



Academic success factors in university students with disabilities: a systematic review

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ABSTRACT

This study provides a systematic review of the literature on what factors university students with disabilities recognise as necessary for their academic success. This systematic review was conducted in ERIC, Scopus and Web of Science. The opinions of 3854 students in a total of 31 qualitative and quantitative studies were analysed through a system of categories and codes. The results were organised according to the description of the studies (type of methodology, country and type of disability) and personal and external factors favouring success. Among the personal factors of students with disabilities who progress and remain at university, self-advocacy, self-awareness, self-determination, self-esteem and executive functioning stood out. Regarding external factors, the following were identified: family, disability offices, staff and faculty members, and peers that influence their academic success. This paper includes significant findings that universities can use to develop actions that promote the development of some of the factors identified in this study, thus favouring the learning and academic success of students with disabilities.

KEYWORDS

Academic success factors;
students with disabilities;
university; systematic review

Introduction

The right to quality education for all is a theme on the agendas of academics and recognised international organisations, such as UNESCO and the United Nations (Melero, Domenech, and Cabeza-Ruiz 2020). At present, we are moving from a perspective based on facilitating access to education to one oriented to the quality of learning. This requires education systems to guarantee equitable access and permanence, resources, and teaching and learning processes for all.

Inclusive education in higher education (HE) is a global movement. Although different education systems share commonalities, there are also particularities depending on the policies and laws of each country. For example, differences can be found in support services, anticipatory reasonable adjustments and in-service faculty training (Kendall 2016).

However, a common characteristic of most HE systems is that the widening higher education has resulted in the challenge of increasing access for non-traditional students (Carballo, Morgado, and Cortés 2021; Fernández-Gómez et al. 2020), including persons

with disabilities. Studying at university is an opportunity to improve personal and professional skills, benefit from social relations and increase employability (Hewett et al. 2017). This, which is important for everyone, is especially necessary for persons with disabilities. However, accessing the university is not enough; it is also necessary to progress and succeed (Melero, Domenech, and Cabeza-Ruiz 2020; Moriña and Orozco 2021). In fact, many studies conclude that university dropouts among people with disabilities are higher than among other students (Carballo, Morgado, and Cortés-Vega 2021), and that the former face multiple barriers to staying and successfully completing their studies (Bell et al. 2017; Munir 2021).

Graduates with disabilities have defined success at university as a multifaceted concept that is driven by multiple factors (Russak and Hellwing 2019). This study highlights that the concept of success is complex and dynamic, since graduates do not always agree on the definition of the term, or on the factors that lead to it. On the one hand, some define it as a process and a vocation. On the other hand, others relate it to the external support they receive through positive feedback, constructive criticism and measurable results, such as getting good grades (Jenson et al. 2011).

Internal factors for academic success

For years, the factors that lead to success have been studied, differentiating between internal and external factors. Firstly, with regard to the internal factors, several aspects related to the personal dimension of the student are identified, such as setting clear objectives, being proactive, knowing how to make decisions and not give up in the face of difficulties, using strategies that can help with the disability itself and believing in one's abilities (Kutcher and Tuckwillet 2019). Other common traits among students with disabilities who manage to complete their studies include self-determination, self-advocacy, self-awareness, self-discipline, self-esteem and executive functions (Gow, Mostert, and Dreyer 2020; Milsom and Sackett 2018).

In the study of Russak and Hellwing (2019), the graduates expressed the belief that their disability was primarily responsible for their success, as well as the driving force that pushed them to persist in their studies. They saw disability as a component of their self-image, and not as a limitation. Disability allowed them to become aware of their strengths and weaknesses.

External factors for academic success

On the other hand, external factors are distinguished from the previous factors in that they have a source of support external to the individual. Students with disabilities recognise that support from family and friends is critical (Gow, Mostert, and Dreyer 2020). Moreover, in other cases, students with disabilities have stated that the staff and the faculty have provided support, understanding and compassion and acted to help them succeed in their degrees (Cotán et al. 2021). Beyond family support, students seek help from peers and friends. Peers contribute to success because they strive to help the student set goals and facilitate access to academic material (Orr and Goodman 2010).

Other works, in addition to the factors already indicated, also point out high expectations, accessible campuses, appropriate accommodations and administrative support, for example, from the disability services (Kutcher and Tuckwillet 2019).

Given the importance of knowing the personal and external success factors to prevent students with disabilities from dropping out and provide them with equitable opportunities, the purpose of this study was to explore, from their perspective, the factors that favour their learning and allow them to progress and successfully complete their studies. Specifically, we sought to answer two research questions:

- (1) What are the characteristics of the studies that have been carried out on university success?
- (2) What personal and external factors influence the academic success of students with disabilities?

Method

In order to ensure the quality of the systematic review, the literature search was based on the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement (Moher et al. 2009) (Figure 1).

Exploration and database search

The literature search was conducted in ERIC, Scopus and Web of Science. The keywords applied for the search were 'success' and 'disability' and 'higher education or college or university or postsecondary education'. Specifically, we used three combinations in the search: 1) 'success' and 'disability' and 'higher education'; 2) 'success' and 'disability' and 'university'; 3) 'success' and 'disability' and 'postsecondary education'; 4) 'success' and 'disability' and 'college'.

Eligibility criteria and rationale

Different inclusion and exclusion criteria were established to select the papers. The inclusion criteria were: 1) Empirical qualitative and quantitative studies; 2) peer-reviewed articles; 3) published in English; 4) any paper with a time restriction (January 2011-December 2020); 5) work focused on disability at university and on success factors for completion of degrees; and 6) studies from the voice of students with disabilities in face-to-face teaching.

Works were excluded for the following reasons: 1) Success and disability studies in a field different from education; 2) other publications such as books, chapters, conference papers, and theoretical or systematic reviews; 3) studies that had a sample focused exclusively on graduates with disabilities and not on students; 4) publications from 2011 to 2020 with samples from before 2011; and 5) papers based exclusively on online learning.

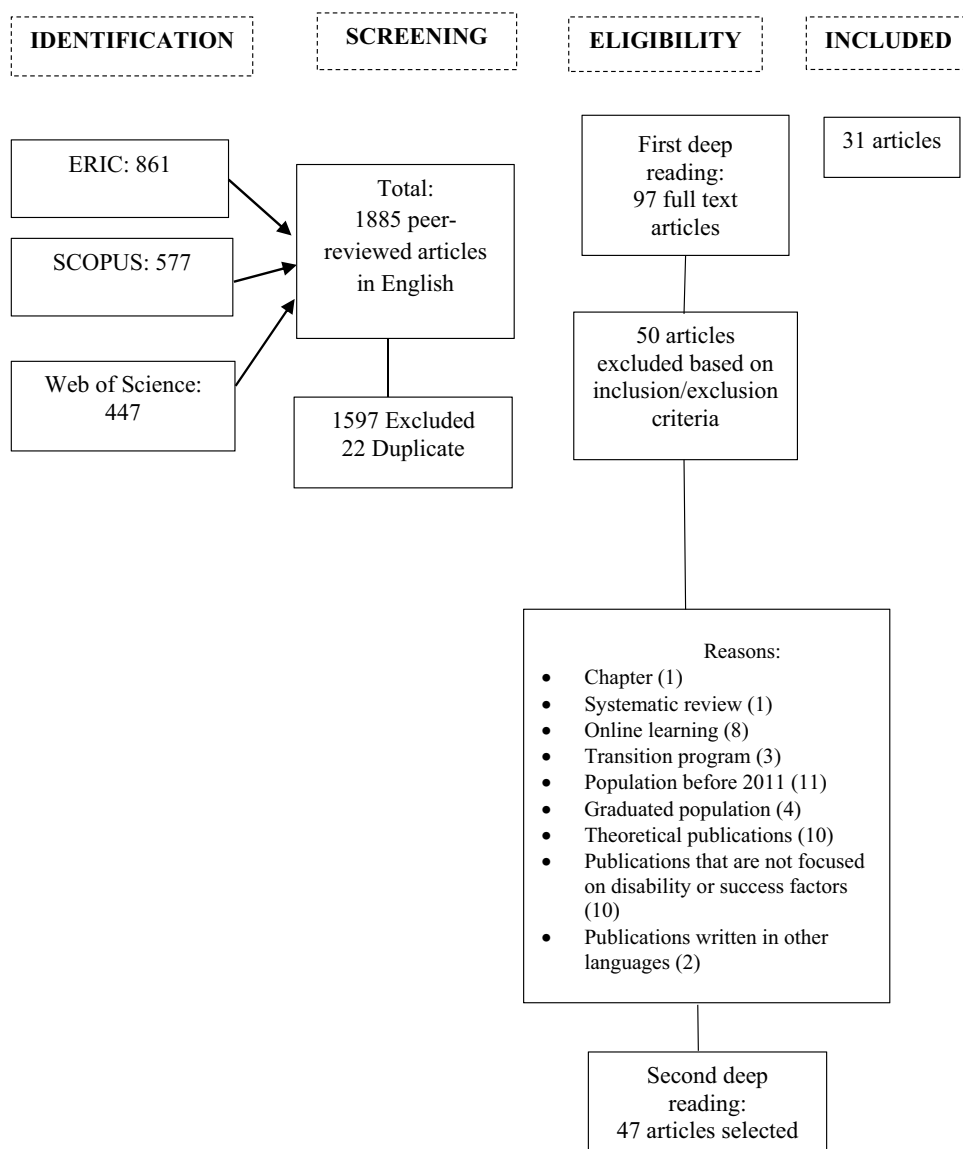


Figure 1. Overview of the screening and selection process.

Screening and selection

In all three databases we conducted a first reading with a review of titles and abstracts. The search was carried out in January 2021. In the first search phase, 1885 potential publications were identified in the three databases: 861 in ERIC, 577 in Scopus and 447 in JCR. We read all the abstracts and, based on these, 97 studies were pre-selected. Then, the two authors reviewed the full text of each article ($n = 97$) that met title and abstract review criteria to determine if the publication met all remaining criteria for inclusion. When we did not independently agree regarding article inclusion, we subsequently collaborated to

address disagreements and reach consensus regarding inclusion. The next step was to read these papers in detail. From this reading, we selected only those that met the inclusion criteria ($n = 47$). Afterwards, we reread the 47 articles in depth and excluded those works that did not meet the inclusion criteria. Lastly, selected 31 of them for analysis.

To ensure the validity of this study, the two authors reviewed the articles individually. Subsequently, they contrasted the analysis carried out and discussed the inclusion or exclusion of the studies that would make up the systematic review. In this process, in addition to taking into account the established inclusion criteria, the authors paid special attention to the methodology of each study. Finally, the results of the 31 studies included were considered. However, some studies were stronger than others in terms of methodological design. Mainly, regarding weaknesses, the sample selected in the quantitative studies was too small for this type of study (e.g., Espada-Chavarria et al. 2020, and Fabri et al. 2020). Moreover, in some quantitative studies where questionnaires were used, it was found that these were not validated, or at least their validation was not mentioned in the paper (e.g., Fleming et al. 2017;; Harrison, Areepattamannil, and Freeman 2012). This may call into question the reliability of these papers.

Data extraction and analysis

For data extraction and analysis, a system of categories and codes was generated to conduct an analysis of the studies. This allowed us to systematise the review of the publications and facilitated the comparison between them, thus differences and similarities could be identified and examined.

Firstly, we prepared a table that included, in each of the articles, the research objectives, the sample (number and type of disability), the country, the methodology and instruments for data collection and the results (see appendix). This allowed us to carry out an analysis and compare the publications, highlighting and stressing the common success factors.

Secondly, we developed a system of categories and codes to analyse, for each work, the descriptive data of the studies (methodology, country and type of disability) and the thematic data (personal and external factors) (Table 1).

Findings

The findings are organised around the descriptive data of the studies and the personal and external factors that influence the academic success of students with disabilities (see Table 1). A total of 3854 students with disabilities participated in the 31 studies reviewed.

Study description

The methodology used in the studies was diverse: 13 qualitative studies (42%), 12 quantitative studies (39%) and 6 mixed studies (19%). The methodological data, regardless of whether they are quantitative or qualitative, have enriched the analysis of the results. Both methodologies can be seen as complementary to each other.

The analysis of the common factors in the studies allowed us to observe that the techniques and methodological approaches used to explore the success factors are

Table 1. Categories and codes System.

CATEGORIES AND CODES SYSTEM			
METHOD	COUNTRY	TYPE OF DISABILITY	INDIVIDUAL AND EXTERNAL FACTORS
12 Qualitative	N studies	N Students	Individual Dimension
13	United States 25	(3854)	-Self-Determination
Quantitative	Jordan 1	Autism 235	-Self-Advocacy
6 Mixed	Tanzania 1	Physical 283	-Self-Awareness
Studies	Ireland 1	ADHD 273	-Self-Discipline
	Spain 1	Psychological	-Self-Esteem
	South Africa 1	565	-Executive function
	UK, Finland, Spain, USA*1	Cognitive 586	Family Support
	*The participants originated from these four	Learning 1294	-Moral support
	Western countries.	Multiple 177	-Financial support
		Not Specified	-Social support
		441	University Support
			-Disability services
			-Staff and faculty support
			-Peer social support

different. For example, self-determination, self-awareness and social support from peers and staff have been investigated from a qualitative perspective (Berry and Domene 2015; Jenson et al. 2011). However, other factors, such as self-advocacy and executive functioning, have been addressed from quantitative approaches (Richman, Rademacher, and Maitland 2014).

The diversity of techniques in the 31 empirical studies enriched the analysis of the results, since, on the one hand, the qualitative studies contributed to understanding the opinions of the students and, on the other hand, the quantitative studies, through statistics, allowed establishing exactly which variables influence the personal and external factors.

A final aspect is that no commonality was found between the studies in the techniques used. For example, the questionnaires were different in every case.

Furthermore, as for the countries in which the research was carried out, out of 31 studies, 25 were conducted in the United States, while the rest were performed in Finland, Ireland, Jordan, South Africa, Spain, Tanzania and the United Kingdom. Most of the studies were carried out in the United States, probably since the research topic is new and the United States make significant investments in research. Secondly, this could be due to their laws, education system and economic resources, as well as the diversity that characterises this country.

The systematic review found differences in terms of the country in which the study was conducted. For example, Duma (2019) (South Africa) emphasised the importance of people with disabilities receiving government funding to meet their needs. However, this was not mentioned in the US studies (Bayley et al, 2019).

The last aspect to analyse in the description of the data is the type of disability of the students. The majority of participants in the studies were people with Learning Disabilities (1294 out of the total of 3854). However, despite the type of disability, the students share and recognise the same success factors (Da Silva et al. 2016).

Personal and external factors

Table 2 shows that there are different common factors in the reviewed studies that could be most determining for the success of students. Regarding the personal dimension, the factors that appear most frequently are self-advocacy and self-awareness, whereas the most common external factors are staff and faculty, support disability services, family and peers support.

What are the personal factors and traits of students with disabilities who are progressing and succeeding at the university?

Students recognised six factors as fundamental to their academic success: self-advocacy, self-awareness, self-determination, self-discipline, self-esteem and executive functioning.

Self-advocacy as a way to act proactively

Self-advocacy plays an important role in the personal dimension of persons with disabilities. It is related to how a person feels about him/herself and the ability to act in ways that fulfill his/her skills (Fichten et al. 2014; Vaccaro, Daly-Cano, and Newman 2015). This characteristic influences a person's attitude towards life, being proactive and taking control of events, in order to successfully achieve the proposed goals (Fleming, Plotner, and Oertle 2017; Timmerman and Mulvihill 2015).

On the other hand, self-advocacy allows students to apply for services and aids according to their needs (Harrison, Areepattamannil, and Freeman 2012). Most students emphasised the importance of requesting support services such as academic coaching, accommodations and tutoring.

This trait was also helpful in becoming part of the peer group at the university (Fleming, Plotner, and Oertle 2017). Students explained that it was helpful to work as a team with their peers, because they learned from and helped each other.

Self-awareness as a form of empowerment

Self-awareness differs from the previous one in that, while self-advocacy refers to the internal capacity of the individual to trust his/her abilities, through self-awareness the individual becomes aware of his/her disability and looks for strategies to be the protagonist of his/her life. It is a practice that allows empowerment (Accardo et al. 2019). That is, the person with this trait becomes independent, discovers abilities that allow him/her to face his/her disability and controls his/her actions. The students highlighted that self-awareness allowed them, among other things, to manage their time effectively, have clear objectives, prioritise content, and ask for and seek help from the faculty (Kain, Chin-Newman, and Smith 2019).

Moreover, it was considered a success factor to have been able to choose the type of university and the type of degree according to personal interests (Berry and Domene 2015).

Self-determination as a mechanism for learning to succeed

Self-determination allows for behaviour management and control and refers to a person's ability to make decisions for him or herself, to be independent, and to make decisions that help him or her grow as a person (Accardo et al. 2019). In transition planning to university,



Table 2. Personal and external factors.

advocacy support	Self- Self- awareness support for disability	Self- Support from staff and faculty	Social support from peers	discipline	Self- Esteem	Executive	determination functioning	Self- Family
Accardo et al. (2019)	X	X	X	X	X	X		X
Bailey et al. (2019)					X	X		X
Berry and Domene (2015)			X		X		X	X
Chang et al. (2019)					X	X		X
Da Silva Cardoso, Phillips, Thompson, Ruiz, Tansey, and Chan (2016)	X		X		X	X		X
Duma and Shawa (2019)					X			
Espada-Chavarría, Moreno-Rodríguez, and Jenaro (2020)							X	
Fabri et al. (2020)							X	
Fichten et al. (2014)		X		X	X	X		
Fleming, Coduti, and Herbert (2018)		X		X				
Fleming et al. (2017)		X						
Fleming, Plotner, and Oertle (2017)		X				X		
Francis et al. (2019)		X	X		X			
Fullarton and Duquette (2016)	X	X	X		X			X
Garrison-Wade (2012)	X			X				X
Goegan and Daniels (2020)				X				
Harrison, Aarepattammanni, and Freeman (2012)		X	X			X		
Jenson, Day, Truman, and Duffy (2011)	X	X		X	X	X		X
Kain, Chin-Newman, and Smith (2019)			X			X		X
LeGary (2017)					X	X		X
Lombardi, Murray, and Kowitz (2014)		X				X		X
Milsom and Sackett (2018)		X				X		X
O'Byrne, Jagoe, and Lawler (2019)		X	X			X		X
Qian et al. (2018)	X							
Richman, Rademacher, and Maitland (2014)	X	X		X		X		X
Rowe, Charles, and DuBose (2020)						X		X
Thawabieh and Al-roud (2011)		X					X	

(Continued)

this characteristic was fundamental, making it possible to improve their perception of their abilities (Garrison-Wade 2012).

In the studies by Da Silva et al. (2016) and Yssel, Pak, and Beilke (2016), it was found that students with disabilities have a desire to be like everyone else. Participants of these studies identified the following self-determination skills as important to succeed in college: understanding one's disability, understanding strengths and limitations, learning to succeed despite the impact of a disability, setting goals and determining how others could assist in achieving such goals, problem-solving skills and self-management skills.

Self-discipline to carry out the tasks

Fullarton and Duquette (2016) described self-discipline as a person's determination and ability to carry out a task or to adopt a certain behaviour in the face of a difficult situation.

In several publications it is explained that the reason that allowed students to continue to struggle and strive to achieve their goals was that all students had high ambitions to complete HE and believed that having a degree would resolve problems related to their disability (Tuomi, Lehtomäki, and Matonya 2015). The studies found that determination helped people to create a sense of autonomy, freedom and independent life experience. Their personal motivation acted as a pushing factor to find alternatives to reach their goals.

Students were convinced that this effort was going to be rewarding and that once they graduated they would be more likely to earn a degree, secure employment and improve their quality of life (Accardo et al. 2019).

Self-esteem, the lever of the sense of belonging

Self-esteem was considered fundamental to the process of identity formation, implying the need to recognise and value one's own individuality. Firstly, self-esteem was related to belonging, since receiving support from friends and faculty members helped to believe more in one's own abilities. It was observed that peer work had a great influence on self-esteem, as students saw their efforts recognised, which motivated them. Moreover, feeling part of a group was very important (Fichen et al. 2014; Goegan and Daniels 2020); thus, for some students, belonging influenced their satisfaction through a greater sense of self-management and a harmonious perception of the campus climate (Fleming, Plotner, and Oertle 2017).

Executive functioning

In the work of Accardo et al. (2019), several executive functions were distinguished: planning and organisation of studies, time management, prioritising and balancing work, goal-oriented persistence, students' acknowledged flexibility, self-regulation and metacognition.

Executive functioning is an essential skill in the life of all students, as it allows them to solve everyday problems, adapt to the environment around them and set goals and strategies. For the training of these functions, the support services of the universities provided didactic services to improve mental functions through exercises aimed at boosting the most deficient areas.

Which external factors influence the academic success of students with disabilities?

Moral, financial and social support from the family

Most participants identified the family dimension as a source of external support. In the analysis, we examined this category through moral, financial and social support.

Firstly, regarding family moral support, students reported that their decision to study at university was influenced by their families' positive beliefs about their abilities (Accardo et al. 2019; Berry and Domene 2015; Fullarton and Duquette 2016). Their advice and the emotional support they offered were very important, since it influenced their motivation to continue and complete their studies (Da Silvia Cardoso et al. 2016; Duma and Shawa 2019).

Secondly, family members provided various forms of funding (Francis et al. 2019; Tuomi, Lehtomäki, and Matonya 2015). In the study by Duma and Shawa (2019), for example, it was found that families struggled to afford automatic wheelchairs and other assistive technologies for their sons and daughters, as they were too expensive.

Finally, students with disabilities identified that, regarding social situations, siblings played an important role, as they managed to put themselves in their place or integrate them into their groups of friends (Bailey et al. 2019). Therefore, brothers and sisters were recognised as a social support.

University as a key factor in the contribution to academic success

Various university services and members of the university community have facilitated the progress of students with disabilities: disability offices, staff, faculty and peers.

Impact of disability support services

It is important to highlight the role played by disability services, which are responsible for coordinating the teaching and learning process and mediating between the students and the faculty, promoting positive academic outcomes through academic adjustment services and psychological support (Chang et al. 2019).

These types of services were offered to facilitate the academic success of students and enable them to achieve the same goals as their non-disabled peers (Espada-Chavarria, Moreno-Rodriguez, and Jenaro 2020; Goegan and Daniels 2020).

For specific support, tutoring, workshops, and summer programmes were mentioned, as they were events that allowed students to meet other persons with disabilities. For more generalised supports, reference was made to the possibility of accessing computers, exploring ways of relating to faculty members, working on studying skills and time management strategies, and connecting with peers. The research by Goegan and Daniels (2020) pointed out the benefits of organising 'welcome weeks' at the beginning of the term to learn how to navigate the academic supports that students need to access for themselves, such as obtaining accommodations for their courses, while also offering a social component where students can meet other students who also have learning challenges, from which they can begin to build their network of peers on campus.

Coaching, in other studies, was considered a factor leading to success in persons with disabilities. This was due to the fact that the academic and social support received led to better academic performance, more critical and flexible thinking to manage problems,

and better control of emotions and daily stress (Richman, Rademacher, and Maitland 2014; Rowe, Charles, and DuBose 2020).

In short, the benefits of disability support services were multiple and allowed for finding stimuli, discovering interests and achieving a state of well-being in students (Fleming, Plotner, and Oertle 2017).

Educational institution: academic support staff and faculty

Students with disabilities found that staff and faculty members played a key role in their academic success because they had received encouragement, motivation and positive feedback from them, which allowed them to persevere in their studies (Berry and Domene 2015).

It is not easy to distinguish between these two agents, as sometimes their functions are similar and complementary to each other. Firstly, university support staff acted as intermediaries between the student with a disability and the university institution, providing emotional support and guiding and motivating students when they needed counselling. However, they also intervened indirectly, providing faculty members with information about their students' disabilities and what teaching materials to use as a useful and effective tool for the student, since most students came to university with a diagnosis and previous study experience (Milsom et al. 2018).

Faculty members were valued for being accessible and supporting student efforts. They made various curricular adjustments that facilitated the learning of their students. The studies highlighted the importance of providing appropriate, individualised and effective adjustments (Timmerman and Mulvihill 2015).

Similarly, students with disabilities noted that it had been extremely fruitful to have an emotional connection with the faculty and staff and thanked them for being a source of support, understanding, and compassion (Fabri et al. 2020; Thawabieh and Al-roud 2011). The studies valued the fact that the faculty members were trained, with knowledge about disability and universal design (Fleming, Coduti, and Herbert 2018).

Peers as a key element in inclusion

Lastly, it should be noted that peers influenced the academic success of students with disabilities (Lombardi, Murray, and Kowitt 2014). In addition, participants noted that success would be greater if they built relationships with peers, engaged in campus activities, and had access to organised social activities.

What allowed them to develop significant friendships was mainly being part of student organisations and participating in the activities that were organised, in order to develop social skills. In the same way, being part of a sports team or table-top gaming group helped students form authentic and meaningful friendships and receive emotional support (Bailey et al. 2019).

Thus, social inclusion was important on a personal level, as it produced well-being in the individual, and also on an academic level, since working in a team reinforced the learning and understanding of new concepts (Goegan and Daniels 2020).

Discussion

This work contributes to the line of research on disability and HE by providing a systematic analysis of the internal and external factors that affect the academic success of university students with disabilities. This paper confirms the personal and contextual factors that contribute to inclusion and success at university. Although the factors included are not new, the novelty of this study lies in the fact that it brings together all the factors identified to date in a single paper. Of the review of the 10 factors that promote success, only Accardo et al. (2019) discuss eight factors and Fullarton and Duquette (201) and Jenson et al. (2011) discuss seven factors. The remaining studies focus only on a few factors. We believe that this confirmatory study can offer contrasting evidence for universities to provide the formal and informal support necessary for successful retention and completion of studies.

These factors can also serve as a guide for students with disabilities to choose to study in those universities that contemplate the supports described in this study. On the other hand, it can also guide the university to design policies and implement actions that take into account these factors.

As many studies have reported, persons with disabilities have to overcome all kinds of obstacles in their university courses (Munir 2021). On the contrary, this study shows that, when people have a range of personal skills and institutions provide the necessary opportunities, it is possible for students with disabilities to remain and succeed academically. Therefore, the results of this work offer clues to guide the way forward for those universities that wish to move towards inclusion (Carballo, Morgado, and Cortés-Vega 2021; Louise and Swartz 2020).

A first idea that emerges from this study, as well as from Russak and Hellwing (2019), is that the term success is dynamic, since the 3854 students with disabilities did not always share the definition of the term, nor the factors that led to it. Furthermore, our study coincides with that of Jenson et al. (2011), since academic success depends on factors related to the personal, contextual and external environments.

The students defined themselves with various characteristics that they shared, such as sense of freedom and independence, and considered themselves to be fighters who persisted in their goals until they achieved their objective of being like others. They saw disability as an opportunity, were used to overcoming obstacles and were resilient. This is in line with other studies, such as those by Accardo et al. (2019) and Goegan and Daniels (2020). All students were committed to courses with the goal of graduating to employment. University, as other studies have already concluded (Carballo, Morgado, and Cortés-Vega 2021), can be an opportunity to improve the quality of life and achieve independent living for people with disabilities.

The students possessed important competencies for the management of their lives, such as: self-determination, self-advocacy, self-awareness, self-discipline, self-esteem and executive functioning. Therefore, it would be important for people with disabilities to be prepared in these competences during the pre-university training stages, since they show that such competences are essential to access and have educational, social and working success. However, this training should also be reinforced at university, especially in the transition period, and courses should be offered to prepare for these characteristics. These competences lead us to think that, in order to improve students' learning, not only

disciplinary contents are necessary, but also personal competences and social skills need to be developed in the subjects. This could be done through active and student-centred teaching methodologies, such as cooperative learning, projects and case studies. All of these allow for interaction and mutual support.

With this study we have also learned that, not only personal skills are necessary for success, but also support from the family and the university. The family, on the one hand, provides moral and financial support (Fullarton and Duquette 2016), and institutions, on the other hand, provide adequate services to meet the needs of their students (Harrison, Aarepattamnil and Freeman 2012). Coaching, tutoring, accommodations and disability services are resources offered by the university to improve the quality of education and enhance the psychosocial well-being of students. These resources and the use of them to facilitate the learning and participation of students with disabilities could show the way to other universities that wish to respond to the challenge of successfully including all students.

Faculty members also play a crucial role in this process of inclusion. In many of the papers analysed, reasonable adjustments were mentioned as an element that facilitates academic success (Accardo et al. 2019; Fullarton and Duquette 2016; Garrison-Wade 2012; Timmerman and Mulvihill 2015). However, rather than making adjustments, it would be better to teach from the Universal Design of Learning, since it allows them to act proactively and offer multiple means of expression, representation and involvement (Fleming, Coduti, and Herbert 2018). In addition to the instructional component, faculty members who have been key in facilitating student learning and participation have been characterised by their closeness and affection, as well as by being professionals trained in disability and inclusive education. This is another critical factor to be taken into account by those universities interested in the success of all their students. This coincides with those studies that show that when the faculty members are prepared and close, they influence the learning of the entire student body and facilitate the development of a sense of belonging (Moriña and Orozco, 2021; Cotán et al. 2021). Taking into account the need for a sensitised and trained faculty, it would be advisable for universities to include policy actions in their training, in order to prepare them for inclusive education and diversity.

Finally, another factor contributing to success is peers, both in the academic and social spheres. This is consistent with previous studies (Accardo et al. 2019; Bailey et al. 2019; LeGary 2017; Da Silvia et al. 2016), which conclude that, if peer support allows a student with a disability to progress in his or her learning, then social support provides an opportunity for an inclusive college experience. We should not forget that attending university is not only about academics and that it can be a great opportunity for participation and social inclusion (Hewett et al. 2017). For this reason, university institutions should also promote actions linked to associations, sports and cultural activities, which, as has been studied, are key to feeling part of the university community (Bailey et al. 2019; Tuomi, Lehtomäki, and Matonya 2015).

Limitations and further research

This systematic review is not without limitations. The main limitation is that the search in the three databases led to a large number of articles on success factors for students with

disabilities in the academic field. Therefore, we had to exclude papers and restrict the search to ten years or exclude publications related to online education or other types of publications, such as book chapters.

However, we believe that our research can pave the road for further investigations to delve into the keys to success in university study and increase the percentage of university students who manage to complete their studies. It would be interesting to carry out a qualitative analysis, studying in depth the factors of success and conducting interviews and observations in the university classrooms, in order to construct life histories, with the aim of analysing and determining the most effective strategies that contribute to learning and participation, as well as discovering the services and supports that are determinant for students with disabilities to progress and successfully complete their studies.

Conclusions

This work has reaffirmed the need for further studies related to the university success of persons with disabilities. Success in university is subjective and depends on the personal experiences of each student. However, there are several factors that can be shared by all people. These respond to personal characteristics that are mainly associated with self-advocacy, self-awareness and self-determination. However, academic success is also influenced by other external factors, such as the family, support services and professionals from the university itself or peers. The latter, when the others fail, can compensate for the inequalities that students may experience and serve as a support that encourages them not to drop out of their courses and finish them successfully.

The significant findings of this study show students the skills needed to manage their degrees and, in turn, help universities to develop actions that promote the development of some of the factors identified in this study.

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