Public Speaking Anxiety: A Look at the Sources

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ABSTRACT

Public Speaking Anxiety (PSA) is widely known as an apprehension affecting individuals of different groups, especially people involved in education. It ranges from simple age factors to the differences of professional backgrounds. PSA stemming from various factors such as physiology, behaviour and cognitive may negatively impact confidence and performance in speech delivery. Thus, this study analysed the relationship between physiological, behavioural and cognitive components as the core theoretical framework. This quantitative study was conducted among 128 students from a local university in Malaysia using a structured questionnaire survey. Data were collected via a 5-point Likert scale survey to identify the three main components using 17 specific items as the instrument adapted from Bartholomay & Houlihan (2016). The general findings portray a positive relationship between all three theoretical constructs, highlighting the behavioural factor as the key determinant. Hence, this study is important for students and educators to explore strategies in minimising the effects of PSA by understanding the three crucial sources.

Keywords: (Public Speaking Anxiety, Behavioural Symptoms, Physiological Changes, Cognitive Indicators)

INTRODUCTION

For some individuals, standing before an audience can evoke a sense of dread comparable to standing at the edge of a cliff. Physical symptoms such as excessive sweating, fidgeting, and memory lapses are common manifestations of public speaking anxiety (PSA), a fear ranked second only to the fear of death (Dwyer & Davidson, 2012, as cited in Lintner & Belovecová, 2024). Despite its intimidating nature, public speaking is a core mode of human communication. Within tertiary education in Malaysia, oral presentations, debates, and public discussions are integral to assessment and professional preparation (Chin, 2025). While these activities aim to strengthen students' communication competence for future careers, they may inadvertently place those experiencing PSA at a significant disadvantage.

PSA, or glossophobia, is one of the most prevalent forms of social anxiety and has been shown to significantly affect academic performance, self-esteem, and professional readiness (Bodie, 2010). It is characterised by fear or apprehension when anticipating or engaging in oral communication before an audience (Dwyer & Davidson, 2012) and is often described in terms of cognitive, behavioural, and physiological dimensions. Cognitive symptoms normally involve negative thinking, self-doubt, and fear of negative evaluation. Behavioural symptoms include avoidance or nervous mannerisms such as fidgeting or rigid posture, and physiological symptoms manifest as sweating, trembling, or increased heart rate (Bartholomay & Houlihan, 2016). These dimensions are systematically measured through the Public Speaking Anxiety Scale (PSAS), which provides a valid and reliable framework for assessing PSA (Bartholomay & Houlihan, 2016).

In the Malaysian context, PSA is a significant issue among undergraduates, particularly those in English as a second language (ESL) settings. Studies show that fear of negative evaluation, low English proficiency and high

communication apprehension are major factors contributing to PSA in academic presentations (Chin, 2025). Additionally, research also shows that Malaysian students use various strategies to manage PSA including relaxation, and preparation routines. However, the effectiveness of these strategies depends on the interaction between the cognitive, behavioural, and physiological aspects of PSA (Tee et al., 2022). Considering the previous studies, while PSA has been widely studied worldwide, Malaysian research has mostly focused on measuring prevalence and identifying coping methods, with less attention given to students' personal experiences of its three main dimensions. Given Malaysia's unique socio-cultural and linguistic setting, PSA among local undergraduates may differ greatly from that in other contexts (Chin, 2025; Tee et al., 2022). Exploring these experiences, therefore, could provide valuable insights for designing targeted educational and psychological support.

This study is done to explore anxiety in public speaking. Specifically, this study is done to answer the following questions:

- How do participants view cognitive factors in public speaking anxiety?
- How do participants view behavioural factors in public speaking anxiety?
- How do participants view physiological factors in public speaking anxiety?
- What is the relationship between all factors in public speaking anxiety?

LITERATURE REVIEW

Theoretical Framework of the Study

Social Cognitive Theory (SCT), proposed by Albert Bandura (1986), describes learning and behaviour as the results of dynamic interaction between behavioural patterns, personal factors, and environmental conditions. The key principle of the theory is self-efficacy, the belief in one's ability to successfully perform a specific task. This belief directly influences an individual's motivation, emotional control, and performance outcomes. In the context of PSA, learners with low self-efficacy often anticipate poor performance, heightened avoidance tendencies, and physiological arousal, whereas those with high self-efficacy tend to persist and perform effectively when faced with challenges (Ahmad et al., 2025). According to Ibrahim et al. (2022), as noted by SCT, observational learning also influences this belief, where seeing other peers deliver confident speeches can reduce anxiety, while witnessing negative speaking experiences can reinforce the fear of speaking.

