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TOLERANCE OF AMBIGUITY, ENGLISH LEARNING ANXIETY, AND READING COMPREHENSION ACHIEVEMENTS OF SENIOR HIGH SCHOOL STUDENTS

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Abstract:
This study investigates the interrelationships between tolerance of ambiguity (TOA), foreign language anxiety (FLA), and English reading comprehension achievements among senior high school students. A total of 300 sophomores from Xinzhou Experimental High School, Shanxi Province, participated in the research. Quantitative methods were employed with data collected via three instruments: Saito's Foreign Language Reading Anxiety Scale (FLRAS) to measure FLA, Ely's Second Language Tolerance of Ambiguity Scale (SLTAS) to assess TOA, and a standardized reading comprehension test. Data analysis was conducted using SPSS 23.0 and Excel. Key findings include: (1) Participants exhibited moderate levels of FLA, TOA, and reading comprehension; (2) No significant differences in FLA, TOA, or reading scores were observed across age groups (16, 17, 18 years) or gender; (3) FLA was negatively correlated with reading comprehension scores ($r = -0.360$, $p < 0.01$), while TOA was positively correlated with reading scores ($r = 0.425$, $p < 0.01$); (4) A negative correlation was found between FLA and TOA ($r = -0.467$, $p < 0.01$). These results highlight the importance of addressing both cognitive (TOA) and affective (FLA) factors in English reading instruction. The study recommends targeted teaching strategies to reduce anxiety and enhance students' ability to tolerate ambiguity, thereby improving reading proficiency.

Keywords: foreign language anxiety, tolerance of ambiguity, reading comprehension, senior high school students

1. Introduction

English reading comprehension is a foundational skill for language acquisition serving as a primary channel for information intake and a key indicator of overall language proficiency. However, its development is influenced by multiple factors, including cognitive traits like tolerance of ambiguity (TOA) and affective factors like foreign

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language anxiety (FLA). It explores the tools and challenges for the teaching of English in educational institutions and teaching pedagogy (Mallillin, 2024). TOA refers to an individual's capacity to accept and navigate uncertain or incomplete information common in language learning due to unfamiliar vocabulary, syntax, or cultural contexts. FLA, conversely, denotes the tension or apprehension experienced when using a foreign language which can hinder information processing and learning efficiency. It interplays with the English language ambiguity and tolerance for reading comprehension and vocabulary acquisition considering the anxiety level of students. It assesses the performance of reading comprehension and vocabulary knowledge of the students as centers of learning (Baharloo, & Ghasemian, 2024, pp. 61-74). On the other hand, tolerance of ambiguity, English learning anxiety, and reading comprehension achievement recognize the learning process and the pivotal role of recognition in the learners' influence and engagement. It merges with Foreign Language Anxiety to set back the adept circumstances and challenges. It explores the educational context and ambiguity, resilience, and tolerance of foreign language learning (Mallillin, 2017, pp. 27-33). It engages substantial roles and compelling evidence in fostering the tolerance and ambiguity factors in building English learning anxiety. It enhances the ultimate goals to enrich learning experiences in the impact of reading comprehension achievement. It refers to the capacity to navigate the ambiguous situation and adaptability. It encompasses the feedback in sustaining the challenges of tolerance and ambiguity of English learning anxiety and reading comprehension achievement on a positive outlook (Kianinezhad, 2024, pp. 142-150).

In China, English reading holds substantial weight in university entrance exams (53% of total English scores) making it a focal point for teachers and students. Yet, challenges such as diverse discourse types, cultural differences, and individual cognitive-emotional variations often impede comprehension. While prior studies have explored TOA and FLA independently their combined impact on reading achievement among high school students remains underexamined. The research addresses the gaps in aiming to inform pedagogical practices that integrate cognitive and affective support (Mallillin, 2024). It adopts the national examinations for the entrance examination to determine the competency of students in the English language and comprehension level. It validates the necessary consistency of students in the entrance examination especially in the actual performance of the English language (Shi, 2025). On the other hand, English reading holds substantial weight in university entrance exams. It explores the model of academic support in the four elements of English as to speaking, listening, reading, and writing. This analyzes the tolerance of ambiguity in the English anxiety on the reading comprehension and achievement of students as centers of learning (Mallillin, 2023, pp. 7686-7700). It prepares students to take reasoning skills and critical thinking analysis. It involves the questions on the culture reflection of students due to a lack of skills and critical thinking because English is their second language acquisition. It prompts students to provide necessary lectures as part of the curriculum to explore English competency and learning knowledge. It analyzes the competency and consistency of the English

language acquisition and best practices. It focuses on the analysis of the academic support in recognizing the needs of students for the tolerance of ambiguity in the English learning anxiety and reading comprehension achievement (Friedman, 2025).

