

Exploring Reading Anxiety from the Perspective of Social Cognitive Theory

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ABSTRACT

Reading anxiety is a significant emotional factor that can undermine learners' engagement and achievement in second or foreign language reading. For many learners, reading is not merely a cognitive task but an experience shaped by confidence, classroom practices, and the learning environment. Drawing on Bandura's (1986) Social Cognitive Theory, this quantitative study explores how personal beliefs, reading-related behaviours, and environmental influences interact to shape learners' reading anxiety. Data were collected through a 27-item, 5-point Likert-scale questionnaire adapted from Milao and Vibulphol (2020) and Zoghi (2012), administered to 508 Malaysian university students from Science and Technology and Business and Management disciplines. The findings indicate moderate levels of reading anxiety across all three factors, with learners reporting greater anxiety when facing vocabulary difficulties and anxiety-provoking instructional practices such as being called upon to translate texts. Significant, positive relationships were found among personal, behavioural, and environmental factors, reflecting the reciprocal interactions proposed by Social Cognitive Theory. Differences in personal and behavioural reading anxiety were also observed across academic disciplines, while environmental factors showed no significant variation. Overall, the study highlights the complex and interconnected nature of reading anxiety and underscores the importance of supportive instructional practices and strategy-focused reading instruction in fostering learners' confidence and engagement.

Keywords: Reading Anxiety, University Students, Self-efficacy, Social Cognitive Theory (SCT)

INTRODUCTION

Background of Study

Reading is a central component of language learning and plays an essential role in learners' academic development. Through reading, learners acquire new vocabulary, sentence structures, and ways of expressing ideas that support overall language proficiency. However, for many learners, particularly in second or foreign language contexts, reading is not always a positive experience, as it may be accompanied by feelings of tension or worry.

Research has shown that these negative emotional experiences are closely associated with reading anxiety. When learners experience anxiety while reading, their comprehension and motivation may be reduced, which can lead to avoidance of reading tasks and limited opportunities for practice. This process may create a vicious cycle in which anxious readers fall behind in skill development and experience increasing levels of anxiety (Liu, 2025). Consequently, reading anxiety affects not only immediate reading performance but also learners' long-term engagement in language learning.

Although reading anxiety has been widely examined in previous studies, much of the existing research focuses on its outcomes rather than on the mechanisms underlying its development. There remains limited research adopting a strong theoretical framework to explain how reading anxiety emerges and is sustained. Social Cognitive Theory offers a useful perspective by emphasising the reciprocal interaction among personal beliefs, learning behaviours, and environmental influences. Therefore, this study seeks to explore reading anxiety from the perspective of Social Cognitive Theory by examining how these factors interact in the development of learners' reading anxiety.

Statement of Problem

Reading anxiety is a common affective barrier that can hinder learners' comprehension, motivation, and sustained engagement in language learning, often creating a cycle of avoidance and skill deficits. Previous research has consistently shown that reading anxiety is negatively associated with outcomes such as lower reading proficiency, reduced self-efficacy, and less effective use of global reading strategies (Mills et al., 2006; Trisnayanti et al., 2020; Yue, 2024).

However, most studies to date have focused on describing these correlations rather than explaining how reading anxiety develops and persists within the learning process. In particular, while Bandura's (1986) Social Cognitive Theory (SCT) highlights the dynamic interactions among personal factors (e.g., beliefs, self-efficacy, anxiety), behavioural factors (e.g., strategy use, avoidance), and environmental factors (e.g., teaching methods, classroom climate), few studies have examined the interplay of all three components in the context of reading anxiety. Existing research often investigates personal or environmental factors in isolation, leaving the mechanisms that sustain reading anxiety largely unexplored.

This gap in the literature underscores the need for research that moves beyond simple correlation to examine how personal, behavioural, and environmental factors interact to shape the experience of reading anxiety. Understanding these mechanisms is critical for developing interventions that address the root causes of anxiety and support more effective and confident reading practices.

Objective of the Study and Research Questions

This study is done to explore reading anxiety from the perspective of social cognitive theory. Specifically, this study is done to answer the following questions;

- How do learners perceive their environment in reading?
- How do learners perceive their personal factors in reading?
- How do learners perceive their behavioural factors in reading?
- Is there a relationship between the environment and personal factors in reading?

(H1- There is no relationship between the environment and personal factors in reading)

- Is there a relationship between the environment and behavior in reading?
(H2- There is no relationship between the environment and behavior in reading)
- Is there a relationship between personal and behavioural factors in reading?
(H3- There is no relationship between personal and behavioural factors in reading)
- Is there a significant difference for all components across disciplines?
(H4- There is no significant difference for all components across disciplines)

LITERATURE REVIEW

Theoretical Framework of the Study

Exploring Reading Anxiety from the Perspective of Social Cognitive Theory (Bandura, 1986)

Reading in a foreign language is a challenging process, particularly for beginner learners. Learners often begin the reading process with curiosity and motivation; however, this experience may be accompanied by anxiety when they encounter unfamiliar linguistic features. Reading anxiety is especially prominent in Mandarin learning due to the non-alphabetic writing system, homonyms, and pronunciation complexity. To examine this phenomenon, this study adopts Social Cognitive Theory (SCT) proposed by Bandura (1986) as its theoretical framework.

