

## REVIEW ARTICLE

# Exploring Factors Influencing Employment Opportunities Among People With Disabilities: A Scoping Review

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## ABSTRACT

People with disabilities (PWDs) face challenges in daily activities due to limitations in mental, physical, intellectual, and sensory functions. Employment is crucial for PWDs, fostering financial stability, rehabilitation, and social inclusion. This study aims to provide updated insights into factors influencing disability employment globally, informing strategies to enhance inclusivity. A scoping review was conducted using the International Classification of Functioning, Disability and Health (ICF) Model as a framework. Relevant studies retrieved from databases such as Web of Science, Science Direct, and Scopus, covering research published between 2013 and 2023. Articles discussing employment challenges for PWDs across various countries were included, with 30 studies analysed, focusing on factors within the ICF domains. Findings revealed that environmental factors were the most significant barrier to employability (22 studies, 73%), followed by body function and structure (21 studies, 70%), personal factors (13 studies, 43%), and activity and participation (11 studies, 37%). Addressing environmental barriers and adopting inclusive approaches are critical to improving employment opportunities for PWDs and fostering equitable participation in the global workforce.

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## INTRODUCTION

People with disabilities (PWDs) are prevalent around the world, with World Health Organization (WHO) estimates suggesting that approximately 15% of the global population lives with various forms of disabilities, including 4% categorized as special needs. However, despite their significant presence, PWDs often face formidable barriers when attempting to enter the workforce, highlighting pervasive challenges in securing meaningful employment opportunities (1).

In Malaysia, despite over 18% of adults being PWDs, only 637,537 are registered with the Department of Social Welfare, and less than 12,000 are employed (2). Recognizing this gap, the Malaysian government has long introduced a 1% policy for job allocation for PWDs, emphasizing inclusive practices among employers. However, employment figures continue to fall short of this quota (3).

Prior research underscores employment's critical role for PWDs, citing its impact on financial stability, rehabilitation, and social integration (4). Understanding the multifaceted barriers to employment, including personal, educational, and societal factors, are crucial. Transitioning into the workforce represents not just securing a job but also achieving personal independence and fulfilment (5). The U.S. Bureau of Labor Statistics identifies various employment barriers for PWDs, such as limited education or training, transportation access, specialized job requirements, and negative employer attitudes (6). Similarly, studies in Malaysia highlight challenges including employer bias, insufficient skills, and negative perceptions (7).

Despite these hurdles, this study aims to provide updated insights into global factors influencing PWDs employment, using the International Classification of Functioning, Disability, and Health (ICF) model as a framework (8). The ICF can provide a comprehensive and standardized conceptual framework for understanding the multifaceted aspects related to the employment of individuals with disabilities. By comprehensively understanding these challenges, strategies to foster inclusivity and improve employment opportunities for

PWDs can be developed.

**MATERIAL AND METHODS**

**Study Design**

This scoping review adhered to the guidelines provided in PRISMA extension for scoping reviews (9) and guidelines by Arksey and O'Malley (10) as shown in Figure 1. The review encompassed 5 key stages: (i) identifying the research question, (ii) identifying the relevant studies, (iii) study selection, (iv) charting the data, and (v) collating, summarising and reporting the results.

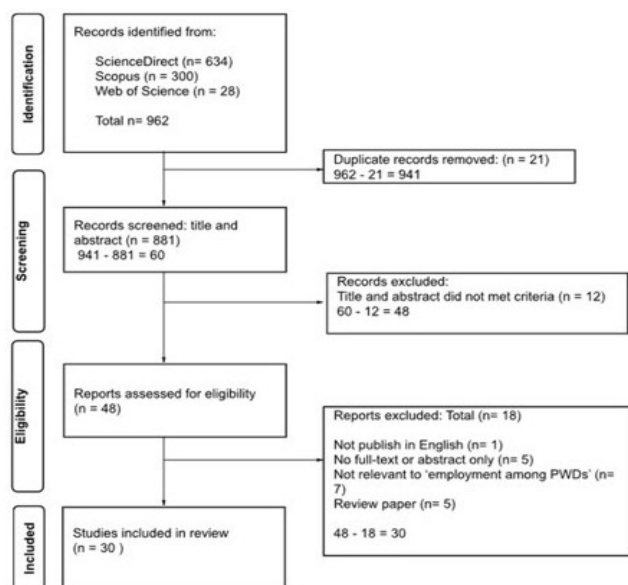


Figure 1: The PRISMA flow chart for the scoping review

**Stage 1: Identifying the research question**

The scoping review research question is, "What are the factors that influence employment among people with disabilities?"

**Stage 2: Identifying the relevant studies**

Three databases, namely Web of Science, Science Direct, and Scopus, were accessed on December 20, 2023 by AMB, at the title and abstract level using the keywords "factor influence" or "barrier" and "people with disability" or "disabled people" or "person with disabilities" and "employment" or "job" or "work". The title was chosen manually by identifying the related synonyms of the

words in the title level. In this scoping review, initial search results were systematically imported into EndNote, a reference management software by AMB and then was being reviewed by SASI. Elimination of duplicates from EndNote was performed by AMB before a comprehensive screening process was conducted on a total of 927 records. The screening process discriminated between peer-reviewed articles and non-peer-reviewed sources. The filtered studies from the screening must be relevant to titles and abstracts, focusing on English language sources that provide pertinent information related to the employment of PWDs. From 927 articles, 21 were removed for duplication, 881 were removed as title and abstract level not relevant to study, and 12 were excluded for not meeting title and abstract criteria. As a result only 48 articles were extracted before the final screening. At the final screening level, AMB excluded another 18 articles due to not publishing in English, not full-text and abstract only, not relevant to employment among disabled and review papers.

**Stage 3: Study selection**

Relevant studies from the sources were filtered according to the inclusion and exclusion criteria as shown in Table I.