2. Statement of the Problem

1) What are the demographic profiles (age, gender) of the respondents?
2) What are the levels of FLA, TOA, and reading comprehension among the students?
3) Is there a significant differences in FLA, TOA, or reading comprehension of the respondents when grouped according to profile?
4) What are the correlations between FLA, TOA, and reading comprehension scores?

2.1 Hypotheses

H1: There is no significant difference in the extent of foreign language anxiety of the respondents when grouped according to profile.
H2: There is no significant difference in the tolerance of ambiguity of the respondents when grouped according to profile.
H3: There is no significant difference in the level of reading comprehension of the respondents when grouped according to profile.
H4: There is no correlation between foreign language anxiety, ambiguity tolerance and reading comprehension scores of the respondents.

2.2 Research Design

A quantitative approach was adopted to explore correlations between variables. This design is suitable for testing hypotheses and generalizing findings to larger populations. It measures and quantifies the demographic profiles (age, gender) of the respondents, the levels of FLA, TOA, and reading comprehension among the students, significant differences in FLA, TOA, or reading comprehension of the respondents when grouped according to profile and the correlations between FLA, TOA, and reading comprehension scores (Bhandari, 2023).

2.3 Subjects of the Study

The subjects of the study are the 300 sophomores from Xinzhou Experimental High School who were selected via systematic sampling (Lauren Thomas, 2023). There were 161 females and 139 males among them. They can be regarded as belonging to the same age group even if they were from diverse parts of Shanxi Province and had an average age of 16 to 18. Chinese is the native tongue of every respondent. They had all been studying English for roughly seven years having begun in the third grade of elementary school. They used the same texts and were taught by the same teacher in high school.

3. Results and Discussion

Table 1: Profile of the Respondents

Profiles	Frequency	Percentage (%)
A. Age		
16 years old	57	19.00
17 years old	168	56.00
18 years old	75	25.00
B. Gender		
Male	139	46.30
Female	161	53.70

Table 1 shows the distribution of the 300 respondents as to their age. It reveals that 57 out of 300 or 19.00% of the population belong to the 16-age group and they comprised most of the population sample. Moreover, 168 or 56% of the population belongs to the 17-age group and 75 or 25.00% belong to the 18-age group.

On the other hand, profiles as to gender show that 139 or 46.30% of the population are males while 161 or 53.70% of the population are females.

Results show that the majority of the population sample or 19.00% of the total are in the 16–17 age range with 57 out of 300 people falling into this age group. Additionally, 168 people or 56% of the population are in the 17–18 age group and 75 people or 25% are in the 18–19 age group. The examination of the respondents' Sex characteristics according to data are 161 females and 139 men or 46.30% and 53.70% of the population, respectively.

Table 2: Language Anxiety Frequency in the Three Groups

Level	Scores	Frequency	Percent	Valid Percent	Cumulative Percent
Low LA	23-38	72	24	24	24
Middle LA	39-61	147	49	49	73
High LA	62-92	81	27	27	100
Total		**300**	**100**	**100**	

Table 2 reveals that of the 300 respondents, 72 respondents have a low degree of language anxiety (FLRAS value: 23–38; this represents 24% of all respondents) and 147 respondents are in the intermediate LA group (LA scores: 39–61; this represents 49% of the sample as a whole). Maintaining the high level of LA, 81 respondents or 27% of the total had scores between 62 and 92.

Table 3: Descriptive Statistics of Language Anxiety

	N	Min	Max	Mean	SD
Language Anxiety	300	23	92	55.157	18.091

The respondents' descriptive statistics about language anxiety are displayed in Table 3. This table comprises the Total Number, Minimum, Maximum, Average score, and Standard deviation provide an overview of the variable's basic and general conditions.