According to Bandura (1986), learning is shaped by a triadic reciprocal relationship among personal factors, behavioural patterns, and environmental influences. These three components interact dynamically and continuously influence one another during the learning process. In the context of Mandarin reading, learners' emotional responses, reading behaviours, and classroom environment jointly contribute to the development and experience of reading anxiety.

Personal factors refer to learners' internal cognitive and affective states, such as beliefs, emotions, and anxiety. Reading anxiety is viewed as a personal factor that emerges when learners struggle to comprehend unfamiliar vocabulary, idioms, or homonyms. Feelings of unease, confusion, and frustration may arise when learners are unable to infer meanings or recognise words they have previously encountered, which may negatively affect their confidence in reading Mandarin texts.

Behavioural patterns involve learners' observable actions and strategies during reading activities. Learners who experience high levels of reading anxiety may display avoidance behaviours, reduced engagement, or overreliance on dictionaries. Conversely, successful comprehension experiences may reinforce positive reading strategies and persistence. These behavioural responses both influence and are influenced by learners' emotional states, reinforcing the reciprocal nature proposed in SCT.

Environmental influences include instructional practices, learning materials, teacher support, and classroom atmosphere. In Mandarin language classrooms, exposure to unfamiliar characters, complex sentence structures, and limited contextual support may intensify reading anxiety. Conversely, a supportive learning environment with appropriate scaffolding, clear explanations, and guided reading activities may help reduce anxiety and promote positive reading experiences.

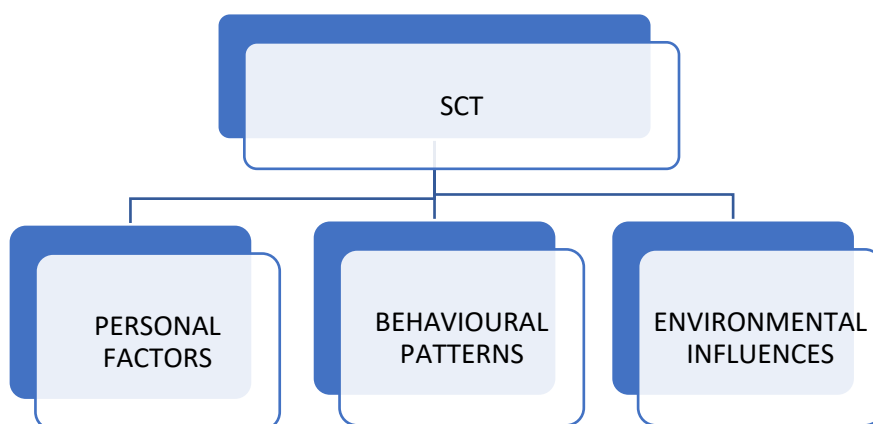


Figure 1 illustrates the conceptual framework of this study, which situates reading anxiety within the interaction of personal, behavioural, and environmental factors as proposed in Social Cognitive Theory. By adopting this framework, the study provides a holistic perspective on how Mandarin reading anxiety develops and is maintained, thereby offering theoretical support for examining reading anxiety among Mandarin learners.

Reading Anxiety

Reading anxiety is a common emotional experience among second and foreign language learners and often emerges when learners engage with written texts that they find difficult to understand. It refers to feelings of nervousness, tension, or unease that arise during reading activities in the target language (Saito, Horwitz, & Garza, 1999). For many learners, reading is not merely a cognitive task but also an emotional one, especially when they encounter unfamiliar vocabulary, complex sentence structures, or culturally distant content. In the context of Mandarin learning, these challenges may be intensified by the non-alphabetic writing system, homonyms, and pronunciation complexity, which can make reading appear overwhelming and discouraging for beginner and intermediate learners.

Research has shown that reading anxiety can influence how learners approach reading tasks and how they perceive their own reading ability. Learners who experience higher levels of anxiety may read more cautiously, rely heavily on dictionaries, or avoid reading altogether, particularly when texts are perceived as difficult or time-limited (Mills et al., 2006; Trisnayanti et al., 2020). Such behaviours may reduce opportunities for meaningful practice and gradually weaken learners' confidence in reading. Over time, this may lead to a cycle in which anxiety limits engagement, reduced engagement affects comprehension, and poor comprehension further reinforces anxiety. Despite growing awareness of these effects, much of the existing literature has focused on identifying relationships between reading anxiety and learning outcomes, with less attention given to how learners' emotions, behaviours, and learning environments interact to sustain reading anxiety. This suggests the need for a more holistic examination of reading anxiety that considers learners' lived experiences within specific instructional contexts.

Past Studies

Past Studies on Reading Anxiety and Classroom Environment

Many studies have been conducted to investigate the effects of different instructional approaches and learning environments on students' reading anxiety and comprehension outcomes. Al-Obaydi, Rahul, and Pikhart (2023) aimed to investigate the effect of online oral reading on reading comprehension, reading anxiety, and classroom anxiety among EFL learners. The respondents were 200 undergraduate EFL students from a public university in Iraq, divided into an experimental group that received a six-month oral reading intervention and a control group that did not. The study used a reading comprehension test and teacher observation to measure participants' reading proficiency and anxiety levels. Results showed a statistically significant difference in reading comprehension between groups, with lower reading and classroom anxiety associated with higher comprehension scores in the intervention group. These findings imply that integrating oral reading into online instruction can reduce anxiety and enhance both motivation and reading performance.