Table I: Inclusion and Exclusion Criteria

Inclusion criteria	Exclusion criteria
Study context focuses on people with disabilities (young adult to adult age).	Study context focuses on non-disabled or normal people
In English language or translated to English	Other than English language and no translated version
Addressing factors related to employment (hiring, sustaining, recruitment and vocational training) of persons with disabilities.	Contain only abstract and no full text articles
Study published between year 2013-2023	Study published before 2013
Article, case-study, survey, interview, cohort study	Policy reports, analysis, guidelines and book chapters, editorials, opinion pieces, scoping and systematic reviews were not considered.

**Stage 4: Charting the data**

The data charting involved extracting information on the respective author, year of publication, methodology, aim of the study, study population and location, and findings relevant to this review as summarised in Table II.

**Table II: Data Charting Result**

Author(s)/ Year	Study design	Aim	Population/ Country	Factor influence
Mahasneh et al., (2023)	Qualitative	To investigate factors associated with the willingness of employers to hire people with disabilities.	Disability employment service providers (n= 30) Australia	1. Employer Willingness: (attitude, subjective norms, and perceived behavioural control)
Rafferty et al., (2023)	Longitudinal Study	To explore the association between financial hardship, employment challenges, and quality of life in individuals with early Parkinson's disease (PD).	Employed individuals with early PD (<5 years) (n=60) United States	1. Financial issue, high financial hardship associated with reduced confidence in job
Bhaskar et al., (2022)	Qualitative	To explore factors contributing to career success and sustainability among visually impaired individuals.	Visually impaired individuals (n= 66) India.	1. Resilience, ability to bounce back after rejection. 2. Adoption of psycho-social processes: non-acceptance of rejection, relatability with the sighted, family support, enabling self through technology, and mindset change.
Ikutegbe et al., (2023)	Qualitative	To explore and understand factors influencing successful employment outcomes for people with disabilities.	PWDs (n= 17) Employers (n=16) Disability employment services providers (n=14) Australia.	1. Nature of the disability 2. Disability disclosure 3. Personal motivation 4. Employer attitudes 5. Job characteristics 6. Corporate culture and climate 7. Government support 8. Societal attitudes
Khare et al., (2022)	Longitudinal Study	To investigate the relationship between employment, cognitive functioning, and various demographic factors in individuals with severe mental illnesses (SMI).	Severe Mental Illnesses (n= 150) India	1. Cognitive functioning 2. Gender
Portillo-NavarrLagos-Rodríguez & Meseguer-Santamaría (2022)	Cross-sectional	To analyse the influence of academic factors on the employability of graduates with disabilities.	University graduates, (n=31,000), master's degrees (n=11,000) *graduates who have been granted at least 33% disability and those who have not. Spain	1. Work experience 2. ICT knowledge 3. Age 4. Job quality 5. Gender
Dean et al., (2022)	Cross-sectional	To understand factors influencing employer willingness to hire people with intellectual disabilities (ID).	Employers (n= 478) Norway	1. Employer Willingness: - Employers' perception of work performance. - Corporate social responsibility. - Prior experience hiring employees with ID.
Schiffmann et al., (2022)	Qualitative	To determine factors, from the employer's perspective, influencing the sustainable employment of individuals with ABI or SCI.	Employer (n= 20) Switzerland.	1. Socio-demographic and Psychological Characteristics 2. Work Environment 3. Other Social/Environmental Conditions
Anne (2021)	Qualitative	To explore the impact of disability on the career development of qualified disabled workers in Japan and analyse their employment experiences with a long-term perspective.	Qualified workers with disabilities (n=14) *hearing, physical, visual, psychiatric Japan	1. Evolution of disability policies. 2. Changes in the education system. 3. Quota policies. 4. Government recognition. 5. Support system.
Beatson, et al., (2021)	Cross-sectional	To examine the challenges young people with physical and/or neurological conditions face in their journey to work, encompassing both their physical commute and transition to the workforce.	Young people with physical and/or neurological conditions (n= 200) Australia	1. Subjective norms. 2. Past behaviour and perceived behavioural support. 3. Employer support and social support.
Bellacicco, Pavone (2020)	Cross-sectional	To investigate the employment status of graduates with disabilities and explore the influence of demographic and academic factors, as well as the use of local employment services, on their post-university outcomes.	Graduates student with disabilities (n= 241) *degree of disability <66% Italy	1. Registration at the employment centre 2. Gender 3. Field of study 4. Age 5. Degree level 6. Grade, regularity of studies.

