What faculty focus groups reveal about definitions and obstacles to effective support. *Journal of Postsecondary Education and Disability* 31,

Bjørnshagen, V., and Ugreninov, E. (2021). Labour market inclusion of young people with mental health problems in Norway. *Alter* 15, 46–60. doi: 10.1016/j.alter.2020.06.014

Cage, E., and Howes, J. (2020). Dropping out and moving on: A qualitative study of autistic people's experiences of university. *Autism* 24, 1664–1675. doi: 10.1177/1362361320918750

Christiansen, C. H. (1999). Defining lives: Occupation as identity: An essay on competence, coherence, and the creation of meaning. *The American Journal of Occupational Therapy* 53, 547–558. doi: 10.5014/ajot.53.6.547

Clouder, L., Adefila, A., Jackson, C., Opie, J., and Odedra, S. (2016). The discourse of disability in higher education: insights from a health and social care perspective. *International Journal of Educational Research* 79, 10–20. doi: 10.1016/j.ijer.2016.05.015

Collins, A., Azmat, F., and Rentschler, R. (2019). 'Bringing everyone on the same journey': revisiting inclusion in higher education. *Studies in Higher Education* 44, 1475–1487. doi: 10.1080/03075079.2018.1450852

Cooke, A., Smith, D., and Booth, A. (2012). Beyond PICO: the SPIDER tool for qualitative evidence synthesis. *Qual. Health Res.* 22, 1435–1443. doi: 10.1177/1049732312452938

Critical Appraisal Skills Programme [CASP] (2018). *CASP Qualitative Checklist*. Available online at: https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf (accessed April 8, 2022).

Cunnah, W. (2015). Disabled students: Identity, inclusion and work-based placements. *Disability & Society* 30, 213–226. doi: 10.1080/09687599.2014.996282

da Silva Cardoso, E., Phillips, B. N., Thompson, K., Ruiz, D., Tansey, T. N., and Chan, F. (2016). Experiences of Minority College Students with Disabilities in STEM. *Journal of Postsecondary Education and Disability* 29, 375–388. doi: 10.1152/advan.00014.2020

Daniels, J., and Brooker, J. (2014). Student identity development in higher education: Implications for graduate attributes and work-readiness. *Educational research* 56, 65–76. doi: 10.1080/00131881.2013.874157

Darcy, S., Taylor, T., and Green, J. (2016). 'But I can do the job': examining disability employment practice through human rights complaint cases. *Disability & Society* 31, 1242–1274. doi: 10.1080/09687599.2016.1256807

Easterbrook, A., Bulk, L., Ghanouni, P., Lee, M., Opini, B., Roberts, E., et al. (2015). The legitimization process of students with disabilities in health and human service educational programs in Canada. *Disability & Society* 30, 1505–1520. doi: 10.1080/09687599.2015.1108183

Epstein, I., Stephens, L., Severino, S. M., Khanlou, N., Mack, T., Barker, D., et al. (2020). "Ask me what I need": A call for shifting responsibility upwards and creating inclusive learning environments in clinical placement. *Nurse education today* 92, 104505. doi: 10.1016/j.nedt.2020.104505

Erickson, W. A., von Schrader, S., Bruyère, S. M., and VanLooy, S. A. (2014). The employment environment: Employer perspectives, policies, and practices regarding the employment of persons with disabilities. *Rehabilitation Counseling Bulletin* 57, 195–208. doi: 10.1177/0034355213509841

Eurostat (2014). *Archive: Disability statistics – access to education and training*. Available online at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Disability_statistics_-_access_to_education_and_training&oldid=413588 (accessed February 11, 2022).