Similarly, Solati, Amani, and Armat (2024) compared reading anxiety levels of medical students in online versus face-to-face learning environments. Seventy first-year medical students at North Khorasan University of Medical Sciences were randomly assigned to an online instruction group and a traditional classroom group, with reading anxiety measured using the EFL Reading Anxiety Inventory (EFLRAI) before and after six instructional sessions. Analysis indicated that students in the face-to-face group reported higher reading anxiety than those in the online group, suggesting that online learning environments can help reduce reading anxiety and promote collaborative interaction among learners.

Additionally, Gok, Bozoglan, and Bozoglan (2021) examined the effects of the online flipped classroom model on pre-service English language teachers' foreign language classroom anxiety (FLCA) and foreign language reading anxiety (FLRA). Their study included 66 first-year English language teacher candidates in Turkey, with 34 in the flipped classroom group and 32 in a non-flipped group. The Foreign Language Classroom Anxiety Scale and the Foreign Language Reading Anxiety Scale were used as instruments before and after treatment. Results revealed significant decreases in both FLCA and FLRA in the flipped classroom group, whereas no significant changes occurred in the non-flipped group. These findings indicate that the flipped classroom model can effectively lower language anxiety and improve learners' engagement with reading tasks.

Overall, these studies consistently show that instructional design and learning environment influence reading anxiety and comprehension. They suggest that online learning, oral reading, and flipped classroom approaches can lower reading-related anxiety while enhancing performance and motivation. These findings imply that integrating interactive and technology-supported activities is key to creating supportive language learning environments. In relation to the present study, the evidence supports the idea that reducing reading anxiety through carefully designed online or flipped instructional strategies can improve reading achievement and overall learning outcomes.

Conceptual Framework of the Study

Figure 1 shows the conceptual framework of the study. This study explores the reciprocal relationship between all factors for reading anxiety. Reading anxiety stems from readers' reading difficulties (Rahmat, et.al, 2020). As a consequence, readers may develop reading anxiety. This study is anchored from Bandura's (1986) social cognitive theory. This theory states three factors that can influence learning and they are the personal factors (person), behavioural patterns (behaviour) and also environmental factors (environment). In the context of this study, the factors from Bandura (1986) form the variables and they are combined with the constructs by Milao & Vibulphol (2020) and Zoghi (2012). Firstly, the variable 'person' is supported by constructs by Milao & Vibulphol (2020) such as (i) background and cultural knowledge and (ii) general reading ability. Next, the variable 'behaviour' is supported by Milao & Vibulphol (2020) such as (i) vocabulary and (ii) grammar. Lastly, the variable 'environment' is supported by the constructs of teaching methods by Zoghi (2012). Consequently, as a response to Bandura's (1986) reciprocal determinism, this study explores the relationship between all variables.

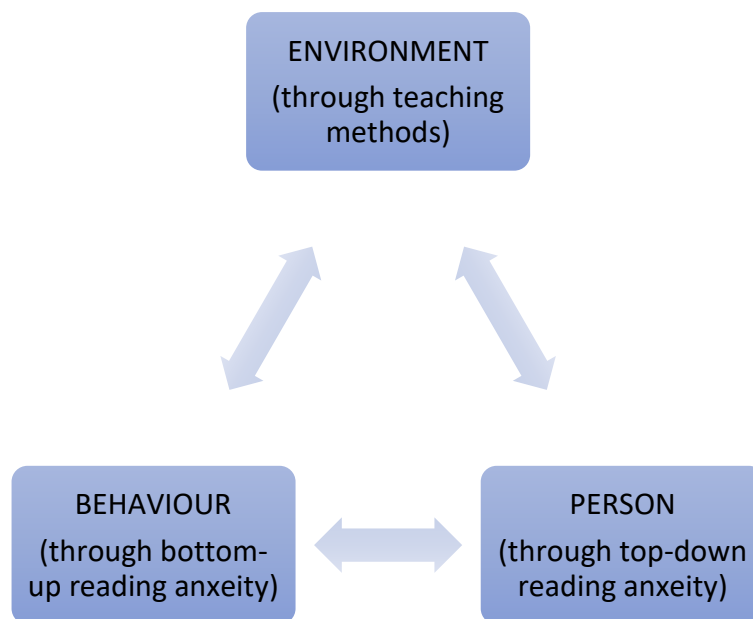


Figure 1- Conceptual Framework of the Study

Reading anxiety from the perspective of social cognitive theory

METHODOLOGY

This quantitative study is done to explore reading anxiety from the perspective of social cognitive theory. A convenient sample of 508 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Milao & Vibulphol (2020) and Zoghi (2012) to reveal the variables in table 3 below. Table 1 below shows the categories used for the Likert scale; 1 is for Strongly Disagree, 2 is for Disagree, 3 is for Undecided, 4 is for Agree and 5 is for Strongly Agree.