Language anxiety is measured on a scale from 20 to 100. Subjects in the study have a minimum score of 23 and a maximum score of 92. Table 3 shows that the subjects' language anxiety scores range from 23 to 92. The language anxiety questionnaires' average score according to the descriptive data is 55.157 on Std. It deviates by 18.091. This shows that most students were neither positioned at the high or the low end of the continuum and the majority of research participants reported a comparatively middle level of language anxiety. The general state of the participants' language anxiety level is displayed in Tables 2 and 3. Based on the data above, it can be concluded that senior high school students have language anxiety when it comes to reading comprehension. In addition, some students continue to have mild language anxiety. Analyzing a few of the topics that the participants with lower levels of language anxiety endorsed is important in order to identify potential causes of language anxiety. Table 5 displays the respondents' 3.25 mean score as well as the standard deviation for each of the scale's twenty elements.

Table 4: Descriptive Data for Each Language Anxiety Item

Answer	N	Minimum	Maximum	Mean	SD
Item 1	300	1	5	2.46	1.073
Item 2	300	1	5	2.54	1.013
Item 3	300	1	5	2.67	1.097
Item 4	300	1	5	2.78	1.212
Item 5	300	1	5	2.59	1.205
Item 6	300	1	5	2.78	1.147
Item 7	300	1	5	2.81	1.208
Item 8	300	1	5	2.82	1.215
Item 9	300	1	5	2.64	1.209
Item 10	300	1	5	2.78	1.167
Item 11	300	1	5	2.73	1.152
Item 12	300	1	5	2.75	1.194
Item 13	300	1	5	2.74	1.156
Item 14	300	1	5	2.55	1.177
Item 15	300	1	5	2.66	1.144
Item 16	300	1	5	3.00	1.305
Item 17	300	1	5	2.83	1.283
Item 18	300	1	5	2.41	1.155
Item 19	300	1	5	2.92	1.139
Item 20	300	1	5	3.68	1.228
			Single Mean	**2.758**	**0.905**

Items 4, 6, 7, 8, 10, 12, 16, 17, 19 and 20 (with a mean above 2.758) suggest a high degree of anxiety per the descriptive analysis in Table 5. The research findings can be summarized as point to several possible causes of linguistic anxiety. Item 20: "English reading has nothing to do with the history and culture of English-speaking countries." Addresses anxiety related to reading comprehension in English and has almost the highest mean score of any item. The third-highest mean score goes to item 19: "The

culture and thoughts of English-speaking countries are quite unfamiliar to me." It illustrates how students' background knowledge is lacking when reading a foreign language and can partially make up for their lack of vocabulary and syntax. Teachers could encourage students to participate in reading exercises, organize in-depth cultural courses pertaining to English, and enhance students' background in reading. Many subjects believed that in order to understand English-language texts, one must be knowledgeable about English history and culture. Students who are unfamiliar with the cultures of English-speaking nations are prone to experience anxiety. Therefore, cultural differences are among the most important variables. The second-highest mean score is item 8: "When reading English articles words that I can't pronounce affect my mood." Thus, the inability to comprehend and pronounce foreign words has a significant impact on reading anxiety. The high mean score of 2.75 for item 12, "I don't like reading English articles," indicates the subjects' interest in reading English in demonstrating how crucial interest into reading. The second-highest mean score goes to item 16: "It would be great if I could learn English just by speaking without reading it." A higher level of reading anxiety is likely to be experienced by students who are not interested in reading in English. Item 15: "The most challenging aspect of learning is reading English aloud." and Item 17: "I don’t mind reading English articles silently, but I would feel uncomfortable if I were asked to read aloud in English." are likewise extremely high. The former suggests that some participants don't find reading enjoyable, while the latter shows that some students don't believe reading English aloud is essential. The high mean score of reading anxiety in item 4, "I get flustered when I see pages of English," suggests that reading anxiety is somewhat influenced by unfamiliar scripts. It is evident from the high mean score of items 7, "When reading English articles, I feel confused and anxious because I don't understand the meaning of each word," that students with inadequate reading comprehension skills are prone to experience anxiety and uneasiness when reading. Thus, reading comprehension skills and students' overall assessment of their reading proficiency are equally important considerations. The relatively high mean score for item 6, "When reading English articles, I feel frustrated when I encounter grammar that I don't know," indicates that grammar can also influence reading anxiety. Complicated grammar can make it difficult for students to understand reading materials in making anxious about learning the information in the article and evoking reading anxiety. High mean scores are also seen in item 10, "By the time you get past the funny letters and symbols in English, it is hard to remember what you are reading about." The students' capacity for reading comprehension is the subject of both of the two questions. However, because most English major students accept methodically and academically related reading training and have many years of experience and skills in reading comprehension, Item 1 (the confident level of reading) and Item 18 (current reading and comprehensive ability) worry students the least. According to the descriptive study, students are more concerned about their "interest in reading", "pronunciation of words" and "culture knowledge of English reading comprehension." Simultaneously, the students' primary concerns are "the confidence level of reading" and "reading comprehension ability." For

