Demographic and linguistic predictors of ESL classroom speaking anxiety among Malaysian undergraduates

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ARTICLE INFO

ABSTRACT

Speaking anxiety remains one of the most persistent affective barriers to effective language teaching, particularly in multilingual English as a Second Language (ESL) contexts. This study investigated the levels and predictors of ESL classroom speaking anxiety among 320 Malaysian undergraduates enrolled in English language courses across multiple campuses. Using a cross-sectional quantitative design, data were collected through a modified version of the Foreign Language Classroom Anxiety Scale (FLCAS) and analysed using descriptive statistics, ordinal regression, and nonparametric tests in SPSS. The results revealed a nearly equal distribution of low (34.7%), moderate (35.0%), and high (30.3%) anxiety levels. Gender, ethnicity, first language, and SPM English grade emerged as significant predictors of anxiety. Female, non-English speaking, and lower-proficiency students reported higher anxiety levels, while students who spoke English at home or achieved higher grades in SPM English demonstrated lower anxiety. These findings underscore the importance of recognising linguistic and sociocultural diversity when designing classroom strategies to support oral language confidence. The study highlights the need for targeted pedagogical interventions that create inclusive, low-anxiety environments to enhance speaking performance and learner engagement in ESL classrooms.

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1.   INTRODUCTION

Anxiety in second language learning, particularly in oral communication, remains one of the most pervasive affective challenges faced by English as a Second Language (ESL) learners. Among the affective variables influencing language acquisition, foreign language anxiety (FLA) has been shown to significantly impede learners' willingness to communicate, self-confidence, and overall performance (Horwitz et al.,1986; MacIntyre & Gardner, 1991). In ESL contexts, speaking anxiety—the apprehension associated with producing speech in the target language—has received sustained attention due to its direct influence on communicative competence and academic achievement (Liu & Jackson, 2008; Tóth, 2010).

In Malaysia, English plays a central role in higher education and employment, serving as a key medium of instruction and a vital skill for global participation. Despite extensive exposure to English instruction, many Malaysian undergraduates continue to report difficulty in speaking English confidently in classroom settings (Manan et al., 2023; Miskam & Saidalvi, 2014). This persistent anxiety limits oral participation, hinders fluency development, and negatively affects academic self-efficacy.

The study draws on Krashen's (1982) Affective Filter Hypothesis and Bandura's (1986) Social Cognitive Theory. Krashen (1982) posits that emotional variables, such as motivation, confidence, and anxiety, act as filters that either facilitate or obstruct language acquisition. High anxiety raises the affective filter, restricting input processing and output performance. Bandura's framework complements this by emphasising self-efficacy and reciprocal interactions between cognitive, behavioural, and environmental factors. Learners' linguistic backgrounds, academic experiences, and sociocultural contexts therefore shape their confidence in English-speaking situations and influence anxiety levels.

Malaysia's multilingual environment offers a unique context for examining speaking anxiety. Learners navigate between Malay, English, and various regional or indigenous languages within a complex linguistic ecology (Gill, 2014). While multilingualism can enhance metalinguistic awareness, it may also heighten anxiety when English is perceived as a prestige language associated with academic judgment and social mobility. Sociocultural factors such as gender norms, ethnic identity, and regional educational disparities further shape learners' affective experiences (Xu, 2025).

This study advances Malaysian ESL research by examining speaking anxiety among underrepresented indigenous student populations and integrating demographic, linguistic, and institutional predictors within a single quantitative framework using both ordinal regression and structural equation modelling. These approaches allow for nuanced analysis of moderation effects, revealing patterns not previously documented in Malaysian tertiary contexts.

1.1   Problem statement

Although Malaysia is widely recognised as a multilingual society with sustained English exposure, speaking anxiety among undergraduates remains prevalent. Existing studies have often examined FLA descriptively or focused on isolated variables such as general proficiency or self-reported confidence (Manan et al., 2023; Zamri & Hashim, 2023). However, few studies have systematically integrated demographic (e.g. gender, ethnicity), linguistic (e.g., language spoken at home), and educational predictors (e.g., SPM English results) within a unified quantitative framework.

This gap is significant because Malaysian multilingualism may both support and complicate English use. English's status as a high-stakes academic and socioeconomic language can intensify fear of negative evaluation, particularly among students from non-English-speaking home environments or lower prior achievement backgrounds. Without identifying which factors most strongly predict classroom speaking anxiety, pedagogical interventions risk remaining general rather than targeted. Therefore, a comprehensive analysis integrating demographic, linguistic, and academic variables is necessary to clarify the relative strength of these predictors and to inform evidence-based instructional strategies.

1.2 Objectives of the study

This study aims to:

1. determine the distribution of ESL speaking anxiety levels among Malaysian undergraduates.
2. examine the influence of demographic and linguistic characteristics on speaking anxiety
3. identify the strongest predictors of speaking anxiety using ordinal regression analysis.

Theoretically, the findings extend affective and social cognitive frameworks into a multilingual Southeast Asian context. Pedagogically, they inform differentiated classroom practices that account for gender variation, linguistic diversity, and proficiency-related anxiety. Ultimately, the study advocates for emotionally supportive learning environments that foster confidence and authentic English communication.