Table 1- Likert Scale Use

1	Strongly Disagree
2	Agree
3	Uncertain
4	Agree
5	Strongly Agree

Table 2- Distribution of Items in the Survey

SECT	VARIABLE	CONSTRUCT	No Of Items	Tot Item	Cronbach Alpha
A	PERSONAL	Background and Cultural Knowledge	3	7	.867
		General Reading Ability	4		
B	BEHAVIOUR	Vocabulary	8	14	.947
		Grammar	6		
C	ENVIRONMENT	Teaching Methods	6	6	.856
		TOTAL		27	.952

Table 2 presents the distribution of items in the survey instrument, adapted from previously validated questionnaires measuring reading anxiety (Milao & Vibulphol, 2020; Zoghi, 2012). The survey consisted of 27 items organized into three sections based on Bandura’s (1986) Social Cognitive Theory. Section A, representing personal factors, included Background and Cultural Knowledge with 3 items and General Reading Ability with 4 items, with a Cronbach’s alpha of 0.867. Section B, representing behavioural factors, included Vocabulary with 8 items and Grammar with 6 items, with a Cronbach’s alpha of 0.947. Section C, representing environmental factors, included Teaching Methods with 6 items, with a Cronbach’s alpha of 0.856. The overall reliability across all 27 items was excellent ($\alpha = 0.952$), indicating high internal consistency. The detailed structure of the questionnaire can be found in the Findings section, where the specific survey items for each component are provided.

Table 3- Reliability Levels, Cronbach’s Alpha Ranges, and Their Interpretations

Reliability Level	Cronbach’s Alpha range	Interpretation
Excellent	0.9 and above	Indicates very high internal consistency
Good	0.80-0.89	Reflects strong internal consistency
Acceptable	0.70-0.79	Indicates acceptable internal consistency

Questionable	0.60-0.69	Reflects questionable internal consistency
Poor	Below 0.6	Indicates poor internal consistency

In order to determine the internal reliability of the instrument, reliability analysis is one. Table 3 above shows the distribution and interpretation of Cronbach Alpha range. According to Ahmad, et.al. (2024), Cronbach Alpha scores between 0.7 to 0.9 is considered acceptable to excellent. Further analysis using SPSS is done to present findings to answer the research questions for this study.

FINDINGS

Demographic Analysis

According to Zienefuss, et.al (2021), researchers report demographic data in percentages to establish sample representatives, and allow for generalizability to a larger population. The reporting also provides an overview of participants' characteristics. Percentages offer a clear and understandable picture of the sample makeup.

Table 4- Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	37%
		Female	63%
3	Discipline	Science & Technology	48%
		Business & Management	52%

Table 4 summarizes the demographic profile of the respondents. With respect to gender distribution, female students constitute the majority of the sample (63%), while male students account for 37%. In terms of academic discipline, 52% of the respondents are enrolled in Business and Management programmes, followed closely by those in Science and Technology (48%).

Descriptive Statistics

According to Vetter (2017), the Mean (M) represents the average, or centre of a data set. The Standard deviation (SD) indicates the typical distance of individual observations from the mean which shows the data's variability or spread. A low SD means that the data points are clustered close to the mean, while a high SD indicates that they are more spread out.

Findings for Environment

This section presents data to answer research question 1- How do learners perceive their environment in reading? In the context of this study, this refers to the classroom teaching methods.

Classroom Reading Anxiety

Table 5- Mean for Teaching Methods (TM)

ITEM	Mean	SD
TMQ1 It bothers me when the instructor calls on me to read out.	2.94	1.19
TMQ2 It worries me when the instructor calls on me to translate a piece of an English text into our first	3.17	1.10

language.		
TMQ3 When the instructor asks me reading comprehension questions, it is worrying to me.	2.89	1.07
TMQ4 It upsets me when the instructor chooses uninteresting texts to read in class.	2.49	1.07
TMQ5 It makes me feel uneasy when the instructor corrects my pronunciation or translation mistakes.	2.26	1.10
TMQ6 I am nervous when the instructor uses English as a medium of instruction and hardly ever makes use of our first language.	2.85	1.07

Table 5 shows that participants experienced overall low to moderate levels of classroom reading anxiety related to teaching methods. Among the items, TMQ2 reported the highest mean score ($M = 3.17, SD = 1.10$), indicating that being called on to translate texts elicited relatively greater anxiety. Moderate anxiety levels were also observed for TMQ1, TMQ3, and TMQ6, suggesting that reading aloud, responding to comprehension questions, and instruction conducted primarily in Mandarin were associated with increased discomfort. In contrast, lower anxiety was reported for TMQ5 and TMQ4, indicating that corrective feedback and text selection had a comparatively weaker impact. Overall, teaching activities involving immediate performance demands appear to be more anxiety-provoking, with individual differences evident across items.

Findings for Personal factors

This section presents data to answer research question 2- How do learners perceive their personal factors in reading? In the context of this study, this is measured by (i) background and cultural knowledge and (ii) general reading

Top-Down Reading Anxiety

Table 6- Mean for Background and Cultural Knowledge (BCK)

ITEM	Mean	SD
BCKQ1 I do not feel at ease when the title of the text is unfamiliar to me.	3.03	0.97
BCKQ2 It is worrying to me when the ideas expressed in the text are culturally unclear	3.09	0.95
BCKQ3 I get upset when I lack the previous knowledge about the ideas expressed in the text.	3.35	1.06

Table 6 presents the descriptive statistics for the Background and Cultural Knowledge (BCK) component of top-down reading anxiety. Among the three items, BCKQ3, which concerns a lack of prior knowledge about the ideas expressed in the text, yielded the highest mean score ($M = 3.35, SD = 1.06$), suggesting that insufficient background knowledge was a major source of reading anxiety. Anxiety related to culturally unclear ideas (BCKQ2; $M = 3.09, SD = 0.95$) and unfamiliar text titles (BCKQ1; $M = 3.03, SD = 0.97$) was slightly lower but still reflected a moderate level of discomfort. Overall, the results indicate that readers' background and cultural knowledge play an important role in shaping their top-down reading anxiety.

