



Research article

Facilitating inclusive education: Assessing faculty awareness and attitudes towards students with special educational needs at Qatar university



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ABSTRACT

Introduction: An increasing number of students with special educational needs (SEN) are attending higher education institutions. Faculty members are key players in the implementation of inclusive policies, the success of which depends on their attitudes and awareness to help students with SEN.

Purpose: The aim of this study was to assess faculty attitudes toward SEN students and awareness of the support provided by the university for SEN students.

Methods: This was a cross-sectional study of Qatar University (QU) faculty conducted via an online survey. Demographic data such as gender, years of experience, and academic discipline were collected and associated with previous exposure to SEN students and survey responses using SPSS.

Results: Three hundred and thirty-one QU faculty responded out of 1107 registered faculty in 2022, a 30 % response rate. About a third of respondents did not know about available support services for SEN students, and only half of those with awareness of the services attended. After controlling for sociodemographic variables, previous contact with SEN students had a significant effect on attitudes, such that faculty with no previous contact with SEN students ($M = 1.47$, $SD = 0.62$) had higher positive attitudes towards SEN students relative to faculty with previous contact with SEN students ($M = 1.31$, $SD = 0.47$). However, faculty with contact with SEN students were more likely to report awareness of the availability of workshops and were more likely to be aware of assistive technology compared to being unsure, while those with no previous contact with SEN students were more uncertain about the availability of workshops and assistive technology.

Conclusion: The findings suggest a need for targeted interventions to improve faculty awareness of support services and attitudes towards students with SEN in higher education, highlighting the importance of professional development and training initiatives to promote inclusivity in the classroom. Faculty members need to be aware of existing support services for SEN students.

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1. Introduction

Students with special educational needs (SEN) have historically been underrepresented in higher education, often driven by the mindset that SEN should be considered a private matter dealt with by the student's family [1–3]. However, over the last few decades, the number of SEN students attending higher education institutions has increased dramatically, and inclusive education is now recognized as an essential goal by many universities worldwide [4]. This change came in response to announcements and declarations from several UN agencies emphasizing the importance of promoting equitable opportunities for SEN students. The Salamanca Statement (UNESCO 1994), an early declaration of a legal framework adopted by representatives from 92 countries, emphasizes the principles of inclusive education, advocating for the inclusion of all students, including those with disabilities or special educational needs, in mainstream educational settings. The statement promotes the idea that every learner has the right to education without discrimination and segregation [5]. This led to more students with SEN joining the main student body. The UN Convention on the Rights of Persons with Disabilities (CRPD-2006) [4] was another important progression for SEN and was an international treaty to protect, promote, and ensure the integration of persons with disabilities as an equal person into society [6]. The Convention has the right to investigate any breach of its guidelines and, in 2015, the United Kingdom Government was the first signatory to be investigated by the Convention Committee for an alleged breach of the Convention's obligations [7]. In the US, the Americans with Disabilities Act of 1990 (ADA) defines disability as a physical or mental impairment that limits major life activities and can include anyone with a record of impairment such as cancer or scars from a severe burn [8]. The ADA enshrines federal and civil rights laws that prohibit discrimination against people with disabilities and ensures the same opportunities in the right to education, employment, and enjoying governmental programs and public services.

Special needs refer to individuals who require assistance with their disabilities. The World Health Organization defines disability as a defect in the individual's abilities in a particular social environment interaction [9]. There are many types of disability, which can be temporary (e.g., a broken arm) or long-term (e.g., hearing loss and impaired vision, mobility disabilities, and chronic health disorders such as epilepsy, Crohn's disease, arthritis, cancer, diabetes, migraine, or multiple sclerosis) [10,11]. Psychological or psychiatric disabilities include mood, anxiety, and depressive disorders and post-traumatic stress disorder. Hidden disabilities are characterized by an asymptomatic, atypical appearance and/or no observable abnormal functions [12]. People with hidden disabilities might struggle with the academic experience due to anxiety related to their disabilities and their effect on cognitive processes [1]. In addition, learning disabilities, such as dyslexia, dysgraphia, dyspraxia, or dyscalculia, are also considered hidden disabilities [13].

