

Crossing the barriers of library anxiety: A quantitative evaluation of Indonesian undergraduate students with visual disabilities navigating their academic library

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Abstract

Library anxiety, a phenomenon characterized by discomfort, fear, or other negative emotions associated with navigating libraries, is a significant issue for many undergraduate students. This study, which examined the library anxiety reported by 37 visually disabled undergraduate students across seven state universities in Indonesia, sheds light on this critical topic. The measurement of library anxiety was based on the Malay Version of Bostick's Library Anxiety Scale, as adapted by Karim and Rashid (2016), which includes three factors: barriers with service providers, affective boundaries, and comfort with library technology. The research also explores library anxiety as a variable itself. The findings, derived from a descriptive quantitative research method using purposive sampling, reveal that visually disabled students experienced low levels of library anxiety. However, the anxieties experienced involved navigating the library facility and engaging with library technology. Notably, library anxiety, as its culminating variable, showed that male students experienced a higher level of library anxiety than female students. This study underscores the importance of applying the Bostick scale to explore more disabled students' experiences with library anxiety, providing valuable insights for educators, policymakers, and researchers.

Keywords: academic libraries; Indonesia; library anxiety; students; visual disability

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Introduction

Many students rely on the university library during their college years to meet their information needs. However, not all students feel comfortable when they interact with the library. For visually disabled students, these interactions can be particularly challenging. Their discomfort may stem from nervousness, shame due to lack of certainty, or past negative experiences involving library staff (Fatmawati, 2019). These various types of negative emotions can trigger anxiety when in the library, a phenomenon known as library anxiety (Onwuegbuzie et al., 2004). Understanding and addressing these challenges is crucial for creating inclusive academic environments.

In the academic library, this anxiety can be felt by every student, including students with visual disabilities. A student's need for information becomes hampered when one of the critical senses needed is not functioning optimally. Rinawati et al. (2017) explained that users with visual disabilities have heightened information needs in the library. These needs refer to facility design, accessible collections, and the availability of volunteers and librarians to accompany student users and provide assistance. A literature review conducted by Rahmayani (2020) on disability-friendly libraries shows that university library managers must simultaneously consider multiple facility factors (i.e., physical, sanitary, and computer) to accommodate students with disabilities.

The primary type of visual disability is low vision with visual distance $\leq 20^\circ$ and the downgrade of the visual $\leq 20/70$ acuity (Dandona & Dandona, 2006). Pratiwi et al. (2018) discuss the second type of visual disability, which is blindness. Their research revealed that students with visual disabilities have difficulty accessing information in print, graphic, and electronic formats. Therefore, at the university level, the library should provide accessible collections for visually impaired students.

This study involved seven state universities in Indonesia to explore this phenomenon within a university context in the Global South. *The Islamic State University Sunan Kalijaga Library* (UIN SUKA) provides services that support students with disabilities by organizing volunteers to help users create definable spaces with a Braille collection, accessible computers, digital talking books, the Job Access with Speech (JAWS) screen reader, eBooks, and audiobooks. *Brawijaya University Library* (UB) provides guiding blocks.¹ Throughout their library, they have volunteers to assist disabled students. *Gadjah Mada University Library* (UGM), *Lambung Mangkurat University Library* (ULM), and *Yogyakarta State University Library* (UNY) organize volunteers to support students with disabilities and maintain a Braille collection. *Surabaya State University Library* (UNESA) and *Indonesia Education University Library* (UPI) built a definable library space with exceptional staff to assist disabled students.

Considering these library sites as points of data, this research sought to understand the factors that can trigger library user anxiety, inclusive of all students but with a focus on visually impaired visitors. Thus, questions arise about the experience of visually disabled students when dealing with libraries. Some research on library users with disabilities has been conducted, such as Ahmed and Naveed (2020), who studied information accessible for visually disabled students. Bhardwaj's (2021) research into users' perspective of information systems for the visually impaired in Indian universities, and Osman and Kwafoa's (2020) work investigating library services for the visually impaired in Ghanaian academic libraries. These studies focus on information access and services for students with visual impairment. However, few studies have discussed the psychological effects of impaired library and information access. Therefore, this study aims to determine the level of library anxiety in students with visual disabilities in the state university libraries in Indonesia and consider its impacts.