Table 7- Mean for General Reading Ability (GRA)

ITEM	Mean	SD

GRAQ1 I worry when I cannot get the gist of the text although no new vocabulary items or grammatical points exist in the text.	3.23	0.97
GRAQ2 When I cannot recognize minor ideas (details) of the text, it is worrying to me.	3.31	0.99
GRAQ3 I am nervous when I cannot spot the main idea of a paragraph.	3.33	1.04
GRAQ4 It bothers me when I cannot express my opinions or feelings about the text.	3.07	1.03

Table 7 presents the descriptive statistics for the General Reading Ability (GRA) component of top-down reading anxiety. Among the four items, GRAQ3 yielded the highest mean score ($M = 3.33$, $SD = 1.04$), indicating that this item represented the greatest source of anxiety within the GRA dimension. Relatively high levels of anxiety were also observed for GRAQ2 ($M = 3.31$, $SD = 0.99$). Moderate anxiety was reported for GRAQ1 ($M = 3.23$, $SD = 0.97$). In contrast, GRAQ4 showed the lowest mean score ($M = 3.07$, $SD = 1.03$), although it still reflected a moderate level of reading anxiety. Overall, the results suggest that the four GRA items collectively indicate a moderate level of anxiety related to general reading ability.

Findings for Behavioural factors

This section presents data to answer research question 3- How do learners perceive their behavioural factors in reading? In the context of this study, this is measured by (i) vocabulary and (ii) grammar.

Bottom-Up Reading Anxiety

Table 8- Mean for Vocabulary(V)

ITEM	Mean	SD
VQ1I feel uneasy when I cannot figure out the meanings of unknown words.	3.43	1.15
VQ2 It bothers me when I encounter a lot of words whose meanings are unclear	3.35	0.94
VQ3I get upset when I cannot figure out the meaning of a word that I feel I have seen before	4.42	1.08
VQ4 It bothers me when I feel unable to look up a word in the dictionary.	3.19	1.03
VQ5 I get confused when the word that I know has a different meaning in the sentence.	3.43	0.99
VQ6 I get upset when I come across idioms that are unfamiliar to me.	3.18	0.99
VQ7 It makes me feel uneasy when an unfamiliar word is made up of several parts or syllables.	3.19	0.99
VQ8 I feel worried when the unknown word is difficult to pronounce.	3.27	0.99

Table 8 indicates moderate levels of reading anxiety among participants in the Mandarin classroom. The highest mean score was observed for VQ3 ($M = 4.42$, $SD = 1.08$), reflecting strong upset when learners could not figure out the meaning of a word they felt they had seen before. Moderate anxiety was reported for VQ1 ($M = 3.43$, $SD = 1.15$) and VQ5 ($M = 3.43$, $SD = 0.99$), suggesting that encountering unknown words or familiar words with different meanings contributes to discomfort. Slightly lower mean scores were observed for VQ2 ($M = 3.35$, $SD = 0.94$), VQ4 ($M = 3.19$, $SD = 1.03$), VQ6 ($M = 3.18$, $SD = 0.99$), VQ7 ($M = 3.19$, $SD = 0.99$), and VQ8 ($M = 3.27$, $SD = 0.99$), indicating milder anxiety when dealing with multiple-word items, dictionary lookup difficulties, idioms, and pronunciation challenges. Overall, the findings suggest that uncertainty in understanding words, especially partially familiar ones, is a key component of reading anxiety in Mandarin learners.

Table 9- Mean for Grammar(G)

ITEM	Mean	SD
GQ1 I am nervous when a certain sentence is long and has a complex structure	3.43	1.02
GQ2 When a certain sentence is grammatically unfamiliar is worrying to me.	3.28	1.01
GQ3 It bothers me when a passive voice is used in a sentence.	3.33	0.97
GQ4 I feel upset when the tense of a certain sentence is unclear to me.	3.15	0.99
GQ5 I worry when I am unable to recognize different parts of speech such as adjectives, adverbs, or connective words.	3.36	0.99
GQ6 I get confused when what I know about a grammatical point does not make any sense.	3.28	0.97

Table 9 presents the descriptive statistics for the Grammar Anxiety (G) items. The mean scores across the six items ranged from 3.15 to 3.43, with standard deviations between 0.97 and 1.02, indicating a moderate level of grammar-related anxiety among the participants. The highest mean score was found for GQ1 (M = 3.43, SD = 1.02), suggesting that long sentences with complex structures elicited the greatest anxiety. Concerns about recognizing different parts of speech (GQ5; M = 3.36, SD = 0.99) and the use of passive voice (GQ3; M = 3.33, SD = 0.97) also showed relatively high mean scores. In addition, participants reported moderate anxiety when encountering grammatically unfamiliar sentence structures (GQ2; M = 3.28, SD = 1.01) and when their existing grammatical knowledge failed to make sense (GQ6; M = 3.28, SD = 0.97). The lowest mean score was observed for uncertainty about verb tense (GQ4; M = 3.15, SD = 0.99), although this item still reflected a moderate level of anxiety.

Exploratory Statistics

According to He (2024), correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. It's a common tool for describing simple relationships without making a statement about cause and effect. This section presents data to answer research questions on correlation.

To determine if there is a significant association in the mean scores between all factors in reading, data is analyzed using SPSS for correlations. Results are presented separately in table 10,11 and 12 below.