Evans, W. (2014). "If they can't tell the difference between duphalac and digoxin you've got patient safety issues ". Nurse Lecturers' constructions of students' dyslexic identities in nurse education. *Nurse Education Today* 34, e41–e46. doi: 10.1016/j.nedt.2013.11.004

Fichten, C. S., Nguyen, M. N., Asuncion, J., Martiniello, N., Jorgensen, M., Budd, J., et al. (2016). An exploratory study of college and university students with visual impairment in Canada: Grades and graduation. *British Journal of Visual Impairment* 34, 91–100. doi: 10.1177/0264619615616259

Forber-Pratt, A. J., Lyew, D. A., Mueller, C., and Samples, L. B. (2017). Disability identity development: A systematic review of the literature. *Rehabilitation psychology* 62, 198–207. doi: 10.1037/rep0000134

García-González, J. M., Gutiérrez Gómez-Calcerrada, S., Solera Hernández, E., and Ríos-Aguilar, S. (2021). Barriers in higher education: perceptions and discourse analysis of students with disabilities in Spain. *Disability & Society* 36, 579–595. doi: 10.1186/s12913-016-1423-5

Georgiou, C. E., Espahbodi, S., and De Souza, L. H. (2012). Preparing for the world of work: an exploratory study of disabled students' experiences of work placement. *Journal of Education and Work* 25, 523–536. doi: 10.1080/13639080.2011.598143

Gillies, J. (2012). University graduates with a disability: The transition to the workforce. *Disability Studies Quarterly* 32, **PGQ,

Grimes, S., Southgate, E., Scevak, J., and Buchanan, R. (2020). University Student Experiences of Disability and the Influence of Stigma on Institutional Non-Disclosure and Learning. *Journal of Postsecondary Education and Disability* 33, 23–37.

Haby, M. M., Chapman, E., Clark, R., Barreto, J., Reveiz, L., and Lavis, J. N. (2016). What are the best methodologies for rapid reviews of the research evidence for evidence-informed decision making in health policy and practice: a rapid review. *Health research policy and systems* 14, 83. doi: 10.1186/s12961-016-0155-7

Hadley, W. (2017). The four-year college experience of one student with multiple learning disabilities. *College Student Journal* 51, 19–28.

Hadley, W. (2018). Students with learning disabilities transitioning from college: A one-year study. *College Student Journal* 52, 421–430.

Hamilton, P. R., Hulme, J. A., and Harrison, E. D. (2021). Experiences of higher education for students with chronic illnesses. *Disability & Society* 1–26. **VQ, doi: 10.1080/09687599.2021.1907549

Hinman, M. R., Peterson, C. A., and Gibbs, K. A. (2015). Prevalence of Physical Disability and Accommodation Needs among Students in Physical Therapy Education Programs. *Journal of Postsecondary Education and Disability* 28, 309–328.

Hong, Q. N., Fábregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., et al. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Educ. Inf.* 34, 285–291. doi: 10.3233/EFI-180221

Huber, M. J., Oswald, G. R., Webb, T., and Avila-John, A. (2016). Degree completion and employment outcomes among graduates with disabilities. *Journal of vocational rehabilitation* 45, 241–247. doi: 10.3389/fneur.2021.732906

Jensen, D. H., and Jetten, J. (2015). Bridging and bonding interactions in higher education: social capital and students' academic and professional identity formation. *Front Psychol* 6:126. doi: 10.3389/fpsyg.2015.00126

Joseph, M. A. M., and Robinson, M. (2012). Vocational experiences of college-educated individuals with visual impairments. *Journal of Applied Rehabilitation Counseling* 43, 21. doi: 10.1891/0047-2220.43.4.21

Kart, A., and Kart, M. (2021). Academic and social effects of inclusion on students without disabilities: A review of the literature. *Education Sciences* 11, 16. doi: 10.3390/educsci11010016

Kim, M. M., and Williams, B. C. (2012). Lived employment experiences of college students and graduates with physical disabilities in the United States. *Disability & Society* 27, 837–852. doi: 10.1080/09687599.2012.673081

Kunnath, S. K., and Mathew, S. N. (2019). Higher Education for Students with Disabilities in India: Insights from a Focus Group Study. *Higher Education for the Future* 6, 171–187. doi: 10.1177/2347631119840540

Langørgen, E., and Magnus, E. (2020). 'I have something to contribute to working life'–students with disabilities showcasing employability while on practical placement. *Journal of Education and Work* 33, 271–284. doi: 10.1080/13639080.2020.1767766