2. LITERATURE REVIEW

2.1 Conceptualising ESL classroom speaking anxiety

Speaking anxiety, a domain-specific form of foreign language anxiety (FLA), has long been recognised as a significant affective barrier to second language (L2) learning (Horwitz et al.,1986; MacIntyre & Gardner, 1991). It encompasses the fear, nervousness, or apprehension experienced when communicating orally in a second language. Symptoms may include physiological reactions (e.g., trembling), cognitive disruptions (e.g., negative self-talk), and behavioural avoidance (e.g., reluctance to speak) (Young, 1991; Tóth, 2010). In classroom contexts, anxiety often arises from evaluation pressure, peer comparison, or corrective feedback (Horwitz, 2016). This can reduce learners' willingness to communicate, accuracy, and fluency (Liu & Jackson, 2008). Sociocultural factors such as accent discrimination and identity concerns also intensify anxiety in multilingual settings (Mahmoodzadeh, 2012; Park & French, 2013). Krashen's (1982) Affective Filter Hypothesis and Bandura's (1986) Social Cognitive Theory jointly explain how emotional and contextual factors influence language learning. Anxiety raises the affective filter, reducing input processing, while self-efficacy moderates how learners interpret and respond to stress in communicative tasks.

2.2 Language anxiety and academic performance

Empirical research consistently shows a negative relationship between language anxiety and academic achievement. High anxiety levels are associated with reduced fluency, pronunciation accuracy, and test performance (Aida, 1994; MacIntyre & Gardner, 1994). Meta-analytic evidence confirms anxiety as a strong predictor of proficiency across language domains (Teimouri et al., 2019). In Asian contexts, cultural expectations surrounding face-saving and error avoidance amplify speaking anxiety (Liu & Jackson, 2008; Subasi, 2010). Malaysian studies have found similar trends, where fear of negative evaluation suppresses oral participation (Manan et al., 2023; Miskam & Saidalvi, 2014). Nonetheless, anxiety effects differ across learner groups, underscoring the need to examine demographic and contextual moderators (Xu, 2025).

2.3 Demographic predictors of speaking anxiety

Gender remains one of the most frequently examined predictors of language anxiety. Numerous studies report that females experience higher levels of speaking anxiety, often attributed to heightened self-monitoring, sociocultural expectations, and greater concern over linguistic accuracy (Park & French, 2013; Tóth, 2010). Malaysian findings echo this trend, with female students expressing stronger apprehension regarding grammar and pronunciation (Manan et al., 2023). However, other research suggests that gender

differences may diminish with increased English exposure and communicative practice (Zamri & Hashim, 2023).

These contrasting findings suggest that gender may not function as a fixed predictor but rather as a context-sensitive variable influenced by proficiency, exposure, and classroom environment. From a social cognitive perspective (Bandura, 1986), gender differences in anxiety may reflect variations in self-efficacy beliefs rather than inherent disparities. Thus, gender may predict baseline anxiety levels while interacting with linguistic experience over time.

Age and academic level also influence anxiety. Younger learners often show lower anxiety due to reduced self-consciousness, whereas older students may experience heightened anxiety linked to academic evaluation (Gregersen & Horwitz, 2002; Khattak et al., 2011). In Malaysian universities, advanced students tend to report higher anxiety due to increased academic expectations.

Ethnicity similarly reflects sociolinguistic positioning within Malaysia's multilingual ecology. Students from majority linguistic backgrounds may demonstrate lower anxiety due to greater exposure or sociocultural alignment with institutional norms, while minority groups with limited English use may report higher anxiety (Gill, 2014; Miskam & Saidalvi, 2014). However, few studies examine whether ethnicity moderates the impact of proficiency or home language on anxiety. This raises the question of whether ethnicity predicts anxiety independently or whether its influence operates indirectly through exposure and self-efficacy mechanisms.

2.4   Linguistic predictors of speaking anxiety

Home language and prior proficiency consistently emerge as strong predictors of speaking anxiety. Students who frequently use English at home report lower anxiety and stronger communicative confidence (Mahmoodzadeh, 2012), while those from non-English-speaking households may perceive English as evaluative and high-stakes (Tanveer, 2007). Proficiency indicators, such as *Sijil Pelajaran Malaysia* (SPM) English grades, are inversely associated with anxiety in Malaysian contexts (Zamri & Hashim, 2023), reinforcing meta-analytic evidence that anxiety and achievement are negatively correlated (Teimouri et al., 2019).

Institutional variables further shape affective responses. Assessment-heavy courses and public speaking requirements intensify anxiety (Horwitz, 2016; Subasi, 2010), whereas supportive classroom climates mitigate it (Xu, 2025). Taken together, demographic, linguistic, and institutional factors appear interrelated rather than independent.

Despite extensive documentation of individual predictors, Malaysian studies have largely employed descriptive analyses or isolated correlational designs. Few have integrated demographic (e.g., gender, ethnicity), linguistic (e.g., home language), and academic (e.g., SPM results) variables within a unified multivariate framework capable of estimating their relative predictive strength. Moreover, structural equation modelling (SEM) or regression-based approaches remain underutilised in Malaysian ESL anxiety research, limiting understanding of how these variables interact.

Accordingly, there is a clear need for a comprehensive quantitative model that simultaneously examines demographic and linguistic predictors to determine their independent and combined effects on ESL classroom speaking anxiety. Addressing this gap enables a more precise identification of high-risk groups and strengthens the theoretical integration of affective and social cognitive frameworks within Malaysia's multilingual higher education context.

2.5   Research model

Drawing on the Affective Filter Hypothesis (Krashen, 1982) and Social Cognitive Theory (Bandura, 1986), this study proposes a research model in which demographic, linguistic, and educational factors predict ESL classroom speaking anxiety among Malaysian undergraduates.

Based on the reviewed literature, gender and ethnicity are conceptualised as demographic predictors that may influence baseline anxiety levels through sociocultural expectations and identity positioning (Gill, 2014; Park & French, 2013). Linguistic background variables, including home language use and prior proficiency (SPM English results), are expected to exert direct effects on anxiety by shaping self-efficacy and communicative confidence (Aida, 1994; Zamri & Hashim, 2023). Institutional context (e.g., programme type) may further condition affective responses.

