

Diverse Student Populations in Universities: A Scoping Review of Challenges, Skills and Institutional Support

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Abstract

Universities enroll students from a variety of ethnic, social and educational backgrounds, with different needs and expectations. Non-traditional students often face significant challenges. This paper examines these challenges, their academic preparedness, and the institutional support available to promote their success and inclusion. A scoping review was conducted using Scopus, ERIC and DOAJ, with supplementary searches performed via Google Scholar. The review was conducted in accordance with the PRISMA-ScR guidelines. A total of 60 studies were published between 2010 and 2025 and four websites were included. The results revealed that non-traditional students encounter unique difficulties influenced by their individual backgrounds. These academic struggles are often rooted in unfamiliarity with academic norms rather than a lack of ability among non-traditional students. Finally, the importance of providing multidimensional assistance that addresses a range of student needs was highlighted.

Keywords

Non-traditional students, challenges, interventions, support services.

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Introduction

Universities adapt to technological, social, economic, and cultural changes, becoming complex organizations (Vassilopoulos, Kavasakalis & Stamelos, 2020). Expansion has reshaped the student body's composition (Stamelos, 2020). As a result, students may now be older (Kops, 2020), international (Tavares, 2021), first-generation (Ishitani, 2006), from low socioeconomic backgrounds (Walker *et al.* 2025), refugees (Baker & Irwin, 2019), or students with disabilities (Evans, Broido, Brown & Wilke, 2017). These students have diverse needs, as they come from different backgrounds and social contexts (Hussey & Smith, 2010). Non-traditional students across countries are made up of *a complex mosaic of voices* (Holmegaard, Madsen & Ulriksen, 2017). The term *non-traditional student* varies across the literature, often shaped by each study's context. For the purposes of this scoping review, we adopted the definition proposed by Brunner, Eigbrecht, and Ehlers (2021, 16) “*every student who does not feel like an integral part of the student and institutional community and/or who, due to their specific circumstances, does not have the opportunity to get involved in student engagement during their studies is a non-traditional student*”.

The Bologna Process emphasizes diversity, equity, and support for disadvantaged students (Paris Communiqué, 2018). Yet, despite support mechanisms (ESU, 2020), inequalities persist (Goastellec & Välimaa, 2019), and many still face challenges to access, progression, and completion (Berg, 2020). Higher education often fails to meet these needs, leading to high dropout rates (European Commission/EACEA/Eurydice, 2018; OECD, 2019). Causes include inadequate support services (Athaley, Mishra & Gupta, 2023), limited inclusive teaching (Tabatadze & Gorgadze, 2025), and weak state commitment to Social Dimension targets (Ioannidi, 2020).

A scoping review was conducted to consolidate current knowledge on challenges faced by non-traditional students and institutional support. It maps existing research to guide higher education, inform scholars and practitioners, identify gaps, and promote inclusive policies for equity and student success. Therefore, the research questions are formulated as follows:

1. What challenges do non-traditional students face in higher education?
2. Do they possess the necessary knowledge and skills to meet academic requirements?

3. What strategies and mechanisms do universities implement to support non-traditional students?

1. Methods

1.1 Protocol and Registration section

The scoping review was conducted in accordance with the PRISMA-ScR guidelines (Tricco et al., 2018).

1.2 Eligibility Criteria

Eligible studies focused on non-traditional students in higher education or those about to enter university. To address possible variations in terminology, a broad definition of non-traditional students was adopted (Brunner, Eigbrecht & Ehlers, 2021), while it was acknowledged that the included studies occasionally used narrower or different definitions. Only peer-reviewed journal articles published in English between 2010 and 2025 were included, to reflect recent developments in higher education and inclusion practices. Non-English sources were excluded due to translation limits or if they focused on secondary education, teaching staff, or populations other than undergraduates (e.g., school pupils or doctoral candidates). Research dealing solely with transition to the labor market was also excluded.

1.3 Information Sources

Main sources were Scopus, ERIC, and DOAJ, with supplementary searches in Google Scholar. The final search was conducted on June 15, 2025.

1.4 Search Strategy

The author developed the search strategy using terms on student population, support, and challenges, combined with OR/AND (Table 1). “Low socioeconomic backgrounds” also retrieved studies on refugees and minorities. Although not in the keywords, some studies addressed academic preparedness, covering the second research question.