Langørgen, E., Kermit, P., and Magnus, E. (2020). Gatekeeping in professional higher education in Norway: Ambivalence among academic staff and placement supervisors towards students with disabilities. *International Journal of Inclusive Education* 24, 616–630. doi: 10.1080/13603116.2018.1476599

L'Ecuyer, K. M. (2019). Perceptions of nurse preceptors of students and new graduates with learning difficulties and their willingness to precept them in clinical practice (Part 2). *Nurse education in practice* 34, 210–217. doi: 10.1016/j.nepr.2018.12.004

Lessy, Z., Kailani, N., and Jahidin, A. (2021). Barriers to employment as experienced by disabled university graduates in Yogyakarta, Indonesia. *Asian Social Work and Policy Review* 15, 133–144. doi: 10.1111/aswp.12226

Li, H., Lin, J., Wu, H., Li, Z., and Han, M. (2021). "How do I survive exclusion?" Voices of students with disabilities at China's top universities. *Children and Youth Services Review* 120, 105738. doi: 10.1016/j.childyouth.2020.105738

Lindsay, S., Cagliostro, E., and Carafa, G. (2018). A systematic review of workplace disclosure and accommodation requests among youth and young adults with disabilities. *Disability and rehabilitation* 40, 2971–2986. doi: 10.1080/09638288.2017.1363824

Luckowski, A. (2014). *The lived experience in the clinical setting of nursing students with disabilities*. Chester, PA: Widener University School of Nursing.

Lund, E. M., Andrews, E. E., and Holt, J. M. (2014). How we treat our own: The experiences and characteristics of psychology trainees with disabilities. *Rehabilitation Psychology* 59, 367. doi: 10.1037/a0037502

Magnus, E., and Tøssebro, J. (2014). Negotiating individual accommodation in higher education. *Scand. J. Disabil. Res.* 16, 316–332. doi: 10.1080/15017419.2012.761156

McLeod, J. D., Meanwell, E., and Hawbaker, A. (2019). The experiences of college students on the autism spectrum: A comparison to their neurotypical peers. *Journal of Autism and Developmental Disorders* 49, 2320–2336. doi: 10.1007/s10803-019-03910-8

McNicholl, A., Casey, H., Desmond, D., and Gallagher, P. (2021). The impact of assistive technology use for students with disabilities in higher education: a systematic review. *Disability and Rehabilitation: Assistive Technology* 16, 130–143. doi: 10.1080/17483107.2019.1642395

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., and Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of internal medicine* 151, 264–269. doi: 10.7326/0003-4819-151-4-200908180-00135

Molden, T. H., Wendelborg, C., and Tøssebro, J. (2009). *Levekår blant personer med nedsatt funksjonsevne. Analyse av levekårsundersøkelsen blant personer med nedsatt funksjonsevne 2007*. Trondheim: NTNU Samfunnsforskning AS.

Morgan, C. (2021). The experiences of disabled people in the United Arab Emirates: Barriers to participation in higher education and employment. *Disability & Society* 1–24. **VQ, doi: 10.1080/09687599.2021.1930520

Nolan, C., and Gleeson, C. I. (2017). The transition to employment: the perspectives of students and graduates with disabilities. *Scandinavian Journal of Disability Research* 19, 230–244. doi: 10.1097/00004356-199603000-00003

Nolan, C., Gleeson, C., Treanor, D., and Madigan, S. (2015). Higher education students registered with disability services and practice educators: issues and concerns for professional placements. *International Journal of Inclusive Education* 19, 487–502. doi: 10.1080/13603116.2014.943306

Odame, L., Opoku, M. P., Nketsia, W., Swanzy, P., Alzyoudi, M., and Nsowah, F. A. (2021). From university-to-work: an in-depth exploration into the transition journey of graduates with sensory disabilities in Ghana. *Disability & Society* 36, 1399–1422.