Physiological states are another key influence within SCT. Physical reactions that include a pounding heart, tense muscles, and trembling, if misinterpreted as signs of speaking incompetence, may increase PSA (Bodie, 2010). Nevertheless, when these bodily cues are reframed as normal responses to a high-pressure setting, their adverse effects can be reduced and become less disruptive. A study by Grive et al. (2021) demonstrated that repeated successful speaking experiences, constructive feedback, and positive learning environments can improve self-efficacy and lessen PSA. Hence, SCT provides a solid framework for understanding PSA and for designing targeted interventions to help learners face their fear and avoidance in public speaking.

Factors for Public Speaking Anxiety

Public speaking anxiety (PSA) has been widely discussed in research in communication and psychology fields. The definition of PSA has also evolved alongside its theoretical development. The foundational definition of PSA was provided by McCroskey (1977) as a type of communication apprehension, which is described as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (p.78). The Personal Report of Communication Apprehension (PRCA-24) was later developed by McCroskey as an instrument to measure PSA (McCroskey, 1982).

Studies regarding PSA in the later years include definitions of PSA involving multiple dimensions. Motley (1990) connected performance and communicative orientations to public speaking anxiety. He believes that public speaking has more success if the speaker's belief about the speaking orientation is changed (Motley, 1990).

Bartholomay and Houlihan (2016) categorized three factors of PSA; cognitive, behavioral, and psychological factors. This reflects Lang's Tripartite Model of Fear which is a psychological framework that describes fear or anxiety as related to physiological, cognitive, and behavioral responses (Lang, 1967, 1979; Lang, Cuthbert, & Bradley, 1998; Lang, Levin, Miller, & Kozak, 1983). These responses may be triggered individually or together. For example, one may have a strong physiological response due to anxiety but not so much for the other two.

Past Studies on Public Speaking Anxiety

Many studies have been carried out to explore the prevalence, causes, and possible solutions for public speaking anxiety (PSA) among university students, especially in higher education contexts where effective oral communication skills are critical for academic and professional success.

A study by Raja (2017) was designed to investigate the extent of fear of public speaking among undergraduate students and the factors responsible for this fear, as well as to recommend strategies for overcoming it. Raja's research sampled 50 undergraduate computer science students at a private sector business school in Karachi, using a self-administered questionnaire based on prior literature and the researcher's classroom observations. The findings revealed that 75% of the respondents admitted to feeling fear when engaging in public speaking, and over 50% attributed this fear to lack of confidence. Furthermore, 82% believed that the size of the audience played a significant role in their anxiety. Importantly, 95% of the students believed that with proper counselling, instruction, and coaching, their public speaking anxiety could be overcome. The study highlighted that exposure to virtual environments and regular practice were effective strategies to build confidence and minimise anxiety, and it emphasised the need for supportive instruction and systematic confidence-building activities in educational settings.

Meanwhile, Naser and Isa (2021) focused their inquiry on determining the level of public speaking anxiety in oral presentation classes and its correlation with classroom performance among undergraduates at UiTM Shah Alam. Their quantitative study randomly selected 150 students who had completed the English for Oral Presentation subject (ELC590) and measured anxiety using the Public Speaking Classroom Anxiety Scale (PSCAS), an established instrument in the field. The results showed that a majority (54.67%) of students experienced moderate levels of public speaking anxiety, while 6.67% exhibited high levels. Four main anxiety factors were identified: fear of negative evaluation, comfort in speaking English, test anxiety, and communication apprehension—with communication apprehension being the most prominent. Most importantly, the study found a significant correlation between public speaking anxiety and oral presentation performance ($r=.363$, $p<0.01$): students who experienced higher anxiety tended to have lower performance scores. This echoed findings from similar studies, suggesting the urgent need for tailored pedagogical approaches and classroom environments that explicitly address speaking anxiety.