Inclusive education has many meanings including a complete transformation of education systems. "Inclusion" is often used to describe educational settings where a mixture of students with and without SEN sit together in the same classroom [14]. However, inclusive practice has a deeper meaning than simply placing students with different educational needs in the same environment: instead, it recognizes all students' needs, respects diversity, and considers a variety of learning preferences [15]. Implementing inclusive practice requires commitment from both the institution and faculty members. The institution plays an important role in enabling and empowering faculty to provide the required help to SEN students, while faculty members are the key players in subsequent success and performance in inclusive practice since their attitudes, knowledge, and willingness to help in developing academic success regardless of individual needs create a non-stigmatized environment [16]. Therefore, the faculty's attitudes, if not inclusive, may be a barrier to inclusive teaching and practice.

The theoretical frameworks underlying faculty attitudes to SEN encompass diverse perspectives. "Social Cognitive Theory" emphasizes how faculty attitudes are shaped by past experiences and social learning processes [17]. "Social Identity Theory" focuses on faculty's group affiliations and how these influence perceptions of students with special needs [18]. "Contact Theory" highlights the impact of positive interactions on reducing prejudice [19]. "Attribution Theory" examines how faculty explanations for students' behavior and academic performance influence attitudes [20]. "Theory of Planned Behavior" explores the role of attitudes, social norms, and perceived control in shaping faculty intentions and behaviors towards inclusive education [21]. These frameworks provide a theoretical basis for understanding and analyzing faculty attitudes.

As in other countries, Qatar legislated for the right of people with disabilities that has enabled them to play an active role in society [22]. Qatari law no. 2 for 2004 supports people with disabilities, including providing appropriate rehabilitation care, education, and employment [23]. In 2007, Qatar signed and ratified the CRPD, thus formally supporting people with special needs by fighting discrimination and introducing inclusion into the educational system. Furthermore, Qatar National Vision 2030 highlights the significance of providing the highest quality education and training programs for all citizens to meet the standards of Qatar society [24]. At Qatar University (QU), all students, regardless of disability, have equal opportunities for receiving knowledge. Therefore, QU established the Inclusion and Special Needs Support Center (ISNSC), which focuses on the quality of services provided to students with SEN and the systemic changes needed in policies, educational development, and the community to achieve equality [25]. The center focuses on two strategies: the first is to improve the quality of services offered to students with disabilities, and the second aims to modify educational policy in a systemic way and to engage them in the community [26]. The ISNSC provides training programs and services for students and faculty to ensure access to services, activities, and facilities within a proper environment [27]. The center aims to educate faculty about different forms of impairments, the rights of those with SEN, concerns relating to disabilities and accessibility, and a universal design for learning. Additionally, the center provides assistive technology services suited to various disabilities and offers training in accordance with the requirements of the student [28]. The integration of assistive technology not only facilitates access to educational materials but also empowers students with SEN to participate fully in classroom activities, communicate effectively, and demonstrate their knowledge and abilities on par with their peers [29].

To further progress SEN in education, identify strengths and weaknesses in current practice, and plan training, it is important to understand how faculty currently manage their SEN students. QU hosts eleven colleges: five are part of the QU-Health Cluster colleges

[College of Health Sciences (CHS), College of Medicine (CMED), College of Pharmacy (CPH), College of Dental Medicine (CDM), and College of Nursing (CN)], while the other six are the College of Arts and Sciences (CAS), College of Engineering (CENG), College of Business and Economics (CBE), College of Education (CED), College of Law (LAWC), and College of Sharia and Islamic studies (CSIS). In addition, QU has a Foundation Program (FP), which is a bridging program that help new students to acquire the necessary skills in mathematics and English needed to be successful at the University level. We hypothesized that faculty members with previous contact with SEN students would exhibit greater awareness of available support services, including workshops and assistive technology, compared to those without previous contact. We therefore posed the following research questions: What are the attitudes of QU faculty towards students with SEN? To what extent are QU faculty aware of the support services provided by the university for SEN students? How does previous exposure to SEN students impact faculty attitudes towards them? What demographic factors (such as gender, years of experience, and academic discipline) are associated with faculty attitudes towards SEN students and awareness of support services?