Literature Review

Library anxiety was first developed by Mellon (1986) to explain the state of feeling lost and uncomfortable in the library. Users experience discomfort, fear, and negative emotions, making the information search process challenging (Kuhlthau, 2004). Karim and Rashid (2016) introduced the Malay Version of Bostick's Library Anxiety Scale, a measurement tool tailored to non-English-speaking populations. The Malay Version consists of 32 questions grouped into three factors: barriers with service providers, affective barriers, and comfort with library technology.

The *barriers with service providers* factor include 17 questions about library staff availability, assistance provided, care received, collection availability, instructions or directions, and library training. The *affective barriers* factor consists of seven questions that assess users' feelings about their knowledge of library facilities, ability to access the library independently, and satisfaction with available resources. The *comfort with library technology* factor comprises eight questions about computer skills, catalogue access, repository access, and internet speed. These questions are adjusted to accommodate visually disabled students. There are 58 questions, with 26 focusing on barriers with service providers, 19 on affective barriers, and 13 on comfort with library technology.

To assess respondents' anxiety levels, Świgoń (2011) suggests five categories: no anxiety, low anxiety, mild anxiety, moderate anxiety, and severe anxiety. These categories indicate the level of anxiety experienced by the respondent. Previous studies on library anxiety have examined employee attitudes toward students with disabilities (Pionke, 2020), anxiety experiences in higher education (Kalinin et al., 2021), library support for students with autism (Pionke et al., 2019), and library website accessibility for disabled students (Vaughan & Warlick, 2020).

Limited research focuses specifically on library anxiety among visually impaired users. Some studies touch on related topics, such as using assistive technologies for visually impaired students in academic libraries (Alabi & Mutula, 2020) and designing future aids for visually impaired users in digital libraries (Xie et al., 2020). Other studies explore library anxiety among marginalized students in India (Gogoi et al., 2021), library anxiety in academic libraries (Nieves-Whitmore, 2021), and the use of augmented reality to reduce anxiety (Sample, 2020). Jiao and Onwuegbuzie's (1999) study is the only research focused on library anxiety among university students.

Shoham and Mizrachi (2001) discuss library anxiety among undergraduate students in Israel, while Abusin and Zainab (2010) discuss library anxiety among Sudanese university students. Another study by Jang et al. (2010) discovered the measurement of library anxiety among disabled users. The previous studies show that much library anxiety research has been conducted, the majority among university library users, and only a small number discuss library anxiety among disabled students. Since there is limited research that specifically addresses library anxiety among students with visual disabilities, we aim to investigate this topic. Thus, our research question for this study is: What library anxiety levels occur among visually disabled students when they utilize their university's library services?

Method

This research uses a quantitative descriptive approach. Data from all state universities in Indonesia was collected to determine the number of students with visual disabilities and the availability of special library facilities for students with visual disabilities. The researchers gave a questionnaire to all students who would like to participate. It should be noted that at the onset of students engaging with the questionnaire, it is not known if they are experiencing or have experienced library anxiety or if they are visually disabled. We sought to only measure library anxiety amongst disabled students, particularly visually disabled students. The seven state university libraries that participated in this study provide special facilities for visually disabled students.

The population for this study was 96 students from seven state university libraries: Islamic States University Library (UIN SUKA), Brawijaya University Library (UB), Gadjah Mada University Library (UGM), Lambung Mangkurat University Library (ULM), Surabaya State University library (UNESA),

Yogyakarta State University library (UNY), Indonesia Education University library (UPI). The researchers used a purposive sample with the following criteria: (1) a state university library that has services for students with visual disabilities, (2) visually disabled students who have experience using library services. From this criterion, we identified 37 students to conduct the study. The researchers experienced limited mobility during data collection due to the COVID-19 pandemic, which resulted in some limitations in reaching the student population. Data collection was done in each library for one week, where the researcher monitored when disabled students came into the library. The researcher delivered the questionnaire and assisted users in filling it out. Of the students who entered the libraries, 37 were willing to fill out the questionnaire; not all 96 visited the library during the data collection week.