CONTINUE

**Table II: Data Charting Result (CONT.)**

Author(s)/ Year	Study design	Aim	Population/ Country	Factor influence
Nouf-Latif et al., (2019)	Qualitative	To analyse how narratives targeting ambitions and self-realisation in work life are expressed by individuals with High Functioning Autism (HFA) in relation to the citizen-worker discourse.	Swedish folk-high school program (n=7), Vocational Rehabilitation Programme (n=4) *HFA Sweden	1.Participants' ambitions and the disabling support-to-work hinder their self-realisation. 2.Disability legislation and policies not align with discourse
Ang (2014)	Cross-sectional	To explore how the Malaysian Persons with Disabilities Act (PWDA 2008) and organisational culture influence managerial intention to hire (PWDs).	Non-disabled employers (n=201) Malaysia.	1. Awareness of Disability Legislation (PWDA 2008) 2. Organisation Culture 3. Hiring Decisions and Stereotypes
Breen et al., (2019)	Participatory Action Research	To provide input into a strategy to improve employment opportunities for persons with disabilities in Armenia.	Employers (n=158) Armenia	Employer attitudes toward hiring persons with disabilities: 1. Structural Issues, lack of accessibility within facilities. 2. Social Issues, Employers anticipated negative reactions.
Corbiere et al., (2019)	Longitudinal Study	To test a theoretical model predicting work productivity of individuals with a psychiatric disability working in social firms (SFs) over time.	(n= 222) PWDs worker *psychiatric disability Canada	1. Severity of symptoms 2. Self-esteem as a worker 3. Organisational constraints 4. Supervisory support
Saltychev et al., (2018)	Cross-sectional	To investigate factors influencing the willingness to work and interest in vocational rehabilitation among unemployed persons with confirmed disabilities.	Unemployed respondents (n= 1 541) *congenital or acquired type of disability (mild - severe) Russian	1.Willingness to Work. 2. Interest in Vocational Rehabilitation.
Mullin et al., (2017)	Qualitative	To explore the experience of working for people with Parkinson's disease (PD) and create a model detailing the factors influencing workplace success.	Working people with PD (n=17) United Kingdom	1.Employer Relationship. 2.Self-Management.
Lexell et al., (2017)	Mixed-method	To explore the vocational situation among employed individuals with Neuromuscular Diseases (NMD) and describe their experiences regarding factors influencing their ability to continue working.	Employed Neuromuscular diseases (NMD) people (n= 9) Sweden	1.Facilitators (Personal characteristics, support from others at work and at home, flexible work organisation). 2. Barriers (Physically demanding work assignments & factors in the physical environment).
Duvdevany et al., (2016)	Cross-sectional	To examine the relationship between adjusted minimum wage regulations in Israel and employers' willingness to hire individuals with intellectual disabilities (ID), and identify factors influencing positive attitudes toward persons with ID among employers.	Employers in the industry, commerce, and service (n= 79 ) Israel	1.Familiarity with legislation 2.Previous contact with persons with ID.
Yusofa et al., (2015)	Case Study	To explore and present the views of employers who hire youth workers with disabilities from vocational secondary schools leavers in Malaysia.	Employers from service industries who hired youth workers with disabilities from vocational secondary schools (n=3) Malaysia	Strengths:Hardworking, responsible, compliant, honest, and socially able personalities were identified as strengths. Weaknesses:Youth workers with disabilities were noted to have low self-confidence, sensitivity, and susceptibility to negative influences.
Boman et al., (2015)	Retrospective: Secondary Data Analysis	The study aimed to examine the factors influencing employment opportunities for people with disabilities in the Swedish labour market.	Respondents with disabilities (n= 4359) *communicative (hearing, speech-reading, vision), psychological disability,medical and physical disability Swedish	Employment opportunities varied significantly based on the 1. Type of disability. 2. Gender 3. Age 4. Ethnic Background 4. Residential Region 5. Education 6. Self-estimated Workability
Van der Hiele, et al., (2015)	Prospective observational study	To examine factors influencing work participation in patients with relapsing-remitting Multiple Sclerosis (MS) over a 3-year period.	15-18 MS outpatient clinics (n= 350 patients) Netherlands	1.Disease-related factors 2.Working environment 3. Personal factors affecting work participation.

CONTINUE

**Table II: Data Charting Result (CONT.)**

Author(s)/ Year	Study design	Aim	Population/ Country	Factor influence
Velvin et al., (2015)	Cross-sectional	To investigate work participation in adults with verified Marfan syndrome (MFS) diagnosis and explore how health-related consequences of MFS and other factors might influence work participation.	Verified MFS adults (n= 117) Norway	1.Age 2.Lower educational level 3.Severe fatigue
Wik & Tøssebro (2014)	Cross-sectional	The aim of the study is to investigate motivation for work among non-working disabled people and to address their motivation from a life course perspective, considering factors such as age, disability, and societal influences	Disabled people (n= 1652) participants. *sensory impairment, Shortness of breath, chronic pain, mobility difficulties, mental health problem, head injury, cognitive difficulties Norway	1. Age 2. Welfare system 3. Education of parents, age of onset of impairment, and type/degree of impairment 4. Motivation to work 5. The transition into retirement.
Parker et al., (2014)	Mixed-methods	To explore the political-economic and socio-cultural factors influencing social entrepreneurship (SE) as an employment pathway for people with disabilities.	Social entrepreneur with disabilities (n = 27), key stakeholders (n = 19) Chicago	Political-economic and socio-cultural factors.
Løvvik et al., (2014)	Cross-sectional	To investigate the association between illness perceptions and return-to-work expectations in individuals with mental health symptoms affecting work participation.	Persons actively working (n = 334), sick listed (n = 529) or receiving disability benefits (n = 330) *mental health Norway.	Illness perceptions, including components such as consequences, personal control, identity, illness concern, illness understanding, timeline, and emotional.
Holwerda et al., (2013)	Longitudinal Study	To investigate factors predicting work participation (finding and maintaining employment) for young adults with Autism Spectrum Disorders (ASD) and Attention Deficit Hyperactivity Disorder (ADHD).	ASD & ADHD adult (n=563) Netherlands	1. Finding Work: Gender, Living Status, Supports, and Attitudes. 2. Maintaining Employment: Gender, Age, Attitude.
Holwerda et al., (2013)	Cohort Study	To investigate factors predicting both the initial finding of employment and the sustained work participation (at least 6 months) among young adults with mild intellectual disabilities (ID).	Young adults with mild ID (n= 735) Netherlands	1. Motivation 2. Expectations Regarding Future Work Level 3. Living Situation 4. Gender
Amin & Abdullah (2017)	Qualitative	To explore employment issues significantly impacted on wellbeing of Malaysian women with physical impairments.	Malaysian women with physical mobility impairments (n=33), Malaysia	1. Income level 2. Accessibility barrier 3. Nature of impairments 4. Attitudinal barrier 5. Sheltered employment 6. Social restriction 7. Financial constraint 8. Remote location
Harun (2020)	Cross-sectional	To describe the employment experiences of people with learning disabilities (LD).	Young adults with LD (n=77) Malaysia	1. Gender 2. Family characteristics (monthly income/parental education) 3. Community (parents expectation/ services at post/ secondary level school 4. Financial support

### Stage 5: Collating, summarising and reporting the results

Further analysis based on the ICF model was conducted manually to give a clear view on factors influencing employment as presented in Table III. The analysis concentrated on the research question of this scoping review in understanding factors influencing employment among PWDs.