Conceptual Framework of the Study

According to the social cognitive theory (Bandura, 1986), some factors influence how a person views anxiety. In public speaking, anxiety is influenced by speakers' personal perceptions and feedback received by the speaker. In addition to that, during the presentation, the speaker is also influenced by what happens in the surrounding environment (Rahmat, 2019). Figure 1 below shows the conceptual framework of the study. This study explores the sources of PSA. According to Bartholomay & Houlihan (2016), there are three sources of PSA. The first source is cognitive factors. Cognitive factors refer to the learner's personal perceptions of the speech. This perception includes the speaker thinking that giving a speech is terrifying. It also includes the speaker not having confidence when giving a speech. Next, among some signs of behavioural factors are the speakers fidgeting before the speech. Sometimes, the speaker also trembles when he/she gives a speech. The

last source by Bartholomay & Houlihan (2016) is physiological factors such as the speaker feeling sick before they spoke. The speaker could also feel tense before giving the speech.

In addition to that, this study also investigates the relationship between cognitive and behaviour factors for public speaking anxiety. This study also explores the relationship between behavioural and physiological factors for public speaking anxiety.

METHODOLOGY

This quantitative study is done to explore the relationship between all sources of public speaking anxiety. A

convenient sample of 128 participants responded to the survey. The instrument used is a 5-point Likert-scale survey. The categories used for the Likert scale; 1 is for Never, 2 is for Rarely, 3 is for Sometimes, 4 is for Very Often and 5 is for Always.

RESULTS

Demographic Analysis

Table 1: Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	49%
		Female	51%
2	Self-rating English Proficiency	Can communicate in English	92%
		Cannot communicate in English	8%

Table 1 displays the percentage for demographic profile of the respondents involved in this study. Two main categories extracted are the gender and self-rating English Proficiency. The Gender item shows a balanced distribution between male respondents (49%) and female respondents (51%). Additionally, the majority of the respondents (92%) rated themselves as someone who can understand English, while the remaining (8%) cannot communicate in English.

Descriptive Statistics

Findings for Cognitive Source

This section presents data to answer research question 1 - How do participants view cognitive factors in public speaking anxiety?

Figure 1- Mean for Cognitive Components

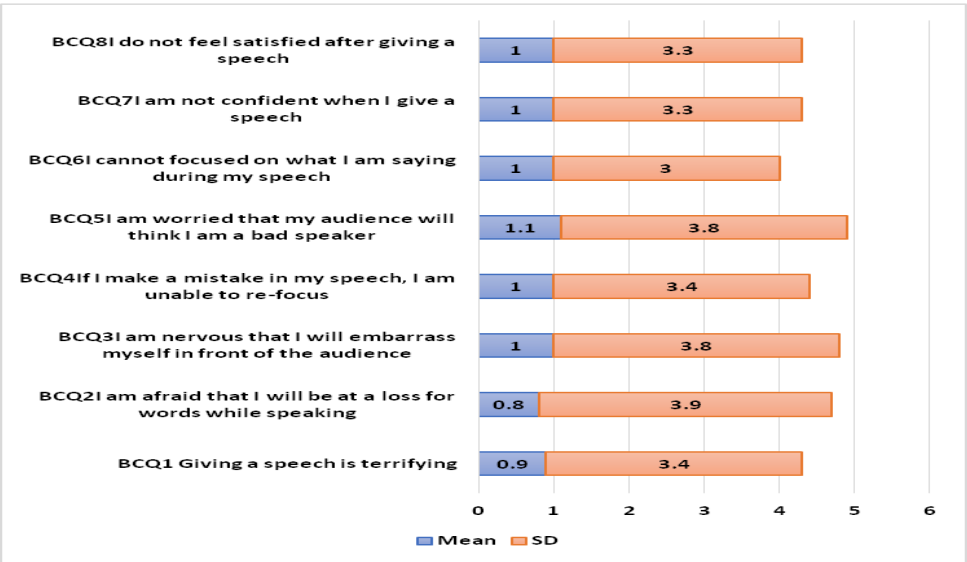


Figure 1 shows the mean for cognitive components. Item 2 (mean=3.9, SD=0.8) states that the learners were afraid that they will be at loss for words while they speak. Items 5 and 3 share the same mean of 3.8. Item 5 (mean=3.8, SD=1.1) states that the learners felt worried that the audience might think they are bad speakers. Item 3 (mean=3.8, SD=1.0) on the other hand, reports that the learners were nervous that they would embarrass themselves in front of the audience. Lastly, item 6 (mean=3.0, SD=1.0) shows that learners could not focus on what they were saying during the speech.

Findings for Behavioural Factors

This section presents data to answer research question 2- How do participants view behavioural factors in public speaking anxiety?

Figure 2- Mean for Behavioural Components

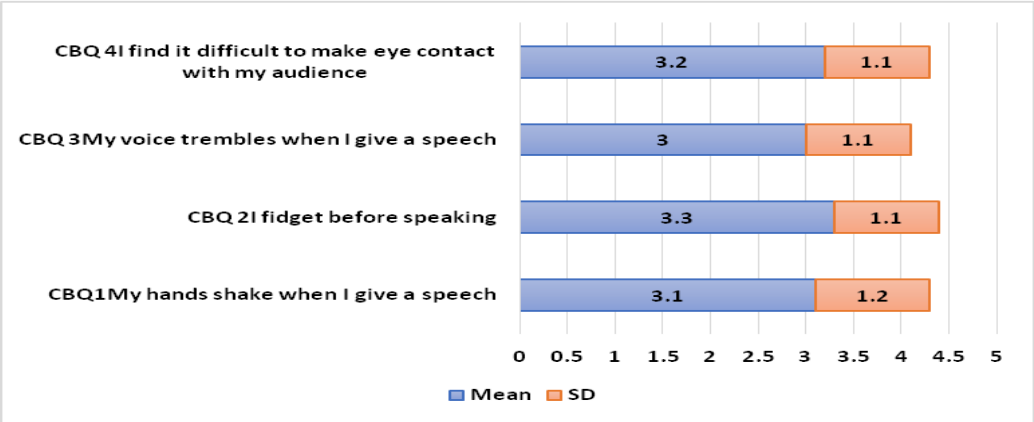
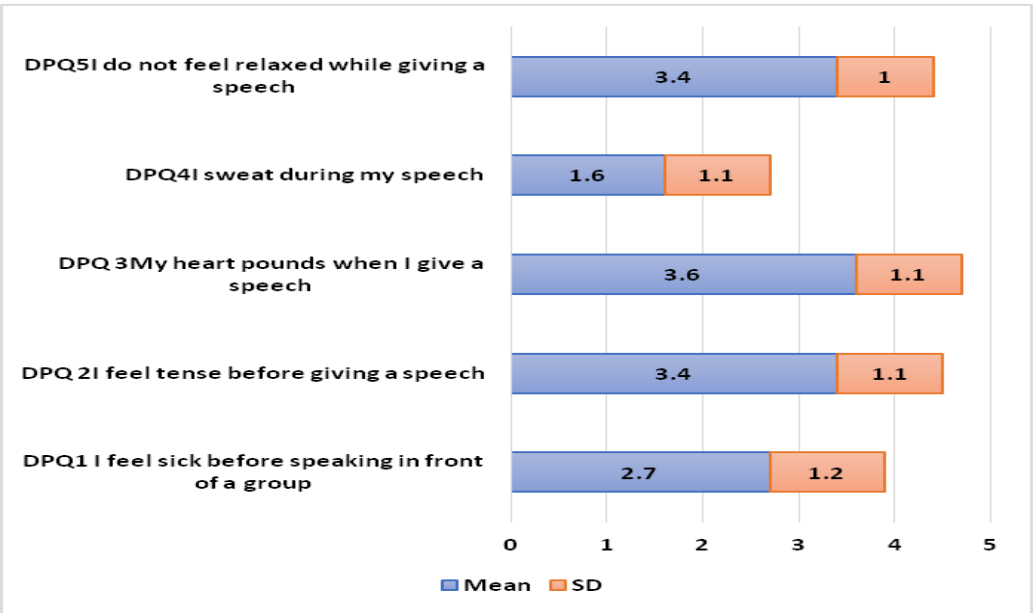


Figure 2 presents the mean for behavioural components. Item 2 (mean=3.3,SD=1.1) states that the learners fidget before they spoke. Next, item 4 (mean=3.2, SD=1.1) states that the learners found it difficult to make eye contact with their audience. Item 1 (mean=3.1,SD=1.2) states that their hands shook when they gave the speech. Finally, item 3 (mean=3,SD=1.1) states that their voice trembled when they gave a speech.

Findings for Physiological Factors

This section presents data to answer research question 3- How do participants view physiological factors in public speaking anxiety?

Figure 3 – Mean for Mean for Physiological Components



As shown in Figure 3, Item 3, "my heart pounds when I give a speech" had the highest mean score (M=3.6, SD=1.1), followed by Item 2 and Item 5, "I feel tense before giving a speech" and "I do not feel relaxed while giving a speech" (both M=3.4). These results suggest that elevated heart rate and muscle tension are the most common physical experiences in PSA, aligning with findings from previous studies that indicated these physical experiences as the core features of stage fright (Bodie, 2010; Grieve et al., 2021). Meanwhile, Item 1, "I feel sick before speaking" (M=2.7, SD=1.2) showed moderate occurrence of nausea, and Item 4, "I sweat during my speech" (M=1.6, SD=1.1) was the least common reaction, suggesting that perspiration is not the dominant perception for most participants in public speaking. The higher standard deviations for nausea and sweating suggest that physiological responses vary notably between individuals. Within the SCT framework, these physiological responses can influence self-efficacy in different ways. For instance, some speakers interpret a fast heartbeat as a readiness cue, while others perceive it as a sign of losing control, which can trigger avoidance in speaking (Ahmad et al., 2025). As such, the findings indicate the need for interventions like controlled breathing, muscle relaxation, and reinterpreting arousal as readiness to help shift these physiological barriers into manageable aspects of an effective presentation.

Exploratory Statistics

Findings for Relationship between all factors in public speaking anxiety

This section presents data to answer research question 4 - What is the relationship between all factors in public speaking anxiety?

To determine if there is a significant association in the mean scores between all factors in public speaking anxiety, data is analysed using SPSS for correlations. Results are presented separately in table 2 and 3 below.

Table 2 - Correlation between Cognitive and Behavioural Components

		COGNITIVE	BEHAVIOURAL
COGNITIVE	Pearson (Correlation	1	.584**
	Sig (2-tailed)		.000
	N	128	128
BEHAVIOURAL	Pearson (Correlation	.584**	1
	Sig (2-tailed)	.000	
	N	128	128

Correlation is significant at the level 0.01(2-tailed)

Table 2 shows that there is an association between cognitive and behavioural components. Correlation analysis shows that there is a high significant association between cognitive and behavioural components (r=.584**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between cognitive and behavioural components.

Table 3 - Correlation between Behavioural and Physiological Components

		BEHAVIOURAL	PHYSIOLOGICAL
BEHAVIOURAL	Pearson (Correlation	1	.808**
	Sig (2-tailed)		.000
	N	128	128
PHYSIOLOGICAL	Pearson (Correlation	.808**	1
	Sig (2-tailed)	.000	
	N	128	128

Correlation is significant at the level 0.01(2-tailed)

Table 3 shows that there is an association between behavioural and physiological components. Correlation analysis shows that there is a high significant association between behavioural and physiological components

(r=.808**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between behavioural and physiological components.

DISCUSSION

RQ1: How do participants view cognitive factors in public speaking anxiety?

The cognitive items presented in the survey reveal that the majority of the learners are afraid that they will be at a loss for words while speaking. The least significant cognitive factor identified was the ability to focus on their own speech, indicating that learners have controlled confidence stemming from the preparation prior to the speech. Among the common cognitive experiences portrayed by the learners are nervousness, worry, dissatisfaction and fear of their own weaknesses, especially in front of the audience. This is supported by studies from Raja (2017) concluding that 75% of their sample of study agreed that they exhibit fear when dealing with public speaking. Thus, the role of instructors in outlining proper instructions is important to develop confidence among learners during public speaking practices.

RQ2: How do participants view behavioural factors in public speaking anxiety?

Based on RQ2, learners revealed that the most common behavioural indicator showing anxiety in public speaking is the fidgeting habit. This is accompanied by other behaviours like lack of eye contact, shaky hands, and trembling voice projection. Fathikasari et al. (2022) highlighted in their findings that the "general sense" factor was the most frequently identified trigger for PSA, indicating that students' perceptions and experiences with public speaking greatly influence their anxiety levels. This underscores the need to address these behavioural elements to help students better manage and overcome their fear of public speaking.

RQ3: How do participants view physiological factors in public speaking anxiety?

The main physiological indicator of anxiety in public speaking among the learners is changes in heart acceleration, which they agreed that the heart pounds throughout giving the speech. Bartholomay & Houlihan (2016) in their study highlighted physiological factors like feeling sick and tense before the speech as their key finding but it is contradictory to the findings of this study. Many of the respondents indicated that tension and inability to relax are two other noticeable physiological symptoms accompanying the anxiety. The least physiological experience would be sweating during the speech delivery. However, these physiological symptoms could be managed effectively through counselling, instruction and coaching upon suggestions by the undergraduate sample of study (Raja, 2017).

RQ4: What is the relationship between all factors in public speaking anxiety?

The two main results of the correlation between all factors are reflected in the strong positive relationship between cognitive and behavioural factors while at the same time, behavioural factors also show strong positive relationship towards the physiological factors. Thus, this indicates that behavioural factors are the key determinant of the anxiety in public speaking among the learners. This is consistent with the study by Balakrishnan et al. (2022) highlighting that behavioural factors impact the engineering students significantly due to the habit of thinking negatively before presenting a speech and the worry over being asked questions after the speech which are also the reference to the cognitive components. These uncontrolled anxiety factors led to lower oral presentation performance due to high levels of anxiety (Naser and Isa, 2021). Therefore, it is clear that the finding of this study matches the previous research and serves as crucial evidence indicating the patterns of anxiety symptoms and their factor relation.

The strong positive relationship between cognitive and behavioral factors of the respondents suggests that anxiety directly influences their behavioral factor during public speaking. This is similar to what is stated by Bartholomay and Houlihan (2016) who link cognitive and behavioral responses in PSA. Similarly, a positive relationship is also identified between behavioral and physiological factors. It can be concluded that the

behavioural factors are considered as the more prominent ones by the students, affecting their physiological and cognitive factors. This still aligns with Lang's Tripartite Model of Fear, suggesting all three types of factors are interconnected, affecting and being affected by each other.

CONCLUSION

In summary, the findings from this study highlight that public speaking anxiety (PSA) among university students is chiefly driven by cognitive fears, observable behavioural reactions, and marked physiological symptoms. The strong correlation between cognitive and behavioural factors, as well as between behavioural and physiological responses, suggests that anxiety is not only rooted in an individual's thoughts but also closely linked to observable actions and physical sensations.

In terms of teaching practice, these findings underscore the importance of a holistic pedagogical approach. Firstly, speaking assignments should be scaffolded, allowing students to build from low-risk to higher-risk speaking situations. Educators are encouraged to integrate explicit instruction on cognitive coping strategies—such as self-affirmation, mental rehearsal, or positive visualisation—alongside practical exercises that address physical and behavioural symptoms (e.g., controlled breathing, muscle relaxation, and gradual exposure through group activities).

Since behavioural factors (e.g., fidgeting, trembling and difficulty making eye contact) are both visible and strongly connected to physiological arousal, educators should prioritise creating supportive, low-threat classroom environments. This can be achieved by normalising PSA and encouraging risk-taking, peer support, and constructive feedback. Peer observations or reflective video recordings can also help students become aware of their behavioural tendencies and track progress over time.

Additionally, as cognitive and physiological symptoms are often interlinked, it is beneficial for teachers to explicitly discuss the normalcy of a racing heart or shaky hands, framing these responses as signs of engagement rather than failure. Building self-efficacy through positive reinforcement and opportunities for successful public speaking experiences should be embedded in curricula. Ultimately, training teachers to identify signs of PSA and to employ empathetic, evidence-based interventions will foster students' communication skills and overall confidence.

Future research on public speaking anxiety (PSA) should explore how students' experiences of anxiety evolve over time and respond to various interventions. Longitudinal studies like these that can track learners through multiple semesters could shed light on which strategies—such as mindfulness training, desensitisation, or new digital tools—are most effective for lasting confidence and anxiety reduction. Subsequently, assessing and comparing interventions would help educators identify the most beneficial programmes for diverse student needs.

Finally, it's important to examine the broader impact of PSA not just on academic performance, but also on career choices and professional readiness. As technology continues to reshape the education landscape, researchers should also investigate the role of innovations like virtual reality, gamified public speaking practice, and AI-powered feedback for safe, effective skill-building. By pursuing these directions, future studies will contribute meaningful strategies for supporting Malaysian university students.

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