Fifty-eight questions were elaborated from the Malay Version of Bostick's Library Anxiety Scale, customized to consider Indonesian library services for visually disabled students. Additionally, based on outcomes from a pilot study, nine questions were added to the *barriers to service providers* variable, 12 questions were added to the *affective barriers* protocol to further unpack users' feelings towards services, and five questions were added to the *barriers to library technology* portion to address specific experiences with library technology in an Indonesian academic context.

Data analysis involved seven steps: editing, coding, data entry, data tabulation, processing, data cleaning, and data presentation. SPSS version 25 was used to process the data, and data analysis was done manually. The findings were organized into a one-way table. One-way tables, also called regular tables, create groups of data based on just one criterion for information (Siregar et al., 2017).

This research used a Likert scale to measure respondents' opinions regarding the questions and statements (Riyanto & Hatmawan, 2020). Table 1 conveys the answer choices and the scoring range that was used: totally agree (SS) with a 1 score, agree (S) with a 2 score, neutral (N) with a 3 score, disagree (TS) with a 4 score, and totally disagree (STS) with a 5 score.

Table 1. Likert Scale categories to assess respondents' opinions or judgments

Answer	Score
Totally Agree (SS)	1
Agree (S)	2
Neutral (N)	3
Disagree (TS)	4
Totally Disagree (STS)	5

According to Świgoń (2011), there are five categories for measuring library anxiety. These categories are no anxiety, low anxiety, mild anxiety, moderate anxiety, and severe anxiety. We used the following formula to calculate the interval in each category.

$$\text{Interval} = \frac{\text{The highest score} - \text{The lowest score}}{\text{Number of categories}} = \frac{5 - 1}{5} = 0.8$$

The interval formula determined the range of scores between each category, representing the level of library anxiety experienced by the respondent (Table 2).

Table 2. Category Score

Category	Score
No Anxiety	1.00 - 1.80
Low Anxiety	1.81 - 2.60
Mild Anxiety	2.61 - 3.40
Moderate Anxiety	3.41 - 4.20
Severe Anxiety	4.21 - 5.00

Results

The data collected was processed using SPSS 25 tools and presented in a single table. The data provided an overview of library anxiety experienced by students with visual disabilities in state university libraries in Indonesia. The respondents' background can be identified through their characteristics, such as gender, origin from a state university, class, intensity of visit, duration of visit, and reasons for visiting the library. Table 3 provides an overview of respondents' characteristics.

Table 3. Characteristics of Respondents

Characteristics of Respondents		Frequency	Percent (%)
Gender	Male	28	75.7
	Female	9	24.3
	Total	37	100
University site	UIN Sunan Kalijaga	11	29.7
	Universitas Brawijaya	10	27
	Universitas Gadjah Mada	2	5.4
	Universitas Lambung Mangkurat	2	5.4
	Universitas Negeri Surabaya	7	18.9
	Universitas Negeri Yogyakarta	2	5.4
	Universitas Pendidikan Indonesia	3	8.1
	Total	37	100
Year	2014	2	5.4
	2015	1	2.7
	2016	5	13.5
	2017	11	29.7
	2018	8	21.6
	2019	10	27

	Total	37	100
Visit frequency	Very frequent (More than nine times)	6	16.2
	Frequently (7-9 times)	4	10.8
	rare (4-6 times)	14	37.8
	Infrequent (1-3 times)	13	35.1
	Total	37	100
Duration for each visit	More than 3 hours	9	24.3
	2-3 hours	13	35.1
	1-2 hours	12	32.4
	Less than 1 hour	3	8.1
	Total	37	100
Reason for visit	Do Assignment	22	59.5
	Search resources	5	13.5
	Access internet	6	16.2
	Join the library activity	4	10.8
	Total	37	100

There were 28 male respondents accounted for 75.7% of the study population, and nine female respondents accounted for 24.3 percent. The most significant number of respondents came from UIN Sunan Kalijaga, with a frequency of 11 visually disabled students (29.7%), while the lowest number of respondents were from Gadjah Mada University, Lambung Mangkurat University, Padang State University, and Yogyakarta State University. For the respondents, completing assignments was the primary reason they visited the library, at 59.5%, while the most minor activity was attending library programs, at only 10.8 percent.