Findings for Relationship between the environment and personal factors in reading

This section presents data to answer research question 4- Is there a relationship between the environment and personal factors in reading? The corresponding null hypothesis (H1) states that there is no relationship between the environment and personal factors in reading.

Table 10- Correlation between environment and personal factors in reading)

		ENVIRONMENTAL	PERSONAL
ENVIRONMENTAL	Pearson (Correlation)	1	.496**
	Sig (2-tailed)		<.001
	N	508	508
PERSONAL	Pearson (Correlation)	.496**	1
	Sig (2-tailed)	<.001	

	N	508	508
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**Correlation is significant at the 0.01 level (2-tailed)

Table 10 shows there is an association between social support and expectancy components. Correlation analysis shows that there is a moderate significant association between social support and expectancy components ($r=0.496^{**}$) and ($p=0<.001$). According to He (2024), 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 moderate positive relationship between social support and expectancy components. Therefore, the null hypothesis is rejected.

Findings for Relationship between the environment and behavioural factors in reading

This section presents data to answer research question 5- Is there a relationship between the environment and behavioural factors in reading?

The corresponding null hypothesis (H2) states that there is no relationship between the environment and behavior in reading.

Table 11- Correlation between environment and behavior in reading

		ENVIRONMENTAL	BEHAVIOUR
ENVIRONMENTAL	Pearson (Correlation)	1	.503**
	Sig (2-tailed)		<.001
	N	508	508
BEHAVIOUR	Pearson (Correlation)	.503**	1
	Sig (2-tailed)	<.001	
	N	508	508

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

Table 11 shows there is an association between environment and behavior in reading. Correlation analysis shows that there is a high significant association between environment and behavior in reading ($r=0.503^{**}$) and ($p=<0.001$). According to He (2024), 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 environment and behavior in reading. Therefore, the null hypothesis is rejected.

Findings for Relationship between personal and behavioural factors in reading

This section presents data to answer research question 6- Is there a relationship between personal and behavioural factors in reading? The corresponding null hypothesis (H3) states that there is no relationship between personal and behavioural factors in reading.

Table 12- Correlation between personal and behavioural factors in reading

		ENVIRONMENTAL	BEHAVIOUR
ENVIRONMENTAL	Pearson (Correlation)	1	.816**

	Sig (2-tailed)		<.001
	N	508	508
BEHAVIOUR	Pearson (Correlation)	.816**	1
	Sig (2-tailed)	<.001	
	N	508	508

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

Table 12 shows there is an association between personal and behavioural factors in reading. Correlation analysis shows that there is a high significant association between personal and behavioural factors in reading ($r=0.816^{**}$) and ($p<0.001$). According to He (2024), coefficient is significant at the 0.05 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 personal and behavioural factors in reading. Therefore, the null hypothesis is rejected.

Inferential Statistics

According to He (2024), there are three main functions of a T-test and ANOVA. Firstly, both are done to compare means. This test is also done to determine if the average scores (mean) or values of two groups, or one group against a known value, are different enough to be considered statistically meaningful and are not just due to random chance. Secondly, T-test and ANOVA are done to test hypotheses. Researchers use t-tests and ANOVA to test hypotheses about means, such as whether a new treatment significantly impacts a variable or if there's a difference in performance between two distinct groups. Lastly, T-test and ANOVA are done to identify significant differences. The output of a t-test provides a p-value (significance value). If this p-value is below a predetermined threshold (often 0.05), it indicates a statistically significant difference, allowing researchers to draw conclusions about the populations from which their samples were drawn.

Findings for Significant Difference for all factors across Disciplines

This section presents data to answer research question 7: Is there a significant difference for all components across disciplines? The corresponding null hypothesis (H4) states that there is no significant difference for all components across disciplines. Table 10-13 present the results of the T-tests for all components across disciplines.

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
PERSONAL	Equal variances assumed	.710	.400	-3.700	506	<.001	<.001	-.24259	.06557	-.37141	-.11377
	Equal variances not assumed			-3.689	494.196	<.001	<.001	-.24259	.06575	-.37178	-.11340
BEHAVIOUR	Equal variances assumed	.125	.723	-3.841	506	<.001	<.001	-.25988	.06767	-.39282	-.12693
	Equal variances not assumed			-3.843	502.781	<.001	<.001	-.25988	.06762	-.39273	-.12702
ENVIRONMENT	Equal variances assumed	.096	.757	.025	506	.490	.980	.00188	.07459	-.14466	.14842
	Equal variances not assumed			.025	500.596	.490	.980	.00188	.07462	-.14472	.14848

With reference to table 13, a T-test was conducted to examine the effects of all components across disciplines. The analysis shows that there is significant difference between personal factors ($F=0.710, p=0.01$), and behaviour factors ($F=0.125, p=0.01$), leading to the rejection of the null hypothesis. However, there is no

significant difference for the environment factors ($F=0.096$, $p=0.980$) across disciplines, and the null hypothesis is accepted.

CONCLUSION

Summary of Findings and Discussions

Reading anxiety is a common emotional experience among second and foreign language learners, particularly when engaging with texts that contain unfamiliar vocabulary, complex sentence structures, or culturally distant content (Saito, Horwitz, & Garza, 1999; Mills et al., 2006; Trisnayanti et al., 2020). In the context of Mandarin learning, the non-alphabetic writing system, homonyms, and pronunciation complexity may further intensify these challenges. Guided by Bandura's (1986) Social Cognitive Theory, which emphasizes reciprocal interactions among personal, behavioural, and environmental factors, this study examined how learners' emotional, cognitive, and behavioural responses contribute to reading anxiety.

