

An Analysis of the Basis of Public Speaking Anxiety

Shafiyah Mohamad Khalil^{1*}, Musaddiq Mohamad Khalil², Ts. Dr. Muhamad Firdaus Ramli³, Fadly Dato' Mohamed Sharif⁴, Walid Muhammad Syafrein Effendi⁵, Noor Hanim Rahmat⁶

¹Akademi Pengajian Bahasa, Universiti Teknologi MARA, Shah Alam, Malaysia,

²Fakulti Seni Lukis dan Seni Reka, Universiti Teknologi MARA, Melaka, Malaysia,

³Fakulti Seni, Kelestarian dan Industri Kreatif, Universiti Pendidikan Sultan Idris (UPSI), Perak, Malaysia,

^{4,5}Fakulti Seni Lukis dan Seni Reka, Universiti Teknologi MARA, Melaka, Malaysia,

⁶Akademi Pengajian Bahasa, Universiti Teknologi MARA, Shah Alam, Malaysia

*Corresponding Author

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ABSTRACT

Glossophobia or public speaking anxiety is a prevalent issue experienced by many students when speaking in front of a large audience. Public Speaking Anxiety (PSA) is common among students, especially when they are required to perform well for the public speaking task. This study aims to find out students' perception of cognitive basis, behavioural basis, physiological basis and to examine whether there is any relationship between all three basis for public speaking anxiety. A quantitative study was done to analyse the basis of PSA by using the Public Speaking Anxiety Scale (PSAS) by (Bartholomay & Houlihan, 2016) to observe whether one type of anxiety influences the other. Three factors of PSA which are cognitive, behavioural and physiological were studied using a 5-point Likert Scale instrument consisting of 4 sections. Section A has 2 items on demographic profile. Section B has 8 items on Cognitive, section C has 4 items on Behavioural and section D has 5 items on Physiological. A purposive sample of 119 participants from a public university in Malaysia responded to the survey. The findings revealed that there is a strong positive correlation between the cognitive, behavioural and physiological basis of PSA and that each basis influenced the other. Furthermore, this study also found that the behavioural and physiological basis of PSA was more significant during than before or after the speech. Thus, it is crucial for higher education institutions to acknowledge and address PSA issues, especially for ESL and EFL learners, as the outcome affects their experiential learning.

Keywords: Public Speaking Anxiety (PSA), Bartholomay and Houlihan's Public Speaking Anxiety Scale (PSAS), English as a Second Language (ESL), English as a Foreign Language (EFL)

INTRODUCTION

The fear of speaking in front of a large crowd is daunting for those who have experienced public speaking anxiety. According to Grieve et al. (2021), a common term used to describe the fear of public speaking is glossophobia which is derived from the Greek word 'glōssa', meaning tongue, and 'phobos', meaning fear or dread. This fear is also known as Public Speaking Anxiety (PSA) and is undoubtedly most prevalent in language learners (Ibrahim et al., 2021). University students are among those who are required to present or talk in front of a crowd. The need to perform well for their presentation or speech causes PSA among the students (Rahmat, 2019). As a result, many researchers have investigated the factors behind PSA and some have even looked into the strategies used to overcome fear of speaking in public. However, PSA is still an ongoing issue for tertiary education students.

In Malaysia, it has been found that PSA is prevalent among students and it impacts their academic performance and possibly reduces their future career opportunities (Hashim & Musa, 2025; Bin et al., 2024). Asnaini et al. (2025) studied English as Foreign Language (EFL) students who lacked confidence in speaking class and found

that negative past experience as well as the psychological and emotional state of the students affected their ability in public speaking. The findings of Asnaini et al. (2025) study is relative to Bandura's (1977) view that negative past experience will affect a person's perception of their ability to perform well for future public speaking tasks.

Furthermore, Mora et al. (2025) researched on speech anxiety and found that complex tasks led to anxiety for students and it severely impacted the fluency of their second language speech. This indicates that the feeling of anxiety is a real issue among students that hinders their ability to perform well during public speaking. Bartholomay and Houlihan (2016) noted that PSA affects one in every five persons and that it limits the individual's ability to share thoughts or knowledge. Therefore, PSA remains a relevant issue to be studied and one of the angles worth looking into is the basis of PSA.