Library anxiety level of undergraduate students with visual disability

The Malay Version of the Bostick Library Anxiety Scale's three library anxiety variables have been measured in this research. First, *barriers to service providers* mainly deal with the availability and services of the library staff, collection, and systems. Second, *affective barriers* that deal with users' feelings when using library services (e.g., feeling comfortable, happy, and joyful).

The third anxiety factor is *information technology barriers*, such as navigating computer technology as a first-time user. Our library anxiety measurement followed Karim and Rashid's (2016) sub-scale approach to the Bostick model. While Karim and Rashid employed a 3-factor solution with the Bostick factors, we added a fourth variable, library anxiety itself, to come to a synthesized understanding of the impacts of library anxiety on university students with visual disabilities (Table 4).

Table 4. Breakdown of library anxiety levels on four factors

Factors of Library Anxiety	Mean	Level of Anxiety
Barriers to Service Providers	2.64	Mild Anxiety
Affective Barriers	2.31	Low Anxiety
Comfort with Library Technology	2.80	Mild Anxiety

Overall, the library anxiety score is low, at 2.58 (Table 4). The mean breakdown for *barriers with service providers* is a mean of 2.64 (mild anxiety), *affective barriers* have a mean of 2.31 (low anxiety), and *comfort with library technology* shows a mean of 2.80 (mild anxiety). *Comfort with library technology* is the factor with the highest level of anxiety, and *affective barriers* are the factor with the lowest level of anxiety. These results show that students with visual disabilities still encounter obstacles in accessing the technology in the library, as well as barriers to service providers, which is a mean of 2.64. In sum, these results also show that students with visual disabilities feel confident in accessing various services in the library, as well as their interactions with the staff, but feel barriers towards interfacing with the library facility (e.g., signage) and computer technology.

In this research, the highest anxiety level was moderate anxiety (i.e., no respondents indicated high anxiety on the survey) (Table 5). Notably, factors that had the highest anxiety level (i.e., at moderate anxiety) were the Braille and audio collections, where users felt that the number of Braille and audio materials was lacking and needed to be increased. Users also noted library instructions with moderate anxiety, stating that instructions in the facility (visually, as in signage) were not so clear for them. Therefore, they felt moderate anxiety when walking around to navigate the library.

Barriers to Service Providers

The variable, *barriers to service providers*, was measured through 26 question items (Table 5). In this variable, a score of 2.64 is categorized as mild anxiety. Users experienced mild anxiety when the staff was unaware that there were disabled users in the library. On the other hand,

the visually disabled students felt very confident when they knew there was staff around the library to help them set up the computer and find the collection.

Table 5. Barriers to Service Providers Factors, where SS = Totally Agree; S = Agree; N = Neutral; TS = Disagree; STS = Totally Disagree

Indicators	SS	S	N	TS	STS	N	Score	Avg.	Category
	f	f	f	f	f				
The library staff always helps me when I am in the library	5 13.5%	6 16.2%	11 29.7%	8 21.6%	7 18.9%	37	117	3.16	Mild Anxiety
The library staff always helps me	2 5.4%	8 21.6%	16 43.2%	8 21.6%	3 8.1%	37	113	3.05	Mild Anxiety
The library staff took the time to help me	5 13.5%	14 37.8%	16 43.2%	2 5.4%	0	37	89	2.41	Low Anxiety
The library staff took the time to help me find the collection I needed	6 16.2%	10 27%	15 40.5%	6 16.2%	0	37	95	2.57	Low Anxiety
Library staff take the time to help operate computer equipment	7 18.9%	12 32.4%	15 40.5%	2 5.4%	1 2.7%	37	89	2.41	Low Anxiety
The library staff took the time to help direct me to where I needed to go	8 21.6%	15 40.5%	10 27%	4 10.8%	0	37	84	2.27	Low Anxiety