The findings indicate that personal and behavioural factors are the primary contributors to reading anxiety, whereas environmental factors (teaching methods) did not significantly influence anxiety levels. Specifically, participants reported the highest anxiety when lacking background knowledge (BCKQ3, $M = 3.35$) or struggling to identify main ideas (GRAQ3, $M = 3.33$), and when encountering challenging vocabulary (VQ3, $M = 4.42$) and complex grammatical structures (GQ1, $M = 3.43$) (Tables 6–9). In contrast, teaching methods elicited only moderate anxiety, with translation tasks causing the greatest concern and correction of errors the least (Table 5). Correlation analyses revealed significant positive associations among social support, expectancy, personal, behavioural, and environmental factors ($r = 0.496$ – 0.816 , $p < 0.001$; Tables 10–12), supporting the reciprocal determinism proposed by Bandura (1986). T-test results showed discipline-related differences for personal and behavioural factors, but not for environmental factors (Table 13), suggesting that learners' academic backgrounds may influence individual and behavioural dimensions of reading anxiety, while the learning environment alone does not exert a measurable effect in this context.

These findings partially contrast with prior studies, which indicate that instructional design and learning environments can reduce reading anxiety and improve comprehension (Al-Obaydi, Rahul, & Pikhart, 2023; Solati, Amani, & Armat, 2024; Gok, Bozoglan, & Bozoglan, 2021). For example, online oral reading, flipped classroom models, and interactive learning approaches have been found to decrease foreign language reading anxiety and enhance learner engagement. The divergence in the present study may be due to contextual factors such as classroom setting, teacher guidance, or participants' familiarity with the instructional format, suggesting that personal and behavioural factors may exert a more direct influence on reading anxiety than environmental conditions in Mandarin learning contexts.

Overall, this study highlights that vocabulary knowledge, complex sentence structures, and insufficient background knowledge are the primary sources of reading anxiety, while supportive teaching methods, although beneficial, may not independently mitigate anxiety. These results underscore the importance of integrating instructional strategies that address both learners' cognitive-behavioural challenges and emotional needs, providing a more holistic approach to reducing reading anxiety and promoting positive reading experiences in foreign language learning.

Implications and Suggestions for Future Research

Theoretical and Conceptual Implications

The findings of this study provide several theoretical insights within Bandura's (1986) Social Cognitive Theory (SCT) framework. SCT posits that learning arises from reciprocal interactions among personal, behavioural, and environmental factors. In the context of Mandarin reading, personal factors such as background knowledge, prior experience, and cognitive-affective states, and behavioural factors including vocabulary and grammar proficiency, were found to be the primary determinants of reading anxiety, whereas environmental factors, such as teaching methods, exerted limited direct influence. Specifically, deficits in background knowledge (BCKQ3, $M = 3.35$), difficulties in identifying main ideas (GRAQ3, $M = 3.33$), and challenges with vocabulary (VQ3, M

= 4.42) and grammar (GQ1, $M = 3.43$) were associated with higher anxiety levels (Tables 5–9). Correlation analyses further demonstrated significant positive relationships among personal, behavioural, and social support factors ($r = 0.496$ – 0.816 , $p < 0.001$; Tables 10–12), supporting SCT's triadic reciprocal determinism and illustrating how learners' emotional and behavioural responses continuously interact during reading activities. Conceptually, this study highlights that, in linguistically complex learning contexts such as Mandarin, personal and behavioural factors may dominate the development of reading anxiety, suggesting that SCT applications should carefully consider the relative weight of each component.

Pedagogical Implications

From a pedagogical perspective, the findings underscore the importance of directly addressing learners' cognitive and behavioural challenges in order to reduce reading anxiety. Given that vocabulary difficulty emerged as the strongest source of anxiety, explicit and systematic vocabulary instruction should be prioritized, particularly for high-frequency and polysemous words. Pre-teaching key lexical items prior to reading tasks, combined with repeated exposure through contextualized practice, may help learners develop greater confidence and automaticity in reading.

In addition, instructors are encouraged to incorporate pre-reading scaffolding strategies aimed at enhancing learners' background knowledge. Such strategies may include brief cultural explanations, content previews, and guiding questions, which can reduce anxiety associated with unfamiliar topics and support learners in identifying main ideas more effectively. Grammar instruction should also be closely integrated with reading activities, with an emphasis on sentence-level parsing and the interpretation of complex syntactic structures, rather than being treated as an isolated instructional component.

Although teaching methods alone did not significantly reduce reading anxiety in this study, the findings suggest that supportive instructional practices may indirectly alleviate anxiety by fostering positive emotional experiences and reducing avoidance behaviours. In particular, the incorporation of peer-based activities, such as collaborative reading tasks, pair or small-group discussions, and peer-assisted meaning negotiation, may enhance learners' sense of social support and reduce feelings of isolation when encountering challenging texts. Low-stakes reading tasks, flexible and non-threatening error correction, and structured opportunities for peer collaboration can contribute to a less anxiety-provoking learning environment. Such peer interaction may function as a mediating mechanism through which environmental factors influence personal and behavioural dimensions of reading anxiety. Therefore, educators are encouraged to adopt a learner-centred approach that balances cognitive support with emotional sensitivity in foreign language reading instruction.