Essentially, many studies have looked into the various factors of PSA among university students worldwide. However, it remains an ongoing issue that requires further research. This is because many studies so far have focused on the factors of PSA in isolation and little is known about the correlation between different factors. Thus, this study aims to fill in the gap by answering the following questions;

- i. How do students perceive cognitive basis in public speaking anxiety?
- ii. How do students perceive behavioural basis in public speaking anxiety?
- iii. How do students perceive physiological basis in public speaking anxiety?
- iv. Is there a relationship between all basis in public speaking anxiety?

LITERATURE REVIEW

Social Cognitive Theory and PSA

Bandura (1986) introduced the Social Cognitive Theory (SCT) with the view that learning takes place through social interaction as human beings learn by observing one another and through imitation. This learning process occurs specifically through an active interplay between an individual's personal factors (cognitive), their environment (situational factors) and the behaviour of other people involved (behavioural). In relation to PSA, Bandura's social cognitive theory provides an understanding of how public speaking anxiety is a result of an individual's own thought and perception of public speaking (cognitive), thoughts on the environment or audience (situational) and the individual's own past public speaking experiences (behavioural). In addition, Bandura (1977), proposed four factors that affect a person's self-efficacy which are enactive, vicarious, exhortative and emotive sources of cognitive processes. These factors when found in a speaker's past experience will frame their perception of future performance in public speaking. Ultimately, the active processes encompassing internal and external factors during public speaking can all lead to public speaking anxiety for the speaker.

Factors of PSA

There are several factors of PSA mentioned by different experts. These factors range from internal factors, such as personal cognitive factors experienced internally, to external factors, like the audience or environment. In Malaysia, Ibrahim et al. (2021) looked into public speaking anxiety among Malaysian undergraduate students and found several factors that led to PSA. These factors included cognitive and behavioural factors such as nervousness (internal) and audience size (external). Meanwhile, Grieve et al. (2021) studied university students in the United Kingdom and found that internal factors of PSA such as 'uncertainty about the topic' and external factors like 'fear of being judged' contributed to students' negative learning experience. More recently, Thi Thuy Lin et al. (2025) surveyed university students in Vietnam and discovered that the fear of being evaluated negatively was the main factor of PSA for them. Essentially, many studies have looked into the various factors of PSA among university students worldwide. Hashim & Musa (2025) suggested that future studies on public speaking anxiety are crucial in order to corroborate the findings in the knowledge area. The factors investigated by researchers established concerns in higher education learning on Public Speaking Anxiety among EFL and ESL undergraduates in public universities.

Past Studies on PSA

Many studies have been done to investigate the causes of public speaking anxiety (PSA). The studies explore the different method approaches, such as qualitative, quantitative, as well as mixed-method. Nevertheless, the studies

highlight factors to delve into as strategies in overcoming PSA among EFL and ESL undergraduates in public universities.

Firstly, Ch'ng et al. (2025), conducted a mixed-method study on Exploring ESL Public Speaking Anxiety Among Undergraduates. 65 undergraduate students from a public university participated in the study. The data were collected using a questionnaire instrument, which employed the Public Speaking Classroom Anxiety Scale (PSCAS), and then the data was analysed using thematic analysis to examine the cause of common anxiety-inducing situations. The findings found that significant factors that contributed to PSA were negative evaluation and communication apprehension. Additionally, the study suggested a supportive learning environment that builds the students' comfort levels and reduces fear, may foster confidence in oral PSA communication.

Next, the study by Thi Thuy Lin et al. (2025), also looked at factors regarding PSA among EFL undergraduates. 135 undergraduate students from a public university participated in the study. The data was collected using a questionnaire as the instrument. The findings revealed psychological factors contributing to PSA and the effectiveness of public speaking training in overcoming anxiety. Additionally, this study implied that the core factor of social anxiety is learners experiencing substantial fear of negative evaluation during public speaking.