Olsen, J., Griffiths, M., Soorenian, A., and Porter, R. (2020). Reporting from the Margins: Disabled Academics Reflections on Higher Education. *Scandinavian Journal of Disability Research* 22, 265–274. doi: 10.16993/sjdr.670

Palan, R. (2021). "I seriously wanted to opt for science, but they said no": visual impairment and higher education in India. *Disability & Society* 36, 202–225. doi: 10.1080/09687599.2020.1739624

Pesonen, H. V., Waltz, M., Fabri, M., Lahdelma, M., and Syurina, E. V. (2021). Students and graduates with autism: perceptions of support when preparing for transition from university to work. *European Journal of Special Needs Education* 36, 531–546. doi: 10.1080/08856257.2020.1769982

Philion, R., St-Pierre, I., and Bourassa, M. (2021). Accommodating and supporting students with disability in the context of nursing clinical placements: A collaborative action research. *Nurse Education in Practice* 54, 103127. doi: 10.1016/j.nepr.2021.103127

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., et al. (2006). *Guidance on the conduct of narrative synthesis in systematic reviews. A product from the ESRC methods programme Version, 1*. b92.

Saltes, N. (2020). 'It's all about student accessibility. No one ever talks about teacher accessibility': Examining ableist expectations in academia. *International Journal of Inclusive Education* 1–27. **VQ, doi: 10.1080/13603116.2020.1712483

Sefora, S., and Ngubane, S. A. (2021). Career development for students with disabilities in an open distance learning institution: A narrative inquiry. *Disability & Society* 1–15. **VQ, doi: 10.1080/09687599.2021.1946676

Sgroi, M. (2016). 'I should at least be given a chance to try': the experience of media workers with disabilities in the United States during postsecondary education and early career. *Disability & Society* 31, 64–83. doi: 10.1080/09687599.2015.1127213

Shakespeare, T. (2006). The social model of disability. *The disability studies reader* 2, 197–204.

Shakespeare, T. (2013). *Disability rights and wrongs revisited*. London: Routledge.

Shamshiri-Petersen, D., and Krogh, C. (2020). Disability Disqualifies: A vignette experiment of Danish employers' intentions to hire applicants with physical disabilities. *Scandinavian Journal of Disability Research* 22, 198–209. doi: 10.16993/sjdr.661

Shaw, A. (2021). Inclusion of disabled Higher Education students: why are we not there yet? *International Journal of Inclusive Education* 1–19. **VQ, doi: 10.1080/13603116.2021.1968514

Shpigelman, C. N., Mor, S., Sachs, D., and Schreuer, N. (2021). Supporting the development of students with disabilities in higher education: access, stigma, identity, and power. *Studies in Higher Education* 1–16. **VQ, doi: 10.1080/03075079.2021.1960303

Shpigelman, C. N., Zlotnick, C., and Brand, R. (2016). Attitudes toward nursing students with disabilities: Promoting social inclusion. *Journal of Nursing Education* 55, 441–449. doi: 10.3928/01484834-20160715-04

Smith, S. A., Woodhead, E., and Chin-Newman, C. (2021). Disclosing accommodation needs: exploring experiences of higher education students with disabilities. *International Journal of Inclusive Education* 25, 1358–1374. doi: 10.1016/j.nepr.2014.06.009

Stack-Cutler, H. L., Parrila, R. K., Jokisaari, M., and Nurmi, J. E. (2015). How university students with reading difficulties are supported in achieving their goals. *Journal of Learning Disabilities* 48, 323–334. doi: 10.1177/0022219413505773

Stein, K. F. (2012). Experiences of selected emerging adults with emotional or behavioral difficulties in higher education. *Career Development and Transition for Exceptional Individuals* 35, 168–179. doi: 10.1177/0885728812438940

Stevens, A., Garritty, C., Hersi, M., and Moher, D. (2018). *Developing PRISMA-RR, a Reporting Guideline for Rapid Reviews of Primary Studies (Protocol)*. EQUATOR Network. Available online at: https://www.equator-network.org/wp-content/uploads/2018/02/PRISMA-RR-protocol.pdf (accessed April 4, 2022).