There is usually someone at the library who can help me	10 27%	17 45.9%	9 24.3	0	1 2.7%	37	76	2.05	Low Anxiety
The library staff cares about me	8 21.6%	22 59.5%	3 8.1%	1 2.7%	3 8.1%	37	80	2.16	Low Anxiety
The library staff was friendly to me	8 21.6%	18 48.6%	10 27%	1 2.7%	0	37	78	2.11	Low Anxiety
The library staff ignored my complaints	3 8.1%	20 54.1%	12 32.4%	1 2.7%	1 2.7%	37	83	2.24	Low Anxiety
I feel comfortable with the presence of staff when I am in the library	20 54.1%	8 21.6%	6 16.2%	3 8.1%	0	37	66	1.78	No Anxiety
I know what collections are available in the library	3 8.1%	12 32.4%	13 35.1%	7 18.9%	2 5.4%	37	104	2.81	Mild Anxiety
I was able to find the information I needed in the library	3 8.1%	12 32.4%	13 35.1%	7 18.9%	2 5.4%	37	104	2.81	Mild Anxiety
The library has the materials/materials I need	11 29.7%	13 35.1%	12 32.4%	1 2.7%	0	37	77	2.08	Low Anxiety
I know what to do if the book I need	9 24.3%	15 40.5%	9 24.3%	4 10.8%	0	37	82	2.22	Low Anxiety

is not available on the shelf										
The library provides a Braille collection	2 5.4%	8 21.6%	10 27%	7 18.9%	10 27%	37	126	3.41	Moderate Anxiety	
The Braille collection available is precisely what I need	0	2 5.4%	10 27%	14 37.8%	11 29.7%	37	145	3.92	Moderate Anxiety	
The library provides audio collections	2 5.4%	6 16.2%	9 24.3%	14 37.8%	6 16.2%	37	127	3.43	Moderate Anxiety	
The audio collection available is precisely what I need	0	1 2.7%	13 35.1%	16 43.2%	7 18.9%	37	140	3.78	Moderate Anxiety	
Library regulations are stringent	8 21.6%	7 18.9%	10 27%	9 24.3%	3 8.1%	37	103	2.78	Low Anxiety	
I understand how the library applies an exemplary system for returning collections that exceed the borrowing time	14 37.8%	12 32.4%	9 24.3%	2 5.4%	0	37	73	1.97	Low Anxiety	
The instructions available in the library are adequate	7 18.9%	6 16.2%	15 40.5%	8 21.6%	1 2.7%	37	101	2.73	Mild Anxiety	



Instructions available in the library are beneficial	5 13.5%	12 32.4%	15 40.5%	4 10.8%	1 2.7%	37	95	2.57	Low Anxiety
Instructions for using the computer are clear	0	5 13.5%	11 29.7%	18 48.6%	3 8.1%	37	130	3.51	Moderate Anxiety
I always get a seat in the library	12 32.4%	20 54.1%	3 8.1%	2 5.4%	0	37	69	1.86	Low Anxiety
The library provides training about libraries	9 24.3%	9 24.3%	10 27%	8 21.6%	1 2.7%	37	94	2.54	Low Anxiety
Average								68.65	Mild Anxiety
Total Average Score								2.64	

Affective Barriers

The personal feelings variable (affective barriers) was measured through 19 questions (Table 6). The average score for affective barriers was 2.31 (low anxiety). Compared to the service providers factor, users felt less anxious when dealing with comfortability in the library. The outcomes demonstrated in Table 6 show that users felt comfortable and at ease when using their university’s library. Users also felt low anxiety about library design and layout, study space, learning place, and library facility access. However, users felt more anxious about arranging the library’s collection and the availability of dedicated space for disabled visitors.

Table 6. Affective Barriers Factor where SS = Totally Agree; S = Agree; N = Neutral; TS = Disagree; STS = Totally Disagree

Indicators	SS	S	N	TS	STS	N	Score	Average	Category
	f	f	f	f	f				



I feel confident about how I begin my search for the information I need	3 8.1%	15 40.5%	13 35.1%	5 13.5%	1 2.7%	37	97	2.62	Mild Anxiety
I can operate computer equipment in the library	3 8.1%	7 18.9%	13 35.1%	9 24.3%	5 13.5%	37	117	3.16	Mild Anxiety
I can access digital services	6 16.2%	17 45.9%	6 16.2%	5 13.5%	3 8.1%	37	93	2.51	Low Anxiety
I can use the library's online catalogue (OPAC)	5 13.5%	13 35.1%	8 21.6%	9 24.3%	2 5.4%	37	101	2.73	Mild Anxiety
OPAC is easy to use	4 10.8%	10 27%	16 43.2%	6 16.2%	1 2.7%	37	101	2.73	Mild Anxiety
I always use OPAC before going to the bookshelf	4 10.8%	11 29.7%	14 37.8%	5 13.5%	3 8.1%	37	103	2.78	Mild Anxiety
I was able to access the repository	4 10.8%	10 27%	17 45.9%	4 10.8%	2 5.4%	37	101	2.73	Mild Anxiety
I always use the repository when I need information	0	12 32.4%	11 29.7%	10 27%	4 10.8%	37	117	3.16	Mild Anxiety
The internet connection in the library is high-speed	9 24.3%	11 29.7%	14 37.8%	3 8.1%	0	37	85	2.30	Low Anxiety
Internet services can always be accessed at all times	7 18.9%	13 35.1%	9 24.3%	8 21.6%	0	37	92	2.49	Low Anxiety
I can use independent lending services	5 13.5%	6 16.2%	16 43.2%	7 18.9%	3 8.1%	37	108	2.92	Mild Anxiety
I often use independent lending services	3 8.1%	4 10.8%	11 29.7%	13 35.1%	6 16.2%	37	126	3.41	Moderate Anxiety



I do not avoid using computers in the library because I can operate them	5 13.5%	11 29.7%	8 21.6%	10 27%	3 8.1%	37	91	2.46	Low Anxiety
Average Score								36.41	Mild Anxiety
Total Average Score								2.80	

Comfort with Library Technology

The *comfort with library technology* variable was measured through 13 indicators. (i.e., questions). The total anxiety score was 2.80, indicating mild anxiety (Table 7). When reflecting on their experiences with library technology, users felt no anxiety using library Wi-Fi because its connection was stable, and digital services were easy to access. However, they did feel anxiety when using independent learning spaces, so they do not regularly use the services. Users also felt more anxious when conducting information retrieval, operating computers, using the library’s online public access catalogue (OPAC), and accessing the repository.

Table 7. Comfort with Library Technology Factor where SS = Totally Agree; S = Agree; N = Neutral; TS = Disagree; STS = Totally Disagree

Indicators	SS f	S f	N f	TS f	STS f	N	Score	Average	Category
I feel confident about how I begin my search for the information I need	3 8.1%	15 40.5%	13 35.1%	5 13.5%	1 2.7%	37	97	2.62	Mild Anxiety
I can operate computer equipment in the library	3 8.1%	7 18.9%	13 35.1%	9 24.3%	5 13.5%	37	117	3.16	Mild Anxiety
I can access digital services	6 16.2%	17 45.9%	6 16.2%	5 13.5%	3 8.1%	37	93	2.51	Low Anxiety



I can use the library's online catalogue (OPAC)	5 13.5%	13 35.1%	8 21.6%	9 24.3%	2 5.4%	37	101	2.73	Mild Anxiety
OPAC is easy to use	4 10.8%	10 27%	16 43.2%	6 16.2%	1 2.7%	37	101	2.73	Mild Anxiety
I always use OPAC before going to the bookshelf	4 10.8%	11 29.7%	14 37.8%	5 13.5%	3 8.1%	37	103	2.78	Mild Anxiety
I was able to access the repository	4 10.8%	10 27%	17 45.9%	4 10.8%	2 5.4%	37	101	2.73	Mild Anxiety
I always use the repository when I need information	0	12 32.4%	11 29.7%	10 27%	4 10.8%	37	117	3.16	Mild Anxiety
The internet connection in the library is high-speed	9 24.3%	11 29.7%	14 37.8%	3 8.1%	0	37	85	2.30	Low Anxiety
Internet services can be accessed at all times	7 18.9%	13 35.1%	9 24.3%	8 21.6%	0	37	92	2.49	Low Anxiety
I can use independent lending services	5 13.5%	6 16.2%	16 43.2%	7 18.9%	3 8.1%	37	108	2.92	Mild Anxiety
I often use independent lending services	3 8.1%	4 10.8%	11 29.7%	13 35.1%	6 16.2%	37	126	3.41	Moderate Anxiety



I do not avoid using computers in the library because I can operate them	5	11	8	10	3	37	91	2.46	Low Anxiety
	13.5%	29.7%	21.6%	27%	8.1%				
Average Score								36.41	Mild Anxiety
Total Average Score								2.80	

Crosstabulation between state university and library anxiety level

Crosstabulation analysis was conducted to see the library anxiety level based on each university. The data shows that each university has different anxiety levels. Each university library has different facilities and technology to support users with disabilities. The technology and facility sometimes trigger user nervousness.

Our extra assessment of library anxiety based on technology factors is based on Karim and Rashid’s (2016) library anxiety measurement method. Table 8 shows details for each state university, indicating that students from Universitas Pendidikan Indonesia had a higher level of anxiety than the other state universities. Students with disabilities at Universitas Pendidikan Indonesia can ask for help from staff and volunteers from the Universitas Pendidikan Indonesia Disability Community to accompany various activities in the library. The library of Universitas Pendidikan Indonesia has provided technology-based services in e-journals, e-books, and repositories. The level of anxiety by students with visual disabilities from Universitas Pendidikan Indonesia shows that these supporting facilities are still insufficient.

Table 8. Crosstabulation: State university and library anxiety level

Names of universities	Library Anxiety Level					Total
	No anxiety	Low anxiety	Mild anxiety	Moderate anxiety	Severe anxiety	
UIN SUKA	2 (18.2%)	5 (45.5%)	4 (36.4%)	0 (0%)	0 (0%)	11 (100%)
UB	0 (0%)	1 (10%)	9 (90%)	0 (0%)	0 (0%)	10 (100%)
UGM	0 (0%)	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)



ULM	0 (0%)	1 (50%)	0 (0%)	1 (50%)	0 (0%)	2 (100%)
UNESA	0 (0%)	5 (71.4%)	2 (28.6%)	0 (0%)	0 (0%)	7 (100%)
UNY	0 (0%)	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
UPI	0 (0%)	0 (0%)	0 (0%)	3 (100%)	0 (0%)	3 (100%)
Total	2 (5.4%)	14 (37.8%)	20 (54.1%)	1 (2.7%)	0 (0%)	37 (100%)

Universitas Islam Negeri Sunan Kalijaga is the only state university where its students reported no library anxiety, although most Universitas Islam Negeri Sunan Kalijaga students experience low anxiety. This result can be influenced by the various supporting facilities the Library of Universitas Islam Negeri Sunan Kalijaga provides. For example, there is a disability space with computer devices equipped with the JAWS application, a scanner, digital talking book players, and a repository website called the *Difarepositories*. These facilities are different from other state universities because, so far, only the Library of Universitas Islam Negeri Sunan Kalijaga provides them. The existence of these special facilities has a positive impact on the library anxiety of students with visual disabilities at Universitas Islam Negeri Sunan Kalijaga.

Library Anxiety

Library anxiety among visually disabled students is considered low, with an overall average of 2.58. The anxiety level is measured by factors from the Malay Version of the Bostick Library Anxiety Scale. Technology has become the most significant factor that affects students' anxiety. This is because some visually disabled students are not familiar with the technology in the library, or they rarely use it. They feel insecure when using technology without assistance. Previous studies mainly discuss library anxiety in abled students, such as in Bangladesh, where 18% of abled university students have severe anxiety (Islam et al., 2020); Jordan found that abled college students also have severe anxiety (Dalky & Gharaibeh, 2019). Previous studies do not use the Bostick anxiety scale for measurement; they manually measure depression and anxiety levels.