Ibrahim et al. (2021) conducted a quantitative study on exploring the fear of public speaking through social cognitive theory. A number of 171 participants responded to the study, who were undergraduates from a public university. The data was collected using a questionnaire instrument consisting of four sections: demographic profiles, situation factors, cognitive factors, and behavioural factors. The findings revealed that physical symptoms such as shaking hands were experienced by students during public speaking and oral presentations as a sign of fear. This anxiety directly affected their public speaking experience, negatively impacted their learning and resulted in 'fear of being judged' as an innate fear. Additionally, it was reported that anxiety is linked to factors such as the size of the audience, leading to nervousness among the participants.

Subsequently, a qualitative study conducted by Grieve et al. (2021) on students' fear of oral presentations and public speaking in higher education, found that factors contributing to specific fear in public speaking are linked to the negative effect on their higher education experience. 46 participants from undergraduate and postgraduate students from the selected public university responded to the four open-ended qualitative survey questions regarding fears, strategies, experience, and awareness in delivering public speaking anxiety. The thematic analysis identified six themes: fear of being judged, physical symptoms, uncertainty about the topic, negative effect on university experience, practice and preparation, and more practical support needed.

Last but not least, Rahmat (2025) carried out a quantitative pilot study on the influence of beliefs and expectations on PSA. The instrument used was a five Likert scale survey with items replicated from Bartholomay & Houlihan's (2016) PSA. The study found relationships between beliefs and expectations and behaviour as sources of public speaking anxiety.

Overall, several past studies have been conducted to investigate the causes of public speaking anxiety (PSA), applying different research approaches such as mix-method, qualitative, and quantitative in highlighting the contributing factors: negative evaluation and communication apprehension, psychological factors linked to fear of negative evaluation, size of audience leading to nervousness, and impact which links public speaking fear towards experience of higher education learning (Ch'ng et al., 2025; Thi Thuy lin et al., 2025; Ibrahim et al., 2021; Grieve et al., 2021). Hence, an analysis on the basis of public speaking anxiety (PSA), regarding factors of Cognitive basis, Physiological basis, and behavioural basis, corroborates the findings on the growing body of literature relating to PSA factors stated.

Conceptual Framework of the Study

According to Spielberger (1986), the fear people face gets its source from state or trait anxiety. Trait anxiety refers to the person's behaviour while state refers to the environment that the person is in. The conceptual framework of this study is presented in figure 1 below. Does one type of anxiety influence the next type? This study is rooted from the factors of public speaking anxiety by Bartholomay & Houlihan (2016). There are three basis for public speaking anxiety. The first basis is cognitive where speakers lack confidence in speaking. The

speaker could also be worried that the audience would think they are not good speakers. The next basis is behavioural. Among some indications of behavioural basis is that the speaker was seen fidgeting when speaking. The speaker’s voice could also tremble. The last basis is physiological basis. The speaker may complain of falling sick before the speech. Next, the speaker may feel tense before giving the speech or sweat during the speech. This study also explores if there is a relationship between all bases in public speaking anxiety as shown in figure 1 below.

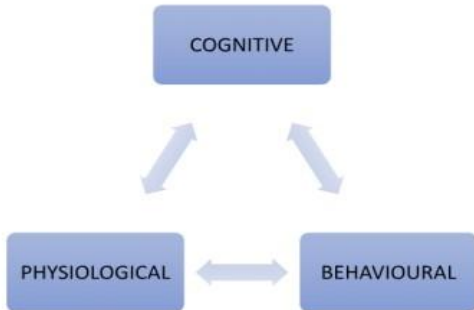


Figure 1- Conceptual Framework of the Study

Is there a relationship between all basis of public speaking anxiety?

METHODOLOGY

A quantitative study is done to explore the relationship between all basis of public speaking. A convenient sample of 119 participants responded to the survey. The instrument used is a 5 Likert-scale survey. Table 1 below shows 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.

Table 1 Likert Scale Used

No	Category
1	Never
2	Rarely
3	Sometimes
4	Very Often
5	Always

Table 2 shows the distribution of items in the survey. This study is replicated from the instrument by Bartholomay and Houlihan (2016) to reveal the variables in the table below. Section B has 8 items on Cognitive factors, section C has 4 items on Behavioural factors and section D has 5 items on physiological factors of PSA.