With this background, the primary aim of this study was to evaluate faculty attitudes towards students with SEN and assess their awareness of the support services offered by the university for SEN students. Our focus was on understanding the role of faculty members as crucial contributors to the successful implementation of inclusive policies in higher education institutions. Therefore, our objectives were to: 1) examine the attitudes of QU faculty towards students with SEN; 2) assess the awareness levels of QU faculty regarding the available support services for SEN students within the university; 3) investigate whether positive attitudes are associated with a higher likelihood of being aware of available workshops and assistive technology; and 4) investigate the effect of faculty members' previous contact with SEN students on their attitudes towards this student population.

2. Methods

2.1. Ethical approval and study respondents

The study has received exemption from the QU Institutional Review Board (QU-IRB 1724-E/22). Study participation was voluntary and anonymous. All information and records were collected anonymously, and the confidentiality of information was guaranteed. The authors did not have access to information that could identify individual respondents during or after data collection. Electronic informed consent was obtained from respondents after they were given detailed information about the study but before access to the questionnaire. Respondents were faculty from all QU Colleges including Foundation Programs, QU-Health Cluster colleges, and other colleges.

2.2. Study design and setting

This was an online descriptive cross-sectional survey of QU faculty that was used in a previous study [30]. The survey was built using www.kobotoolbox.org, an online open-source tool developed by the Harvard Humanitarian Initiative that offers different data collection tools [31]. A link to the online survey was distributed through the QU email announcements to all QU teaching faculty. According to the QU-Office of Institutional Planning & Development Annual Report, 1107 faculty were registered in 2022. The questionnaire was distributed over a four-week period in September and October 2022.

2.3. Questionnaire

The questionnaire was designed to gather basic demographic information about respondents including their age range, gender, nationality, and college ([Supplementary Table S1](#)). Attitudes were measured through a 5-point Likert scale consisting of 7 items (Cronbach's alpha = 0.7), and awareness was measured through three questions, two regarding awareness about university services for SEN and one on whether or not respondents had attended any workshops on SEN at the university, all of which were three-level categorical outcomes (Yes, No, Not sure). Prior to using the attitudes scale, we conducted principal components analysis. Although two components emerged using scree plot "elbow" criteria and had an eigenvalue of 1 or higher (eigenvalue component 1 2.33, explaining 39 % of the variance; eigenvalue for component 2 1.02, explaining 17.5 % of the variance), when examining the loadings, all with the exception of one item loaded on one component and the one exceptional item loaded on two components, suggesting the presence of one cross-loaded item. The cross-loaded item loaded slightly better onto the component to which all the other items clearly belonged (0.420) and cross-loaded on the second component (0.405). Given that only one item was cross-loaded on the second factor, the scale was treated as unidimensional for analysis ([Supplementary Table S2](#)). The survey was piloted with ten random individuals not included in the final analysis. Feedback from this pilot study was used to enhance the clarity of our questions.

2.4. Data analysis

Data were analyzed using SPSS v28 (IBM Corporation, New York, NY). Descriptive statistics were used to characterize the data, and one-way ANOVA was used to assess whether contact with SEN was associated with attitudes towards SEN after controlling for demographic variables. Chi-squared tests were used to assess whether contact with SEN and participant demographics were associated with awareness about SEN. A p-value of .05 was considered significant. Pairwise differences were assessed at p-values of .05 for Bonferroni-corrected tests. In the results, these significant pairwise differences in the exposure to SEN students for each level of the associated variable (for example, difference in proportion of female faculty exposed to SEN and female faculty not exposed to SEN) are indicated with letters.

3. Results

3.1. Sociodemographic characteristics

Out of 1107 registered faculty, 331 academic faculty members responded to the questionnaire and were used in the analysis (a 30 % response rate), 66.2 % of whom were male. Most study respondents were 40–59 years old (70.7 %), were from non-health colleges (85.8 %), and were non-Qatari's (90.3 %). The demographics are detailed in [Table 1](#).