Suggestions for Future Research

Future studies should explore the interaction between reading anxiety and other learner-related factors within the Social Cognitive Theory framework, examining how personal, behavioural, and environmental variables jointly influence Mandarin reading experiences. Research could investigate the effectiveness of targeted instructional interventions aimed at reducing reading anxiety, compare anxiety patterns across different proficiency levels and academic disciplines, and conduct longitudinal studies to examine changes in reading anxiety over time. Such investigations would provide deeper insights into the development of reading anxiety and support the design of sustainable and context-sensitive pedagogical practices.

In addition, future research may further examine potential moderating variables such as gender and prior Mandarin exposure to determine whether these factors influence the strength of relationships among personal, behavioural, and environmental components. Comparative analyses across diverse learner groups may offer a more nuanced understanding of how reading anxiety manifests in different educational contexts.

Despite its contributions, this study has several limitations. First, the findings are based on self-reported survey data, which may be subject to response bias. Second, the cross-sectional design does not allow for causal interpretations of the relationships among variables. Third, the sample was limited to Malaysian university students, which may restrict the generalisability of the results to other contexts or proficiency levels. Future

research incorporating mixed-method approaches and broader sampling frames could provide a more comprehensive understanding of reading anxiety development.

REFERENCES

1. Ahmad, N., Alias, F.A., Hamat, M., & Mohamed, S.A. (2024) Reliability Analysis: Application of Cronbach's Alpha in Research Instruments. SIG: e-Learning@CS, 114-119. <https://appspenang.uitm.edu.my/sigcs/>
2. Al-Obaydi, L. H., Rahul, D. R., & Pikhart, M. (2023). The effect of online oral reading on reading comprehension, reading anxiety, and classroom anxiety among EFL learners. *Education and Information Technologies*, 29, 2841–2855. <https://doi.org/10.1007/s10639-023-11950-y>
3. Bandura, A. (1986). *Social Foundations of Thought and Theory: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice-Hall. <https://psycnet.apa.org/record/1985-98423-000>
4. Gok, D., Bozoglan, H., & Bozoglan, B. (2021). Effects of online flipped classroom on foreign language classroom anxiety and reading anxiety. *Education and Information Technologies*, 26, 840–860. <https://doi.org/10.1007/s10639-021-10543-2>
5. He, L. (2024) The Application of SPSS Correlation Analysis in the Study of Precision Teaching of English in Universities. *Applied Mathematics and Nonlinear Science*, 9(1), 1-13. <http://dx.doi.org/10.2478/amns-2024-1371>
6. Liu, Q. (2025). Reading anxiety in first and second language acquisition: A comprehensive literature review. *Journal of Modern Social Sciences*, 2(3), 226–233. <https://doi.org/10.71113/JMSS.v2i3.329>
7. Miao, Q.Q., & Vibulphol, J. (2020) English as a Foreign language Reading Anxiety of Chinese Students. *International Education Studies*, 14(3),
8. Mills, N., Pajares, F., & Herron, C. (2006). A reevaluation of the role of anxiety: Self-efficacy, anxiety, and their relation to reading and listening proficiency. *Foreign Language Annals*, 39(2), 276–295.
9. Rahmat, N.H., Arepin, M., & Sulaiman, S. (2020) The Cycle of Academic Reading Fear among Undergraduates. *Asian Journal of University Education*, 16(3), 265-274. [10.24191/ajue.v16i3.9730](https://doi.org/10.24191/ajue.v16i3.9730)
10. Saito, Y., Horwitz, E. K., & Garza, T. J. (1999). Foreign language reading anxiety. *The Modern Language Journal*, 83(2), 202–218. <https://doi.org/10.1111/0026-7902.00016>
11. Trisnayanti, N. L. P. D., Agustini, D. A. E., & Tantra, D. K. (2020). Relationships among reading anxiety, reading self-efficacy, and reading competency in the vocational high school in Singaraja. *International Journal of Language and Literature*, 4(1), 33–46.
12. Solati, A., Amani, A., & Armat, M. R. (2024). Impact of learning environment on reading anxiety: A study of medical students in online and traditional settings. *BMC Medical Education*, 24, Article 1502. <https://doi.org/10.1186/s12909-024-06516-6>
13. Vetter, T.R. (2017) Descriptive Statistics: Reporting the Answers to the 5 Basic Questions of Who, What, Why, When, Where, and a Sixth, so What? *Anesth Analg*, 125(5), 1797-1802. <https://doi.org/10.1213/ane.0000000000002471>
14. Yue Zhou. (2024) Reading Strategies, Engagement, and Anxiety Among Chinese EFL College Students. *Journal of Humanities, Arts and Social Science*, 8(6), 1324-1330. DOI: 10.26855/jhass.2024.06.002
15. Ziegenfuss, J. Y., Casey A. E., Jennifer M. D., Meghan M. J., Thomas E. K., and Marna, C.. (202) Impact of Demographic Survey Questions on Response Rate and Measurement: A Randomized Experiment. *Survey Practice* 14 (1), <https://doi.org/10.29115/SP-2021-0010>.
16. Zoghi, M. (2012). An Instrument for EFL Reading Anxiety: Inventory Construction and Preliminary Validation. *The Journal of Asia TEFL*, 9, 31-56. 64-71. <https://www.ccsenet.org/journal/index.php/ies/article/view/0/44773>