Strnadová, I., Hájková, V., and Kvìtoòová, L. (2015). Voices of university students with disabilities: Inclusive education on the tertiary level–A reality or a distant dream? *International Journal of Inclusive Education* 19, 1080–1095. doi: 10.1080/13603116.2015.1037868

Stumbo, N. J., Hedrick, B. N., Weisman, C., and Martin, J. K. (2011). An exploration into the barriers and facilitators experienced by university graduates with disabilities requiring personal assistance services. *Journal of Science Education for Students with Disabilities* 14, 1–24. doi: 10.14448/jsesd.03.0001

Sullivan, J. (2021). 'Pioneers of professional frontiers': the experiences of autistic students and professional work based learning. *Disability & Society* 1–22. **VQ, doi: 10.1080/09687599.2021.1983414

Telwatte, A., Anglim, J., Wynton, S. K., and Moulding, R. (2017). Workplace accommodations for employees with disabilities: A multilevel model of employer decision-making. *Rehabilitation psychology* 62, 7. doi: 10.1037/rep0000120

Tøssebro, J. (2004). Introduction to the special issue: Understanding disability. *Scandinavian Journal of Disability Research* 6, 3–7. doi: 10.1080/15017410409512635

Toutain, C. (2019). Barriers to Accommodations for Students with Disabilities in Higher Education: A Literature Review. *Journal of Postsecondary Education and Disability* 32, 297–310.

Trede, F., Macklin, R., and Bridges, D. (2012). Professional identity development: a review of the higher education literature. *Studies in higher education* 37, 365–384. doi: 10.1080/03075079.2010.521237

Tricco, A. C., Antony, J., Zarin, W., Strifler, L., Ghassemi, M., Ivory, J., et al. (2015). A scoping review of rapid review methods. *BMC medicine* 13:224. doi: 10.1186/s12916-015-0465-6

UN General Assembly (2007). *Convention on the Rights of Persons with Disabilities : resolution / adopted by the General Assembly, 24 January 2007, A/RES/61/106*. Available online at: https://www.refworld.org/docid/45f973632.html (accessed February 11, 2022).

United Nations (2022). *Convention on the Rights of Perhaps with Disabilities*. Available online at: https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html (accessed February 11, 2022).

Vickerman, P., and Blundell, M. (2010). Hearing the voices of disabled students in higher education. *Disability & Society* 25, 21–32. doi: 10.1353/aad.2006.0009

Vincent, J. (2020). Employability for UK university students and graduates on the autism spectrum: Mobilities and materialities. *Scandinavian Journal of Disability Research* 22, 12–24. doi: 10.16993/sjdr.656

Vlachou, A., and Papananou, I. (2018). Experiences and perspectives of Greek higher education students with disabilities. *Educational Research* 60, 206–221. doi: 10.1080/00131881.2018.1453752

Walker, E., Shaw, S. C., Reed, M., and Anderson, J. L. (2021). The experiences of foundation doctors with dyspraxia: a phenomenological study. *Advances in Health Sciences Education* 26, 959–974. doi: 10.1007/s10459-021-10029-y

Walker, S., Dearnley, C., Hargreaves, J., and Walker, E. A. (2013). Risk, fitness to practice, and disabled health care students. *Journal of Psychological Issues in Organizational Culture* 3, 50–63. doi: 10.1002/jpoc.21097

Wehmeyer, M. L., Nota, L., Soresi, S., Shogren, K. A., Morningstar, M. E., Ferrari, L., et al. (2019). A crisis in career development: Life designing and implications for transition. *Career Development and Transition for Exceptional Individuals* 42, 179–187. doi: 10.1177/2165143417750092

William, L., and Cunningham, I. (2021). Evaluating the role of trade unions and civil society organisations in supporting graduate educated disabled workers. *Economic and Industrial Democracy* 42, 648–666.

World Health Organization [WHO] (2011). *World report on disability 2011*. Geneva: World Health Organization.

Zárate-Rueda, R., Murallas-Sánchez, D., and Ortega-Zambrano, C. (2021). Inclusive education and labour insertion from a capabilities approach: a phenomenological and functional diversity perspective. *Revista de Investigación Educativa* 39, 265–282. doi: 10.6018/rie.427881

**Conflict of Interest:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.