3.2. Demographics by SEN contact

The majority of respondents (N = 279, 84.3 %) had previously had contact with SEN students. [Fig. 1](#) shows the different types of student needs reported by respondents, the most common being visual impairment (19 %), while learning disabilities such as dyslexia and dysgraphia represented 14.2 % and 13.7 %, respectively.

A comparison of faculty with and without previous SEN experience is shown in [Table 2](#). There was a significant association between age and exposure to SEN students (χ^2 (2, N = 331) = 12.701, p = .002). A significantly smaller proportion of young faculty (ages 25–39) were exposed to SEN students and a significantly larger proportion of middle-aged faculty (ages 40–59) were exposed to SEN students relative to their corresponding faculty counterparts that were not exposed to SEN. There was a significant association between gender and exposure to SEN students (χ^2 (1, N = 331) = 7.199, p = .007). The proportion of male faculty exposed to SEN students was significantly larger than male faculty not exposed to SEN students, and the opposite significant difference was observed in female faculty. Finally, there was a significant association between nationality and exposure to SEN students (χ^2 (1, N = 331) = 4.123, p = .042). A significantly larger proportion of non-Qatari faculty were exposed to SEN students relative to non-Qatari faculty that were not exposed to SEN students.

3.3. Contact with SEN and attitudes

[Table 3](#) shows the effect of contact with SEN students on attitudes towards people with SEN, tested by ANOVA. None of the sociodemographic variables had a significant effect on attitudes. However, after controlling for sociodemographic variables, previous contact with SEN students had a significant effect on attitudes, such that faculty with no previous contact with SEN students (M = 1.47, SD = 0.62) had higher positive attitudes towards SEN students relative to faculty with previous contact with SEN student (M = 1.31, SD = 0.47, p = 0.045).

3.4. Awareness of support provided by QU

We next studied the awareness of participating faculty about the support provided by QU-Inclusion and Special Needs Support Center workshops ([Fig. 2](#)). We asked our respondents "Is QU offering workshops to aid in the recognition and assistance of students with SEN?" Only 121 (37 %) of faculty respondents were aware of these workshops, 143 (43 %) were unsure, while 67 (20 %) were not aware of these workshops. Then, we asked respondents aware of these workshops the second question "If yes, have you attended any?". Of the 121 who answered yes, only 65 (53 %) attended these workshops, while 50 (41 %) did not attend these workshops (the remaining 6 (5 %) were unsure). Concerning reasons for not attending the workshops, 31 (55 %) reported that it was due to workload, 16 (29 %) were not informed about these workshops, 8 (14 %) did not have suitable time to attend, and one (2 %) had health excuses.

3.5. Contact with SEN and QU-support awareness

[Table 4](#) shows associations between contact with SEN students and demographic variables with awareness about workshops at QU. Contact with SEN (χ^2 (2, N = 331) = 14.609, p < 0.001, age (χ^2 (4, N = 331) = 14.60910.153, p = 0.038), and nationality (χ^2 (2, N = 331) = 13.972, p < 0.001) were significantly associated with awareness about SEN workshops at QU. Faculty with contact with SEN students were more likely to report being aware about the availability of workshops relative to being unsure (p < 0.05), and vice versa

Table 1
Sociodemographic characteristics of the study population.

Demographic variable	n	%	
Age	25–39 years	77	23.3
	40–59 years	234	70.7
	≥60 years	20	6
Gender	Female	112	33.8
	Male	219	66.2
Nationality	Qatari	32	9.7
	Non-Qatari	299	90.3
College	Health	47	14.2
	Non-Health	284	85.8

Note. Total N = 331.