### Data Analysis

A tool for data extraction was devised to gather information about the article's scope. This tool encompassed details such as population, disability type,

study objectives, design, context, and study outcomes. To discern reports on factor influence, identified studies underwent manual analysis using Microsoft Excel. Data analysis and coding was then applied to organise the findings, aligning with the ICF classification. The data were classified and the results were subsequently presented following the ICF domains which are body function and structure, activity and participation, environmental, and personal domains.

The thematic analysis was manually conducted from the data charting result and converted into a table in summarising the articles. This phase involves identifying

and colour-coding codes and sub-themes for easier reference. The codes were listed and arranged according to their respective main categories or themes, and then the theme was refined.

**Ethical Clearance**

The ethical consideration was obtained from Universiti Teknologi Mara (UiTM). The reference number is FERC/FSK/MR/2022/0147.

**RESULTS**

**Overview of the studies**

Based on the result, there were seven qualitative, four longitudinal, four survey, four quantitative, three cross-sectional, three observational, two mixed-method, one participatory action research, one case study, and one cohort study was reviewed with the target population is people with disabilities. The highest population and sample size is among university graduates with disabilities (n=41,000) followed by People with disabilities in the Swedish labour market (n=29,816), and young people with disabilities (n=1652). From the scoping result, studies were mostly conducted in Norway (n=4) and Malaysia (n=4) followed by Netherlands (n=3), Australia (n=3), and Sweden (n=3), India (n=2), with others country of U.S, Spain, Switzerland, Japan, Italy, Armenia, Canada, Russian, U.K, Israel, and Chicago (n=1). The selected studies ranged from the year 2013 until 2023. The data were summarised in Table III.

**Thematic analysis: Factors influencing employment**

A total of 30 articles were eligible and selected for this study based on the criteria chosen. One major theme generated was the factors influencing employment among PWDs. Table 2 presented the summarised results of the charting data on factors influencing employment among individuals with disabilities.

As this research employed the ICF as a guiding framework thus, factors influencing the study are presented based on the ICF domains, namely, body function and structure, activity and participation, as well as environment and personal domain. The reviewed studies delved into factors across multiple domains, with a mere 6 studies (20%) focusing exclusively on one domain, while the remaining 24 studies (80%) consist of multiple domains. From 30 studies, 21 studies (70%) reported on factors within the body function and body structure domain. 11 studies (37%) were reported on factors within the activity and participation domain. 13 studies (43%) were reported on personal factors, while most of the studies were reported on factors within the environment with a total 22 (73%).

**Table III: Factors Influenced Employment among PWDs based on the International Classification of Functioning, Disability and Health (ICF) framework domains.**

Factors Influenced based on ICF		
Domains of the ICF	Number of studies (n)	Included studies
Body function and body structure		
Type and severity of disability	8	11-18
Health condition	1	19
Mental functions	16	11-12, 14, 16, 20-31
Activity and participation		
Learning and applying knowledge	5	20, 24, 32-34
General task and demands	7	11, 15, 22, 24, 31, 33, 35
Self-care	1	28
Environmental factor		
Natural environment and human-made changes to environment	9	12, 15, 17-18, 28, 31, 36-38
Support and relationship	11	11, 12, 20, 22-23, 25, 31-32, 36-37, 39
Attitudes	13	11, 15-17, 20, 22, 26, 29, 35-36, 38-40
Services, systems and policies	5	11, 16, 24, 29, 40
Personal factors		
Gender and age	12	13-16, 19, 21-22, 28, 32-35
Ethnic and residential background	1	13
Level of education	3	13, 19, 34
Financial and living situation	3	15, 30, 32

**Body function and body structure**

The domain related to body function and body structure includes the type and severity of disability (n=8), health condition (n=1) and mental function (n=16). The mental function encompasses aspects such as resilience: non-acceptance of rejection, mind-set, motivation, cognitive function, psychological characteristics, emotion, ambitions, self-esteem, interest, personality, self-management, self-confidence, self-estimated workability, emotional representation & identity, and expectations. Meanwhile the type and severity varies depending on condition with only 1 study mentioned on health condition.

**Activity and participation**

The domain concerning activity and participation incorporates learning and applying knowledge (n=5), which encompasses vocational rehabilitation programs, enabling oneself through technology, ICT knowledge, and registration at employment centres. Additionally, it includes general tasks and demands (n=7), covering job

characteristics, demanding work assignments, and job quality with work expectations. On the other hand, the components of self-care (n=1) are also included in this domain.

### **Environmental Factors**

The domain related to environmental factors includes natural environmental elements and human-made changes to the environment (n=9), such as corporate culture and climate, work environment, conditions, organisational culture, structural issues, organisational constraints, work organisation, and living situation. On the other hand, support and relationships (n=11) encompass family support, government support, corporate responsibility, employee's experience, creation of retention support system, perceived behaviour support and employer support, supervisory support, supportive employers and colleagues, support from others at work and at home, previous contact with PWDs, education of parents, the role of government, policy reform, and funding. Despite of that, attitudes play a major role in influencing employability (n=13) consist of attitudes employees and employers, subjective norms, perceived behavioural control, relatability with the sighted, societal attitudes, perceptions of work performance, awareness of disability, hiring decisions and stereotypes, social issues: negative reactions, and cultural stereotypes. Additionally, services, systems, and policies (n=5) include the evolution of disability, changes in the education system, quota policies, disability legislation and policy, familiarity with legislation, the welfare system, and the transition into retirement is found to be the influence factor in employment of PWDs.

### **Personal Factors**

The personal factor domain (n=12) comprises age, gender, level and type of education, disability onset, ethnic background, and financial issues. While, ethnic and residential background consist of (n=1) same as financial and living situation (n=3). Followed by level of education (n=3).

