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Students with disabilities in higher education call for personal empowerment, equitable inclusive systems, and individualized accommodations

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Introduction: The number of students with disabilities in higher education is increasing, but research shows that they continue to face significant challenges for equitable participation. This study aims to deepen our understanding of these challenges through the perceptions of students with disabilities themselves.

Methods: Participants were students with disabilities enrolled at the University of Malta. Data was collected through a student survey with quantitative and open-ended questions and semi-structured interviews with students on their aspirations, on how far they felt enabled to participate in the university academic and social environments, and on how useful were the individual accommodations provided for their equitable participation. The online questionnaire was completed by 51 students constituting 21% of the total relevant population, while four semi-structured interviews were held with autistic students.

Results: The findings firstly showed that these students considered the university as mainly an opportunity for self-development but experienced significant difficulties during their transition to and at the university for developing a healthy self-identity in the ableist university environment. Secondly, students called for the teaching system to be more pedagogically effective and sensitive to diverse student needs and for their involvement in the development of appropriate facilities for students. Thirdly, they reported that individual accommodations were necessary for their equitable participation and called for less bureaucratic processing of applications, individual negotiation of accommodations, and a system for informing lecturers of students' needs.

Discussion: The study suggests that higher education institutions should listen to the concerns of students with disabilities and involve them in curricular and environmental planning. They need to create a diversity respectful ethos and socio-emotional support that promotes everyone's membership in the university community, while adopting a universal design for learning mindset

that is open to the diverse needs of students and providing a smooth system of accommodations for other individual needs.

KEYWORDS

higher education, disability, mental health, self-identity, access, inclusive education, universal design, reasonable accommodations

1 Introduction

An increasing number of students with disabilities are enrolled in higher education (HE) across the world [UNESCO and The Right to Education Initiative (RTE), 2022]. In Malta too, following the implementation of inclusive education in compulsory schooling, the number of students registered as having a disability at the University of Malta has been increasing, rising from 98 (0.83% of all students in 2016) to 383 (3.1% of all students in 2023). However, such students may often feel unwelcome in the ableist HE environment which is still seen as "the space for society's most able, physically, mentally, and otherwise—not a place to admit to any weakness or challenge" (Dolmage, 2017, p. 96). This study aims "to ensure that persons with disabilities are able to access general tertiary education… on an equal basis with others" [UN General Assembly, 2006, art. 24(5)].

This study was undertaken by the ACCESS-Disability Support Unit of the University of Malta to understand better the challenges and needs of students with disabilities and medical and mental health conditions for their equitable participation.

While the Unit is mainly concerned with providing students with individual accommodations, this study adopts an inclusive education lens that calls for a rethinking of the design of curricula and instruction, the physical and social environment and activities and services to make them accessible to the needs of the diversity of students (Zorec et al., 2024). This implies the application of Universal Design in HE (Burgstahler, 2021) which has been widely used as an appeal for systemic access to learning termed Universal Design for Instruction (Scott et al., 2003), or Universal Design for Learning (UDL). UDL has become a prominent feature of the policies of HE globally as they respond to the requirements of the UN Convention on the Rights of Persons with Disabilities (UN General Assembly, 2006), or to national legislations such as the Higher Education Opportunity Act (Madaus et al., 2012) in the US, and similarly in Canada, Europe, and Australia as part of the required efforts to enhance accessibility and inclusivity in education. This call has greater importance because it addresses the needs of both students with recognized disabilities as well as those of many others with unrecognized needs (Jansen et al., 2017). Inclusive systems, rather than individual accommodations, ensure equal valuing of all when "differences are valued as resources, and customs emerge through the co-creation of inclusive conditions under which all can thrive" (Cook-Sather and Cook-Sather, 2023, p. 1). However, there is currently more literature on its desirability than its implementation. The recently updated UDL guidelines detail three principles, namely (1) *Engagement*, such as by "centering, affirming, and sustaining learners' interests and identities"; (2) *Representation*, such as by "valuing multiple ways of knowing and making meaning"; and (3) *Action and Expression*, such as by "honoring and valuing a wide variety of forms of communication" (CAST, 2024). It may be most effective to use UDL, not as a checklist, but rather as a mindset for enabling the participation of all students: "Universal Design is not a tailoring of the environment to marginal groups; it is a form of hope, a manner of trying" (Dolmage, 2017, p. 116). The aim of this study is therefore to highlight the need for such a mindset.

At the same time, while working toward UDL, the way in which many students with disabilities have been enabled to follow HE successfully has been through the provision of individual accommodations, even if this falls within a deficit model of disability (Zohri and Bogotch, 2023). The process of obtaining needed accommodations is also worth studying because for students it is "complex, uncomfortable, and riddled with barriers" (Ristad et al., 2024).

The focus of this study is on how the students themselves perceive their HE experience. There is an increasing amount of literature on student voices. A search of the major international databases at the University of Malta identified 10 systematic reviews published between 2017 and 2022 that reported relevant studies. These addressed four major relevant student concerns: general reviews of the provision of accommodations for students with disabilities (Brown et al., 2021; Lindsay et al., 2018; Moriña and Biagiotti, 2021); the experiences of students with mental health conditions in HE (Elharake et al., 2022; Reis et al., 2022; Sanderson et al., 2020; Sheldon et al., 2021); the use of Assistive Technology (AT; McNicholl et al., 2021) and online learning (Reyes et al., 2021); and post-secondary education transition programs (Lindsay et al., 2018). While all the reviews touched on relevant issues, they were limited in focus or in the range of studies and only Moriña and Biagiotti's (2021) review addressed more widely the two issues relevant to our purpose, namely what they termed "internal" and "external success factors" for students with disabilities in HE. They identified six internal factors, namely "Self-Determination, Self-Advocacy, Self-Awareness, Self-Discipline, Self-esteem, and Executive Function," and eight external factors, namely "Family support, Moral support, Financial support, Social support, University support, Disability services, Staff and faculty support, and Peer social support" (p. 5). Even in this review, however, there was limited consideration of students' perception of how the university system facilitated or created barriers to learning and belongingness; no reference was made to issues of stigma.

We therefore carried out a systematic scoping review of issues related to student equitable participation in HE through a search of three relevant databases (PsycINFO, ERIC, and Web of Science), using the following terms (disab* OR "mental health" OR inclus* OR access* OR accommod* OR adjust* OR transition; in title); AND ("higher education" OR tertiary OR university OR college OR "post-secondary education" OR undergraduate; in title); AND

student* (in abstract). This led to a review of 133 studies, published from January 2017 to February 2022, reporting the experiences of students with disabilities from HE institutions in countries across the world, comprising a total of 12,202 student participants (Bartolo et al., 2023). Over half of the studies included students with various disabilities with the rest focused on a single disability: physical disability (7), visual impairment (12), hearing impairment (1), Attention Deficit Hyperactivity Disorder (ADHD; 3), Autism Spectrum Condition (ASC; 13), Learning Disabilities (LD) or Specific Learning Difficulties (SpLD; 8), medical conditions (2), and mental health conditions (9).

A qualitative thematic analysis of the studies led to the identification of three main concerns of students with disabilities in HE. Firstly, we found that a crucial component of the student higher education experience was the development of their own self-identity. Students underlined the importance of self-development, their struggle with stigma and disclosure of their disability, and their trajectory into and through higher education toward autonomy and career prospects (Abes and Wallace, 2018; Vaccaro et al., 2018). The development of self-determination and self-advocacy skills was regarded as an essential element of success as had been reported in Moriña and Biagiotti's (2021) review.

Secondly, the studies described how students struggled for full membership in the university community, calling for a transformation of university physical, social and teaching environments for them to access and participate in academic and social activities—all issues related to UDL. Indeed, UDL was mentioned in 51 of the reviewed studies and was a main focus of five of them (Griful-Freixenet et al., 2017; Ndlovu, 2021; Nieminen and Pesonen, 2019; Wilkens et al., 2021; Yusof et al., 2020). The first and third of these examined whether student needs were addressed through UDL. One important finding was that "several elements perceived as effective to some students were perceived at the same time as barriers to others" (Griful-Freixenet et al., 2017, p. 1634). What all the students agreed was important was "a positive instructional climate open for communication, formative feedback provided in a frequent, timely and specific manner, and feeling engaged in cooperative learning exercises and group discussions" (p. 1642).

The third main finding of the scoping review was that, while calling for systemic accessibility, students with disabilities still perceived individual accommodations as necessary and helpful for their equitable participation. "Accommod*" was mentioned 3,087 times in 113 of the studies. However, students also reported that they were frequently hesitant to request accommodations because of stigma. They were trying to balance their need to develop autonomy, also in preparation for employment, with their sorely needed individual course and test access arrangements to create a fair playing field for them (Sarrett, 2018). There were some difficulties and accommodations that were common to all categories, such as the processing of tasks being more time-consuming and laborious for various reasons, necessitating extra time during assessments or extended deadlines for assignments (Gelbar and Madaus, 2021). Students also suggested that accommodations should be based on the individual's needs rather than diagnostic categories (e.g., Fox and McNally, 2018), and best negotiated with themselves (e.g., Accardo et al., 2019). The services of an efficient disability support office that ensured information and implementation were also highlighted (Moriña and Perera, 2020).

The findings of this systematic scoping review were very relevant to the University of Malta's (UoM) attempts to meet the needs of students with disabilities. The UoM is a middle-sized university serving as the only public university of the Maltese Islands. It has a 400-year history and hosted 12,354 students across 14 Faculties in 2022–23, including over 1,000 foreign students. The UoM has an Equity, diversity and inclusion policy (University of Malta, 2023) and has for the past three decades been developing services for students with disabilities in the form of accommodations, termed "Access Arrangements" (University of Malta, 2018). It has an administrative unit that is dedicated to the provision of such arrangements—the ACCESS Disability Support Unit (ADSU; University of Malta, n.d.). There is also a Student Health and Wellness Unit which offers mainly counseling services. While initially ADSU served students with developmental and other disabilities, in recent years it started serving also an increasing number of students with mental health difficulties in line with the UN Convention definition of disability (UN General Assembly, 2006, art. 1). However, even for these students, it is mainly focused on providing them with accommodations. The findings from the systematic scoping review about students' concerns about their personal and social development in HE provided a new insight. This issue was highlighted also in another systematic review that found that university services for students with ADHD were "disproportionately weighted toward academic support considering their emotional challenges and potential difficulties to access the labor market" (Álvarez-Godos et al., 2023, p. 11).

Thus, the present study adopted the review's three-themed framework for equitable access to higher education by students with disabilities, namely, the provision of opportunities for healthy personal identity development, the universal design of physical, social and learning environments, and the provision of accommodations for individual student needs. These were formulated into the following research questions: (1) How do students perceive their personal experience and trajectory at the university? (2) How inclusive do students consider the University teaching and campus environment? (3) How helpful do students consider the accommodations provided for students with disabilities?

2 Method

A mixed method approach was adopted to provide a more complete and valid account of the students' perceptions of their university experience. It uses the strength of the generalizability of the quantitative approach with the strength of the meaningfulness of the qualitative approach (Venkatesh et al., 2013). Thus, we aimed to achieve both a representative account of the general student perceptions of the level of inclusivity and supportiveness of the university structures and processes, as well as deeper explanations of those perceptions. Given the findings from the systematic scoping review, it was decided to carry out the quantitative (survey)

and qualitative (interviews) investigations concurrently. The study was approved by the University Research Ethics Committee.

2.1 Data collection tools

The survey comprised four question categories with likert-scale or multiple-option lists of items: demographics including student gender, faculty, age, level of study, and disability, medical or mental health condition (5 questions); aspirations and transitional processes from compulsory education to higher education and to future life (5 questions); inclusiveness of social and academic systems at University (3 questions); the experience of accommodations provided for coursework, for examinations and for remote learning (4 questions). Each question allowed for a final open-ended comment.

The interviews covered the same issues. They were offered only to autistic students who tend to have a variety of access and support needs (Sarrett, 2018) and their challenges were raised in Malta's autism strategy (Autism Advisory Council, 2021).

2.2 Participants

An invitation to complete the survey online was sent to all students whose request for accommodations had been processed during the first semester of 2022–23. It was sent through the University Registrar and only to those who had consented to receive such communications. Thus, it was emailed to 243 students, including 15 autistic students who were also invited to participate in an individual interview.

Survey respondents totaled 51, representing a "modest" response rate of 21% (Fleming et al., 2017). A higher rate could have been achieved if the invitation had been sent by the ADSU but such a path was not used due to ethical considerations, particularly as in the small Maltese community there are more challenges to confidentiality. However, though the sample was limited, it was regarded as being typical of the relevant student population with whom half the project team was actively engaged. Table 1 shows how the sample included students with a range of gender identities, from various faculties, institutes, and centers. Respondents also represent the major student groups who receive accommodations, namely those with ADHD, SpLD, and Autism, and various medical and mental health conditions. There were 20 (39%) students who reported more than one condition, such as ADHD and depression, SpLD and anxiety as also reported in other studies (e.g., Sarrett, 2018).

Four interviews of about an hour each were carried out with volunteering autistic students coming from different genders, different years, levels, and areas of study.

TABLE 1 Main characteristics of respondents.

Characteristics	Frequency	
	N	%
Gender		
Male	14	27.45
Female	33	64.71
Other	3	5.88
Prefer not to say	1	1.96
Total	**51**	**100**
Faculty/Institute/Center		
Faculty for social well-being	15	29.41
Faculty of Arts	11	21.57
Science faculties	11	5.88
Law and Economics	7	7.84
Other (Education and ICT)	7	13.72
Age		
18–25 years	33	64.71
26 and over	18	35.29
Level of study		
Undergraduate degree	43	84.31
Postgraduate degree	8	15.69
Condition*		
Attention Deficit Hyperactivity Disorder (ADHD)	21	41.18
Anxiety and/or depression	21	25.49
Autism Spectrum Condition	10	19.61
Specific Learning Difficulties (SpLD/Dyslexia/Dyscalculia)	11	21.57
Other (mainly medical conditions)	27	25.49

*The total by condition (90) exceeds the actual number of respondents (51) because 20 ticked two or more conditions (up to 4).

2.3 Data analysis

Content validity of the survey questionnaire was ensured through an expert panel review made up of the multidisciplinary project team who are all engaged in the field. In addition, a cognitive interview was held with two students with disabilities to ensure proper formulation of the survey questions and statements. Cronbach's Alpha results of all sections of the questionnaire ranged from 0.883 to 0.771, thus exceeding the 0.7 threshold value indicating good internal consistency between the items. Moreover, the vast majority of inter-item correlations were positive.

The quantitative results are mainly in terms of mean ratings of statements on a 5-point Likert scale, where 1 corresponds to "not at all satisfied," "not at all helpful," "strongly disagree," and 5 corresponds to "extremely satisfied," "extremely helpful," "strongly agree." Some included a "not-applicable" choice. Other results are in terms of the percentage of students who ticked items out of a list.

We used the Kruskal Wallis test to compare mean rating scores obtained for the different groups by gender, age, faculty, level of study, and disability for Likert scale questions. For instance, we compared the scores obtained by undergraduate

TABLE 2 General feeling as a university student, clustered by study level.

General feeling as a university student	Study level	*N*	Mean	Std. dev.	*P*-value
I like being at university	Undergraduate	43	3.74	1.136	0.990
	Postgraduate	8	3.75	1.282	
I feel very anxious when I come to university	Undergraduate	43	3.05	1.327	0.891
	Postgraduate	8	3.00	0.756	
I am concerned about others knowing I have a disability/medical/mental health condition	Undergraduate	43	2.74	1.311	< 0.001
	Postgraduate	8	1.50	0.535	
I feel that the university experience helps me to understand myself and the world around me	Undergraduate	43	3.49	1.077	0.114
	Postgraduate	8	4.13	0.641	
I find it easy to ask myself for the access arrangements I need	Undergraduate	43	2.81	1.350	0.044
	Postgraduate	8	3.63	0.916	
I feel welcomed by my peers	Undergraduate	43	3.58	1.006	0.149
	Postgraduate	8	4.13	0.641	
I feel welcomed by my lecturers	Undergraduate	43	3.56	1.053	0.149
	Postgraduate	8	4.13	0.641	
I feel enabled to participate in class processes	Undergraduate	43	3.60	0.955	0.958
	Postgraduate	8	3.63	1.188	
I feel that other students do not recognize my abilities	Undergraduate	43	2.65	0.897	0.272
	Postgraduate	8	2.00	1.512	
I feel that lecturers do not recognize my abilities	Undergraduate	43	2.77	0.996	0.030
	Postgraduate	8	1.88	1.246	
I feel alone at university	Undergraduate	43	3.00	1.309	0.043
	Postgraduate	8	2.00	1.309	
I feel very different from other students	Undergraduate	43	3.28	1.260	0.004
	Postgraduate	8	1.88	0.835	
I feel that my disability/medical/mental condition puts me at a great disadvantage at university	Undergraduate	43	3.28	1.241	0.032
	Postgraduate	8	2.25	1.035	

and postgraduate students on their feelings about their university experience (Table 2). The mean rating scores range from 1 to 5, where 1 corresponds to "strongly disagree" and 5 corresponds to "strongly agree," where a larger mean rating score implies a higher agreement. The null hypothesis specifies that the mean rating scores provided to the statement vary marginally between the groups and is accepted if the *p*-value exceeds the 0.05 level of significance. The alternative hypothesis specifies that the mean rating scores provided to the statement vary significantly between the groups and is accepted if the *p*-value is less than the 0.05 criterion. Thus, with a difference of $p < 0.001$, it was concluded that undergraduate students were significantly more concerned than postgraduate students about others knowing they had a disability/medical/mental health condition. Similarly, we looked at percentage differences among the different groups in the choices they made from multiple-options lists (Chi Square test). The few significant discrepancies between the mean ratings of the different groups are reported below.

We used the Friedman test to look for any discrepancies in mean rating scores of different items within a question. For instance, we looked at discrepancies between the mean scores for the several statements related to challenges encountered by students (Table 3). The null hypothesis specifies that the mean rating scores provided to the statements are similar and is accepted if the *p*-value is larger than the 0.05 level of significance. The alternative hypothesis specifies that the mean rating scores provided to the statements differ significantly and is accepted if the *p*-value is less than the 0.05 criterion. Thus, with a difference of $p < 0.001$, it was concluded that problems handling stress were experienced as significantly more challenging than problems for

TABLE 3 Considerable variation in mean rating scores on items related to different challenges encountered.

Challenges encountered	Mean	Std. deviation
Sustaining and focusing attention	4.18	1.173
Planning and organizing	3.63	1.371
Completing coursework	3.65	1.339
Impulsive behavior and internal restlessness	3.72	1.310
Following deadlines	3.39	1.537
Building friendships	3.27	1.484
Sitting for a long time	3.82	1.307
Problems handling stress	4.31	0.969
Too much sensory stimulation during lectures	3.54	1.460
Following lectures in class	3.54	1.232
Following online lectures	3.45	1.542
Physical inaccessible classroom environment	1.87	1.239
Lecturers refusing to recognize/make arrangements for your individual needs	2.54	1.398
Accessing administrative members of staff for general queries	2.56	1.473
Joining student organizations	2.32	1.416

$X^2_{(14)} = 93.423$, $p < 0.001$.

getting lecturers to make arrangements for their individual needs. These measures were applied to all survey results and significant differences are reported below.

The survey's open-ended responses and the four transcribed interviews were thematically analyzed by the first two authors through the use of NVivo software. All data was coded into numerous categories that were aggregated into eight topic clusters, namely: aspirations, identity development, overarching inclusion issues, supportive arrangements, transitions, individual difficulties, accommodations, and ACCESS -Disability Support Unit. These were then used to provide a deeper understanding of the quantitative results.

3 Findings

The combined quantitative and qualitative findings are organized around the three research questions, namely, (3.1) students' search for personal development; (3.2) students' reflections on and calls for making the university systems more inclusive and accessible; and (3.3) students' reflections on and calls for improvement in accommodations (which at the University are termed Access Arrangements—AAs; see Table 4). Citations are indexed as Survey comments (Sc) or Interviews (I.1–I.4).

TABLE 4 Overview of findings for the three research questions.

(1) How do students perceive their personal experience and trajectory at the university?	• In search for personal development and better career prospects • Ambivalent feelings about the HE experience • Struggle with self-identity and stigma • Challenges of emotional regulation and social interaction
(2) How inclusive do students consider the University teaching and campus environment?	• Need for staff training in effective, inclusive teaching • Helpful and unhelpful experience of emergency remote learning • Lecturers generally helpful but not knowledgeable about needs • Physically accessible environments need to be safe, dignified, and usable
(3) How helpful do students consider the accommodations provided for students with disabilities?	• Coursework Access Arrangements (AAs) regarded as very helpful • Test AAs regarded as very important for student success • Differing views on the procedure for getting AAs

3.1 Promoting student self-development

In relation to the first question regarding student self-development, students indeed reported that they were motivated to seek higher education in their search for personal development, but that they experienced great challenges during their transition to university, and that they struggled to develop a healthy self-identity in the ableist university environment.

3.1.1 Need for a smoother transition to university

Most of the 51 respondents attributed their motivation to attend university to the desire to enhance their own personal development: for career (70.6%), knowledge and skills (66.7%), and independence (47.1%; see Figure 1):

> I felt I can realise my full potential by pursuing higher education. (Sc)

Some students aspired to improve the lives of others:

> To have the tools and qualifications to create positive change. (Sc)

At the same time, around half the respondents indicated that transitioning to university presented them with challenges from the new assessment systems - in Malta multiple choice tests are only used at university (51%), and lack of information about university procedures (49%; see Figure 2). The need for more information and "transition courses" was highlighted by one interviewee (I.2).

When asked what they found helpful to transition to university, more than half of the respondents (56.9%) indicated the support received through Access Arrangements, the use of online communication and other assistive technologies (49%), as

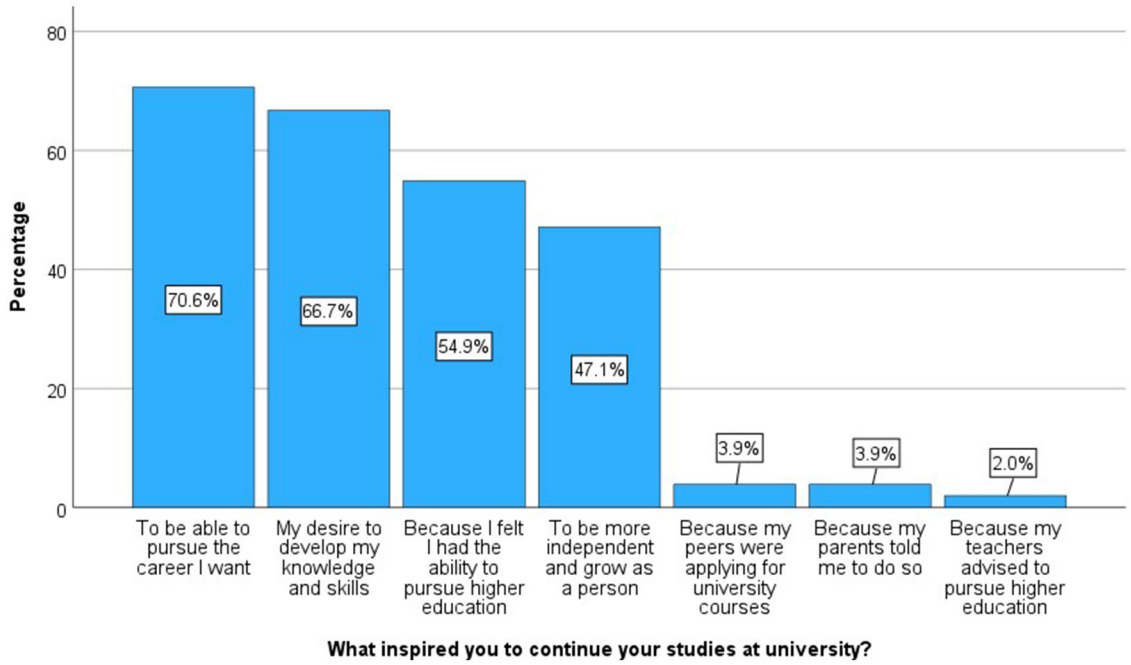

FIGURE 1
Inspiration to attend university.

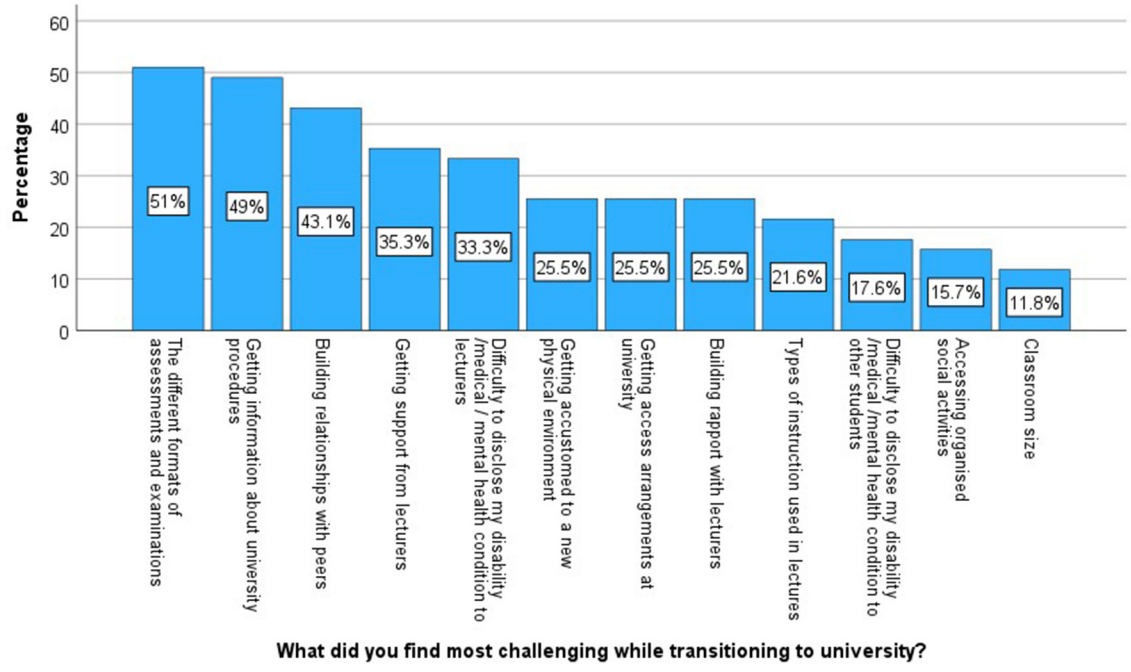

FIGURE 2
Challenges while transitioning to university.

well as support from family (43%), and close friendships (41%; see Figure 3). One postgraduate interviewee (I.4) who looked back at her experience of getting the accommodations she needed to access and progress in her studies, highlighted the importance of having self-advocacy skills.

3.1.2 Ambivalent feelings about the university experience

Students reported being more satisfied than dissatisfied with their academic and social experiences at university, with five out of seven statements receiving a mean rating above 3.00 (see Figure 4).

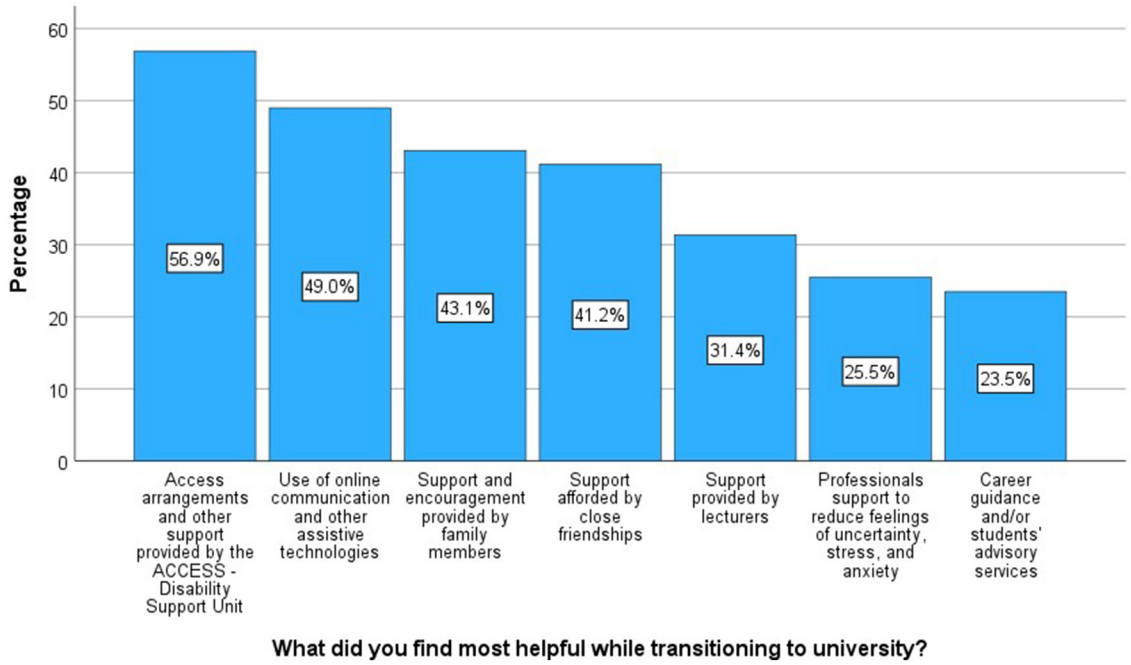

FIGURE 3
Most helpful for transition to university.

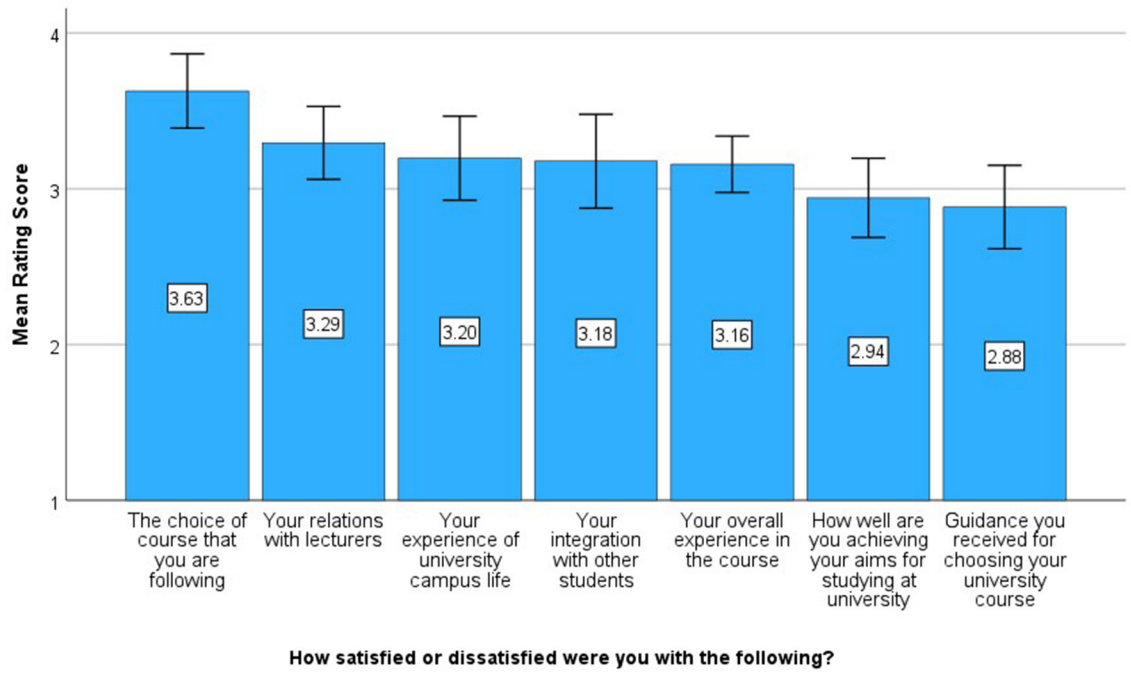

FIGURE 4
Level of satisfaction with university experience.

However, there was a significant difference ($p = 0.001$) between their rating of satisfaction with their choice of course (3.6) vs. how far they are achieving their aims (2.9). Female students were significantly more satisfied than males in achieving their aims ($p < 0.042$)

Students also reported significantly more positive than negative feelings about the university ($p = 0.001$, see Figure 5), with high mean rating scores for feeling welcomed by peers (3.67) and lecturers (3.65), and feeling enabled to participate (3.61), and to explore their self-identity (3.59).

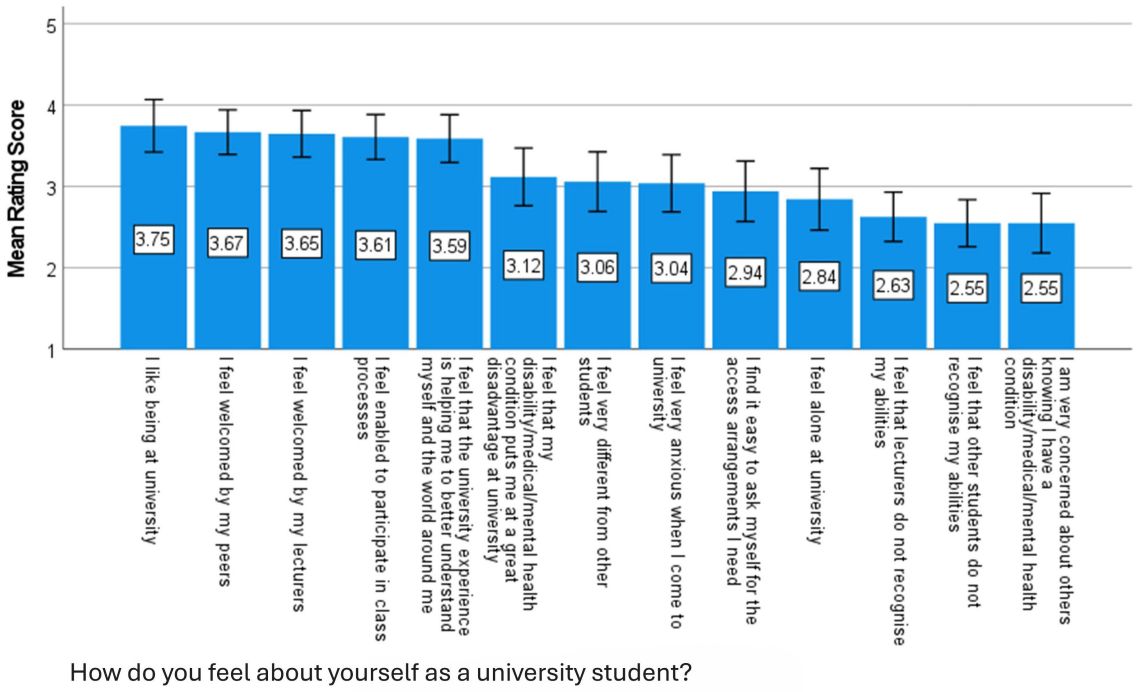

FIGURE 5
Positive and negative feelings at university.

The four autistic students interviewed had a hard time in secondary education and so reported feeling better at university, aided by understanding and accepting their condition—three were diagnosed as adults—and developing a gradual sense of safety in the tertiary environment: "At university is when I started to be more outgoing because I found that I can do it and it's fine. I don't need to be scared" (I.4); "I don't feel ashamed or shy.... when I feel the need to speak during lectures" (I.1). This was also helped by finding that they could share their autism journey with fellow students: "There are actually quite a few autistic people in my department ... So we seemed to all be quite connected in that sense" (I.2).

3.1.3 Struggling with self-identity and stigma

Feelings of stigma, however, were also evident in the survey responses. Despite high mean ratings for positive mental states, there were substantial concerns with negative feelings and perceptions: feeling very anxious (3.04), feeling alone (2.84), thinking lecturers and peers did not recognize their abilities (2.63 and 2.55), and concerned about others knowing about their condition (2.55; see Figure 5). Students following postgraduate degrees scored a higher mean satisfaction rating than undergraduate students for all statements, and undergraduates scored significantly higher on most of these negative feelings and perceptions ($p < 0.001$; see Table 2).

Students also reported significant internal struggles. One survey respondent internalized inferiority feelings to a serious level: "I view myself, broadly, as an academic failure."

One interviewee described his concern about denigration of his abilities: "Unfortunately, a lot of people assume that if you have autism than you also have intellectual disability" (I.1). Two other interviewees reported struggling to stop masking their autism because they were concerned that they might "be perceived as a burden" (I.4; I.3).

3.1.4 Challenges of emotional regulation and social interaction

Despite the stigmatizing ableist context, with regards to both academic and social engagement, students rated as most challenging their own internal struggles: particularly handling stress (4.31), sustaining attention (during lectures; 4.18), as well as "Building friendships" (3.27; see Figure 6).

There was indeed a significant discrepancy ($p < 0.001$ on Friedman test) between the mean ratings for personal challenges at >4.0 and those arising from the social and physical environment at <3.0 (see Figure 6).

On the other hand, students' experiences differed widely across individuals: the standard deviation in rating scores was almost always >1.0, and >1.5 for two statements ("Following online lectures" and "Following deadlines"—see Table 3).

Survey comments highlighted how "Having problems socializing and developing relationships" affected their academic engagement. Some reported only attended lectures and avoided socializing because of lack of social skills. Others reported that social activities were not accessible to them because of their condition: one because of her visual impairment, and autistic students because of the noisiness and chaotic nature of the events.

On the other hand, two autistic students reported being more able to participate when there were more structured collaborative academic activities like talks or workshops (I.3), or informal fellow student meetings for sharing of course tasks (I.4).

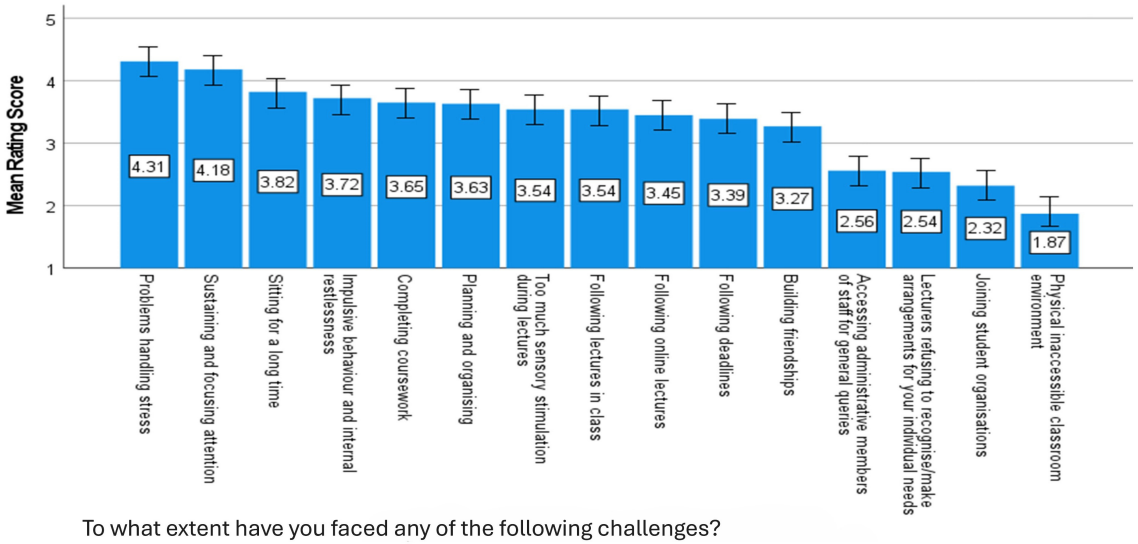

FIGURE 6
Challenges faced at university.

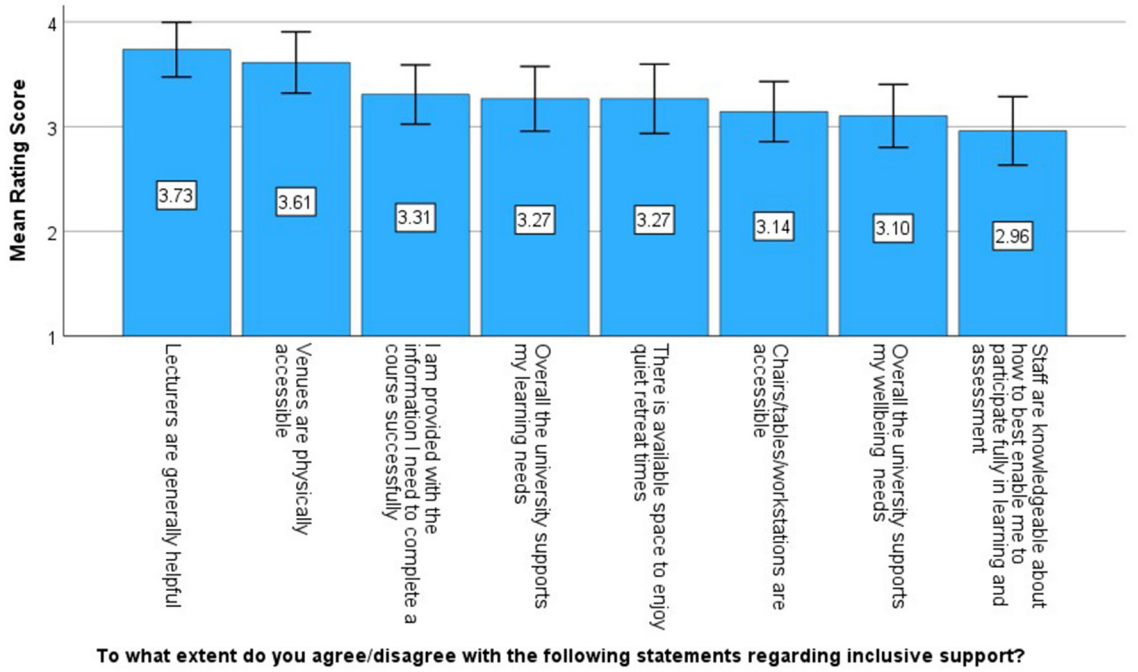

FIGURE 7
Inclusive support at university.

3.2 A generally inclusive system in need of improvement

Students rated the university academic and social environment as generally inclusive, with a rating >3.0 for 7 out of the 8 statements (see Figure 7).

3.2.1 Call for more inclusive teaching

However, there was an unexpected significant discrepancy ($p < 0.001$) in the mean rating of two related statements: "Lecturers are generally helpful" (3.73) vs. "Staff are knowledgeable about how to best enable me to participate fully in learning and assessment" (2.96; see Figure 7).

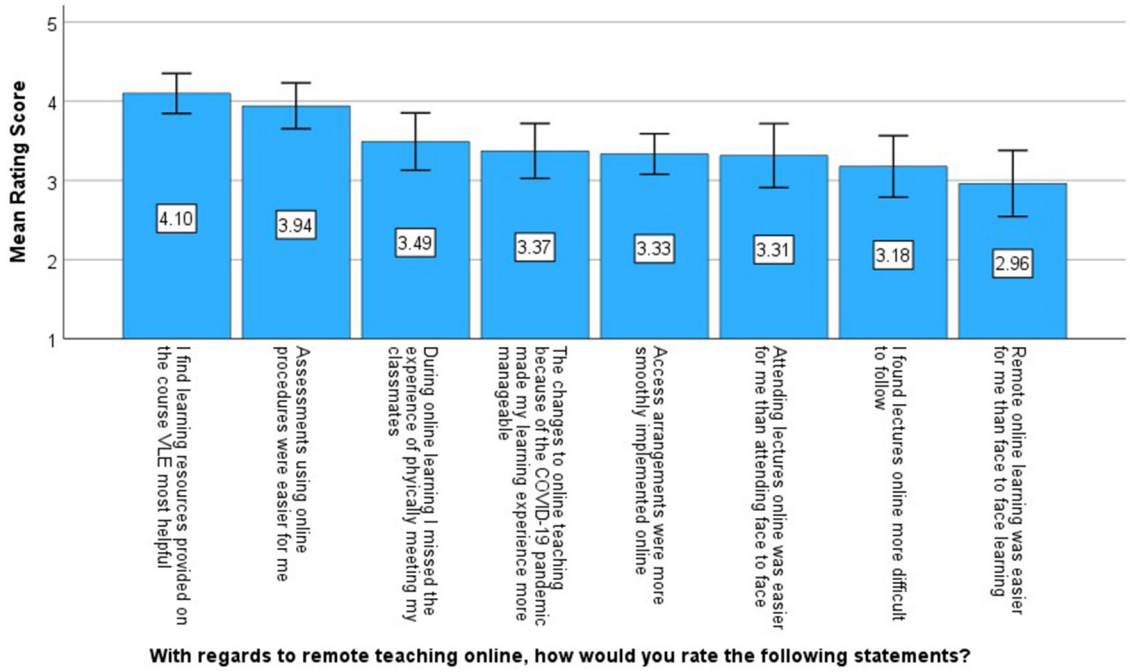

FIGURE 8
Use of remote online learning.

Many commented about the need for staff training in inclusive teaching. In the first place this required basic qualities of good teaching as is implied in UDL. Lecturers have to "capture the attention and interest of their students, something essential not just for those with attention deficits but for practically anyone" (Sc); they had to be respectful and avoid "negative/condescending attitudes" (Sc); they had to be aware of individual needs, whether with a diagnosis or not (Sc; I.1); they need to clarify their expectations of student work and provide regular feedback (Sc); all lecturers should put slides and materials on the virtual learning environment platform (Sc; I.1). There were calls for both more structured teaching and expectations (I.1), as well as for as well as for use of open discussions (I.3) and personal research choices (I.4).

Students also highlighted the need for more ordered organization of lecture timetables and task requirements. They were particularly harassed by last minute changes in timetables and by lack of staggering of deadlines for completion of work (I.2).

3.2.2 Helpful and unhelpful aspects of online and hybrid learning

The University of Malta shifted completely to emergency remote teaching during the second semester of 2019–20. In 2020–21, many students experienced hybrid learning situations, as the need for physical distancing limited space for larger groups. This 'emergency remote learning' merely shifted face-to-face instruction to an online format and did not reflect systems of properly designed online learning (Hodges et al., 2020). However, it also provided an opportunity to assess the university's sensitivity to the needs of students with disabilities. Consequently, the study asked participants about their experiences with and participation in such remote learning. Findings were varied. Positive and negative statements about online learning were given equal ratings: online learning experience more manageable (3.37), but online more difficult to follow (3.18). There was a significant discrepancy ($p < 0.001$) between finding the use of resources on the specific courses' VLE (Virtual Learning Environment) and the online assessments most helpful (4.10 and 3.94), vs. finding online learning easier (2.96; see Figure 8). Moreover, there was considerable variation among students' individual rating scores with standard deviations ranging from $sd = 0.9$ to 1.48. There were also significant group differences: Undergraduate students found it significantly more difficult than those in postgraduate degrees to follow lectures online; students in Faculties of Law and Economics found lectures in class more difficult to follow than Science students; on the other hand, Science students found assessments online significantly more difficult; autistic students and students with ADHD, anxiety and/or depression, found online learning significantly easier to attend and to follow than those with other conditions.

Open comments reflected this variation. The usefulness of the VLE was explained succinctly: "With the VLE I will have everything sorted/organised. It is available and organised" (I.1). One student suggested that the university website too could better serve as a store of information about all university requirements (I.2).

Some students with limited mobility or with autism found online attendance much more convenient:

> I don't really understand why lectures are not still delivered online. … I had to suspend my studies for a year because I could not physically attend university due to mobility impairments. (Sc)

> At home I could concentrate a lot better, because I can control my sensory environment. … You don't have the sensory aspect of the classroom. You don't have the interpersonal experience interfering in the classroom. (I.3)

Working on exams at home like working on an assignment with access to the internet was clearly seen as an improvement.

On the other hand, one student pointed out the inadequacy of the emergency remote learning, saying that "online classes should be taught differently (short, recorded videos and interactive quizzes)" (Sc).

Survey participants were concerned that remote learning made relations with lecturers and their peers more difficult (3.49), with male students (3.94) significantly more than females (3.24). Comments clarified the issues:

> Lecturers are always available via email but you still cannot build a good relationship. (Sc)
>
> I did talk to them [friends] on the phone but, it's not the same as if you are talking face-to-face. (I.4)
>
> I prefer face-to-face … the fact that the lecture ended and you spoke to the lecturer… sometimes I will have doubts, and if I ask I will be sure that I understood what has been said during the lecture. (I.1)

3.2.3 Many students felt supported by their lecturers

As noted above students rated lecturers as generally helpful (3.73) while also indicating they were not so able to support their learning (2.96), and not recognizing individual needs (2.54; see Figure 7).

These ratings were also reflected in Scs:

> Lecturers are very understanding of my condition and also helpful. (Sc)
>
> I had some question in a subject, and he [the lecturer] stayed there after hours… When I told the lecturers that I'm autistic, there were lecturers where they paid attention to my needs. (I.1)

Some students mentioned the support provided by their department:

> I am so grateful for my faculty that they listened to me and arranged the papers according to what was best for me. (Sc)

But students felt cautious about giving direct negative feedback to lecturers:

> Sometimes it's like they [lecturers] are very encouraging and if I have a problem I can go up to them and say look, you know, I have this problem, I need to talk it out … and sometimes if I had to do that, I kind of become the problem, and so it's kind of you have to assess beforehand, how it's gonna go. (I.2)

There were also many comments on lack of lecturer understanding:

> One lecturer made me non-verbal, which is very rare for me. She really pushed me and didn't consider my feelings. (Sc)
>
> Lecturers should be made more aware of how much of an impact their words can have on students. (Sc)

3.2.4 Physically accessible environments need to be safe, dignified, and usable

There was a very low rating of the challenge of "Physical inaccessible classroom environment" (1.87—Figure 6). But this gives a wrong impression because, while only three participants had physical disability, this item was rated by 76% of respondents. Students with physical disability pointed out significant barriers in the campus and classroom environments:

> The ring road is very unsafe especially for people with mobility problems like myself. (Sc)
>
> Some lecture halls do not have a desk; thus, it is very uncomfortable to write. (Sc)

Moreover, students pointed out the need for physical accessibility arrangements that allow students to enjoy equal dignity:

> Priority Seating: Helpful but not enough. This system too often separates me from my peers. Stairs in theatres should be replaced with ramps and seats at each end of the theatre should be removable. Thus, a wheelchair user would be able to position themselves anywhere, not forced to sit at the front or the back of the lecture hall. (Sc)

It is also important to consider accessibility in terms of "usable spaces" (Biggeri et al., 2020):

> I've gone to the library, but the drawback is that you are not allowed to bring your bag which I found a little disconcerting. To carry all your things, your laptop, your papers, your pencil case, whatever, and you have to put your bag in a locker downstairs. (I.4)

Autistic students also called for better organization and navigational information:

> There are places at university that were built in a certain way that are not quite accessible… There are some places that do not match the campus map… The way it is organised is confusing. (I.4)

The highest environmental concern was about excessive sensory stimulation (3.54—Figure 6), even during examinations:

> We get a lot of noise from the lights in Lecture Theatre, and as well as the speaker, they always have like a humming. But, Gateway [building] is horrible to be in. … The chairs squeak a lot. So, a 160 people chatting, bags plopping, the chairs doing that. I always had to wear my headphones before class. (I.3)
>
> The quiet room [one of the exam AAs] had a few issues because, well, some invigilators were quiet, but I know a couple

> who tried to strike a conversation with me while I was taking the exam… (I.4)
>
> I wish there were more quiet areas on campus' cause it seems that every day there is an activity going on in the quad, in places where they could be quiet are not quiet. (I.4)

The setting up of a "calm room" at the university was mainly intended for autistic students, but its location and equipment were not appropriate:

> The calm room. … Its right next to the bathroom, there's no sound proofing, you can hear everything that's going on in the bathrooms. If you switch on the lights, they are the brightest lights I've ever seen. (I.3)

Interestingly, the bad "calm room" design led to calls for the involvement of people with disability themselves in such facilities:

> Please hire more people with actual disabilities. I'm done with abled people speaking for us when they keep getting things wrong. Only we know what we need. (Sc)

3.3 Access arrangements (AAs) needed and very helpful

The University of Malta has specific guidelines for accommodations (termed Access Arrangements—AAs) to address individual needs during coursework and examinations (University of Malta, 2018). The most commonly requested AAs are extended deadlines for assignments during coursework and extra time during examinations. While students appreciated the inclusive aspects of the teaching and social assessment systems that promoted everyone's participation, they still highly valued most of the AAs listed in the questionnaire for both coursework and examinations.

3.3.1 Coursework AAs found very helpful

For coursework (see Figure 9), all the 17 listed AAs except one received a helpfulness rating >3.00, with one-third rated >4.00: "Use of personal equipment" (4.45), and "Extended deadlines" (4.45).

At the same time, students differed widely in their individual ratings. Firstly, for all 17 AAs listed, the number of students that ticked the column "not applicable" ranged from 87% for "Sign language interpreter" to 34% for "Extended deadlines." Then the variation in the rating scores is evidenced by the high standard deviation scores rising to $sd = 1.83$ for "Peer mentor."

There were concerns that lecturers sometimes refused to make the AAs granted to the student such as the provision of lecture notes before the lecture—though one student succeeded in getting the Disability Unit to persuade the lecturer. One student reported that lecture slides were not even given after the lecture:

> Most concerning I find the fact that lecturers are allowed to choose not to put their PowerPoints on VLE. This has caused major problems for me and resulted in me doing worse in my exams. (Sc)
>
> One student also complained that the ACCESS Unit denied the request for access to lectures online (I.3).

3.3.2 Test AAs regarded as very important for student success

Students with disabilities are very concerned about equitability of the assessment system given their access difficulties. Thus, many assessments require time-restricted written examinations which present great challenges, for instance, for students with dyslexia who process written language at a slower pace, for students with dyspraxia who have difficulty with handwriting and need to be granted the use of a word processor (not part of the system at the time), and to blind persons needing to make use of assistive technology for both reading and writing.

The helpfulness rating for exam AAs (see Figure 10) was thus even higher than for coursework AAs. All except one of the 20 listed AAs received a mean rating > 4.0, the highest being for seating options in the examination room (4.71), and "Alternative exam format" (4.70). Interestingly, 59% rated "Extra time" as "Extremely helpful."

Again, students differed greatly in their individual ratings. Firstly, many respondents marked specific AAs as "Not applicable": from 16% for "Extra time" to 91% for "Use of sign language interpreter." Moreover, when applicable, students also gave varied individual ratings as is evident by the high level of standard deviation scores: for example, "Use of a reader" ($sd = 1.5$) and "Permission to utilize personal equipment" ($sd = 1.4$; see Table 5). Interestingly, one student rejected the "permission" statement: "Personal equipment is often an extension of one's body. I don't agree with needing permission to use it."

There were several comments on the helpfulness of AAs. Some felt that just being granted AAs was a needed reassurance for their success, even if they did not use it. Some reported that they would have applied for some of the AAs listed if these were offered at the university.

It is also important to note that students do not seek AAs to have an advantage over others. One of the interviewees (I.2) felt "guilty" about using extra time, which she actually needed, but she only used it after great persuasion by the ACCESS coordinator that she had a right to it.

3.3.3 Differing views on the procedure for getting AAs

One issue picked from the scoping review were the hurdles students experienced in the recognition of their needs and the implementation of AAs. While similar challenges were highlighted as described below, students were generally satisfied with the process of applying for and receiving AAs. This was perhaps the

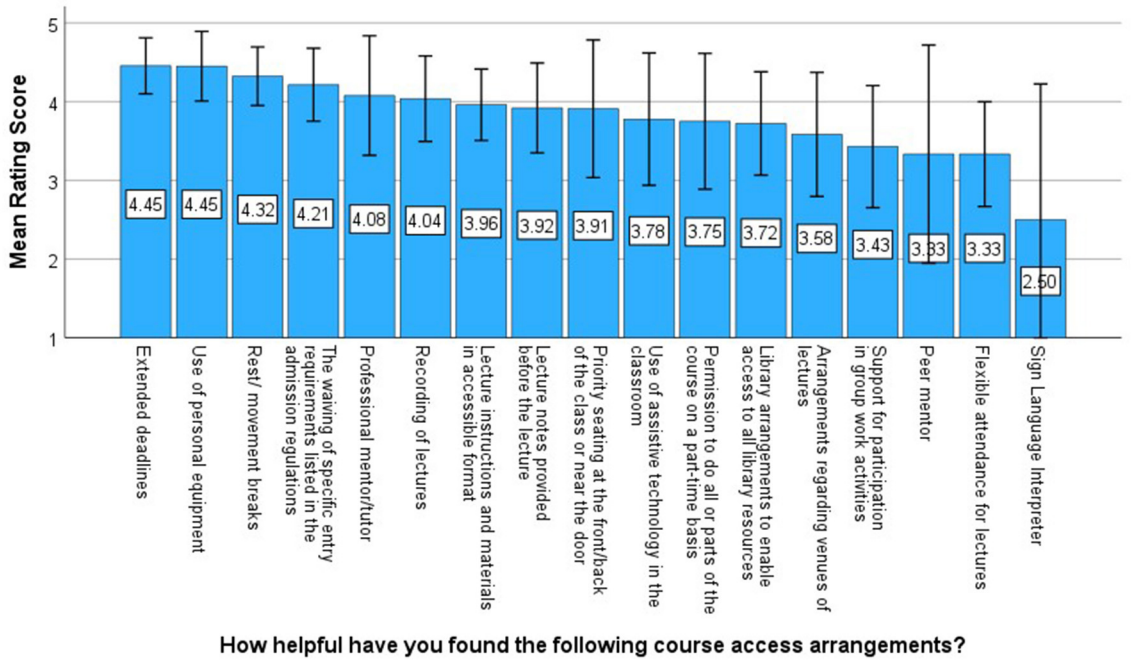

FIGURE 9
Helpful coursework access arrangements.

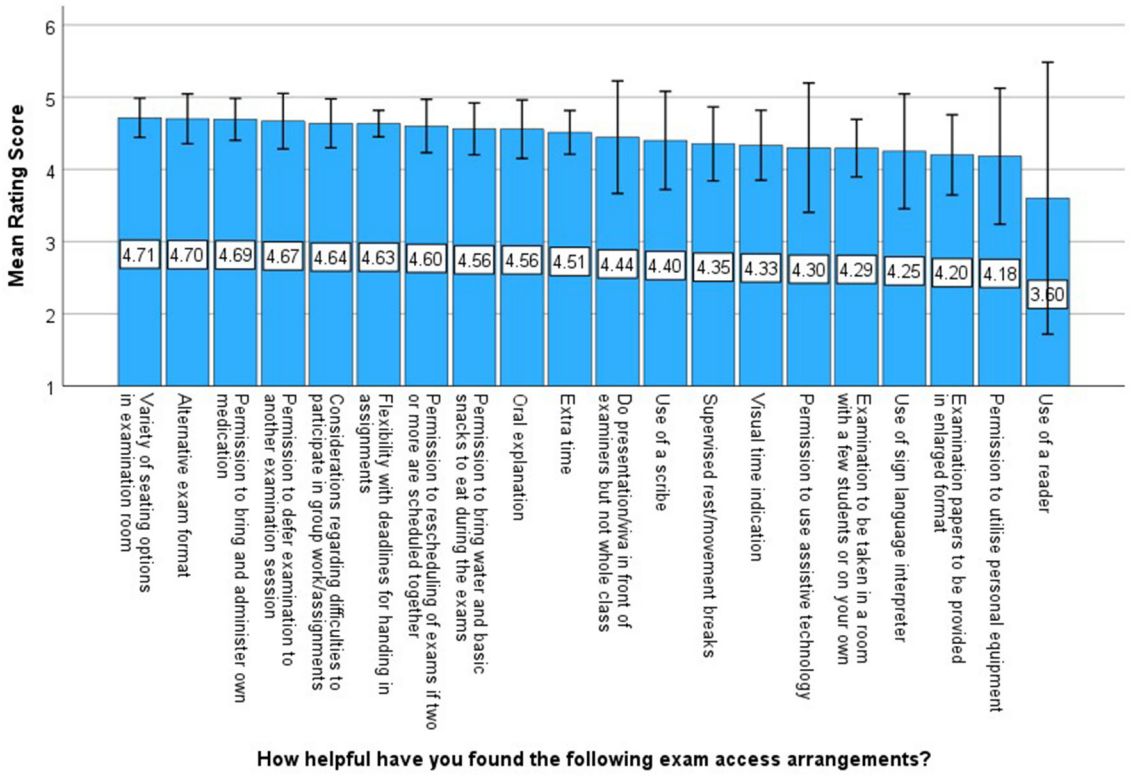

FIGURE 10
Helpful exam access arrangements.

TABLE 5 Considerable variation in rating scores on the helpfulness of exam access arrangements.

Exam access arrangements	Mean	Std. deviation
Extra time	4.51	0.985
Flexibility with deadlines for handing in assignments	4.63	0.490
Permission to use assistive technology	4.30	1.252
Permission to utilize personal equipment	4.18	1.401
Visual time indication	4.33	1.065
Permission to defer examination to another examination session	4.67	0.500
Supervised rest/movement breaks	4.35	0.996
Variety of seating options in examination room	4.71	0.469
Examination to be taken in a room with a few students or on your own	4.29	1.142
Permission to rescheduling of exams if two or more are scheduled together	4.60	0.516
Examination papers to be provided in enlarged format	4.20	0.447
Use of a scribe	4.40	0.548
Use of a reader	3.60	1.517
Oral explanation	4.56	0.527
Permission to bring and administer own medication	4.69	0.480
Permission to bring water and basic snacks to eat during the exams	4.56	0.870
Use of sign language interpreter	4.25	0.500
Considerations regarding difficulties to participate in group work/assignments	4.64	0.505
Do presentation/viva in front of examiners but not whole class	4.44	1.014
Alternative exam format	4.70	0.483

$X^2_{(19)} = 87.157$, $p < 0.001$.

result of the availability for meeting individually the ACCESS coordinator as some students reported:

> I had different meetings with her [the ACCESS Coordinator] and because of the disability access arrangements, I got to know about the course of action, the path. (I.1)

The mean ratings of the service thus ranged from 3.51 for ease of contacting the ADSU to 2.98 for "Getting lecturers to implement my access arrangements" (see Figure 11). Male students found it significantly easier than females to get information about AAs at university. Students in postgraduate degrees also found it easier to ask for AAs.

On the other hand, some saw the application procedures as too bureaucratic:

> I was told that the report I had was not valid and would have to see another specialist to get a new report if I wanted aid; this was something I could not afford to do and as such I have remained without aid. (Sc)

There were also several calls for more information about available AAs:

> As a dyslexic and ADD student, access arrangements are very helpful, but it can be hard to know what is available. (Sc)

Students also commented about the onerous process of getting the formal diagnosis prior to applying for AAs.

> When I started my journey at university … I needed to start all my reports from the beginning as the ones I had were outdated – as if this changes anything. (Sc)

Several students also commented about the difficulties they had in communicating the AAs to their lecturers:

> Lecturers should be immediately told about the conditions of the student after asking for permission instead of forcing the student to tell them. (Sc)
>
> I've always been anxious that leveraging my condition and access arrangements with lecturers would be seen as "making excuses". (Sc)

One student with physical disability spoke of needs not addressed by AAs:

> Packing and unpacking my belongings takes me slightly longer due to more limited mobility. More concretely, I would have to allocate at least 15 minutes for travelling to and setting up for the next lecture. (Sc)

There were suggestions for the provision of an individual mentor:

> It would be nice to be provided with an in-person appointment that can provide a connection with the advisor and check-ins if needed. (Sc)
>
> Offering an ADHD life coach would be very helpful, but I understand it might be financially impossible. (Sc)

As challenges differed, students underlined the importance of "Flexibility and tailor-made accommodations" (Sc):

> I think uni needs to work on listening more and understanding the different needs of each individual and perhaps be a bit more lenient. (Sc)

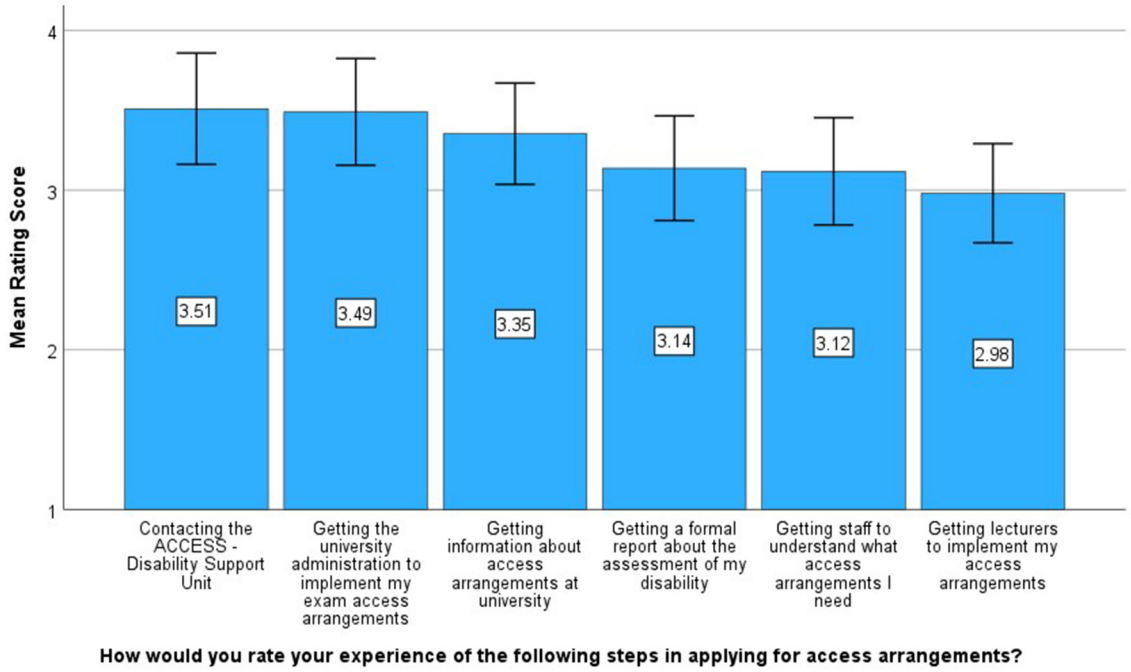

FIGURE 11
Ease to apply for access arrangement.

4 Discussion

This study represents the perceptions of the higher education experience of students with disabilities at a medium-sized university. While the students rated the university as generally meeting their needs, survey comments and interviews highlighted several challenges regarding their personal development, inclusiveness of teaching and learning and community activities, and necessary accommodations to ensure students' equitable access that are generally in line with similar studies (Bartolo et al., 2023).

Firstly, these students saw the university experience as a more open forum than secondary education for the development of a more confident and healthy social identity (Dangoisse et al., 2020; O'Shea and Kaplan, 2018; Squires et al., 2018). This may be an indication of the more severe struggles with stigma they experienced in secondary education (Zohri and Bogotch, 2023). It may also be a sign of a developmental process as those following post-graduate degree reported higher satisfaction and positive feelings than undergraduates. For students diagnosed on the autism spectrum in adulthood, the diagnosis was seen as a relief as they felt validated (Francis et al., 2019) though they were still concerned about how peers regarded their disability and were struggling with masking or not masking their condition (see also Mamo, 2023). Our participants included only those who had disclosed their disability, but they still expressed concerns about peer and faculty attitudes (McKinney and Swartz, 2022). Stigma appears to be a widely felt experience in higher education where normalcy is highly valued (Bartolo et al., 2023).

At the same time, it is worth noting that some students with disabilities reported strengthening their determination and self-advocacy skills through their university experience (Russak and Hellwing, 2019). They were studying to "have the tools and qualifications to create positive change" (Sc), as also reported in other studies (Vaccaro et al., 2018).

It was also striking to find that respondents rated personal issues as the most challenging aspects for participation. Jansen et al. (2017) too found that such difficulties were experienced significantly more by students with ADHD than those without a disability, while at the same time highlighting that such difficulties are experienced more widely: for instance, "Difficulty with completing task" was experienced by most students with ADHD (71.2%), but it was also reported by 38.8% of the non-disabled group. Autistic students required assistance in reducing their heightened anxiety and social inadequacy (Bell et al., 2017), suggesting the provision of transition preparation programmes for navigating the new environment and developing relationships (Accardo et al., 2019; Lei et al., 2020; Kim et al., 2021). There was also a call for mentors to whom they could turn for information and guidance on any aspect of university life during the first months (Russak and Hellwing, 2019; Mays and Brevetti, 2020). These findings suggest that, while at the University of Malta the ACCESS Unit is dedicated to providing accommodations, it needs to link more strongly to the Wellness services to provide personal development and counseling support at individual and group levels (Álvarez-Godos et al., 2023).

In this regard, we also came across a new dimension of self-advocacy that we had not found in our systematic review (Bartolo et al., 2023) along the slogan of "Nothing about us without us." This arose from students' disappointment that a "calm room"

supposedly designed for individuals with sensory processing issues was, in reality, inadequately set up and surrounded by noise and other stimuli, making it counterproductive. Consequently there was a strong call for the involvement of students with disabilities themselves in the design and organization of facilities for them. Thus, the university can support students not only through training in self-advocacy but also through encouragement of advocacy groups and their involvement in the design of curricula and environments as well as in seeking student feedback on facilities and processes (Luthuli and Wood, 2022).

The second important issue raised by respondents was the need for institutional systems to take their needs into consideration. Though students did not use the term "Universal Design" (Burgstahler, 2021), this was implied in the call for "a system that meets everyone's needs" by providing systemic structural accessibility in the three main inclusion dimensions: accessible physical, teaching, and social environments (Bartolo et al., 2023). Thus, for physical accessibility, there were calls for regular dignified physical accessibility to buildings and classroom furniture and to pathways (see also Moriña and Perera, 2020). For instance, rather than have priority seating, a wheelchair user requested a replacement of stairs with a ramp that enabled the student to choose seating like their peers. There was also a call to make the library a "usable space" for all by allowing students to carry with them what they needed for doing their study and academic tasks (see Biggeri et al., 2020). What was highlighted strongly by respondents, and was not found in our previous systematic review, was the need for calmer surroundings, both within classrooms—and especially within examination rooms (Mamo, 2023), as well as in the wider campus environment.

Similarly, there was a call for UDL. Respondents focused particularly on the lack of staff expertise in "teaching inclusively for all." Students made several recommendations for improved teaching and assessment practices, including the use of more structured teaching, use of both visual and auditory modalities, and that lecturers should communicate their expectations and assessment criteria to students. They called for the University to step up its efforts for staff training in general pedagogical skills that benefitted all (UDL), as well as in the understanding of individual needs of students with disabilities and ways of addressing them in both face-to-face and online modalities. Such a call was also found in one third of the studies reviewed by Bartolo et al. (2023). Students appreciated lecturers who were able to adopt different styles that met different student needs: there were calls for both more structured and more open styles of teaching as was reported in other studies (Griful-Freixenet et al., 2017). Thus, participation was facilitated by lecturers who were open-minded, attentive, and truly concerned about student needs (Bê, 2019; Biggeri et al., 2020; Ehlinger and Ropers, 2020; Francis et al., 2019; Frank et al., 2020; Kain et al., 2019; Langørgen and Magnus, 2018). Staff training could also cover topics relating to disabilities generally as well as to particular conditions (Sarrett, 2018).

Students also called for wider and more flexible use of digital technology. There were varied experiences regarding online learning with suggestions for allowing it as an alternative choice for those who had difficulty or were uncomfortable attending in person (Kent et al., 2018). However, there was a unanimous call for the provision of digital resources on the Virtual Learning Environment platform as a most useful way for organizing learning (Ndlovu, 2021; Seale et al., 2021). In line with UDL principles, it seems best to make the use of digital resources mandatory for all lecturers who should be adequately trained to use technological support to meet all students' diverse learning needs.

Social inclusiveness was lacking. Participants rated highly feeling anxious and alone and the challenge of creating positive interrelationships with peers and lecturers, though there were differences in students' individual experiences. Autistic students described how they needed time to adjust to the social challenges of university life. At the same time students who felt like they belonged, particularly two of the interviewees, reported the highest levels of satisfaction with their university experience (Fleming et al., 2017; Murphy, 2017). The university can encourage student participation by assigning group projects that focus on collaboration and that place a high value on various skills and roles, as per UDL principles (Burgstahler, 2021), while also boosting social support through mentors and a buddy system (Lambe et al., 2019).

The third important issue raised by students is to smoothen the process of obtaining individual accommodations. They rated AAs for both coursework and examination most helpful. Respondents were also generally satisfied with the system for requesting use of AAs but called mainly for better availability of information about accommodations and for a system for informing lecturers about their AAs (Mamo, 2023; Moriña, 2017; Squires et al., 2018). They felt that lecturers should not be allowed to refuse certain arrangements because they did not understand the students' needs (Langorgen et al., 2018) or because of inconvenience (Freedman et al., 2020). They were also concerned that others may wrongly assume the students were seeking advantages (Squires et al., 2018). Calls for reducing the bureaucracy and expense of updated certification of conditions and needs are also reported in the literature (Griful-Freixenet et al., 2017; Langørgen and Magnus, 2018; Moriña and Perera, 2020; Kim and Crowley, 2021). Finally, there was also a call for more flexibility and individualization of provision (Fox and McNally, 2018).

5 Conclusion

This study has confirmed the usefulness of the three-prong framework for researching and developing policy and practice to ensure equitable participation of students with disabilities in higher education (Bartolo et al., 2023). The findings strongly highlight the need to develop a welcoming community and socio-emotional and personal development support for the students' development of a healthy self-identity and social skills. The call for involvement of students with disabilities themselves in the design of relevant facilities was also a striking new finding which is being highlighted in recent research with calls for their partnership in the design of university structures and procedures (Cook-Sather and Cook-Sather, 2023; Zorec et al., 2024).

The study suggests that HE institutions should proactively seek to implement universal design in their campus environments, and teaching and learning and social activities (Burgstahler, 2021). UDL particularly requires that faculty are trained to be aware of the diverse needs of students and to develop multiple forms of

representation of knowledge and skills, multiple ways of inspiring student engagement, and multiple forms of communication and assessment which will benefit all students (CAST, 2024). At the same time, students with disabilities and mental health difficulties should have easy access to services for negotiating needed "reasonable accommodations" (UN Committee on the Rights of Persons with Disabilities, 2016) for their equitable participation.

This study had several limitations. Firstly, participants were from a middle-sized university: larger universities may experience greater constraints as well as greater possibilities for development of services and should be specifically studied. In addition, given the limited number of respondents to both the survey and interviews, more representative samples of the diversity of students with disabilities can provide more generalizable findings. Further research can either focus on the needs of specific groups or include larger samples that enable adequate group comparisons. On the other hand, the semi-structured interviews with the autistic students yielded very rich data that could not be exploited fully in this paper suggesting that qualitative research can be very useful to highlight the challenges experienced by this group in HE. The main contribution of the study is the highlighting of the voice of students with disabilities and particularly the suggestion that they should be included in the decision-making processes in HE.

Data availability statement

The raw quantitative data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by the University Research Ethics Committee, University of Malta. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

PB: Conceptualization, Writing – original draft, Writing – review & editing, Funding acquisition. MB: Writing – original draft, Writing – review & editing. LC: Methodology, Writing – review & editing. A-MC: Conceptualization, Project administration, Writing – review & editing. AD: Conceptualization, Funding acquisition, Writing – review & editing. MM: Conceptualization, Writing – review & editing. EM: Writing – review & editing, Conceptualization. CS: Funding acquisition, Writing – review & editing, Conceptualization. RV: Writing – review & editing, Conceptualization. JV: Writing – review & editing, Conceptualization.

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Conflict of interest

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

Publisher's note

Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2025.1432682/full#supplementary-material

DATA SHEET 1
Interview schedule for students with disability at university.

DATA SHEET 2
Survey questionnaire for students with disability at university.

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