Table 2 Distribution of Items in the Survey

No	Variable	Sub-category	Cronbach Alpha
B	COGNITIVE	8	.909
C	BEHAVIOURAL	4	.791
D	PHYSIOLOGICAL	5	.861
	Total Items	17	.939

Table 2 also shows the reliability of the survey. The analysis shows a Cronbach alpha of .909 for Cognitive factors, .791 for Behavioural factors and .861 for Physiological factors. The overall Cronbach alpha for all 17 items is .939; thus, revealing a good reliability of the instrument used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

RESULTS AND DISCUSSION

Demographic Analysis

This section presents the demographic analysis of the respondents involved in this study.

Table 3 Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	37%
		Female	63%
2	Self-Rating English Proficiency	Can communicate in English	94%
		Cannot communicate in English	6%

Table 3 shows the percentages for the demographic profile of the respondents involved in this study. The study sample consisted of 119 respondents from a public university in Malaysia, with 63% female and 37% male. The respondents self-rated their English proficiency with 94% claiming that they can communicate in English and the remaining 6% claiming that they cannot communicate in English.

Descriptive Statistics (mean)

Findings for Cognitive Basis

This section presents data to answer RQ1: How do students perceive cognitive basis in public speaking anxiety?

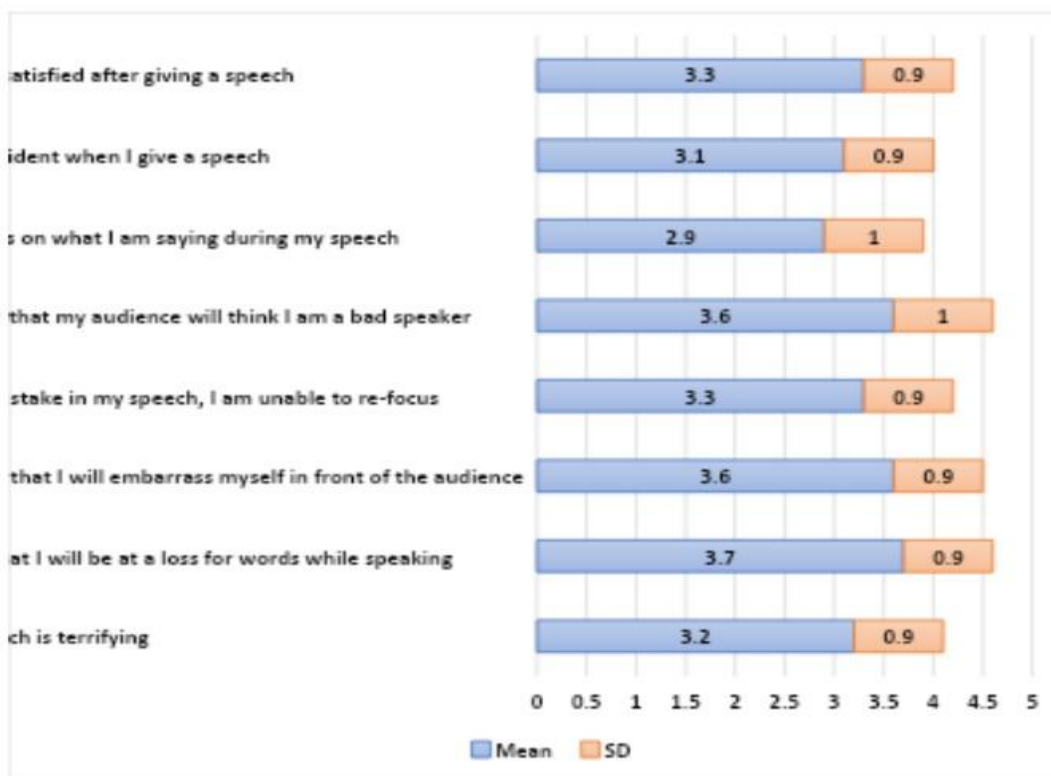


Figure 2 Mean for Cognitive Basis

Figure 2 shows the mean for cognitive basis. The highest mean is 3.7 for item BCQ2 (mean=3.7, SD=0.9) which reports that the learners are afraid that they will be at a loss for words during their speech. Next is item BCQ3 (mean=3.6, SD=0.9) which states that the learners were nervous that they might embarrass themselves in front of the audience. The lowest mean is 2.9 for item BCQ6 (mean=2.9, SD=1.0) that states that the learners cannot focus on what they were saying during their speech.