the 300 respondents, 147 (or 49% of the sample overall) have intermediate language anxiety (LA scores: 39–61), while 72 (or 24% of all respondents) had low language anxiety (FLRAS value: 23–38). With scores ranging from 62 to 92, 81 respondents or 27% of the total maintained the high level of LA. The majority of senior high school pupils are at the intermediate stage of the problem as evidenced by the 49% of them who report having moderate language anxiety. The descriptive data show that the average score on the language anxiety questionnaire is 55.157 on Std. The difference is 18.091. This indicates that the majority of research participants reported a relatively moderate degree of language anxiety, and the majority of students were neither at the high nor low end of the continuum. The descriptive study indicates that while students' primary concerns are "the confidence level of reading" and "reading comprehension ability," they are also more concerned with their "interest in reading," "pronunciation of words," and "cultural knowledge of English reading comprehension."

Table 5: Tolerance of Ambiguity Frequency in the Three Groups

Level	Scores	Frequency	Percent	Valid Percent	Cumulative Percent
Low TOA	19-35	84	28	28	28
Middle TOA	36-45	147	49	49	77
High TOA	46-58	69	23	23	100
Total		**300**	**100**	**100**	

As can be seen in Table 5, the scores are sorted from lowest to highest. Out of the 300 subjects, 84 students fall into the low TOA group, with SLTAS values between 19 and 35, making up 28% of the total. The remaining 147 students make up the middle TOA group, with TOA values between 36 and 45, making up 49% of the sample as a whole. Twenty-nine students or twenty percent of the total are in the high level of TOA with SLTAS values ranging from 46 to 58. It demonstrates that most seniors in high school have a moderate level of ambiguity tolerance.

Table 5 shows that while there were notable variations between the three tolerant groups are moderately anxious group outperformed to the other two groups. The senior high school learning experiences of those second-year students were comparable in the same English teacher, used the same reading comprehension textbook, and received the same amount of in-class reading instruction. So why did they show such notable variations in their levels of ambiguity tolerance? Certain studies discovered a strong correlation between risk-taking and ambiguity tolerance. Anxiety and self-esteem are also associated with ambiguity tolerance. Each of these variables may have some degree of impact on students' ability to tolerate ambiguity.

Table 6: Descriptive Statistics of Tolerance of Ambiguity

	N	Min	Max	Mean	SD
Language Anxiety	300	19	58	40.610	9.088

Table 6 displays the TOA scores of the 300 participants vary from 19 to 58. The participants' average score is 40.61. This average score is slightly above the middle of the scoring continuum (12–60). It shows that most students are not positioned at the low or high ends of the continuum and that most research participants maintain a comparatively medium level of ambiguity tolerance. The lowest score is 12 indicates the lowest level of TOA and the highest score is 60 indicates the highest level of TOA with a range of values in between according to Ely's Second Language Tolerance of Ambiguity Scale. Table 6 provides descriptive information. It indicates that no patients have an exceptionally low level of TOA with a score of 19 and that no subjects have an extremely high level of TOA with a score of 58. Given that the participants' TOA scores varied from 19 to 58. This concludes that the majority of them displayed a moderate degree of TOA which is lacking either an exceptionally high or low level. Tolerance of Ambiguity (TOA) levels were generally shown in Tables 6 and 7 with most respondents maintaining a moderate level of TOA. The majority of participants do not exhibit abnormally low ambiguity tolerance. The outcome remains integrated with the creation of associated reading courses. Furthermore, a significant percentage of the points on the various English tests are awarded for reading comprehension. As a result, the majority of seniors in high school have studied English reading for many years and are conversant with the fundamentals of reading comprehension. Conversely, some people maintain a low level of TOA. The participants' mean score or 3.38 out of a total of 12 items is displayed in Table 8. The subjects could tolerate less a lower mean score. Analyzing a few of the items that the participants with lower levels of TOA (M<3.38) supported is required in order to understand the nature of TOA.