## **DISCUSSION**

### **Body function and body structure**

In examining the factors influencing employment among PWDs in the domain of body function and body structure, results showed few studies mentioning components related to the type and severity of disability, with mental functions emerging as pivotal determinants. The type and severity of disabilities play a crucial role in shaping access to job opportunities (11), while the severity of clinical symptoms is a significant predictor of work productivity in supported employment settings (12). Additionally, the type of disability significantly influences employment prospects (13), and impacts the belief in the possibility of work and motivation (14). Moreover, the nature of impairment, such as an impairment that will cause PWDs to use a wheelchair,

can limit the ability to work in certain environments. The mismatch between the physical demands of certain jobs and the mobility limitations of women with disabilities restricted their employment options (15), raising concerns about the generalizability of findings to those with severe-grade disabilities (16). A new dimension emerges, noting that employers may exhibit more favourability toward physical disabilities than mental illnesses (17), contributing insights into the impact of the severity and progression of multiple sclerosis (MS) symptoms on the physical and mental well-being of patients and how this may affect their ability to participate in the workforce over time (18). Moreover, health conditions, such as severe fatigue are linked to a lower likelihood of working (19).

In the domain of mental functions, this domain consists of few components. One of its components that can contribute to employment, according to Bashkar et al., is resilience or the ability to bounce back after rejection and mind-set change (20). Better cognitive function among younger participants is associated with fewer hours worked, shorter job duration, and work-related problems (21), while employers expect good self-assessment and self-management from employees with disabilities (22). The level of motivation and support is influenced by subjectivity norms related to independence in the journey to work (23), with emotional satisfaction in achieving ambitions related to coaching or helping others being crucial, especially among younger participants articulating specific interests such as teaching, coaching, and working in elderly care (24). Promoting a self-management approach may improve the experience of working for people with Parkinson's disease (25), as ambitions are considered driving factors for pursuing occupations aligning with individual interests and contributing to personal development. Yusof and friends, highlight the importance of personality strengths in youth workers with disabilities, including traits such as being hardworking, responsible, obedient, honest, and socially capable (26), with motivation being driven by a desire to prove capabilities to doubters. Worker's self-esteem, particularly in the organizational context, modestly but significantly predicts work productivity (12), as people with disabilities are motivated to work for financial independence, social networking, and self-worth (11). Higher emotional distress is related to negative return-to-work expectations (27), while high perceived support from parents and a positive attitude of parents regarding work influence autism spectrum disability (ASD) and attention deficit disability (ADD) young adults in finding work (28). Motivation for social entrepreneurship arises from both push and pull factors, with push factors including a lack of employment options, perceived discrimination, and limited opportunities, while pull factors involve passion, interest, and a caring attitude toward social issues (29). Rafferty et al., highlight that non-motor symptoms like depression and anxiety are

linked to leaving the workforce, aligning with similar findings in other research (30), with high demands and a disciplined personality seen as resources for effective work, and a strong will and high self-esteem serving as motivators to continue working (31). IQ and education did not emerge as significant associations with employment (32), yet disability negatively impacts various aspects of labour market success (33). PWDs that graduate with a lower median grade have a high percentage of employment (34), and highly motivated individuals are three times more likely to find work than less motivated individuals, underscoring the crucial role of motivation in the job search process (35). Intrinsic factors, such as personal values, beliefs, and self-evaluation, are crucial in understanding willingness to work and successful work reintegration (16), with Wik & Tøssebro, observing a clear pattern of decreasing motivation to work as individuals age, attributed to both fewer people believing that work is possible with increasing age and an increasing proportion not wanting to work even when it is considered possible (14).

### **Activity and participation**

The current study's exploration of activity and participation resonates with prior research, highlighting two components of activity and participation which is learning and applying knowledge and general tasks and demands.

Learning and applying knowledge highlight the importance of enabling oneself through technology. Adoption of technology improves participants' embrace of technology to solve daily problems, enhance education, and perform job-related tasks, leading to increased independence and career opportunities (20). However, studies have shown that vocational rehabilitation programs face challenges, as perceived inefficiency in equipping participants with practical knowledge or tools diminishes the perceived value of the program (24). Registration at employment centres significantly increases the likelihood of finding employment after graduation, indicating the importance of utilizing such resources (34), while the field of study significantly influences post-graduation employment, in which social sciences and scientific-health areas tend to have more favourable outcomes, along with grade and the regulator of study (34). In addition, graduates who enter the job market at a younger age have a slightly higher likelihood of finding employment after graduation (34), and working during university studies significantly increases the chances of professional success, especially for graduates with disabilities (33). Those who received vocational training and employment-related services were significantly more engaged in employment, indicating that access to vocational training and specialized services enhances the employability of young adults with learning disabilities (32).

While considering general tasks and demands, job

characteristics, performance, and the ability to fulfil role requirements are key considerations for employers. Matching the individual's skills to the job is essential (11). Additionally, work assignment demands and flexible work arrangements, including the ability to adjust work assignments, take breaks, and have flexible working hours, were perceived as important (31). Working during studies was identified as the most influential factor predicting success in employment and job quality, with information and communication technology (ICT) skills being the second relevant educational factor (22,33). However, employee struggles with job demands may impact the working atmosphere, emphasizing the importance of matching resources and abilities to job demands for successful work performance (24). Participants in a study highlighted inefficiencies in the educational phases of the visual rehab program (VRP), questioning their relevance and impact on self-development. The perceived inefficiency in equipping participants with practical knowledge or tools diminishes the perceived value of the program, affecting motivation (15). Furthermore, the type of employment, including working in a residential workshop, NGOs, from home, or at professional and non-professional levels, influenced the overall employment experience.

### **Environmental Factors**

Environmental factors, encompassing both natural and human-made elements, find support in earlier literature emphasising the profound impact of corporate culture, organisational constraints, and support systems on the employment landscape for individuals with disabilities.