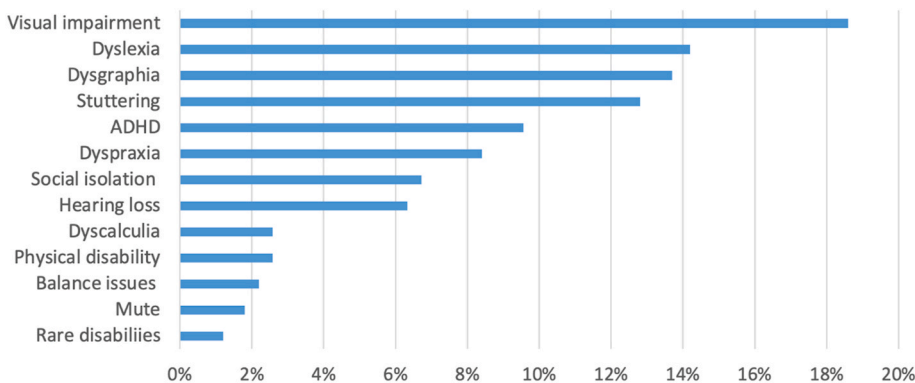


Fig. 1. Types of SEN among students reported by respondents. Rare disabilities reported in less than 1 % of students included growth disorders, autism, and panic disorders. ADHD: attention-deficit/hyperactivity disorder.

Table 2
Participant characteristics by previous contact with special needs students.

Demographic variable	Reported contact with SEN students		Reported no contact with SEN students		Chi-square	df	p-value
	n	%	n	%			
Age	25–39	55a 19.7	22b 42.3		12.701	2	0.002
	40–59	207a 74.2	27b 51.9				
	60+	17a 6.1	3a 5.8				
Gender	Female	86a 30.8	26b 50.0		7.199	1	0.007
	Male	193a 69.2	26b 50.0				
Nationality	Qatari	23a 8.2	9b 17.3		4.123	1	0.042
	Non-Qatari	256a 91.8	43b 82.7				
Colleges	Health	37a 13.3	10a 19.2		1.282	1	0.258
	Non-Health	242a 86.7	42a 80.8				

Note: Rows with Ns that share any letter(s) are not significantly different, while those with different letters have significantly different column proportions from one another at a p-value of < .05 after Bonferroni correction. df, degrees of freedom.

Table 3
Effect of contact with SEN on attitudes after controlling for sociodemographic variables.

Variable	df	F	p-value	η^2
Contact with SEN	1	4.044	0.045	0.012
Age	1	0.125	0.724	0.000
Gender	1	0.395	0.530	0.001
Nationality	1	0.829	0.363	0.003
College	1	0.615	0.434	0.002

df, degrees of freedom.

for those with no contact with SEN ($p < 0.05$). 40-59-year-old male faculty were more likely to report being aware of workshops than being unsure ($p < 0.05$), and vice versa for those aged 25–39 years ($p < 0.05$). Qataris were more likely to report being unaware of workshops offered at QU relative to being aware, and vice versa for non-Qataris ($p < 0.05$).

Table 5 shows the association between contact with SEN and demographic variables with attendance of SEN workshops. Gender ($\chi^2(2, N = 331) = 6.224, p = 0.045$) and college ($\chi^2(2, N = 331) = 8.523, p = 0.014$) were significantly associated with workshop attendance. Female faculty had an overrepresentation of attendees at SEN workshops compared with not attending workshops ($p < 0.05$), and vice versa for males ($p < 0.05$). Faculty from non-health colleges had an overrepresentation of attendees at SEN workshops compared with not attending workshops ($p < 0.05$), and vice versa for faculty from health colleges ($p < 0.05$).

3.6. Awareness of assistive technologies provided by QU

We asked our respondents, “Does QU offer assistive technology to support students with SEN?” 110 (33 %) were aware of the assistive technologies offered by QU, but 69 (21 %) and 152 (46 %) were unaware and not sure, respectively.

Table 6 shows the association between contact with SEN students and demographic variables with awareness of assistive technology at QU. Contact with SEN ($\chi^2(2, N = 331) = 8.918, p = 0.012$) and nationality ($\chi^2(2, N = 331) = 8.587, p = 0.014$) were

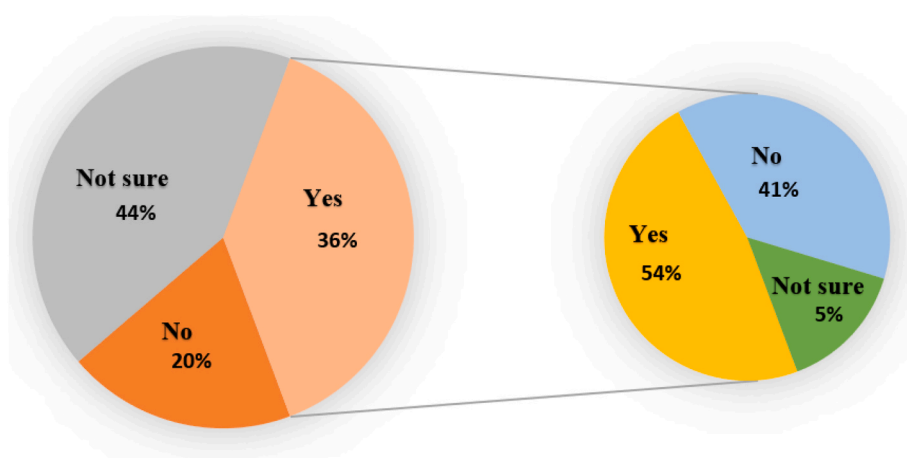


Fig. 2. Participant awareness of support provided by Qatar University. Left shows answers to the question “Is QU offering workshops to aid in the recognition and assistance of students with SEN?”, while right shows answers to the question “If yes, have you attended any?”.

Table 4
Awareness of support offered by Qatar university.

Variable		Yes		No		Not sure		Chi-square	df	p-value
		n	%	n	%	n	%			
Contact with SEN	Yes	110a	90.9	61a	91.0	108b	75.5	14.609	2	<0.001
	No	11a	9.1	6a	9.0	35b	24.5			
Age	25–39	18a	14.9	16a,b	23.9	43b	30.1	10.153	4	0.038
	40–59	95a	78.5	49a,b	73.1	90b	62.9			
	60+	8a	6.6	2a	3.0	10a	7.0			
Gender	Female	35a	28.9	24a	35.8	53a	37.1	2.086	2	0.352
	Male	86a	71.1	43a	64.2	90a	62.9			
Nationality	Qatari	5a	4.1	14b	20.9	13a,b	9.1	13.972	2	<0.001
	Non-Qatari	116a	95.9	53b	79.1	130a,b	90.9			
College	Health	17a	14.0	14a	20.9	16a	11.2	3.532	2	0.171
	Non-Health	104a	86.0	53a	79.1 %	127a	88.8			

Note: Rows with Ns that share any letter(s) are not significantly different, while those with different letters have significantly different column proportions from one another at a p-value of <.05 after Bonferroni correction. df, degrees of freedom.

Table 5
Attendance at SEN workshops provided by Qatar university.

Variable		Yes		No		Not sure		Chi-square	df	p-value
		n	%	n	%	n	%			
Contact with SEN	Yes	62a	95.4	44a	86.3	4a	80.0	3.621	2	0.164
	No	3a	4.6	7a	13.7	1a	20.0			
Age	25–39	6a	9.2	10a	19.6	2a	40.0	7.454	4	0.114
	40–59	54a	83.1	39a	76.5	2a	40.0			
	60+	5a	7.7	2a	3.9	1a	20.0			
Gender	Female	25a	38.5	9b	17.6	1a,b	20.0	6.224	2	0.045
	Male	40a	61.5	42b	82.4	4a,b	80.0			
Nationality	Qatari	1a	1.5	4a	7.8	0a	0.0	3.092	2	0.213
	Non-Qatari	64a	98.5	47a	92.2	5a	100.0			
College	Health	4a	6.2	11b	21.6	2b	40.0	8.532	2	0.014
	Non-Health	61a	93.8	40b	78.4	3b	60.0			

Note: Rows with Ns that share any letter(s) are not significantly different, while those with different letters have significantly different column proportions from one another at a p-value of <.05 after Bonferroni correction.

significantly associated with workshop attendance. Faculty with contact with SEN were more likely to be aware of assistive technology compared with being unsure ($p < 0.05$), and vice versa for those with no contact with SEN ($p < 0.05$). Non-Qataris were more likely to be unsure about their awareness of assistive technology compared with being unaware, and vice versa for Qataris ($p < 0.05$).