Table 1: Search Terms Grouped by Conceptual Category

Search strategy – Key terms	
AND	“non-traditional student” OR “first-generation student” OR “adult learner” OR “first in family” OR “international students” “disabled students” OR “students from low socioeconomic background” OR “mature students” OR “older students” “students with special educational needs”
	“support” OR “interventions” OR “institutional support” OR “support services”
	“barriers” OR “difficulties” OR “challenges” OR “stress factors”
	“higher education” OR “university” OR “college”

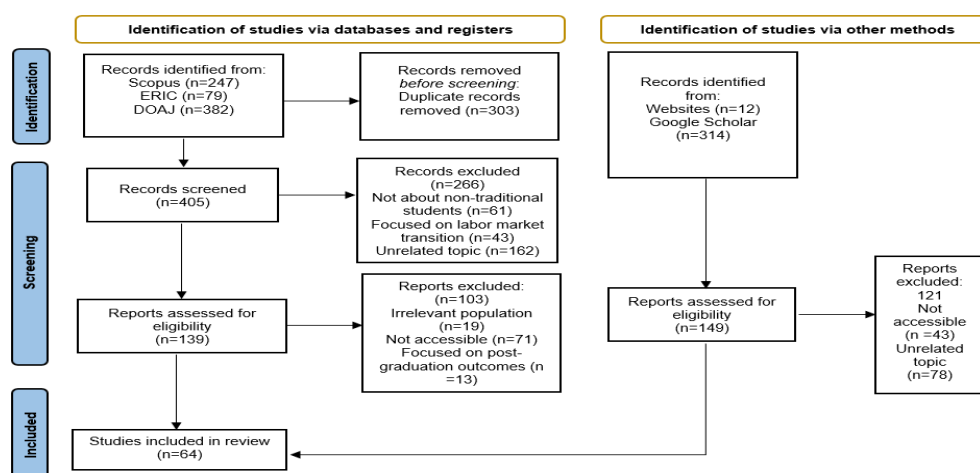
1.5 Selection, Charting and Synthesis Process

The PRISMA-ScR flow diagram was used to guide and document the selection process (Figure 1). Data extraction was performed using a structured charting form (Table 2). The results were synthesized using a descriptive and thematic approach (Thomas & Harden, 2008).

2. Results

2.1 Selection of sources of evidence

A total of 64 studies met the inclusion criteria and were included in the final synthesis (Figure 1).

Figure 1: PRISMA flow diagram- selection process

2.2 Characteristics of sources of evidence

Table 2 presents the key characteristics of the included sources.

Table 2: *Summary of Characteristics of Included sources*

Study	Author(s) & Year	Country	Research methods	Sample	Data bases
1	Wessel, Jones, Blanch and Markle (2015)	USA	Qualitative	Students with disabilities (wheelchair users)	ERIC
2	Moriña and Morgado (2016)	Spain	Qualitative	Students with physical, psychological, sensory disabilities, asthma, degenerative diseases	ERIC
3	Kendall (2016)	UK	Qualitative	Students with disabilities (dyslexia, hearing impairment, mental health problems, chronic illnesses)	ERIC
4	Moriña, Cortés-Vega and Molina (2015)	Spain	Qualitative	Students with physical, psychological, sensory disabilities, asthma, degenerative diseases	ERIC
5	Hewett, Douglas, McLinden and Keil (2018)	UK	Mixed method	Students with disabilities (vision impairment)	ERIC
6	Fernández-Batanero, Montenegro-Rueda and Fernández-Cerero (2022)	Spain	Systematic Literature Review	No primary data	DOAJ
7	Smith, Woodhead and Chin-Newman (2019)	USA	Quantitative	Students with disabilities (learning, mental health, physical, chronic illnesses)	Scopus
8	Shpigelman, Mor, Sachs and Schreuer (2021)	Israel	Qualitative	Students with disabilities	Scopus
9	Vergunst and Swartz (2020)	South Africa	Qualitative	Students with diagnosed psychosocial disability	Google Scholar
10	Grimes, Southgate, Scevak and Buchanan (2019)	Australia	Mixed method (quantitative, qualitative)	Undergraduate students who self identified as having learning challenges, physical disabilities, chronic medical conditions, mental health issues	Google Scholar
11	Brewer, Urwin and Witham (2025)	UK	Qualitative	Students with disabilities (physical, mental health, learning)	Scopus
12	García-González et al. (2020)	Spain	Qualitative	Students with disabilities (physical, sensory, cognitive)	Scopus
13	Moriña (2024)	Spain	Systematic Literature Review	No primary data	Scopus
14	Cai and Richdale (2015)	Australia	Qualitative	Students diagnosed with Autism Spectrum Disorder	Scopus
15	Nailevna (2017)	Russia	Quantitative	International students (Central Asia)	Scopus
16	Tavares (2024)	Canada	Qualitative (case study)	International students (Colombia, Macau, Brazil, France, Hong Kong)	Scopus
17	Bell (2016)	Scotland	Systematic Literature Review	No primary data	Google Scholar
18	Wu, Garza and Guzman (2015)	USA (Texas)	Qualitative (case study)	International students (Asia, Middle East)	Google Scholar

19	Baklashova and Kazakov (2016)	Russia	Qualitative (case study)	International students (China, Iran, Central Asia)	Google Scholar
20	Ecochard and Fotheringham (2017)	UK	Qualitative	International students	Google Scholar
21	Evitts (2022)	USA (Kentucky)	Literature Review	No primary data	Google Scholar
22	Abbas et al. (2022)	UK	Mixed method (quantitative, qualitative)	Mature students (ages 27–55)	Scopus
23	Goncalves and Trunk (2014)	USA	Quantitative	Non-traditional students (over the age of 25, family and/or employment obligations)	Scopus
24	van Rhijn, Lero, Bridge and Fritz (2016)	Canada (Ontario)	Qualitative	Mature students (aged 25+)	Scopus
25	Forrest Cataldi, Bennett and Chen (2018)	USA	Quantitative	First-generation students (first in their family to attend university)	Scopus
26	Stone et al. (2016)	Australia	Qualitative	Mature and first-generation students (first in their family to attend university)	Scopus
27	Groves and O'Shea (2019)	Australia	Qualitative	First-generation students (first in their family to attend university)	Scopus
28	Forsyth, Hamshire, Fontaine-Rainen and Soldaat (2022)	UK & South Africa	Qualitative	Teaching staff who teach first-generation students	Scopus
29	Munro (2011)	Australia	Qualitative	Mature students	Scopus
30	Gibbons, Rhinehart and Hardin (2016)	USA	Qualitative	First-generation students (first in their family to attend university)	Scopus
31	Ives and Castillo-Montoya (2020)	USA	Systematic Literature Review	No primary data	Scopus
32	Toutkoushian, Stollberg and Slaton (2018)	USA	Correlational quantitative study	No primary data	Scopus
33	LeBouef and Dworkin (2021)	USA	Systematic Literature Review	No primary data	Google Scholar
34	O'Shea (2015)	Australia	Qualitative	First-generation students (first in their family to attend university)	Google Scholar
35	O'Shea, May, Stone and Delahunty (2024)	Australia, Ireland, USA, Austria	Qualitative	First-generation students (first in their family to attend university)	Google Scholar
36	Thiem and Dasgupta (2022)	USA	Literature Review	No primary data	Google Scholar
37	Jury et al. (2017)	USA	Literature Review	No primary data	Google Scholar
38	Walker <i>et al.</i> (2025)	Australia	Qualitative	Students who self-identified as low-SES backgrounds.	Google Scholar
39	Meuleman, Garrett, Wrench and King (2014)	Australia	Mixed method (quantitative, qualitative)	First-generation, international students	Google Scholar
40	Broton and Goldrick-Rab (2016)	USA	Quantitative	Students experiencing financial insecurity	Google Scholar
41	Jack (2015)	USA	Qualitative	Students from low-income backgrounds	Google Scholar

42	Han and Pong (2015)	USA	Quantitative	Asian American students	Google Scholar
43	Stevenson and Baker (2018)	UK	Qualitative	Students with a refugee background	Google Scholar
44	Lambrechts (2020)	UK	Qualitative	Students with a refugee background	Scopus
45	McKay and Devlin (2014)	Australia	Qualitative	Students from low socioeconomic backgrounds	Scopus
46	Devlin (2013)	Australia	Literature Review	No primary data	Scopus
47	Chung, Turnbull and Chur-Hansen (2017)	Australia	Quantitative	Traditional and non-traditional students	Scopus
48	McKay and Devlin (2015)	Australia	Qualitative	Students from low socioeconomic backgrounds	Scopus
49	Gale (2011)	Australia	Literature Review	Not applicable (review article – no primary data)	Scopus
50	Fragoso et al. (2013)	Portugal	Mixed method (quantitative, qualitative)	Mature students	Google Scholar
51	Smit (2012)	South Africa	Literature Review	No primary data	Google Scholar
52	Harackiewicz and Priniski (2018)	USA	Literature Review	No primary data	Google Scholar
53	Dasgupta (2011)	USA	Literature Review	No primary data	Google Scholar
54	Green (2024)	USA	Quantitative	Non-traditional students (online learners)	ERIC
55	Bennett, Hsiao, Dees, Kim and Bochenko (2020)	USA	Mixed method (quantitative, qualitative)	Non-traditional students (first-generation, low-income, students with disabilities)	Google Scholar
56	Goode, Syme and Nieuwoudt (2022)	Australia	Mixed method (quantitative, qualitative)	Non-traditional students (low socioeconomic backgrounds, disadled, non-English-speaking backgrounds, from regional/remote areas)	Google Scholar
57	Stephens et al. (2023)	USA	Quantitative	First-generation students (first in their family to attend university)	Scopus
58	Wu et al. (2024)	USA	Quantitative	First-generation students (first in their family to attend university)	Scopus
59	Ramirez, Covarrubias, Jackson and Son (2020)	USA	Quantitative	Non-traditional students (first-generation, low-income, ethnic minority)	Scopus
60	Mier (2018)	USA	Literature review	No primary data	Scopus
61	Southern Cross Model (SCU)	Australia	Not applicable – institutional model description	Target population: University students from diverse and non-traditional backgrounds	Website
62	Our Work College Advising Corps	USA	Not applicable – organizational program description	Target population: Students from diverse backgrounds	Website

63	Studying with a recognised status UCLL	Belgium	Not applicable – institutional programme	Target population: students with special status (disability, working students, caregivers)	Website
64	ACREW KU Leuven	Belgium	Not applicable – program description	Target population: University students with diverse and non-traditional backgrounds	Website

2.3 Results of individual sources of evidence

The data extracted from individual sources were grouped into three main themes: challenges faced by non-traditional students, their strengths and capabilities, and support approaches (Table 3).

Table 3:

Thematic categorization of extracted data from included sources (the numbers in the 'Sources' column correspond to the numbers in the 'Studies' column of Table 2).

Thematic areas	Sources	Frequency
1.Non-traditional student's challenges		
Students with disabilities and learning difficulties	1,2,3,4,5,6,7,8,9,10,11,12,13,14	14
International students	15,16,17,18,19,20	6
Mature students	21,22,23,24	4
First generation students	25, 26,27,28,29,30,31,32,33,34,35	11
Low socioeconomic background – minorities	36,37,38,39,40,41,42,43,44	9
2.Non-traditional students' strengths and abilities		
Strengths - skills	12,22,45,46,47,48,49	7
The need to abandon deficit-based perceptions	27,46,48,50,51	5
3.Support for non-traditional students		
Theoretical foundations of non-traditional student support	6,8,17,36,52,53,54	7
Student support services and interventions	22,8, 55,56,57,58,59,60,61,62,63,64	12

3. Synthesis of results

3.1 Non-traditional student's challenges

The following sections present studies by student category. Although students may belong to multiple groups (e.g., first-generation and low socioeconomic), findings are organized by each study's main focus for clarity.

3.1.1 Students with disabilities and learning difficulties

Students with disabilities and learning difficulties face challenges on multiple levels, such as infrastructure (Wessel et al., 2015; Moriña & Morgado, 2016), teaching practices (Moriña et al., 2015; Kendall, 2016; Hewett et al., 2018), support services (Fernández-Batanero et al., 2022), and the social climate (Smith et al., 2019). They affect both students with visible disabilities, such as mobility challenges (Shpigelman et al., 2021), and those with invisible difficulties, such as mental health conditions (Vergunst & Swartz, 2020).

More specifically, Fernández-Batanero et al. (2022) identify challenges at three levels, infrastructure (limited ramps, signage, audio signals), teaching (non-adapted methods, little training), and administration (insufficient services, low funding, weak transition support). These difficulties significantly affect students' academic progress. Grimes et al. (2019) classified students with disabilities into five groups: learning difficulties, chronic illnesses, mental health conditions, physical disabilities, and multiple diagnoses, mainly mental health issues combined with others. Many struggled to attend classes, in person or online, due to low motivation, distraction, pain, or fatigue. There was often a mismatch between university demands and students' actual capacity, with many needing more time for studying and assignments. Brewer et al. (2025) found that students with various disabilities (physical, mental health, and learning) face reduced academic performance due to fatigue, anxiety, and barriers to support. They also experience social isolation from limited peer understanding. Support services exist but are often inadequate, hindered by bureaucracy, stigma, staff shortages, and low faculty awareness. Similarly, García-González et al. (2020) in a study of 16 students with disabilities (physical, sensory, and cognitive), identified six key types of challenges limiting equal participation: technological (lack of accessible tools and staff training), pedagogical (rigid assessments, tight schedules, low interaction), personal

(low confidence, few social contacts), institutional (bureaucracy, poor information), physical (inaccessible spaces), and social (stigma, prejudice, discrimination).

Moriña (2024) confirms the above difficulties in the case of students with invisible disabilities but also highlights that students with invisible disabilities face unique challenges, as disclosure requires proving their condition, fostering stress, denial, and limited access to support. Shpigelman et al. (2021) further emphasizes the emotional toll of these challenges, including anxiety, sadness, frustration, and a sense of being different. Similarly, students with autism spectrum disorder report limited social support and preparation, often conceal their diagnosis due to stigma, and struggle further with anxiety and depression (Cai & Richdale, 2022).

3.1.2 International students

Tavares (2021) found that international students that is, students who came from other countries to pursue their studies in a Canadian university, often felt excluded despite multicultural ideals, citing limited intercultural awareness, few initiatives, and weak curriculum internationalization. They also struggled socially. Similarly, Nailevna (2017) reports acculturative stress affecting mental health and performance.

International students face challenges in three main areas: social and cultural integration, English language ability, and academic expectations and Integration. Cultural shock, loneliness, and isolation often lead students to avoid contact with locals and stay within their own cultural groups (Bell, 2016). Communication difficulties also arise, due to unfamiliar norms (Wu et al., 2015), while many feel isolated, especially those without friends or family nearby. Prejudice and discrimination based on origin further increase alienation (Baklashova & Kazakov, 2016). Language remains a key issue, even for those who meet official standards, due to accents, academic vocabulary, and everyday conversation. Academically, students struggle with different teaching styles, independent study, critical thinking, and unfamiliar assessment systems (Bell, 2016). Ecochard and Fotheringham (2017), argue these challenges are interconnected. Language difficulties impact both learning and social life, making it harder to seek help or connect with others. This often leads to stress and isolation, which in turn harm academic success and adjustment.

3.1.3 Mature students

Older students over 25 face challenges affecting academic progress and mental health, mainly balancing study with work and family (Evitts, 2022). Responsibilities limit

social participation (Goncalves & Trunk, 2014), while low confidence and imposter feelings increase anxiety and reduce help-seeking (Evitts, 2022). Many feel isolated or like outsiders due to age and different experiences (Abbas et al., 2022).

Social isolation is a major barrier, as non-traditional students struggle to integrate due to age, life experience, or feeling different. Institutional challenges include rigid schedules and limited transition support. Many are unaware of available services, or find them inaccessible due to bureaucracy (Evitts, 2022). Some feel invisible in academic spaces with little representation. A strong sense of loneliness is common, worsened by the absence of tailored support such as counselors familiar with their situation (Goncalves & Trunk, 2014). Abbas et al. (2022) also report insufficient support, especially regarding flexible classes, financial aid, and help with course technologies. With online education, digital skills are essential, but many older students struggle with platforms and tools, requiring more digital literacy support (van Rhijn et al., 2015).

3.1.4 First-generation students

The term “first-generation student” lacks a single definition, making comparisons difficult. Up to eight exist in higher education (Toutkoushian et al., 2018). Some include parental attendance, not just graduation, or even siblings’ experience (LeBouef & Dworkin, 2021). In Australia, “first-in-family” is common, referring to students whose parents and siblings have never attended or completed university (O’Shea et al., 2024). Many non-traditional students fall into this category and are less familiar with academic expectations, often performing poorly (Stone et al., 2016). First-generation students face added, sometimes invisible, challenges and are seen as high-risk for low success or dropout (Groves & O’Shea, 2019; Forrest Cataldi et al., 2018).

First-generation students often lack the knowledge and support available to peers from university-educated families (O’Shea, 2015). Many students, who are first in their family, feel less prepared for university life (Forsyth et al., 2022; Groves & O’Shea, 2019) and struggle to understand academic culture (Munro, 2011). Parents provide emotional but not academic support. Scholarships and mentors help fill gaps (Gibbons et al., 2016). Their journey mixes struggle and resilience, with success linked to using available support. Initially, they rely on friends, family, or the internet, but over time seek help from university staff, which proves crucial (Groves & O’Shea, 2019). Reviews show three views of first-generation college students, as low performers, as

students who must adapt to academic norms, or as students whose life experience enriches learning (Ives & Castillo-Montoya, 2020).

3.1.5 Low socioeconomic background – minorities

Jury et al. (2017) note that students from low socioeconomic and marginalized backgrounds, though equally capable, often face stress, loneliness, and doubts about belonging. Stereotype threat and impostor syndrome intensify these feelings, harming performance and making university life emotionally harder.

Walker et al. (2025) studied students who self-identified as coming from low socioeconomic backgrounds at an elite Australian university. They felt socially isolated (Meuleman et al., 2014), with financial stress limiting academic and social life (Broton & Goldrick-Rab, 2016). Lacking cultural capital caused insecurity (Walker et al., 2025) and difficulty with informal rules (Jack, 2015; Thiem & Dasgupta, 2022). They felt unlike other students, ignored, and underrepresented, lowering confidence and performance. Many avoided support services due to lack of knowledge or fear of stigma. Balancing study and work reduced time for university life (Thiem & Dasgupta, 2022). For minority students, stigma, often linked to family image, discouraged help-seeking (Han & Pong, 2015). Limited mentoring and faculty ties further widened the educational gap (Thiem & Dasgupta, 2022).

Refugee students face added challenges, including language difficulties, financial insecurity, and difficulties with recognition of prior studies (Stevenson & Baker, 2018). Asylum seekers and refugees are “super-disadvantaged,” balancing university life with trauma, poverty, and uncertain legal status (Lambrechts, 2020).

3.2 Non-traditional students’ strengths and abilities

3.2.1 Strengths - skills

Students from low socioeconomic backgrounds often show resilience, motivation, and confidence (McKay & Devlin, 2014). Their struggles usually reflect unfamiliarity with academic norms, not lack of ability (Devlin, 2013).

Chung et al. (2017) found that older students, working students, or parents, are often more resilient, having developed coping skills through life. Their strengths should be recognized, not just their challenges. McKay & Devlin (2015) reject the “deficit narrative,” showing that students from low socioeconomic backgrounds, demonstrate determination and persistence. García-González et al. (2020) also note their resilience,

while Abbas et al. (2022) report pride in overcoming struggles. First-generation students contribute different cultural capital, which universities must value (Gale, 2011).

3.2.2 The need to abandon deficit-based perceptions

Although students are often seen as the “problem” (Fragoso et al., 2013), several studies challenge this perspective. Smit (2012) shows that universities blame deficits like weak knowledge, motivation, or background. This deficit discourse defines students by what they lack, non-traditional, underprepared, or from disadvantaged backgrounds, leaving them isolated. While many students have gaps from social inequalities and schooling, the term “disadvantage” is too broad and vague. It hides real needs and fuels stereotypes. The idea of the “at-risk student” can help but must be redefined to avoid stigma or treating students as problems.

Groves and O’Shea (2019) argue that the deficit view of non-traditional students should be replaced with recognition of their cultural and personal strengths. McKay & Devlin (2015) also call for moving beyond deficit-based ideas to approaches that reflect students’ complex realities. According to Devlin (2013), debates on students from low socioeconomic backgrounds often follow three views. The first is a student-deficit view, blaming personal weaknesses and ignoring social inequalities. The second blames universities, noting that hidden expectations and rigid structures exclude less privileged students. Both are limited. Devlin proposes a third, sociocultural model, where adaptation is two-way: students gain access to academic practices while keeping their identity, and universities adjust structures and teaching to reflect diversity. Schools and preparatory programs also help build confidence and ease transition. Achieving equity and success requires shared responsibility between students, universities, and schools.

3.3 Support for non-traditional students

This section first outlines models explaining psychological, social, and institutional factors in non-traditional student success. It then reviews empirical studies on support services and interventions, highlighting their impact.

3.3.1 Theoretical foundations of non-traditional student support

According to Fernández-Batanero et al. (2022), Universal Design for Learning (UDL) is a flexible educational approach that makes learning accessible and effective for all students, regardless of abilities, learning styles, or backgrounds. It promotes inclusivity from the start by presenting information in multiple formats, allowing varied ways of

demonstrating knowledge, and offering different forms of engagement, such as choices in topics and assignments to foster motivation and confidence. By embedding inclusivity early, UDL reduces the need for later adjustments and benefits the entire academic community. In a different study, Green (2024) applies the theory of Perceived Organizational Support (POS) to non-traditional students, such as adults, working learners, and parents, particularly in distance education. When students feel valued and supported by their university and faculty, they are more likely to persist and complete their studies.

Bell (2016) identifies three key areas of support for international students in Scotland: sociocultural inclusion, language support, and academic adjustment. Universities use welcome programs, buddy systems, cultural events, language classes, and study workshops to help students feel they belong. Bell stresses that support must be well-organized, ongoing, and reciprocal, with both students and institutions adapting. Building on the idea that institutions must adapt to support student diversity, Thiem and Dasgupta (2022) argue that universities should adapt their environments to fully include diverse students rather than expecting them to fit existing systems. Drawing on the Stereotype Inoculation Model (Dasgupta, 2011), they show that exposure to successful role models from similar social groups can boost belonging, confidence, and persistence. They propose four interventions: increasing the visibility of role models (mentors, professors, peers), strengthening students' social and professional networks, linking academic work to real-world impact, and training faculty in inclusive practices. These strategies are especially valuable during key transitions, such as starting university or entering the job market, but should also continue throughout the student journey. Harackiewicz and Priniski (2018) propose three types of psychological interventions to enhance student performance by addressing confidence, belonging, and purpose. Task-Value Interventions help students see the personal relevance of coursework, boosting interest and effort. Framing Interventions reframe academic struggles as common and temporary, reducing feelings of not belonging. Personal-Values Interventions strengthen resilience by having students reflect on core values, which is especially helpful for first-generation and minority students. These short, low-cost strategies have proven effective but work best when targeted at the right students at the right time.

3.3.2 Student support services and interventions

The TRIO Student Support Services (SSS) program in the U.S. supports first-generation, low-income, and disabled students by providing academic advising that helps with course selection, degree planning, and staying on track to graduate. It also offers mentoring to build confidence and motivation, along with free tutoring, computer labs, and other learning resources. Beyond academics, TRIO SSS fosters social inclusion through cultural trips and events, creating a welcoming ‘family-like’ environment where students feel accepted and part of the college community (Bennett et al., 2020). Also, Abbas et al. (2022) studied an initiative at the University of Leeds to support mature students through the Preparation for Higher Education (PHE) program. The intervention used *Differ*, a messaging app with a chatbot (Bo) and Digital Student Mentors (DSMs) to build safe online communities, encourage social connection, and reduce isolation. The study showed that such student-centered digital tools and mentoring can enhance academic and social engagement and highlighted the need for universities to integrate them into broader inclusion strategies. Disability Support Centers are dedicated university services that not only assist with academic needs but also promote independence, self-advocacy, emotional well-being, and personal growth. They support students with paperwork such as applying for accommodations, inform them of their rights, and guide communication with academic staff. At the same time, they provide emotional support and create a safe, welcoming space that many students describe as “home” or “family” (Shpigelman et al., 2021)

A Crew is a KU Leuven project where students from non-traditional backgrounds (e.g., first-generation, migrant, or disabled) act as ambassadors by visiting schools and communities to share their challenges and successes, showing that higher education is possible for all (KU Leuven, n.d.). Similarly, the College Advising Corps (CAC) in the U.S. supports underrepresented students (first-generation, low-income, minority) through near-peer advisers who guide them with applications, financial aid, and college choice, proving the value of personalized support (College Advising Corps, n.d.). In Belgium, the “Recognised Status” policy offers academic flexibility to students facing special circumstances (e.g., athletes, workers, caregivers, or students with disabilities), providing accommodations such as deadline extensions, flexible schedules, and adapted exam conditions, thereby making university studies more accessible (UCLL, n.d.). The Southern Cross Model at Southern Cross University (Australia) restructures learning into two courses every six weeks, reducing stress and improving

focus. It is particularly helpful for students with work or family responsibilities, offering interactive lessons, clearer expectations, and stronger support, which enhance confidence, performance, and understanding of university studies (Southern Cross University, n.d.).

Goode et al. (2021) looks at how students and staff experienced the Southern Cross Model in a university preparation program. Results showed that the model had a positive effect by improving students' sense of belonging, participation, and confidence. Mier (2018) examined intrusive and developmental advising, a proactive and student-centered approach applied to undergraduates in Criminology and Criminal Justice. The students came from diverse backgrounds, including adult learners, online students, first-generation students, and those at academic risk. Through regular check-ins and early support, advising addressed not only academics but also personal, social, and career needs. This increased engagement, performance, and retention, while strengthening students' sense of belonging.

Stephens et al. (2023) evaluated the Difference-Education Intervention for first-generation students at four U.S. public universities. Delivered before the first year, it used online sessions where older students shared personal stories to reframe background as a strength. The program improved confidence, adjustment, and academic performance in the first semester. Similarly, Ramirez et al. (2020) studied the Early Start program at California State University, Los Angeles. First-generation students watched videos on academic resources, with one group also hearing peer stories. Those exposed to peer narratives felt more motivated, reported stronger belonging, and achieved higher GPAs, showing the added impact of relatable role models. Finally, Wu et al. (2024) evaluated a support program for first-generation biology students. The program created a small community where students lived together, took classes as a group, joined faculty seminars, and had peer mentors. This helped them feel more connected, less stressed, more confident, and perform better academically. Importantly, the positive effects lasted even a year after the program ended.

4. Discussion

4.1 Summary of evidence

4.1.1 Findings related to research question 1

Research consistently shows that non-traditional students in higher education face a wide range of challenges. While these students come from diverse backgrounds and their experiences vary significantly, certain challenges appear repeatedly across different groups. Thus, the challenges they encounter can be grouped into two broad categories: i) challenges across all groups and ii) group-specific challenges:

i) Challenges Across all Groups

Despite the diversity of non-traditional student populations, several key challenges are consistently observed across studies and cohorts.

- Sense of exclusion and non-belonging: Many non-traditional students report feeling that they do not truly belong in the academic environment. This is reported by students with disabilities (Smith et al., 2019), first-generation (Groves & O'Shea, 2019), from low socioeconomic backgrounds (Meuleman et al., 2014), international (Tavares, 2021), and mature students (Evitts, 2022; Abbas et al., 2022).
- Lack of cultural or educational capital: Students with disabilities need more time to meet academic demands (Grimes et al., 2019). International students struggle with teaching and assessment (Bell, 2016), and mature students often lack digital skills (van Rhijn et al., 2016). Many are unaware of support services (Evitts, 2022). First-generation students are unfamiliar with academic expectations (Groves & O'Shea, 2019), while low socioeconomic backgrounds students lack the cultural capital to navigate informal norms (Walker et al., 2025).
- Insufficient support systems: Support services can help students with disabilities but are often inadequate (Brewer et al., 2025). International students note limited intercultural awareness and inclusion (Tavares, 2021). Mature students face rigid schedules and little transitional support (Evitts, 2022). First-generation students often avoid services (Groves & O'Shea, 2019), while low socioeconomic backgrounds students are frequently unaware of them (Thiem & Dasgupta, 2022).
- Psychological pressure and emotional challenges: Students with disabilities face anxiety, sadness, and frustration (Shpigelman, 2021). International students

experience cultural adjustment stress affecting mental health (Nailevna, 2017). Mature students fear being seen as inadequate (Evitts, 2022). low socioeconomic backgrounds students may feel undeserving and like impostors, making university life more difficult (Jury et al., 2017).