In line with Bandura's (1986) reciprocal determinism framework, these variables are assumed to interact indirectly through self-efficacy mechanisms, although the present study focuses primarily on their predictive strength using ordinal regression analysis. Figure 1 presents the proposed research model.
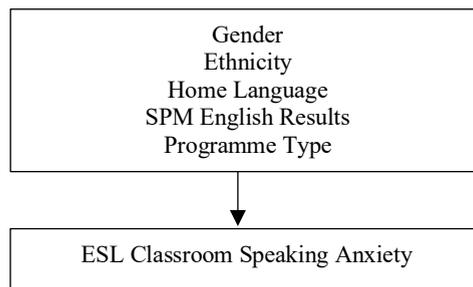

Figure 1. Proposed model of predictors of ESL classroom speaking anxiety
Note. The model is grounded in Krashen's (1982) Affective Filter Hypothesis and Bandura's (1986) Social Cognitive Theory. Demographic, linguistic, and educational variables are conceptualised as direct predictors of ESL classroom speaking anxiety. The relationships are tested using ordinal regression analysis
Source: Author's own

2.6   Hypotheses development

Based on the proposed research model and prior empirical findings, the following hypotheses are formulated:

Demographic Predictors

H1:   Gender significantly predicts ESL classroom speaking anxiety among Malaysian undergraduates.

H2:   Ethnicity significantly predicts ESL classroom speaking anxiety among Malaysian undergraduates.

Linguistic Predictors

H3:   Students who use English as a primary home language report lower levels of ESL classroom speaking anxiety.

H4:   Higher SPM English results are associated with lower levels of ESL classroom speaking anxiety.

Educational Context

H5:   Programme type significantly predicts ESL classroom speaking anxiety.

3. METHODOLOGY

3.1 Research design

A quantitative, cross-sectional survey design was employed to examine demographic and linguistic predictors of ESL classroom speaking anxiety among Malaysian undergraduates. This design was appropriate because the study aimed to identify associations and predictive relationships rather than establish causal effects. While cross-sectional data limit causal inference, they are suitable for modelling contemporaneous relationships among affective and demographic variables (MacIntyre & Gardner, 1994).

Structural Equation Modelling (SEM) and moderation–mediation testing were conducted using AMOS to examine direct, indirect, and interaction effects. SEM was selected to assess the theoretical relationships grounded in Social Cognitive Theory (Bandura, 1986), particularly the potential mediating role of language-related variables. However, interpretations are limited to associative patterns rather than causal claims.

3.2 Participants and sampling rationale

The study involved 320 undergraduates from three UiTM campuses in Sarawak (Samarahan 1, Samarahan 2, and Mukah). Stratified random sampling ensured representation across gender, age, ethnicity, and academic programmes. The focus on UiTM Sarawak was deliberate for three reasons:

1. Linguistic Ecology: Sarawak represents one of Malaysia's most linguistically diverse regions, with substantial indigenous populations whose first languages differ markedly from English. This provides a meaningful context to examine minority-language anxiety predictors.
2. Institutional Consistency: Limiting the study to one university system reduces institutional variability (e.g., curriculum), thereby strengthening internal validity.
3. Research Gap: Much Malaysian ESL anxiety research has focused on urban western Malaysian populations. Indigenous undergraduates remain underrepresented in quantitative modelling studies.

The sample included Malay (39%)**,** Iban (23%)**,** Bidayuh (18%)**,** Melanau (9%), and smaller indigenous groups. While Chinese and Indian undergraduates were not proportionally represented due to UiTM's demographic composition, this study does not aim to generalise nationally but rather to examine anxiety predictors within a multilingual East Malaysian context. Future studies may compare public and private institutions across regions to test ethnic moderation effects.

Participants ranged from 18-22 years (M=19.7), 62.2% female (n=199), 37.8% male (n=121).

3.3 Instruments

Speaking anxiety was measured using an 8-item adaptation of Horwitz et al.'s (1986) Foreign Language Classroom Anxiety Scale (FLCAS), focusing specifically on oral communication anxiety. The reduction from 33 items to 8 items was justified for three. Firstly, the study specifically targeted speaking anxiety, not general test anxiety or classroom anxiety domains. Secondly, the short-form adaptations have been shown to maintain strong reliability while reducing respondent fatigue in survey-based research. Thirdly, pilot testing confirmed item clarity and internal consistency. The scale demonstrated strong reliability (Cronbach's $\alpha = 0.87$), exceeding the acceptable threshold of 0.70.

Percentile-based categorisation (33rd, 66th) divided respondents into low (8–21)**,** moderate (22–27)**,** and high (28–40) anxiety groups. While percentile cut-offs are sample-dependent, they were used to create balanced ordinal categories suitable for regression modelling.

A structured questionnaire collected demographic and linguistic data. SPM English grades were used as the standardised measure of English proficiency. This choice was justified because SPM is a nationally standardised examination. It provides objective, externally validated performance data. It also reduces self-report bias associated with perceived proficiency. Grades were coded numerically (A+=1, A=2, …E=7) for regression analysis.

3.4 Data collection and analysis procedures

Ethical approval was obtained from UiTM's *Jawatankuasa Etika Penyelidikan* (REC/01/2025 (ST/MR/6)) and Swinburne University's SUHREC (20258353-20475). Permission from the university's language department was obtained before data collection. Participants were informed about the study's purpose, its voluntary nature, and the confidentiality of their participation. Data collection occurred over six weeks across all campuses.