Findings For Behavioural Basis

This section presents data to answer RQ2: How do students perceive behavioural basis in public speaking anxiety?

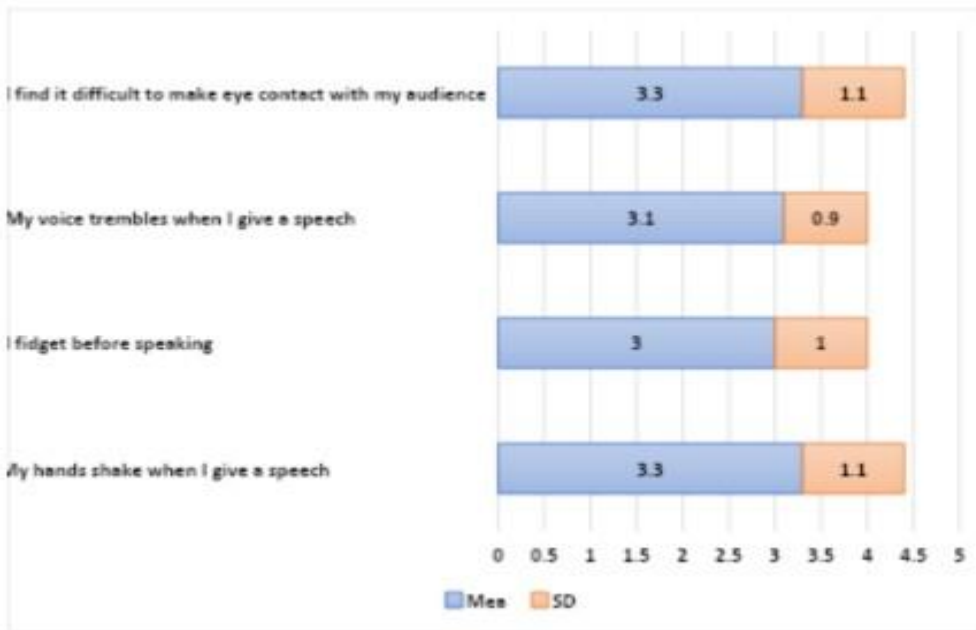


Figure 3 Mean for Behavioural Basis

Figure 3 shows the mean for behavioural basis. Two items share the same highest mean of 3.3. The first is item 1 (mean=3.3, SD=1.1) which reports that the learners’ hands shook when they gave a speech. Next is item 4 (mean=3.3, SD=1.1) which states that the learners found it difficult to make eye contact with the audience.

The lowest mean is 3 for item 2 (mean=3, SD=1.0) that states that the learners fidgeted before they gave a speech.

Findings For Physiological Basis

This section presents data to answer RQ3: How do students perceive physiological basis in public speaking anxiety?

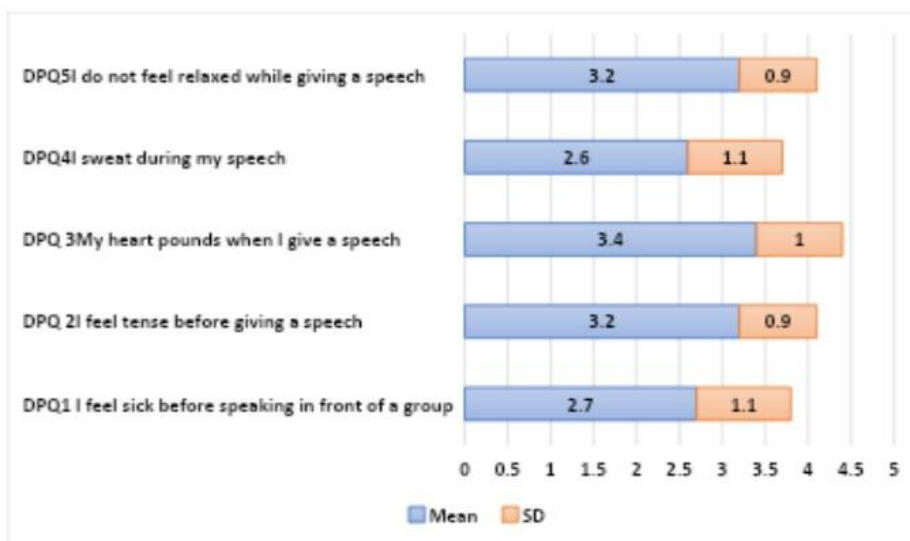


Figure 4 Mean for Physiological Basis

Figure 4 shows the mean for physiological basis. The highest mean is 3.4 for item DPQ3 (mean=3.4, SD= 1.0) which reports that when giving their speech, the learner's heart pounded as a physiological basis of PSA. Next is