The domains of natural and human-made changes to environments encompass liability risks and the costs associated with workplace modifications and reasonable adjustments for employees with disabilities, a concern faced by employers (17). Individuals living with parents or independently were three times more likely to find work than those in residential placements (35). Additionally, larger companies with 30 or more employees were found to be more likely to hire employees with intellectual disabilities (36). The ability to work and the need for accommodations affect the ability of multiple sclerosis (MS) patients to either maintain or attain employment (18). Moreover, physical barriers in the workplace, combined with the nature of certain jobs, particularly in tailoring, contribute to exclusion and limited employment prospects for women with mobility impairments (15). In addition, peer support and community engagement provide workers with disabilities a sense of belonging (37) while employers' attitudes are influenced by concerns about the impact of hiring workers with disabilities on workplace structures, including considerations of skills, costs, and the physical environment, going beyond mere physical accommodations to include broader perceptions of the impact on the workplace (38). Finally, work environments that accommodate the needs of

individuals across a continuum of symptom severity contribute to improved work productivity (12).

In terms of support and relationships, successful participants attributed their achievements to wise and enlightened families that empowered them from a young age to overcome fear, deficiency, and limitation (20). Having sighted siblings or blind elder siblings as mentors played a crucial role in the participants' resilience and confidence, along with parents actively guiding visually impaired children in choosing study disciplines, instilling a spirit of experimentation and perseverance. Furthermore, empathy and creating a welcoming environment contribute to success, with awareness and understanding of disabilities contributing to positive societal attitudes (36). Employer support and social support directly increase perceived behavioural control and indirectly influence intentions (23), while the effect of supervisory support on work productivity is more clearly observed over the long term (12). Having supportive employers and colleagues is a key factor in experiencing greater workplace success and well-being (25), with work and home support being crucial for work continuation. Positive relationships with colleagues and managers were highlighted as essential, especially as the disease progresses (31), and positive contacts and interactions with individuals with higher intellectual functioning contribute to favourable attitudes (39).

The attitudes identified in this review align with previous studies emphasizing the role of societal perceptions, stereotypes, and hiring decisions in shaping employment opportunities. Employers who have had positive experiences working with individuals with disabilities are more likely to hold positive attitudes toward hiring them. Understanding the sighted perspective helped participants hone their skills and interact effectively, avoiding seeking concessions based on their disability (17). Perception of work performance, corporate social responsibility, and prior experience hiring employees with intellectual disabilities influence employer willingness to hire people with disabilities (11). Managers who are aware of disability legislation show a higher intention to hire disabled individuals, highlighting the importance of disability legislation in influencing positive attitudes toward hiring people with disabilities (36). Employers' attitudes are shaped by their expectations of how people with disabilities will be socially accepted within the workplace. Concerns about co-worker, customer, and supervisor reactions, emphasizing the status of disability rather than ability or performance, contribute to this factor (40). Lack of knowledge and experience about how disability affects work highlights the importance of employees learning to reflect on disability impact and identify needs (26). Additionally, societal attitudes toward disability play a significant role in influencing willingness to work (22), while stigma and discrimination produce attitudinal barriers impacting social entrepreneurs with disabilities.

Prejudice affects competitive employment seeking, leading to discrimination in hiring (16).

Services, systems and policies domain consist of few components. One of them is, challenge and counter the disability-worker discourse, emphasising the inefficacy of certain stereotypes and questioning the overall benefit of the program (24).

### **Personal Factors**

Additionally, the examination of Personal Factors in this scoping review echoes earlier findings on the influence of age, gender, education, and financial issues on employment outcomes. Age and gender influenced cognitive performance and work status (21), with gender impact differing; being a woman was an advantage for graduates with disabilities but not for those without disabilities. Some studies suggest that gender may play a role in employment opportunities, with a higher percentage of females securing jobs compared to males (34), while others, like Boman et al., found women were less likely to be employed than men (13). Age also affected employability for graduates with disabilities, with younger graduates having better chances (33), as employers perceive aging as negatively affecting job performance (22) and willingness to work was positively associated with younger age (16). Furthermore, gender differences could be influenced by various factors such as societal expectations, job preferences, or employer biases (15). While, ethnic backgrounds were significant factors affecting employment, with studies indicating that those of Swedish background had greater employment opportunities (13).

Level of education plays a significant role in employment outcomes, with individuals who complete a master's degree performing better in terms of employment after graduation (34). Another study showed finding with primary education level individuals were less likely to be employed compared to those with secondary or higher education (13). Furthermore, individuals with higher educational levels are nearly ten times more likely to be working compared to those with lower educational levels (19). Thus, education is seen as an important factor in obtaining and retaining employment, providing individuals with opportunities to choose more suitable work based on their physical function and capacity.

In financial and living situations, significant correlations between parkinson's disease (PD) related financial hardship and employment factors was found (30). Additionally, the majority of women received the disabled employee allowance (EPC), impacting their monthly income but the average income remains low, highlighting financial challenges (15). Moreover, respondents from families with lower monthly income ( $\leq$ RM2300) were more engaged in employment compared to those from middle to high-income families (32). Financial constraints in lower-income families may

motivate individuals to seek employment earlier and contribute to the family's financial needs.

### Limitation

Several limitations have been identified. Some studies might not be listed in this review due to the exclusion criteria and missing data. This scoping review consolidates studies from different nations, acknowledging possible cultural and ethnic differences that could affect employment results for PWDs. It combines observations from various domains, such as job searching, job retention, and job re-entry, without concentrating on any specific element. There is variation in study designs, as the studies included used diverse methodologies, definitions, and conceptual frameworks. This diversity renders it difficult to directly compare outcomes and could influence the applicability of the results. Additionally, this review does not distinguish among particular types of disabilities, viewing PWDs as a general category instead. This method might disregard employment factors specific to conditions, as those with physical, sensory, cognitive, or intellectual disabilities could encounter distinct challenges not individually examined. Notwithstanding these constraints, this scoping review offers important insights into the elements affecting employment for PWDs, emphasizing main obstacles, supports, and policy ramifications for improving workforce integration.