A priori analysis (G*Power, α = .05, power = .80, medium effect size f^2 = .15) indicated a minimum sample of approximately 150-200 participants for regression with five predictors. The final sample of 320 exceeded this threshold and met recommended SEM sample size guidelines (minimum 200 cases).

Data analysis was conducted using SPSS (v 28) and AMOS (v 24). The analysis proceeded in stages: descriptive statistics, Chi-square tests, ordinal regression, and SEM. Before conducting regression and SEM, diagnostic tests were performed. Multicollinearity was assessed using VIF (< 5 threshold). Normality was evaluated via skewness and kurtosis. Linearity and homoscedasticity were inspected. The proportional odds assumption was tested for ordinal regression. Model fit for SEM was evaluated using χ^2/df < 3.0, CFI $\geq$ 0.90, RMSEA $\leq$ 0.08.

4. RESULTS

4.1 Overview of ESL classroom speaking anxiety levels

Analysis of ESL classroom speaking anxiety scores (ESL_total) among 320 respondents revealed a range of 8-40, with the 33rd percentile at 22 and the 66th percentile at 27. Based on these percentile thresholds, respondents were categorised into three anxiety levels: low (8–21), moderate (22–27), and high (28–40).

As shown in Table 1, the distribution was relatively balanced: 34.7% of respondents exhibited low anxiety, 35.0% moderate anxiety, and 30.3% high anxiety. The modal range (24–28) contained the highest concentration of scores, suggesting that most students experienced mild to moderate anxiety during classroom speaking tasks. Approximately 76.3% of participants scored 28 or below, indicating that extreme anxiety was not uncommon, though a substantial portion still faced considerable apprehension.

Table 1. Distribution of ESL classroom speaking anxiety levels

Anxiety level	Score range	Frequency (N)	Percentage (%)
Low	8-21	111	34.7
Moderate	22-27	112	69.7
High	28-40	97	30.3
Total		320	100

Source: Summarised from SPSS output

These findings echo Horwitz (2016) and Liu and Jackson (2008), who noted that moderate anxiety is common among ESL learners due to linguistic insecurity and evaluative pressure. The balanced distribution implies a heterogeneous student population with diverse levels of confidence and English-speaking experience.

4.2　　Distribution by demographic and linguistic variables

Gender-based analysis revealed notable differences: 40.7% of male students reported low anxiety compared to 31.2% of females, while 33.7% of females reported high anxiety versus 24.6% of males. These results align with previous studies (Tóth, 2010; Park & French, 2013), suggesting that female learners tend to experience greater fear of negative evaluation and higher communication apprehension. Possible explanations include sociocultural expectations and differing self-efficacy perceptions—female students may internalise linguistic performance pressure more strongly. In contrast, male students may display greater confidence or less concern about making mistakes (Manan et al., 2023). These disparities underscore the importance of classroom strategies such as peer-based oral activities and supportive feedback to mitigate female students' anxiety.

Age-related trends indicated that 19-year-old students had the highest proportion of low anxiety (40.3%), while 20-year-olds exhibited the highest high anxiety rate (44.4%). This may reflect developmental transitions, as older students encounter increased academic demands and more complex oral tasks (Khattak et al., 2011).

Similarly, students' part of study correlated with anxiety: Part 1 students showed more moderate anxiety (39%), Part 2 students exhibited the highest low-anxiety proportion (50%), while Part 3 students demonstrated the highest high anxiety (36.8%). These findings support the view that academic progression and growing assessment pressure heighten linguistic apprehension (Gregersen & Horwitz, 2002). These results align with Social Cognitive Theory (Bandura, 1986), which posits that anxiety is influenced by self-efficacy beliefs and perceived task difficulty—factors that evolve with academic experience.

Ethnicity significantly influenced anxiety patterns. Malay students reported the lowest proportion of high anxiety (23%), whereas Iban (43.8%), Bidayuh (42.9%), and Melanau (40%) students exhibited higher levels. Minority groups, such as Kenyah (100%), demonstrated extreme anxiety, underscoring disparities linked to linguistic exposure and sociolinguistic dominance. These patterns align with Gill (2014) and Miskam and Saidalvi (2014), who observed that students from rural or non-Malay linguistic backgrounds often experience higher communicative anxiety due to limited English exposure. The present findings highlight the need for inclusive pedagogical approaches that value linguistic diversity and cultural identity in ESL instruction.

Students' linguistic background was a strong predictor of anxiety. Those who identified English as their first language reported the lowest high-anxiety rate (18.5%), while non-English first language speakers showed substantially higher levels (31.4%). Similarly, students who spoke English at home had lower anxiety (19.3%) than those speaking Iban (40.7%) or Bidayuh (40.0%). These findings support Tanveer (2007) and Mahmoodzadeh (2012), who found that regular English exposure enhances communicative confidence. In line with Krashen's (1982) *Affective Filter Hypothesis*, frequent engagement in English communication lowers anxiety through increased familiarity and authentic linguistic input.

A strong correlation was found between SPM English grades and anxiety levels. Students with A or A+ grades had the lowest high-anxiety rates (17.4%–35%), whereas those with C+ (42.3%) and C (47.4%) grades reported the highest. Students with E grades exhibited universally high anxiety (100%). These results corroborate MacIntyre and Gardner (1994) and Teimouri et al. (2019), who observed that proficiency inversely correlates with anxiety. High-performing learners demonstrate greater linguistic competence and reduced fear of negative evaluation, while low achievers often experience a reinforcing cycle of anxiety and limited participation.

Campus-based comparisons revealed that Mukah students experienced the lowest high anxiety (22.7%), while Samarahan 1 students showed the highest (35.4%). Institutional size, classroom culture, and teacher–student interaction likely contribute to these differences. Smaller campuses may provide more supportive environments that reduce anxiety (Xu, 2025).

Across English programmes, students in LCC112/ELC151 reported the highest proportion of low anxiety (53.3%), whereas those in LCC113/ELC231 experienced the highest high-anxiety rate (35.1%). Advanced programmes often require a higher level of oral proficiency, which can increase apprehension among less confident learners. These findings underscore the importance of scaffolding and affective support in advanced ESL courses.

Table 2 summarises the distribution of ESL speaking anxiety levels across key demographic variables. Clear patterns emerged across gender, age, ethnicity, and linguistic background, with female, older, and non-English-speaking students generally showing higher anxiety levels.

Table 2. Summary of ESL speaking anxiety levels by demographic variables (simplified)

Variable	Group	Low (%)	Moderate (%)	High (%)
Gender	Male	40.7	34.7	24.6
	Female	31.2	35.1	33.7
Age	18	32.8	39.1	28.2
	19	40.3	29.4	30.3
	20	22.2	33.3	44.4
Ethnicity	Malay	37.2	39.9	23.0
	Iban	27.4	28.8	43.8
	Bidayuh	23.8	33.3	42.9
	Melanau	32.0	28.0	40.0
	Other ethnic groups	45.0	35.0	20.0
First language	English	37.0	44.4	18.5
	Non-English	34.5	34.1	31.4
age spoken at home	English	42.9	37.8	19.3
	Malay	34.9	37.3	27.7
	Iban	32.6	26.7	40.0
	Bidayuh	33.3	26.7	40.0
SPM English grade	A	46.5	36.0	17.4
	B	25.0	36.1	38.9
	C & below	15.0	41.0	44.0
Part of study	Part 1	33.7	39.0	27.3
	Part 2	50.0	19.6	30.4
	Part 3	28.7	34.5	36.8
Campus	Samarahan 1	33.6	31.0	35.4
	Samarahan 2	32.7	35.5	31.8
	Mukah	38.1	39.2	22.7
English programme	LCC111/ELC121	32.8	38.8	28.4
	LCC112/ELC151	53.3	15.6	31.1
	LCC113/ELC231	28.4	36.5	35.1

Source: Summarised from SPSS output

4.3   Mediation analysis: Anxiety as a non-significant mediator

The mediation model examined whether ESL classroom speaking anxiety mediated the relationship between language-related factors (English programme, first language, multilingualism) and SPM English results. As shown in Table 3, the path from anxiety level → SPM English results was not significant (β = -0.001, p = 0.995). In contrast, the English programme (β = -1.119, p < 0.001) and speaking English as the first language (β = 0.752, p = 0.022) showed significant direct effects on English performance. Multilingualism at home had a marginal effect (β = 0.347, p = 0.059). These results indicate that anxiety did not mediate the relationship between language-related variables and academic performance. Instead, exposure to English and programme structure exerted direct effects on proficiency outcomes. This finding diverges from earlier studies (Aida, 1994; Liu & Jackson, 2008), which reported partial mediation, but supports Teimouri et al. (2019), who found that linguistic competence often outweighs affective factors in predicting exam-based English performance.

Table 3. Mediation analysis (direct and indirect effects)

Mediator path	Estimate (β)	S.E.	C.R.	p-value	Significance
English programme → SPM English results	-1.119	0.109	-10.282	<0.001	Significant
Speaking English as the first language at home → SPM English results	0.752	0.328	2.292	0.022	Significant
Multilingual at home → SPM English results	0.347	0.184	1.886	0.059	Marginal
Anxiety level → SPM English results	-0.001	0.114	-0.006	0.995	Not significant

Note: S.E. =standard error; C.R. =critical ration
Source: Summarised from AMOS output

4.4   Moderation analysis: Differential effects across demographic factors

Moderation analysis revealed that several demographic factors—specifically gender, campus, part of study, and age—significantly moderated the relationship between speaking anxiety and English performance (Table 4, Figure 2). These findings suggest that anxiety's impact on language achievement is context-dependent, varying across individuals and contexts.

Gender was a significant moderator (β = 0.415, p < 0.001), indicating that anxiety affected male and female students differently. Female students' performance declined more sharply with higher anxiety levels, consistent with research highlighting stronger fear of negative evaluation and self-consciousness among female learners (Tóth, 2010; Park & French, 2013).

Campus also moderated this relationship (β = –0.164, p < 0.001), suggesting that institutional climate and teaching practices shape how anxiety influences outcomes. Campuses that promote supportive and communicative classroom environments appear to buffer the detrimental effects of anxiety (Xu, 2025).

Part of the study was another significant moderator (β = –0.119, p = 0.002), showing that anxiety's adverse effect increased with academic progression. As students advance, rising expectations and more demanding tasks may heighten the performance pressure associated with speaking anxiety.

Age also moderated the anxiety–performance link (β = 0.259, p < 0.001). Older students demonstrated a stronger relationship between anxiety and achievement, possibly reflecting heightened academic or career-related stakes.

Conversely, ethnicity was not a significant moderator ($\beta = -0.025$, $p = 0.085$), indicating that while ethnic background influenced baseline anxiety levels, it did not substantially alter the strength of the anxiety–performance association.

Overall, these findings support Bandura's (1986) Social Cognitive Theory, which posits that affective experiences interact with personal and environmental factors to shape performance. They also affirm Krashen's (1982) Affective Filter Hypothesis, highlighting that anxiety's effects are contextually moderated rather than uniform.

Table 4. Moderation analysis (interaction effects)

Moderator path	Estimate (β)	S.E.	C.R.	p-value	Significance
Anxiety x Gender → SPM English results	0.415	0.053	7.894	<0.001	Significant
Anxiety x Ethnicity → SPM English results	-0.025	0.014	-1.724	0.085	Not Significant
Anxiety x Campus → SPM English results	-0.164	0.042	-3.936	<0.001	Significant
Anxiety x Part of Study → SPM English results	-0.119	0.038	-3.169	0.002	Significant
Anxiety x Age → SPM English results	0.259	0.047	5.550	<0.001	Significant

Note: S.E. = standard error; C.R. = critical ration
Source: Summarised from AMOS output

Fig. 2. Path diagram: Mediation and moderation effects.
Note. Direct effects = black arrow, red label = not significant
Source: Adopted from AMOS output

5. DISCUSSION

The findings provide a differentiated understanding of ESL classroom speaking anxiety within a Malaysian multilingual university context. The relatively balanced distribution of low, moderate, and high anxiety levels suggests that speaking anxiety is neither marginal nor uniformly experienced. Rather, it reflects layered interactions among demographic, linguistic, and institutional factors.

Unexpected campus and academic phase variations warrant deeper interpretation. Mukah campus recorded a comparatively lower proportion of high-anxiety students (22.7%). While smaller class sizes and closer lecturer-student relationships may partially account for this, structural sociolinguistic conditions may also be influential. Mukah's relatively homogeneous linguistic composition may reduce social comparison pressure and accent-based self-consciousness. In contrast, campuses with more linguistically heterogeneous cohorts may intensify perceived evaluation and intergroup comparison, elevating anxiety levels. This suggests that anxiety may not only reflect individual confidence but also peer ecology and perceived linguistic hierarchy.

Similarly, Part 2 students demonstrated the highest proportion of low anxiety (50%), contradicting linear development assumptions. This pattern may indicate an adaptation phase: initial university transition (Part 1) introduces evaluative stress, followed by stabilisation (part 2) as students develop coping strategies and familiarity with oral tasks. Anxiety may then resurface in later semesters due to increased presentation weight and academic stakes. This curvilinear pattern implies that speaking anxiety fluctuates across academic progression rather than steadily increasing or decreasing.

The non-significant mediation of anxiety on SPM English performance ($\beta = -0.001$, $p = .995$) suggests that structural language exposure exerts a stronger influence on standardised proficiency outcomes than current affective states. SPM grades reflect cumulative linguistic competence acquired over years of schooling, whereas classroom anxiety captures situational emotional responses. This distinction refines the interpretation of Krashen's Affective Filter Hypothesis. Rather than uniformly blocking acquisition, the filter may operate hierarchically: long-term exposure and proficiency shape formal examination outcomes, while anxiety more strongly influences real-time oral performance and participation. In exam contexts grounded in prior mastery, proficiency may dominate affective variables. The findings align more closely with Bandura's (1986) Social Cognitive Theory. Self-efficacy, formed through repeated mastery experiences, may buffer the behavioural consequences of anxiety. Thus, anxiety does not directly erode competence; rather, it interacts with perceived capability and contextual demands.

Consistent with Park and French (2013) and Tóth (2010), female students reported higher baseline anxiety. However, Zamri and Hashim (2023) observed narrowing gender gaps with increased exposure. The present findings integrate these perspectives by showing that gender predicted baseline anxiety but interacted with proficiency levels. This suggests that gender differences may be the strongest at lower proficiency levels but attenuate as mastery and exposure increase. Sociocultural norms surrounding error avoidance and communicative perfectionism may initially elevate female anxiety, but repeated exposure and competence-building may buffer these effects. Thus, gender should not be interpreted as a fixed predictor but as interacting with linguistic capital and classroom ecology.

Several methodological constraints warrant careful interpretation. The cross-sectional design limits causal inference; therefore, directional claims between anxiety and performance should be interpreted cautiously. Additionally, reliance on self-reported measures introduces potential common method bias. Because both predictors and outcome variables were collected via survey instruments, shared method variance may inflate moderation effects. Although diagnostic checks supported model stability, future research should incorporate behavioural assessments, performance-based oral measures, or longitudinal tracking to mitigate this limitation. The percentile-based categorisation of anxiety, while statistically practical for ordinal modelling, is sample-dependent and may reduce cross-study comparability. Future studies may retain continuous modelling approaches or validate cut-offs using external benchmarks.

6.   IMPLICATIONS AND RECOMMENDATIONS

6.1   Theoretical implications

The study extends affective models of second language acquisition by demonstrating that speaking anxiety operates not only as a direct predictor of classroom experience but also as a contextual moderator of communicative outcomes. The findings suggest a hierarchical affective mechanism in which structural proficiency and sustained language exposure exert stronger influence on examination-based outcomes, whereas anxiety primarily shapes situational communicative behaviour within classroom interactions. In this sense, the Affective Filter Hypothesis may be interpreted as context-sensitive rather than uniformly obstructive. Affective variables appear to exert differential influence depending on whether outcomes reflect cumulative proficiency or real-time performance demands.

Furthermore, the observed moderation effects align with Bandura's (1986) reciprocal determinism framework, in which affect, cognition, and environmental conditions interact dynamically. Anxiety did not uniformly predict poorer outcomes; instead, its influence varied across demographic and linguistic contexts. This suggests that speaking anxiety is relational and socially embedded rather than a stable deficit trait. By integrating demographic, linguistic, and institutional variables into a unified analytical model, the study contributes to a more ecologically grounded understanding of foreign language anxiety in multilingual higher education settings.

6.2   Policy recommendations

At the institutional level, universities such as UiTM could consider embedding affect-sensitive principles into the design and delivery of English communication curricula. Rather than conceptualising speaking anxiety solely as an individual weakness, institutional frameworks may recognise it as a developmental and contextual phenomenon shaped by classroom ecology and assessment structures. Curriculum design could incorporate scaffolded oral assessment models in which speaking tasks increase progressively in complexity and evaluative weight across semesters. Such structured progression may reduce abrupt performance pressure during early academic phases and support gradual confidence building.

In addition, universities could formalise professional development initiatives that equip lecturers with strategies for identifying anxiety indicators and implementing psychologically supportive pedagogies. Institutional policy may also promote inclusive multilingual practices that affirm indigenous and minority linguistic identities, positioning multilingualism as an asset within academic spaces rather than as a barrier to English proficiency.

At the national level, the findings suggest that the Ministry of Higher Education could consider integrating socio-emotional dimensions into ESL programme standards. Current benchmarks frequently prioritise measurable proficiency outcomes; however, incorporating affective well-being indicators into evaluation frameworks may promote more holistic language education practices. National-level support for campus-based speaking initiatives, such as debate forums, digital exchange platforms, and co-curricular communication programmes, could further normalise English use in low-stakes environments and reduce performance-related anxiety.

6.3   Pedagogical implications

At the classroom level, instructors play a central role in shaping the emotional climate of English learning environments. Psychologically supportive classrooms that prioritise communicative intent over error-free performance may reduce fear of negative evaluation and encourage risk-taking in oral communication. Structured scaffolding—from low-stakes pair discussions to formal graded presentations—can facilitate gradual confidence development and mitigate abrupt exposure to high-pressure speaking tasks.

Interventions should focus on strengthening learners' self-efficacy rather than framing high-anxiety students as deficient. Strategies such as peer mentoring, reflective language journals, staged formative feedback, and collaborative speaking tasks may enhance emotional regulation and promote adaptive coping mechanisms. Particular attention may be warranted for female and minority-language students who demonstrate higher baseline anxiety levels. Inclusive participation strategies and confidence-building practices embedded within routine instruction can help ensure equitable engagement across diverse learner groups.

6.4   Future research directions

Future research should adopt longitudinal designs to examine how speaking anxiety evolves across academic progression, particularly in light of the curvilinear patterns observed in this study. Tracking students across multiple semesters would allow researchers to determine whether anxiety stabilises, intensifies, or diminishes as linguistic exposure and academic demands change over time. Comparative studies involving public and private universities across East and West Malaysia would further clarify whether ethnicity–proficiency relationships and gender moderation effects vary across institutional contexts and sociolinguistic environments.

Methodologically, future investigations should incorporate multi-method approaches to reduce common method bias inherent in self-reported survey data. Behavioural observations, performance-based oral assessments, and physiological indicators of anxiety may provide more robust validation of affective constructs and strengthen causal inference. Experimental studies examining scaffolded oral assessment models or targeted self-efficacy interventions would offer stronger evidence regarding mechanisms underlying anxiety reduction. Additionally, research exploring the mediating role of multilingual identity affirmation may deepen understanding of how sociocultural belonging shapes affective experiences in ESL classrooms. These directions would allow for more precise testing of the hierarchical and reciprocal models proposed in the present study, thereby advancing both theoretical refinements and evidence-based educational practice.

7.   CONCLUSION

This study examined ESL classroom speaking anxiety among 320 Malaysian undergraduates, focusing on anxiety levels, demographic and linguistic predictors, and their mediating or moderating effects on English proficiency. The results revealed an almost even distribution of low (34.7%), moderate (35.0%), and high (30.3%) anxiety levels, confirming that speaking anxiety is both pervasive and varied across learners.

Significant demographic influences emerged: female students and those in advanced study levels reported higher anxiety, reflecting heightened performance expectations. Ethnicity and first language also shaped anxiety patterns, with minority-language students demonstrating greater apprehension, often due to limited exposure and sociocultural marginalisation. Conversely, students with higher SPM English grades and those who regularly used English at home reported lower anxiety, consistent with Krashen's (1982) Affective Filter Hypothesis, which posits that familiarity with linguistic input reduces emotional barriers to language acquisition. While anxiety did not mediate the relationship between linguistic background and English performance, it significantly moderated outcomes across gender, campus, part of study, and age—highlighting that anxiety interacts dynamically with learner profiles and contextual factors. These findings extend theoretical frameworks by illustrating a hierarchical and context-sensitive role of affective variables in language learning, supporting both Krashen's and Bandura's (1986) models of affective and self-efficacy processes.

Despite its comprehensive design, this study has several limitations. Its cross-sectional nature restricts causal inference, and reliance on self-reported data may introduce response bias. Future research should incorporate longitudinal designs, multi-method assessments, and intervention studies (e.g.,

mindfulness training, peer scaffolding) to explore anxiety trajectories and effective reduction strategies. Comparative investigations across Malaysian institutions or regions could further elucidate how sociolinguistic environments shape ESL speaking anxiety.

Overall, ESL classroom speaking anxiety among Malaysian undergraduates reflects a complex interplay of emotional, linguistic, and sociocultural factors. Moderate anxiety may be inevitable, but excessive anxiety can impede communicative participation and academic performance. Educators and institutions share responsibility for creating inclusive, psychologically safe learning environments where linguistic diversity is valued, and affective challenges are constructively managed. By addressing both affective and contextual dimensions, teachers can empower students to transition from hesitant speakers to confident communicators, supporting the broader goals of effective English language education.