item DPQ2 and DPQ5 with the same mean and standard deviation of (mean 3.2, SD= 0.9), which reports that the learners feel tense before giving speech (DPQ2), and they do not feel relaxed while giving the speech (DPQ5). Followed by the mean 2.7 for item DPQ1 (mean=2.7, SD=1.1) which reports that the learners feel sick before speaking in front of a group. The lowest mean is 2.6 for item DPQ4 (mean=2.6 SD= 1.1), the learners sweat during their presentation speech.

Exploratory Statistics

Findings For Relationship Between All Basis In Public Speaking Anxiety

This section presents data to answer RQ 4: Is there a relationship between all basis in public speaking anxiety?

To determine if there is a significant association in the mean scores between all basis in public speaking anxiety, data is analysed using SPSS for correlations. Results are presented separately in table 4, 5 and 6.

Table 4 Correlation between Cognitive and Behavioural Basis

		COGNITIVE	BEHAVIOURAL
COGNITIVE	Pearson (Correlation)	1	.739**
	Sig(2-tailed)		.000
	N	119	119
BEHAVIOURAL	Pearson (Correlation)	.739**	1
	Sig(2-tailed)	.000	
	N	119	119

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

Table 4 shows there is an association between cognitive and behavioural basis. Correlation analysis shows that there is a high significant association between cognitive and behavioural basis ($r=.739^{**}$) 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 basis.

Table 5 Correlation between Behavioural and Physiological Basis

		BEHAVIOURAL	PHYSIOLOGICAL
BEHAVIOURAL	Pearson (Correlation)	1	.660**
	Sig(2-tailed)		.000
	N	119	119
PYHSIOLOGICAL	Pearson (Correlation)	.660**	1
	Sig(2-tailed)	.000	
	N	119	119

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

Table 5 shows there is an association between behavioural and physiological basis. Correlation analysis shows that there is a high significant association between behavioural and physiological basis ($r=.660^{**}$) 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 basis.

Table 6 Correlation between Physiological and Cognitive Basis

		PHYSIOLOGICAL	COGNITIVE
PHYSIOLOGICAL	Pearson (Correlation)	1	.742**
	Sig(2-tailed)		.000
	N	119	119
COGNITIVE	Pearson (Correlation)	.742**	1
	Sig(2-tailed)	.000	
	N	119	119

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

Table 6 shows there is an association between physiological and cognitive basis. Correlation analysis shows that there is a high significant association between physiological and cognitive basis ($r=.742^{**}$) 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 physiological and cognitive basis.

CONCLUSION

Summary of Findings and Discussions

This section presents the summary and discussion of findings according to the research questions:

How do students perceive cognitive basis in PSA?

The findings showed that most students were aware of the cognitive factor of PSA in which a majority of the students feared that they would be at a loss for words during their public speech. This indicates that personal factors such as fearing that they might not be able to think of what to say affects students' public speaking ability and results in students having PSA even before they give the speech. In contrast, a small number of students reported that they were unable to focus on what they were saying during their speech.

This finding is consistent with Bartholomay and Houlihan's (2016) cognitive basis for public speaking anxiety in which the speakers lacked confidence because they are concerned with being evaluated negatively by the audience. Thus, it can be concluded that the internal thought of receiving negative judgement affected student's self-efficacy in this study and this is supported by similar findings from other previous studies (Ch'ng et al., 2025; Thi Thuy lin et al., 2025; Ibrahim et al., 2021; Grieve et al., 2021).

How do students perceive behavioural basis in PSA?

The findings revealed that most students noticed that their hands shook when they were delivering their speech and were reluctant to make eye contact with the audience. This behaviour reflects that the students felt anxious during their public speaking and their feeling is noticeable in their actions. In comparison, only a small number of students reported that they fidgeted before delivering their speech.

This finding is similar to the findings of Ibrahim et al. (2021) in which students' hands shook as a sign of behavioural basis of PSA. However, fidgeting was only reported by a few students and hence differs from the findings of Bartholomay and Houlihan (2016). Significantly, it is also worth noting that the behavioural basis of PSA in this study was more prominent during the speech than before or after the public speech. Therefore, it can be concluded that there is a clear link between behavioural basis and students' feeling of anxiety during public speaking.

How do students perceive physiological basis in PSA?

The findings reflected that most students were aware of the physical factors of PSA. The majority of the students reported that their heart pounded when they were speaking in public. This signifies that the students were really

anxious during their public speaking that it caused palpitations. On the other hand, a relatively small number of students reported that they were sweating during their speech.

This finding supports the findings by Rahmat (2025) in which the students' heartbeat became noticeably strong and irregular during public speaking as a result of their anxiety. Hence, it can be concluded that there is a proven link between physiological factors and PSA.

Is there a relationship between all basis in PSA?

The findings indicated that there is a strong positive correlation between all basis of public speaking anxiety which are cognitive basis, behavioural basis and physiological basis.

This finding proves that full triangle relationship between all three factors of PSA. In particular, the cognitive basis of PSA in which students feared negative judgement through 'at a loss for words while speaking' strongly relates with the behavioural basis of PSA 'hands shaking when giving a speech', and behavioural basis of PSA strongly relates with the physiological basis of PSA 'heart pounds when giving a speech' and this relates with the cognitive basis of PSA. In short, all the basis of PSA strongly relates to one another in the form of a triangular cycle and it can be concluded that multiple factors simultaneously affect students during public speaking.

Implications and Suggestions for Future Research

Theoretical and Conceptual Implications

This study highlights the importance of Bandura's Social Cognitive Theory in understanding the basis of Public Speaking Anxiety among ESL and EFL learners. The data demonstrate that the items factors of cognitive basis in thinking and perception, situational environment, and behavior in past experience together do corroborate rather than exist in isolation, showing dynamic interactions throughout the process. The findings indicate that most of the students were aware of cognitive public speaking anxiety, and internal as well as external factors do take place, as aligned with Bandura's theory (1986). In addition, the findings of this study lend support to Bartholomay and Houlihan's (2016) framework on factors regarding the cognitive, behavioral, and physiological basis. Moreover, the findings indicate the triangular cycle relationship between the factors mentioned, correlating towards a strong positive relationship between cognitive basis, behavioural basis, and physiological basis. Hence, it is crucial for higher education institutions to acknowledge PSA issues, especially for ESL and EFL learners, as the outcome affects their experiential learning.

Pedagogical Implications

The findings of this study have several implications for improving public speaking teaching and learning practices. First, there is a need for teachers to increase speaking activities in the classroom several times before a public speaking assessment or presentation. This will help reduce students' anxiety as practice not only makes perfect but each practice is a valuable experience that students can benefit from and possibly improve their self-efficacy in public speaking. This study serves as evidence that prior experiences of public speaking influences students' perception of their own ability in delivering a speech in front of a crowd such as mentioned by Bandura (1977).

Second, teachers can also include PSA as a topic to be introduced in public speaking classes. This exposure will enable students to learn from the factors of PSA and benefits from the strategies to overcome PSA during their speech. In addition, sharing sessions can also be included in the lesson in which students are able to share their thoughts or experiences of PSA as well as learn from other people's experiences.

Last, teachers can also include warm up sessions before speaking class activities such as sharing a fun fact, telling a short story or even singing a chorus from a popular song. This will reduce students' fear of public speaking as they get to build a positive engagement with their audience even before presenting their speech.

Suggestions for Future Research

Future research could explore a wider range of factors contributing to public speaking anxiety. It would also be valuable to investigate effective speakers, specifically examining the positive beliefs and expectations they hold that may contribute to successful speech outcomes. Subsequent research could build upon demographic findings by exploring variables such as gender differences and the impact of language proficiency on anxiety levels. Moreover, incorporating qualitative data such as open-ended responses or interviews could enrich the results and offer a more nuanced understanding of students' subjective experiences.

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