Table 7: Descriptive Data for Each Tolerance of Ambiguity Item

Answer	N	Minimum	Maximum	Mean	SD
Item 1	300	1	5	3.33	1.018
Item 2	300	1	5	3.43	1.106
Item 3	300	1	5	3.58	1.062
Item 4	300	1	5	3.51	1.055
Item 5	300	1	5	3.53	0.966
Item 6	300	1	5	3.40	1.100
Item 7	300	1	5	3.64	1.023
Item 8	300	1	5	3.57	1.008
Item 9	300	1	5	3.24	0.999
Item 10	300	1	5	3.43	1.084
Item 11	300	1	5	3.01	1.026
Item 12	300	1	5	2.96	1.144
			Single Mean	**3.384**	**0.757**

Item 11 (M = 3.01) "I don't like the fact that sometimes I can't find English words that mean the same as some words in my own language" and Item 12 (M = 2.96) "One thing I don't like about reading in English is having to guess what the meaning is" are two of the items with the lowest mean scores on the TOA. This shows that students find it

intolerable to guess the meaning of words they are unfamiliar with. This explanation suggests that these language learners do not develop a habit of making educated guesses about new terms. It suggests that pupils are not receiving proper instruction in reading skills. Foreign language instructors should assist students in honing their word-guessing skills, teach them efficient reading techniques, and help them become more adept readers in order to further enhance their reading abilities. Item 1: "When reading something in English, I feel impatient when I don't fully understand the meaning." Item 9: "When the author uses a word I don't know, I will be very troubled." These items show that students with low levels of TOA are more affected by "lengthy reading material" and "unfamiliar words, ideas, theory, and culture." Meanwhile, the students are least confused by Item 7: "application of grammar knowledge," which states that senior high school students have a relatively perfect grammar system in reading as well as training. Because readers of English are not accustomed to new vocabulary or cultural content that may become intolerant of ambiguity. According to the above descriptive analysis students are most confused by "guessing the meaning of new words" and "corresponding English words in Chinese." In contrast, they are less confused by "application of grammar knowledge" and "adjustment of reading speed according to reading materials." 84 students or 28% of the total of 300 subjects have SLTAS levels between 19 and 35 placing them in the low TOA group. With TOA values ranging from 36 to 45 the remaining 147 students comprise the middle TOA group which accounts for 49% of the total sample. With SLTAS values ranging from 46 to 58, twenty-nine students or twenty percent of the total are at the high level of TOA. It indicates that a moderate level of ambiguity tolerance is possessed by the majority of high school seniors. Tables 6 and 7 typically display the tolerance of ambiguity (TOA) levels of the respondents, most of whom retain a moderate level of TOA. Most participants don't show unusually low levels of ambiguity tolerance. The descriptive study above indicates that students are more perplexed by "guessing the meaning of new words" and "corresponding English words in Chinese." In contrast, they are less bewildered by "application of grammar knowledge" and "adjustment of reading speed according to reading materials."

Table 8: The Level of Reading Comprehension Frequency in the Three Groups

Level	Scores	Frequency	Percent	Valid Percent	Cumulative Percent
Low RC	92-110	97	32.4	32.4	32.4
Middle RC	111-127	148	49.3	49.3	81.7
High RC	128-138	55	18.3	18.3	100
Total		**300**	**100**	**100**	

Table 8 shows that high school students' reading comprehension scores range from 92 to 138 as the chart illustrates. The higher the score, the greater the student's reading comprehension ability. There is a minimum of 92 and a maximum of 138. The sample size distribution was as follows: the low level reading comprehension score ranged from 92 to 110, with a total of 97 people or 32.4 percent; the medium level reading comprehension score ranged from 111 to 127, with a total of 148 people, or 49.3 percent, which accounted

for the largest proportion; the high level reading comprehension score ranged from 128 to 138, with a total of 55 people, or 18.3 percent of the sample size.

Table 9: Descriptive Statistics of The Level of Reading Comprehension

	N	Min	Max	Mean	SD
The Level of Reading Comprehension	300	92	138	115.49	12.856

Table 9 displays the reading comprehension scores of 300 research participants which varied from 92 to 138. The research subjects' average score was 115.49. This average score falls between 92 and 138 indicating a moderate degree of proficiency in reading English. Nearly half of the other subjects were at an intermediate English reading comprehension level. