

From L2 Comprehension Difficulty to Test Anxiety: The Mediating Role of Academic Stress Among Filipino University Students

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ABSTRACT

This study examined the mediating role of academic stress in the relationship between second language (L2) comprehension difficulty and test anxiety among early-stage Filipino university students in an English-medium instructional context. Using survey data from 80 undergraduate entrepreneurship students, the study employed correlational and mediation analyses with bootstrapped confidence intervals to examine the proposed relationships among variables. The results indicated that greater L2 academic comprehension difficulty was associated with higher levels of academic stress, which in turn was strongly related to increased test anxiety. Mediation analysis revealed that academic stress partially mediated the relationship between comprehension difficulty and test anxiety, as the direct association between comprehension difficulty and test anxiety was substantially reduced when academic stress was included in the model. These findings highlight academic stress as a key psychological mechanism through which linguistic challenges in English-medium instruction translate into test-related anxiety. The study contributes to educational psychology literature by clarifying the L2–stress–anxiety pathway among university students in non-native English contexts. Practically, the results underscore the importance of instructional and support interventions that integrate academic language development with stress-management strategies to reduce test anxiety and promote more effective learning experiences in English-medium higher education settings.

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1. Introduction

English is retained as the main vehicle for instruction in higher education in the Philippines, despite many students' continued difficulties in understanding the English-mediated academic tasks. These difficulties are especially evident in early-stage university students who are moving on from secondary schooling and adjusting to academic language use in their discipline (Cabigon, 2015). Being in the entrepreneurship course, students are exposed to intensive English texts such as case analysis, feasibility reports, and business readings, which may be cognitively challenging for students who are still developing such advanced language abilities.

Within this academic context, perceived stress stands out as another psychological phenomenon that responds to and reacts to academic pressures and academic performance expectations. Indeed, students are expected to experience and exhibit higher levels of stress when exposed to complicated learning tasks and demands for deadlines and assessment. Compounded together, when students experience language-related difficulties in their English texts, their expected stress levels may further heighten their emotional responses to academic pressures in the types of courses and evaluations that develop test anxieties in them (Elias et al., 2011). Founded on this supposition that students' expected stress and language-related difficulties in English texts count towards heightened emotions in testing situations, test anxieties conceptualized in terms of the translation of students' presumptions of testing conditions toward feelings of stress can be perceived to impinge on students' learning and performance in English texts (Elaldi, 2016).

Based on the assumption that issues with language in English texts are among the causes of increased academic stress, students' emotional reactions to academic assessment may increase, leading to test anxiety (Elias et al., 2011; Elaldi, 2016). Difficulty in understanding second language (L2) English comprehension is an important cognitive challenge for L2 learners because it would create more cognitive load for students when they are exposed to academic English texts (Sweller, 1988). EPs in programs where there is a need for students to be technically English proficient would be cognitively more demanding (Berman and Cheng, 2001).

Although much research has been conducted on L2 comprehension difficulty and test anxiety as distinct constructs, few empirical studies have focused on academic stress as a mediating factor that explains how L2 comprehension difficulty is associated with test anxiety among university students. Taking these into consideration, the current study investigates the role of academic stress as a mediator between the difficulty of L2 comprehension and test anxiety among early-stage Filipino university students enrolled in entrepreneurship courses.

2. Literature Review

2.1. Cognitive Load Theory and Second Language (L2) Comprehension

The Cognitive Load Theory is based on the premise that our working memory is extremely limited in both capacity and duration and that learning breaks down when it becomes overloaded (Sweller, 1988). Furthermore, cognitive load theory (CLT) provides insights into how the constraints and capacities of the human information processing system can be used to optimize instructional methods and learning environments. (Barbieri et al., 2023). According to (Sweller et al., 2011; Sweller, 2012) Cognitive load theory has identified principles of instructions that are aimed at easing the cognitive burden on students as they learn.

This theory becomes very important in second language (L2) environments. Here, students aren't just decoding the lessons content, but they are simultaneously grappling with unfamiliar vocabulary, complex academic structures, and field specific terminology. Because L2 comprehension requires additional processing effort, non-native speakers experience a higher cognitive burden, leaving fewer cognitive resources available for understanding lessons, retaining information, and performing well in examination. This added cognitive strain forms the foundation of why L2 comprehension difficulty is directly connected to heightened academic pressure among university students worldwide. From a Cognitive Load Theory perspective, difficulties in L2 comprehension signal elevated intrinsic and extraneous cognitive load stemming from complex vocabulary and discipline-specific language demands. This increased cognitive burden consumes learners' limited processing resources, thereby contributing to heightened academic stress. When such cognitive strain is sustained across learning and assessment contexts, it may ultimately manifest as test anxiety, thus aligning Cognitive Load Theory with the mediational model examined in the present study.

2.2. L2 Comprehension Difficulty and Academic Stress

The link between L2 difficulty and stress is supported by global psychological research. Lazarus, R. S., & Folkman, S. (1984) Transactional model of stress and coping argues that stress arises when individuals interpret academic as

exceeding their available coping resources. For L2 students, inability to fully understand the topic, readings or exams often triggers a 'risk appraisal, which transforms linguistic difficulty into academic stress. Elias, Ping and Abdullah (2011) also found out that students with limited language proficiency reported higher levels of performance pressure and emotional exhaustion compared to more fluent students. While Lazarus and Folkman's (1984) transactional model conceptualizes stress as a function of cognitive appraisal, empirical findings by Elias et al. (2011) demonstrate how this appraisal process manifests concretely among students with limited language proficiency. Together, these studies suggest that L2 comprehension difficulty operates as a salient academic stressor across both theoretical and empirical contexts.

2.3. Academic Stress and Test Anxiety

A growing number of international studies also use mediation models to explore academic outcomes. Pekrun et al. (2002) showed that stress often acts as a relationship between academic challenges and negative emotions like anxiety. In language learning, (Shao et al. 2013) demonstrated that stress strongly predicted the level of language anxiety that students felt during and after examinations. While Pekrun et al. (2002) conceptualized academic stress as a precursor to achievement-related emotions in general academic settings, Shao et al. (2013) demonstrated this relationship more specifically within language-learning environments, suggesting convergence across disciplinary contexts regarding the stress–anxiety linkage.

2.4. Academic Stress as a Mediating Psychological Mechanism

Recent studies in educational psychology have also seen an increasing trend of the use of mediation models to uncover the influence of academic challenges on emotional outcomes. In language learning settings, academic stress has been found to be an important mechanism through which cognitive demands affective experiences (Lazarus & Folkman, 1984; Pekrun et al., 2002; Shao et al., 2013).

Taken together, these studies converge in suggesting that L2 comprehension difficulty does not directly produce test anxiety; rather, difficulty in processing academic language elevates academic stress, which subsequently manifests as anxiety during evaluative situations (Elias et al., 2011; Pekrun et al., 2002; Shao et al., 2013). Such a model is theoretically and empirically sound enough to analyze academic stress as a mediator.

2.5. Local Literature and Studies

The Philippine educational system is uniquely shaped by bilingual setup, where English serves as a primary medium of instruction from elementary. Despite being one of the world's largest English-speaking populations, many local studies show a growing gap between conversational English fluency and English used for school works. According to Cabigon (2015), reports that many Filipino students continue to have trouble with academic reading comprehension, technical vocabulary, and discipline specific text issues that directly align with the L2 comprehension challenge examined in this research. Research within the Philippines also highlights academic stress as a strong predictor of test anxiety. Montilla (2021) found that students who reported high academic stress also scored high in measures of test anxiety, suggesting a direct psychological link between the two variables. This finding further strengthens the rationale for testing academic stress as a mediator in the present study. Local intervention-based studies have also demonstrated efforts to improve English reading proficiency among Filipino learners (Bendo et al., 2024), although the present study focuses on comprehension difficulty rather than instructional intervention.

In contrast to international studies that examine language anxiety primarily in general ESL populations, local Philippine research highlights discipline-specific academic language demands—particularly in entrepreneurship and business programs—as a distinct source of academic stress and evaluative anxiety.

Another recurring theme in local literature is that entrepreneurship and business students face additional linguistic demands. Business terminology, financial jargons, and case study analysis often presented in English, requiring students to decode technical vocabulary before understanding content. Studies by Dizon and De Guzman (2020) indicate that Filipino business students frequently struggle with English case materials, which increase stress and

lowers confidence during examinations and presentations. Academic stress had also been identified as a strong predictor of test anxiety in the Philippines, with Montilla (2021) finding that students with higher stress levels tend to experience greater test anxiety. Despite these findings no local study has examined fully pathway linking L2 comprehension difficulty, academic stress and test anxiety among early-stage Filipino entrepreneurship students a gap the present study aims to address. Taken together, these local findings imply a sequential relationship in which L2 comprehension difficulties heighten academic stress, subsequently increasing test anxiety, thus offering strong support for examining academic stress as a mediating mechanism in the present study.

3. Methods

3.1. Study Population

The participants of the study comprised 80 students in early undergraduate programs for entrepreneurship (n=80), who were equally distributed and belonged to the Philippine State University' branch in Cavite. In this manner, half of the participants belonged to first-year (n1 = 40), while the other half belonged to those in their second year (n2 = 40). Purposive sampling methods were utilized in this study since it exclusively concentrated on students at the early stages of their course, those enrolled in BS Entrepreneurship and are taking L2-based academic subjects. Only students formally enrolled in the course were considered for this specific study.

The selection criterion fits well with stress and coping theories that laid considerable stress on environmental-task conditions affecting academic performance (Lazarus and Folkman, 1984). Correlation analysis and testing for mediation in this specific area of stress and coping requires a large participant pool of at least 80 to 100 for the power of analysis to be stable and uninfluenced, which is consistent with conventions for behavioral research (Cohen, 1988). This sampling approach is suitable for the early-stage entrepreneurship students since their academic program provides them with consistent contact with English-based academic literature, resulting in natural exposure to the constructs studied herein. (Mariñas et al., 2021). Given the exploratory focus of the mediation analysis and the reliance on bootstrapped confidence intervals, the sample size was considered sufficient for estimating indirect effects, although constraints related to statistical power are acknowledged.

3.2. Measures and Instrumentation

To enhance transparency in construct operationalization, sample items for each scale are provided in Appendix A. The self-administered questionnaire consisted of three scales assessing L2 Comprehension Difficulty, Academic Stress, and Test Anxiety, with all items rated on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The L2 Comprehension Difficulty scale was adapted from prior research on academic language processing challenges among second language learners, particularly in relation to discipline-specific vocabulary and English-medium instruction (Berman & Cheng, 2001; Ngan & Chi, 2023). Academic Stress items were grounded in established models of academic stress and coping, emphasizing students' appraisal of academic demands and perceived coping resources (Lazarus & Folkman, 1984; Misra & Castillo, 2004). Test Anxiety items were based on well-established frameworks conceptualizing evaluative anxiety in academic contexts, focusing on cognitive worry and physiological arousal during assessments (Horwitz et al., 1986; Zeidner, 2014).

All instruments were contextually adapted to reflect the linguistic and academic realities of Filipino university students enrolled in entrepreneurship programs, where English serves as the primary medium of instruction. Minor wording modifications were made to ensure clarity and cultural appropriateness without altering the theoretical meaning of the constructs. Although exploratory or confirmatory factor analysis can further assess construct validity, EFA or CFA was not conducted due to the exploratory nature of the study and the relatively small sample size (N = 80), which may yield unstable factor solutions; this limitation is acknowledged in the Limitations section.

Table 3.1 Cronbach’s Alpha (α) Interpretation

Cronbach’s Alpha (α) Value	Interpretation
≥ 0.90	Excellent reliability
0.80 – 0.89	Good reliability
0.70 – 0.79	Acceptable reliability
0.60 – 0.69	Questionable reliability
0.50 – 0.59	Poor reliability
< 0.50	Unacceptable reliability

Note. All scales demonstrated acceptable to good internal consistency (Cronbach’s $\alpha \geq .70$).

3.3. Data Collection Procedure

The data for this research were obtained from an online survey constructed using Google Forms. At the beginning of the survey, respondents were presented with an informed consent section that explained the purpose and contents of the study, the voluntary nature of participation, and their right to discontinue at any time without consequences. Respondents were also informed that no personal or identifying information, such as names or email addresses, would be collected. Only those who indicated consent by selecting “Yes, I consent” were allowed to proceed with the questionnaire. Each of the 15 questions was measured using a 5-point Likert scale and represented the variables of this study: L2 Comprehension Difficulty (IV), Academic Stress (MD), and Test Anxiety (DV). As the survey was administered online, participants completed it at their own pace and location, and were informed that participation would not affect their academic status. After the data collection period ended, responses were downloaded, checked for completeness, securely stored, and entered into statistical software for coding and analysis. Confidentiality and anonymity were ensured throughout the process.

3.4. Ethical Considerations

The study adhered to established ethical standards to ensure the protection and well-being of all participants throughout the research process. Data were collected through an online survey, and participation was strictly voluntary. Participants were informed of the purpose of the study and were free to decline participation or withdraw at any time without penalty. No procedures posed physical or psychological risk to the participants, consistent with best practices in cognitive load–related research that emphasize minimizing participant burden (Sweller, 1988). To ensure anonymity and confidentiality, no personally identifiable information was collected. Settings for email and IP address collection were disabled, and no questions requested names, student numbers, or other identifying details. All responses were treated confidentially and used solely for research purposes. Overall, the study complied with ethical principles of informed consent, voluntary participation, anonymity, confidentiality, and responsible data handling.

3.5. Statistical Treatment

The data gathered from the 80 students’ respondents (N = 80) were processed and analyzed using statistical software suited for quantitative research. To ensure consistency in interpretation, all inferential tests were interpreted at a 0.05 significance level, which served as the basis for determining whether the results were statistically meaningful. Prior to conducting any advanced analyses, the reliability of the three scales, L2 Comprehension Difficulty, Academic Stress, and Test Anxiety was examined using Cronbach’s Alpha, making sure that each construct reached the minimum acceptable reliability level of 0.70.

As an initial step in the analysis, descriptive Statistics were used to provide an overview of the students’ responses. Weighted means were computed to identify the general level of agreement for each of variables, while the standard deviations were calculated to describe the variability of responses related to L2 Comprehension difficulty, Academic Stress, and Test Anxiety. Subsequently, inferential Statistics were computed separately for each major scale to confirm that the items measuring L2 Comprehension Difficulty, Academic Stress, and Test Anxiety demonstrated

acceptable internal consistency. This step ensured that all items within each construct reliably measured the same underlying concept before proceeding to further analysis.

Following the assessment of reliability, an independent Sample t-Test whether there were significant differences in the scores of first-years and second-year entrepreneurship students on the three variables. This analysis determined if academic levels influenced L2 Comprehension Difficulty, Academic Stress and Test Anxiety. To further examine associations among the variables, Pearson’s correlation coefficient (r) was used to evaluate the strength and direction of the relationships among L2 Comprehension Difficulty and Academic Stress, Academic Stress and Test Anxiety and L2 Comprehension Difficulty and Test Anxiety. (Field, 2013)

Building on these correlational findings, simple and multiple regression analyses were performed to examine the direct effects among the variables. The regression path coefficients served as the foundation for establishing the mediation model. These analyses estimated: (1) Path a: the effect of L2 Comprehension Difficulty on Academic Stress, (2) Path b: the effect of Academic Stress on Test Anxiety and (3) Path c: the direct effect of L2 Comprehension Difficulty on Test Anxiety, controlling for Academic Stress.

Finally, bootstrapped mediation analysis was conducted to determine whether Academic Stress significantly mediates the relationship between L2 Comprehension Difficulty and Test Anxiety. Using several thousand bootstrap samples, the analysis produced a 95% confidence interval for the indirect effect. Mediation was considered significant if the interval did not include zero, confirming that Academic Stress acts as the statistical link between L2 comprehension difficulty and students’ test anxiety.

4. Results

4.1. Descriptive Statistics

Variable	Mean	SD
L2 Comprehension Difficulty	3.76	0.57
Academic Stress	4.06	0.51
Test Anxiety	3.94	0.52

Overall, respondents reported relatively high levels of L2 comprehension difficulty, academic stress, and test anxiety. Among the three variables, academic stress emerged as the most pronounced experience, followed closely by test anxiety, suggesting that participants frequently encountered both cognitive and emotional challenges within the English-medium academic context. These patterns indicate that linguistic demands, stress, and anxiety are salient features of the learning experience for early-stage entrepreneurship students.

4.2. Reliability Coefficients of the Study

Scale	Cronbach’s α
L2 Comprehension Difficulty	0.790
Academic Stress	0.802
Test Anxiety	0.771
Overall Scale	0.874

Note. Cronbach’s alpha values $\geq .70$ indicate acceptable internal consistency.

All measurement scales demonstrated acceptable to good internal consistency, indicating that the items within each scale reliably captured their intended constructs. The overall scale also showed strong reliability, supporting the suitability of the instruments for subsequent inferential and mediation analyses.

4.3. Independent Sample t-TEST Results by Year Level n=40

Variable	M	SD	t(df)	p
L2 Comprehension Difficulty	3.60	0.69	-2.58	.012
Academic Stress	3.92	0.36		
	3.93	0.59	-2.38	.020
Test Anxiety	4.20	0.38		
	3.80	0.65	-2.29	.025
	4.07	0.29		

The independent samples t-tests revealed significant differences between first-year and second-year students across all three study variables. In general, second-year students reported higher levels of L2 comprehension difficulty, academic stress, and test anxiety compared to first-year students. This pattern suggests that exposure to English-medium academic demands over time does not necessarily reduce linguistic or emotional challenges and may instead coincide with sustained or increasing academic pressure as students' progress in their program.

4.4. Pearson Correlation Matrix

Variable	1	2	3
L2 Comprehension Difficulty	—		
Academic Stress	0.403	—	
Test Anxiety	0.397	0.734	—

The correlation analysis revealed a consistent pattern of positive associations among the study variables. Greater L2 comprehension difficulty was associated with higher academic stress and increased test anxiety. Notably, academic stress showed a strong positive association with test anxiety, highlighting its potential role as a key psychological link between linguistic challenges and students' emotional responses during assessment.

4.5. Regression Path Coefficients

Outcome	β	SE	t	p
L2 Comprehension Difficulty → Academic Stress	0.359	0.084	4.27	< .001
Academic Stress → Test Anxiety	0.697	0.072	9.68	< .001
L2 Comprehension Difficulty → Test Anxiety (total effect)	0.360	0.086	4.19	< .001
L2 Comprehension Difficulty → Test Anxiety (direct effect)	0.109	0.082	1.33	.187

Note. β = standardized regression coefficient; SE = standard error. N = 80. Confidence intervals for the indirect effect are reported in Table 4.6.

Regression analyses supported the proposed mediation model. L2 comprehension difficulty was a significant predictor of academic stress, and academic stress, in turn, significantly predicted test anxiety. When academic stress was included in the model, the direct association between L2 comprehension difficulty and test anxiety was substantially reduced, suggesting that the relationship between linguistic difficulty and test anxiety operates largely through students' experiences of academic stress.

4.6. Bootstrapped Mediation Analysis

Effect	β	95% CI
Indirect Effect (L2 → Stress → Anxiety)	0.246	[0.092, 0.402]

Note. Mediation is significant because the 95% confidence interval does not include zero. Bootstrapping was based on 5,000 resamples.

The bootstrapped mediation analysis further confirmed the presence of an indirect effect of L2 comprehension difficulty on test anxiety through academic stress. The confidence interval for the indirect effect did not include zero, indicating that academic stress serves as a statistically meaningful intervening variable linking linguistic challenges to test-related anxiety. Given the cross-sectional nature of the data, this mediation should be interpreted as associative rather than causal.

5. Discussion

This study examined the relationships among L2 comprehension difficulty, academic stress, and test anxiety among early-stage Filipino entrepreneurship students in an English-medium instructional context. The findings point to a clear psychological mechanism in which linguistic challenges in English-mediated instruction are associated with heightened academic stress, which is subsequently linked to increased test anxiety during academic evaluation. The moderate positive correlation between L2 comprehension difficulty and academic stress ($r = .403, p < .001$) suggests that linguistic challenges are not merely peripheral obstacles but substantive contributors to students' academic strain.

This finding is consistent with Bendo's (2025) work on mobile game addiction, which demonstrated that sustained cognitive strain—whether arising from digital distraction or reduced self-regulation—is associated with poorer academic outcomes. The present results extend this perspective by showing that cognitive burdens linked specifically to L2 processing difficulty similarly contribute to elevated academic stress. From a Cognitive Load Theory standpoint, difficulty processing complex academic language and discipline-specific terminology imposes additional processing demands, thereby increasing mental effort and cognitive strain (Sweller, 2011). In line with Ngan and Chi (2023), students who reported greater difficulty with specialized English texts also experienced higher levels of academic pressure, supporting the view that L2 comprehension difficulty functions as a primary cognitive stressor in English-mediated coursework. These findings highlight the importance of instructional practices that reduce unnecessary linguistic load, such as scaffolding academic texts, pre-teaching technical vocabulary, and breaking down complex readings into manageable segments.

Consistent with stress and anxiety models, the strong association between academic stress and test anxiety ($r = .734, p < .001$) indicates that sustained academic strain is closely linked to students' emotional responses during examinations. Theoretical perspectives on stress suggest that heightened stress depletes cognitive resources necessary for effective self-regulation, thereby increasing vulnerability to anxiety in evaluative contexts (Zeidner, 2014). Students exposed to ongoing performance demands and persistent difficulty processing English academic materials may therefore be more likely to experience intrusive thoughts, fear of failure, and heightened worry during tests (Misra & Castillo, 2004). This interpretation is supported by the relatively high mean levels of academic stress ($M = 4.06$) and test anxiety ($M = 3.94$), indicating that these experiences are salient rather than isolated within this population (Pekrun, 2002). Together, these findings point to the potential value of integrating stress-management strategies, such as guided relaxation, mindfulness exercises, and structured exam preparation, into academic settings.

Although L2 comprehension difficulty was also moderately associated with test anxiety ($r = .397, p < .001$), the mediation analysis provides a more refined understanding of this relationship. Students who struggle to comprehend academic English may anticipate difficulty or failure in examinations, thereby increasing evaluative apprehension (Kline, 2015), a pattern similarly observed among L2 learners by Horwitz et al. (1986). However, the mediation results indicate that L2 comprehension difficulty significantly predicted academic stress ($\beta = 0.359$), which in turn strongly predicted test anxiety ($\beta = 0.697$). When academic stress was included in the model, the direct effect of L2 comprehension difficulty on test anxiety was substantially reduced ($\beta = 0.109$), compared to the total effect ($\beta = 0.360$). This pattern reflects partial mediation, suggesting that linguistic difficulty contributes to test anxiety primarily through its association with increased academic stress rather than through a direct pathway alone (Baron & Kenny, 1986; Putwain, 2007). In this sense, students' anxiety during examinations appears to stem largely from the accumulated academic strain associated with sustained difficulty in processing English academic materials.

Differences observed between first-year and second-year students further contextualize these findings. Second-year students reported higher levels of L2 comprehension difficulty, academic stress, and test anxiety, suggesting that increased exposure to English-medium academic demands does not necessarily alleviate linguistic or emotional challenges. Instead, these difficulties appear to persist across early undergraduate stages, indicating a systemic issue rather than a temporary adjustment problem. This pattern underscores the importance of sustained institutional support, including academic language development initiatives, peer tutoring, and counseling services focused on stress and anxiety management, particularly within entrepreneurship programs that rely heavily on English academic discourse. Overall, the findings provide empirical support for an L2–stress–anxiety mechanism in which linguistic difficulty contributes to increased academic stress, which in turn is associated with higher levels of test anxiety. These results underscore the importance of addressing both language-related demands and psychological factors to support more effective learning experiences in English-mediated higher education settings.

5.1. Limitations of the Study

This study has several limitations that should be acknowledged. First, the data were collected using self-report measures, which may be subject to response bias and common method variance. Second, the cross-sectional research design restricts the ability to draw causal inferences regarding the relationships among L2 comprehension difficulty, academic stress, and test anxiety. Third, the use of purposive sampling within a single academic context limits the generalizability of the findings to other student populations or instructional settings. Finally, construct validity was evaluated primarily through internal consistency indices and theoretical grounding rather than through factor analytic procedures; future studies employing larger samples should consider conducting exploratory or confirmatory factor analyses to further establish the psychometric properties of the instruments.

6. Conclusion

This study demonstrates that L2 comprehension difficulty constitutes a significant academic challenge for early-stage entrepreneurship students in an English-medium instructional context and is closely associated with elevated academic stress and test anxiety. The findings highlight academic stress as a central mechanism linking linguistic challenges to students' test-related anxiety. By clarifying this L2–stress–anxiety relationship, the study contributes to a deeper understanding of how language-related cognitive demands are associated with emotional outcomes in English-mediated higher education. The results underscore the importance of instructional and support interventions that combine academic language development with strategies for managing academic stress. Addressing both linguistic demands and stress-related factors may help reduce test anxiety and support more effective learning experiences within similar educational contexts.

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Ethical Statement

The study was conducted in accordance with established ethical standards. Participation was voluntary, informed consent was obtained from all respondents, and anonymity and confidentiality were ensured throughout the research process.

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Appendix

A.

Survey Instrument (15-Item Likert Scale)

Response Scale:

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

Table A1. Survey Items Used in the Study

I. L2 English Comprehension Difficulty (Independent Variable)

Item No.	Survey Statement	Scale
1	I find the specialized business jargon (e.g., <i>leverage, liability, assets</i>) in my English readings overwhelming.	1 2 3 4 5
2	I often have difficulty fully understanding the business or financial terms written in English.	1 2 3 4 5
3	I feel that the complexity of the English vocabulary in my lectures is a major obstacle to my learning.	1 2 3 4 5
4	I spend extra time translating English terms in my course materials to fully grasp their meaning.	1 2 3 4 5
5	I feel more confident in explaining business concepts when I use my native language (Tagalog, Chavacano, etc.) rather than English.	1 2 3 4 5

II. Academic Stress (Mediating Variable)

Item No.	Survey Statement	Scale
6	I frequently feel overwhelmed by the total workload of my Entrepreneurship courses.	1 2 3 4 5
7	I worry a lot about meeting the expectations of my professors.	1 2 3 4 5
8	The pressure to perform well academically causes me a lot of mental strain.	1 2 3 4 5
9	I often feel like my academic responsibilities are more than I can handle.	1 2 3 4 5
10	I feel stressed even when I am well-prepared for a class or assignment.	1 2 3 4 5

III. Test Anxiety (Dependent Variable)

Item No.	Survey Statement	Scale
11	I become very tense and nervous before taking a major exam in this course.	1 2 3 4 5
12	During an exam, I find myself thinking about the consequences of failing instead of focusing on the questions.	1 2 3 4 5
13	I feel physically uncomfortable (e.g., heart racing, sweating) when preparing for a high-stakes assessment.	1 2 3 4 5
14	I often "blank out" or forget answers during an exam, even though I knew the material beforehand.	1 2 3 4 5
15	I fear having to take my final examinations more than any other academic task.	1 2 3 4 5

B.

Demographic Information Sheet

Item No.	Demographic Question	Response Options
D1	Do you consent to participate in this study?	Yes / No
D2	What is your current academic level?	<ul style="list-style-type: none">• 1st Year Entrepreneurship Student• 2nd Year Entrepreneurship Student

C.

Ethical Compliance Statement

1. The researcher affirms that this study was carried out in full adherence to the ethical standards established by the Philippine State University – Cavite Branch concerning the protection of research participants.
2. The objectives of the research were clearly communicated to all participants through a written informed consent statement incorporated into the Google Form survey.
3. Participation in the study was entirely voluntary. Respondents were free to withdraw at any point without facing any form of penalty or negative consequence. They were also given adequate opportunity to understand the subject matter before responding.
4. No personally identifiable information—such as names, student numbers, email addresses, or contact details—was gathered. Only summarized demographic data were collected.
5. All data were anonymized prior to analysis and securely stored in password-protected digital storage accessible solely to the researcher.
6. The study involved no physical, psychological, or social risks to participants.
7. The researcher declares that there are no known conflicts of interest related to this study.

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