ii) Group-Specific challenges

The evidence highlights that non-traditional students are not a homogeneous group; instead, they carry intersecting identities and face both shared and unique challenges. Some difficulties are met across different groups. However, each student population also faces specific obstacles shaped by their position in society. Alongside global issues, each subgroup of non-traditional students faces distinct challenges. Students with disabilities encounter infrastructure and attendance difficulties (Moriña & Morgado, 2016; Grimes et al., 2019; Fernández-Batanero et al., 2022), inaccessible online platforms (García-González et al., 2020), and stigma that discourages disclosure (Moriña, 2024). International students mainly face language difficulties (Bell, 2016).

First-generation students lack cultural capital and family guidance, leading to insecurity and low confidence (O'Shea, 2015; Gibbons et al., 2016). Low socioeconomic backgrounds students struggle with financial stress and stereotype threat (Jury et al., 2017; Broton & Goldrick-Rab, 2016). Mature students balance studies, work, and family while often lacking digital skills (Evitts, 2022). Overall, the evidence highlights that non-traditional students are not a single group but carry intersecting identities, sharing some challenges while also facing obstacles shaped by their social position.

4.1.2 Findings related to research question 2

Non-traditional students often face gaps in academic skills due to unequal schooling and unfamiliarity with the “hidden rules” of university (Devlin, 2013). These may involve study skills, academic culture, or digital literacy, creating obstacles to institutional expectations (Smit, 2012). Yet, research also shows they bring resilience, motivation, and confidence, which support success (McKay & Devlin, 2014). The deficit narrative has been criticized for reinforcing stereotypes and exclusion (Smit, 2012). A sociocultural model values students' cultural capital and addresses real gaps through mutual adaptation, where universities adjust structures and teaching and students receive support without losing their identity (Devlin, 2013). Students may struggle with university demands not from lack of ability but from unfamiliarity with academic

practices, showing the need for institutional support. Though some face preparation gaps, many have skills and qualities that help them succeed with proper support.

4.1.3 Findings related to research question 3

Research on student support services shows the need for multi-level support, as isolated initiatives are often ineffective (Fernández-Batanero et al., 2022; Harackiewicz & Priniski, 2018). Interventions occur before entry, through collaboration between secondary and higher education (Abbas et al., 2022; Stephens et al., 2023), and during university (KU Leuven, n.d.; College Advising Corps, n.d.). They may be organized nationally, as TRIO in the U.S. (Bennett, 2020), but most are institutional, including counseling, mentoring, and digital tools (KU Leuven, n.d.), or departmental (Wu et al., 2024). Interventions can be grouped into four broad categories:

1. Academic support: Personalized advising, tutoring, mentoring, such as TRIO Student Support Services (Bennett, 2020), Disability Support Centers (Shpigelman, 2021), A Crew (KU Leuven, n.d.), intrusive and developmental advising (Mier, 2018), College Advising Corps (n.d.), and Early Start programs (Ramirez et al., 2020).
2. Social and cultural inclusion: Welcome programs and buddy systems (Bell, 2016), support for refugee and international students (Wu et al., 2024), and initiatives like the Difference-Education Intervention (Stephens et al., 2023).
3. Psychological and emotional support: This involves support based on the Perceived Organizational Support (POS) model (Green, 2024), mental health services (online and in-person), and interventions to build self-esteem and resilience (Bennett et al., 2020; Ramirez et al., 2020).
4. Financial and practical support: Includes housing assistance, exam flexibility, and programs like “Recognized Status,” which allow greater flexibility for students with additional responsibilities (UCLL, n.d.).

5. Limitations

This review has several limitations. It included only English studies, used limited databases and websites, was conducted by a single researcher (risking bias), and included some reviews alongside primary studies, raising possible double counting.

Conclusions

This scoping review outlines challenges for non-traditional students in higher education and the support available. Findings stress the need for inclusive strategies, as these students often face exclusion, insecurity, and limited support, issues tied more to unfamiliarity with academic culture than lack of ability. Effective inclusion requires recognizing strengths and offering coordinated, multi-level support, since isolated efforts rarely work.

Non-traditional students share some traits but are highly diverse. For instance, family responsibilities are not limited to older students, nor do all international students face language challenges. Such examples show why their needs should not be seen as fixed. What matters is that support services remain accessible to all. Finally, mentoring as a professional role could be crucial, ensuring trained staff can meet individual needs.

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