8.   CONTRIBUTION OF AUTHORS

Kimberley Lau Yih Long conducted the empirical research, including data collection, data analysis, and interpretation of findings. She drafted the manuscript and led subsequent revisions. This manuscript is derived from her doctoral thesis. Professor Dr. Ida Fatimawati Adi Badiozaman conceptualised the study, contributed to the theoretical framework, and provided overall supervision of the research design and analytical approach. She critically reviewed the manuscript and contributed to its refinement. Associate Professor Dr. Hugh Joh Leong Yik Kian contributed to the research design and methodology, supervised the research process, and provided critical feedback on data analysis and interpretation. He also reviewed and contributed to revisions of the manuscript. All authors read and approved the final version of the manuscript.

10.   CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted in the absence of any self-benefit, commercial, or financial conflicts and declare that there are no conflicts of interest with the funders.

12.   REFERENCES

Aida, Y. (1994). Examination of Horwitz, Horwitz, and Cope's construct of foreign language anxiety: The case of students of Japanese. *The Modern Language Journal, 78*(2), 155–168. https://doi.org/10.2307/329005

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Prentice Hall. https://doi.org/10.4135/9781446221129.n6

Gill, S. K. (2014). *Language policy challenges in multi-ethnic Malaysia.* Springer. https://doi.org/10.1007/978-94-007-7966-2

Gregersen, T., & Horwitz, E. K. (2002). Language learning and perfectionism: Anxious and non-anxious language learners' reactions to their own oral performance. *The Modern Language Journal, 86*(4), 562–570. https://doi.org/10.1111/1540-4781.00161

Horwitz, E. K. (2016). Factor structure of the foreign language classroom anxiety scale: Comment on Park (2014). *Psychological Reports, 119*(1), 71–76. https://doi.org/10.1177/0033294116653368

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, *70*(2), 125-132. https://doi.org/10.2307/327317

Khattak, Z. I., Jamshed, T., Ahmad, A., & Baig, M. N. (2011). An investigation into the causes of English language learning anxiety in students at AWKUM. *Procedia - Social and Behavioural Sciences, 15*, 1600–1604. https://doi.org/10.1016/j.sbspro.2011.03.337

Krashen, S. D. (1982). *Principles and practice in second language acquisition.* Pergamon. https://www.sdkrashen.com/content/books/principles_and_practice.pdf

Liu, M., & Jackson, J. (2008). An exploration of Chinese EFL learners' unwillingness to communicate and foreign language anxiety. *The Modern Language Journal, 92*(1), 71–86. https://doi.org/10.1111/j.1540-4781.2008.00687.x

MacIntyre, P. D., & Gardner, R. C. (1991). Methods and results in the study of anxiety and language learning: A review of the literature. *Language Learning, 41*(1), 85–117. https://doi.org/10.1111/j.1467-1770.1991.tb00677.x

MacIntyre, P. D., & Gardner, R. C. (1994). The subtle effects of language anxiety on cognitive processing in the second language. *Language Learning, 44*(2), 283–305. https://doi.org/10.1111/j.1467-1770.1994.tb01103.x

Mahmoodzadeh, M. (2012). Investigating foreign language speaking anxiety within the EFL learner's interlanguage system: The case of Iranian learners. *Journal of Language Teaching and Research, 3*(3), 466–476. https://doi.org/10.4304/jltr.3.3.466-476

Manan, N. A. A., Yusof, J., & Azizan, N. (2023). The relationship between language anxiety and English language speaking performance among pre-diploma students at a public university in Malaysia. International *Journal of Academic Research in Progressive Education and Development, 12*(1), 1842–1854. http://dx.doi.org/10.6007/IJARPED/v12-i1/16504

Miskam, N. N., & Saidalvi, A. (2014). Investigating English language speaking anxiety among Malaysian undergraduate learners. *Asian Social Science*, *15*(1), 1-7. https://doi.org/10.5539/ass.v15n1p1

Park, G.-P., & French, B. F. (2013). Gender Differences in the Foreign Language Classroom Anxiety Scale. *System, 41*(2), 462–471. https://doi.org/10.1016/j.system.2013.04.001

Subasi, G. (2010). What are the main sources of Turkish EFL students' anxiety in oral practice? *Turkish Online Journal of Qualitative Inquiry*, *1*(2), 29-49. https://doi.org/10.17569/tojqi.29608

Tanveer, M. (2007). *Investigation of the factors that cause language anxiety for ESL/EFL learners in learning speaking skills and the influence it casts on communication in the target language* [Master's thesis, University of Glasgow]. https://doi.org/10.13140/RG.2.1.1995.1129

Teimouri, Y., Goetze, J., & Plonsky, L. (2019). Second language anxiety and achievement: A meta-analysis. *Studies in Second Language Acquisition, 41*(2), 363–387. https://doi.org/10.1017/S0272263118000311

Tóth, Z. (2010). *Foreign language anxiety and oral performance: Differences between high- and low-anxious EFL students.* US-China Foreign Language, 10, 1166–1178. https://www.davidpublisher.com/Public/uploads/Contribute/55ac531d1e273.pdf

Xu, D. (2025). *The impact of classroom environment on students' foreign language anxiety.* In *Proceedings of the ICEIPI 2025 Symposium: Reimagining Society—AI's Role in Cultural Transformation and Learning Environments* (pp. 91–100). https://doi.org/10.54254/2753- 7048/2025.BO23943

Young, D. J. (1991). Creating a low-anxiety classroom environment: What does language anxiety research suggest? *The Modern Language Journal*, *75*(4), 426–437. https://doi.org/https://doi.org/10.1111/j.1540-4781.1991.tb05378.x

Zamri, S. Z. Z. M., & Hashim, F. (2023). Examining the relationship between speaking anxiety in English and overall English proficiency among ELS undergraduates in UKM. *Jurnal Wacana Sarjana, 7*(2), 1–14. https://spaj.ukm.my/jws/index.php/jws/article/view/534

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