Crosstabulation between genders and anxiety levels

Crosstabulation analysis between gender and library anxiety levels shows that male library users have more library anxiety compared to female users. The researchers calculated crosstabulation on gender to see which gender had the most anxiety (Table 9). However, this crosstabulation does not show in detail what anxiety factors affect males or females. The data only shows the

general anxiety level. Some previous research also associated anxiety and gender (Farhane- Medina et al., 2022; Gao et al., 2020; Hinz et al., 2019).

Table 9. Crosstabulation: Gender and library anxiety levels

Gender	Library Anxiety Level					Total
	No Anxiety	Low Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	
Male	1 (3,6%)	9 (32,1%)	18 (64,3%)	0 (0%)	0 (0%)	28 (100%)
Female	1 (11,1%)	5 (55,6%)	2 (22,2%)	1 (11,1%)	0 (0%)	9 (100%)
Total	2 (5,45)	14 (37,8%)	20 (54,1%)	1 (2,7%)	0 (0%)	37 (100%)

Male users experienced mild anxiety levels at 64.3%, while females reported library anxiety at 22.2 percent. However, females felt low anxiety at 55.6%, while males only had 32.1%, and the no anxiety level had the lowest respondent rate (3.6%). Table 9 also shows that most female respondents experienced a low anxiety level, with five respondents (55.6%). In comparison, mild anxiety levels have two respondents (22.2%), and moderate and no anxiety levels have the lowest respondent (11.1%).

Discussion

Visually disabled students encounter challenges when accessing information technology in libraries. They experience anxiety due to their limited ability to access information effectively. Visually disabled students often require assistance when using library technology, particularly if they use it for the first time. While they may also experience some anxiety regarding library services, they generally feel a sense of comfort when interacting with library staff and find them helpful.

According to Ahmed and Naveed (2020), Ismail et al. (2022), and Islam et al. (2020), gender is connected to levels of library anxiety experienced by university students. Their research indicates that female students tend to have higher levels of library anxiety compared to male students. These findings suggest that there are differences in the levels of library anxiety between male and female students. Our study substantiates Ahmed and Naveed, Ismail et al., and Islam et al.'s results; male university students across seven Indonesian universities reported more library anxiety than female students, albeit low. Our results are also consistent with the findings of Agbonavbare et al. (2021), Hosseini et al. (2018), and Jan et al. (2016). However, contrary results were obtained in the research conducted by Ismail et al. (2022), Madia (2022),

Gogoi et al. (2021), Abdoh (2021), Parsaei Mohammadi et al. (2018), and Noori et al. (2017). These studies found no significant relationship between students' gender and their level of library anxiety. Previous research indicates that, on average, there is no significant difference in anxiety levels between male and female students. However, this study shows slightly different results, indicating that male students with visual disabilities experience a higher level of library anxiety compared to counterpart female students.

Asghar et al. (2021) found consistently mild levels of anxiety across all dimensions measured among students from universities in Pakistan. Our findings in this study are consistent with the studies conducted by Abdoh (2021) and Parsaei Mohammadi et al. (2018). In contrast, Chutia and Nath (2021) and Gogoi et al. (2021) presented different results in their studies, showing no difference in library anxiety levels among students from different universities.

Conclusion

Based on the data findings, data analysis, and theoretical interpretations, we can conclude the library anxiety experienced by students with visual disabilities. Our conclusion is based on the results of the average score presented in Table 4, which summarizes the data on library anxiety among students with visual disabilities with an average library anxiety score of 2.58, indicating that these students generally experienced library anxiety. However, despite being categorized as low anxiety, it is evident that students with visual disabilities feel anxious when in the library. This outcome suggests that although library management understands the needs of disabled students, there is room for improvement. The practical implication of this study is that it can serve as a guide for university libraries to review their services and facilities for students with visual disabilities. Academic libraries can also develop user-friendly independent learning systems for visually disabled students so they can confidently navigate library systems independently.

Endnotes

¹ Guiding blocks are textured-designed tiles installed or embedded in walkways or roads to enable the visually impaired to walk safely and independently.

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