### CONCLUSION

Based on the result, environmental factors contribute as the highest percentage that influence employment among PWDs, the result is the same as the previous study result that found environmental factors as the highest predictor. The second influence is body factors and structure followed by activities and participation and personal factors. The ICF model provides a comprehensive framework for understanding the various factors influencing employment among PWDs. It emphasizes the interconnectedness of health, personal factors, and environmental factors in shaping employment outcomes for PWDs. Despite that, rather than focusing on a particular impairment type, this study also adopts a broader approach. Hence, this study serves as a preliminary exploration that could benefit from more thorough investigations into specific contexts. This scoping review highlights essential factors influencing employment for PWDs, offering important insights for occupational therapists (OTs) to boost work participation, improve workplace accessibility, and inform future research and practice. Occupational therapists are essential in tackling employment obstacles, such as physical, cognitive, and psychosocial issues. Incorporating vocational rehabilitation into OT practice can enhance job skills, manage workplace stress, and increase overall readiness for work. Obstacles in the workplace, like lack of accessibility and prejudice from employers, restrict job chances for

people with disabilities. OTs can promote changes in the workplace, including ergonomic enhancements, assistive technologies, and improved accessibility. Job coaching and employer training initiatives can also foster inclusivity and a nurturing workplace environment. OTs can offer interventions that boost confidence, psychoeducation, and training in social skills to enhance communication, collaboration, and professional relationships. In addition to the findings, it is important for tailor-made intervention and supportive policies to be developed based on the factor influence to enhance opportunities for PWDs in workforces. It is also recommended for future study to investigate intrinsic factors that contribute to employment among disabled.

### REFERENCES

1. World Health Organization. World Health Organization Global Report on Health Equity for Persons with Disabilities. World Health Organization: Geneva, Switzerland. 2022.
2. Malaysian Employers Federation. MEF Urges Employers to Establish Enabling Environment at to Increase Employment Opportunities for Persons with Disabilities. [Internet]. Malaysian Employers Federation; 2023 Nov [cited 2023 Dec 23]. Available from: <https://www.mef.org.my/Attachments/PR20231114a.pdf>
3. Dewi U, Harith NH, Harsono D, Ali AJ, Fitriana KN. Employment governance for people with disabilities: Comparative study between Indonesia and Malaysia. Proceedings of the International Conference on Educational Research and Innovation (ICERI 2019). 2020; doi:10.2991/assehr.k.200204.043
4. Jasiak A, Krylak P. The importance of work for people with disabilities and evaluation imposed obligations of employers. Ergonomics For People With Disabilities. 2018 Dec 31;227–38. doi:10.2478/9783110617832-019
5. A National Leadership Summit on Improving Results for Youth: State Priorities and Needs for Assistance. [Internet]. National Center on Secondary Education and Transition; 2003. [cited 2023 Dec 23]. Available from: <http://www.ncset.org/summit03/NCSETSummit03findings.pdf>.
6. Barriers to employment for people with a disability [Internet]. U.S. Bureau of Labor Statistics; [cited 2023 Dec 22]. Available from: <https://www.bls.gov/opub/ted/2020/barriers-to-employment-for-people-with-a-disability.htm>
7. Manaf AR, Othman SZ, Isa MF, Noor WS, Azizan N. Employment challenges among persons with disabilities in Malaysia. International Journal of Academic Research in Business and Social Sciences. 2019 Oct 31;9(10). doi:10.6007/ijarbss/v9-i10/6469
8. World Health Organization. International Classification of functioning, Disability and Health:

- Children & Youth Version. Geneva: World Health Organization; 2007.
9. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. Prisma extension for scoping reviews (PRISMA-SCR): Checklist and explanation. *Annals of Internal Medicine*. 2018 Oct 2;169(7):467–73. doi:10.7326/m18-0850
  10. Arksey H, O'Malley L. Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*. 2005 Feb;8(1):19–32. doi:10.1080/1364557032000119616
  11. Iktetegbe P, Randle M, Sheridan L, Gordon R, Dolnicar S. Factors and key interactions influencing successful employment outcomes for people with disabilities. *Asia Pacific Journal of Human Resources*. 2023 May 24;62(1). doi:10.1111/1744-7941.12377
  12. Corbiere M, Zaniboni S, Dewa CS, Villotti P, Lecomte T, Sultan-Taneb H, et al. Work productivity of people with a psychiatric disability working in social firms. *Work*. 2019 Feb 7;62(1):151–60. doi:10.3233/wor-182850
  13. Boman T, Kjellberg A, Danermark B, Boman E. Employment opportunities for persons with different types of disability. *Alter*. 2015 Apr;9(2):116–29. doi:10.1016/j.alter.2014.11.003
  14. Wik SE, Tussebro J. Motivation for work among non-working disabled people in Norway in a life course perspective. *Alter*. 2014 Jan;8(1):40–52. doi:10.1016/j.alter.2013.11.002
  15. Amin AS, Abdullah SH. Malaysian disabled women experiences in employment. *International Journal for Studies on Children, Women, Elderly and Disabled*. 2017;11(4):259-71.
  16. Saltychev M, Mattie R, Starobina E. Factors associated with willingness to work among unemployed persons with a disability in a large urban area: A short communication. *Work*. 2018 Sept 18;60(4):597–601. doi:10.3233/wor-182767
  17. Mahasneh R, Randle M, Gordon R, Algie J, Dolnicar S. Increasing employer willingness to hire people with disability: The Perspective of Disability Employment Service Providers. *Journal of Social Marketing*. 2023 Apr 17;13(3):361–79. doi:10.1108/jsocm-08-2022-0174
  18. Van der Hiele K, Van Gorp DA, Heerings MA, van Lieshout I, Jongen PJ, Reneman MF, et al. The MS@ Work study: A 3-year prospective observational study on factors involved with work participation in patients with relapsing-remitting multiple sclerosis. *BMC Neurology*. 2015 Aug 12;15(1). doi:10.1186/s12883-015-0375-4
  19. Velvin G, Bathen T, Rand-Hendriksen S, Geirdal AW. Work participation in adults with Marfan Syndrome: Demographic characteristics, MFS related health symptoms, chronic pain, and fatigue. *American Journal of Medical Genetics Part A*. 2015 Sept 30;167(12):3082–90. doi:10.1002/ajmg.a.37370
  20. Bhaskar AU, Baruch Y, Gupta S. Drivers of career success among the visually impaired: Improving career inclusivity and Sustainability in a career ecosystem. *Human Relations*. 2023 Jul 5;76(10):1507–44. doi:10.1177/00187267221103529
  21. Khare C, Mueser KT, McGurk SR. The relationship between cognitive functioning, age and employment in people with severe mental illnesses in an urban area in India: A longitudinal study. *Schizophrenia Research: Cognition*. 2022 Sept;29:100255. doi:10.1016/j.scog.2022.100255
  22. Schiffmann B, Finger ME, Karcz K, Staubli S, Trezzini B. Factors related to sustainable employment of people with acquired brain injury or spinal cord injury: The employer's perspective. *Frontiers in Rehabilitation Sciences*. 2022 Aug 2;3. doi:10.3389/fresc.2022.876389
  23. Beatson A, Riedel A, Chamorro-Koc M, Marston G, Stafford L. Factors influencing the journey to work for young people with physical and/or neurological conditions. *Disability and Rehabilitation*. 2021 Sept 10;43(9):1270–8. doi:10.1080/09638288.2019.1655804
  24. Nouf-Latif F, Andersson K, Markstrum U. Encouraging real or make-believe citizen-workers? narratives of self-realization versus disabling support-to-work contexts by individuals with high functioning autism. *Alter*. 2019 May;13(2):126–40. doi:10.1016/j.alter.2019.03.001
  25. Mullin RL, Chaudhuri KR, Andrews TC, Martin A, Gay S, White CM. A study investigating the experience of working for people with parkinson's and the factors that influence workplace success. *Disability and Rehabilitation*. 2018 May 10;40(17):2032–9. doi:10.1080/09638288.2017.1323237
  26. Yusof AM, Ali MM, Salleh AM. Youth workers with disabilities: The views of employers in Malaysia. *Procedia - Social and Behavioral Sciences*. 2015 Aug;204:105–13. doi:10.1016/j.sbspro.2015.08.122
  27. Løvvik C, Øverland S, Hysing M, Broadbent E, Reme SE. Association between illness perceptions and return-to-work expectations in workers with common mental health symptoms. *Journal of Occupational Rehabilitation*. 2014 Apr 18;24(1):160–70. doi:10.1007/s10926-013-9439-8
  28. Holwerda A, van der Klink JLL, de Boer MR, Groothoff JW, Brouwer S. Predictors of sustainable work participation of young adults with developmental disorders. *Research in Developmental Disabilities*. 2013 Sept;34(9):2753–63. doi:10.1016/j.ridd.2013.05.032
  29. Parker Harris S, Renko M, Caldwell K. Social Entrepreneurship as an employment pathway for people with disabilities: Exploring political-economic and socio-cultural factors. *Disability*

- & Society. 2014 Jul 30;29(8):1275–90. doi:10.1080/09687599.2014.924904
30. Rafferty MR, Achler S, Su H, Kocherginsky M, Bega D, Heinemann AW, et al. Financial hardship is associated with employment challenges and reduced quality of life in early parkinson's disease. *Clinical Parkinsonism & Related Disorders*. 2023;9:100225. doi:10.1016/j.prdoa.2023.100225
  31. Lexell EM, Langdell I, Lexell J. Vocational situation and experiences from the work environment among individuals with neuromuscular diseases. *Work*. 2017 Apr 26;56(4):519–30. doi:10.3233/wor-172527
  32. Harun D, Che' Din N, Mohd Rasdi HF, Shamsuddin K. Employment experiences among young Malaysian adults with learning disabilities. *International Journal of Environmental Research and Public Health*. 2020 Dec 23;17(1):115. doi:10.3390/ijerph17010115
  33. Portillo-Navarro MJ, Lagos-Rodríguez G, Meseguer-Santamaría M-L. Employability of university graduates with disabilities in Spain. *International Journal of Environmental Research and Public Health*. 2022 Jan 27;19(3):1463. doi:10.3390/ijerph19031463
  34. Bellacicco R, Pavone M. After higher education: Exploring the transition to employment for graduates with disabilities. *Alter*. 2020 Sept;14(3):159–74. doi:10.1016/j.alter.2020.03.002
  35. Holwerda A, van der Klink JLL, de Boer MR, Groothoff JW, Brouwer S. Predictors of work participation of young adults with mild intellectual disabilities. *Research in Developmental Disabilities*. 2013 Jun;34(6):1982–90. doi:10.1016/j.ridd.2013.03.018
  36. Dean EE, Garrels V, Sigstad HM, Wendelborg C. Employer willingness to hire people with intellectual disability: The influence of employer experience, perception of work, and Social Responsibility. *Journal of Vocational Rehabilitation*. 2022 Jul 15;57(1):85–95. doi:10.3233/jvr-221201
  37. Mithout A-L. From equal access to employment to equal career opportunities? employment practices and work experiences of qualified disabled workers in Japan. *Alter*. 2021 Oct;15(4):341–53. doi:10.1016/j.alter.2021.07.001
  38. Breen J, Havaei F, Pitassi C. Employer attitudes toward hiring persons with disabilities in Armenia. *Disability and Rehabilitation*. 2019 Apr 17;41(18):2135–42. doi:10.1080/09638288.2018.1459882
  39. Duvdevany I, Or-Chen K, Fine M. Employers' willingness to hire a person with intellectual disability in light of the regulations for adjusted minimum wages. *Journal of Vocational Rehabilitation*. 2016 Jan 7;44(1):33–41. doi:10.3233/jvr-150778
  40. Ang, MC. Do persons with disabilities act (2008) and organizational culture influence managerial intention to hire persons with disabilities?: The Malaysian Perspective. *Jurnal Pengurusan*. 2014;41:81–9. doi:10.17576/pengurusan-2014-41-07