Table 6
Awareness of assistive technology provided by Qatar university.

Variable		Yes		No		Not sure		Chi-square	df	p-value
		n %		n %		n %				
Contact with SEN	Yes	101a	91.8	59a,b	85.5	119b	78.3	8.918	2	0.012
	No	9a	8.2	10a,b	14.5	33b	21.7			
Age	25–39	17a	15.5	18a	26.1	42a	27.6	9.242	4	0.055
	40–59	83a	75.5	50a	72.5	101a	66.4			
	60+	10a	9.1	1a	1.4	9a	5.9			
Gender	Female	34a	30.9	28a	40.6	50a	32.9	1.883	2	0.390
	Male	76a	69.1	41a	59.4	102a	67.1			
Nationality	Qatari	9a,b	8.2	13b	18.8	10a	6.6	8.587	2	0.014
	Non-Qatari	101a,b	91.8	56b	81.2	142a	93.4			
College	Health	12a	10.9	13a	18.8	22a	14.5	2.207	2	0.332
	Non-Health	98a	89.1	56a	81.2	130a	85.5			

Note: Rows with Ns that share any letter(s) are not significantly different, while those with different letters have significantly different column proportions from one another at a p-value of <.05 after Bonferroni correction.

4. Discussion

Major purposes of the global agreements and declarations on SEN were to give SEN students the qualifications and skills needed to participate fully in the labor market and give them the feeling of belonging to society [9,32]. Considering the increase in the number of SEN students studying at university, the purpose of this study was to assess the management skills of faculty members at QU towards SEN students. We examined knowledge regarding SEN, attitudes towards them, and the training needs related to SEN support. Our respondents reported that 38.8 % of the SEN students had learning disabilities, while visual impairments accounted for 18.8 %, consistent with other studies [33,34]. 90.4 % of our respondents were non-Qatari and 66 % were male, reflecting the fact that almost 79 % of QU faculty are non-Qatari and 71 % are male according to the QU-Chief Strategy and Development Office Fact Book 2021–2022.

In our examination of how faculty demographics relate to contact with SEN students, we found more exposure for middle-aged, male, non-Qatari faculty, although the reasons for this are unclear and require further investigation. Our finding of a relationship between faculty contact with SEN students and positive attitudes is counterintuitive at face value, as those with no contact with SEN students had higher positive attitudes. However, while a previous systematic review indicated that most studies show that contact with those who have disabilities is associated with positive attitudes, sometimes it is associated with negative attitudes, the latter largely dependent on the quality and quantity of exposure [35]. Low-quality, high-quantity exposure is associated with negative attitudes [36], and this could have been the case here, although we did not measure these facets of exposure. The observed tendency for faculty members without prior exposure to SEN students to exhibit more positive attitudes suggests that direct interaction with diverse student populations may foster greater understanding and empathy. This highlights the importance of promoting opportunities for faculty to engage with SEN students, whether through inclusive classroom practices or other activities [37]. Furthermore, the study underscores the need for targeted interventions for improving awareness and attitudes among faculty members who may lack direct experience with SEN students [38]. Several studies from the US, Scotland, and Jordan have reported positive experiences for SEN students if faculty have the correct attitude and accommodate their needs [30,34,39,40]. Negative attitudes and an unwillingness to support SEN students might lead SEN students to have low expectations of themselves, preventing them from requesting accommodation for their needs and ultimately contributing to an unsuccessful university life [41]. A study in Luxembourg highlighted that teachers that had a more in-depth understating of inclusive education had a more positive attitude and felt willing and better able to implement inclusive practices [42].

Only about a third of participating faculty knew about workshops organized by ISNSC-QU, and only 53 % of those faculty attended the workshops. The main reason for not attending these workshops was workload, which can limit faculty time, create scheduling conflicts, exacerbate feelings of being overwhelmed, and compete with other professional priorities [43]. Addressing these challenges requires institutions to provide adequate support, resources, and incentives for faculty to engage in ongoing professional development activities [44]. A study from Saudi Arabia revealed that there is a need to improve knowledge and awareness about disability laws and educational support for SEN students among faculty and administrators [45]. These findings indicate a need for better advertisement of all ISNSC-QU activities to faculty members and initiatives to help faculty attend these activities by finding a suitable timing, duration, and location. Faculty reporting contact with SEN students were aware of workshops and assistive technology, but we did not detect any differences in workshop attendance for those with and without SEN student contact. This suggests that awareness does not necessarily translate into attendance at workshops. In practice, this calls for thinking about encouraging, if not mandating, attendance to at least a small number of workshops about SEN [46]. Such actions are necessary, since SEN students tend to find it emotionally burdensome to disclose their disability for reasons that include the potential for negative stigma and exhaustion from disclosing it every semester to negotiate accommodations [12]. Attendance at workshops could increase vigilance of faculty about the need to accommodate SEN students and facilitate disclosure.

Demographics were also associated with awareness about SEN workshops and their attendance. Faculty between 40 and 59 years were more likely to report awareness about SEN workshops, females were more likely to attend workshops, non-Qataris were more

likely to be aware of workshops and assistive technology, and non-health college faculty were more likely to attend workshops. There is a need for further research to understand the factors that contribute to awareness about resources for SEN students and attendance at SEN workshops. Learning about these factors will help bridge age, gender, nationality, and college type gaps in awareness and attendance [47]. Of note is the higher attendance of non-health faculty at SEN workshops. One explanation could be that non-health faculty may have felt the need to learn about SEN more than health faculty because they perceive themselves to have knowledge gaps. Technology is important, as exemplified by the extraordinary situation created by the COVID-19 pandemic, and faculty needed to be aware of its strengths and limitations to deliver information correctly to SEN students [48].

5. Limitations

Survey studies, although widely employed and valuable for collecting information, are not without their limitations. Survey studies may have (self-)selection bias, since respondents voluntarily choose to respond. As a cross-sectional study, we provided a snapshot of data at a single point in time, making it challenging to establish the direction of causation and make it difficult to generalize our findings. This study also had fewer responses than originally anticipated, and there was unequal representation between different groups, including between males and females and SEN exposure groups, that may have also introduced bias. Many questions had many responses for the neutral option “neither agree nor disagree”. As with any other 5-scale Likert survey, respondents’ answers may reflect a central tendency bias for many questions where the participant avoids forming an opinion, limiting the interpretability of the findings. Finally, using a single methodological approach might introduce bias, as we relied on self-reporting and the ability of our faculty to accurately recall and answer the questions. Therefore, our findings may not be as generalizable as those obtained using multiple methods.

6. Conclusions

In conclusion, we found a generally favorable disposition towards SEN students among participating faculty at QU. Previous contact with SEN students had a significant effect on attitudes, such that those with no contact with SEN had higher positive attitudes towards people with SEN. However, faculty with previous contact with SEN students were less likely to report being unsure about the availability of workshops and support provided by QU.

Future work

Work is needed to increase faculty members’ awareness about available support services for SEN students and encouraging their attendance at QU support services and workshops, perhaps even mandating attendance. Faculty members must be encouraged to engage in peer learning and collaboration by sharing best practices and experiences related to supporting SEN students. Establishing a supportive community where faculty can exchange ideas and resources can help foster a culture of inclusivity and continuous improvement. This will help faculty members to increase their awareness about the laws, legislation, and available support services to better manage their SEN students. Finally, we encourage faculty members to actively seek feedback from SEN students to better understand their individual needs and preferences.

Data availability statement

All the data related to this article will be made available on request.

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CRedit authorship contribution statement

Halah Al-Korbi: Methodology, Formal analysis, Data curation. **Mohammed A. Al-Hamdani:** Validation, Software, Investigation, Formal analysis. **Alia Ghareeb:** Writing – review & editing, Project administration. **Maha Al-Asmakh:** Writing – review & editing, Validation, Supervision, Project administration. **Atiyeh Abdallah:** Writing – review & editing, Validation, Resources, Project administration, Funding acquisition, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2024.e31076>.

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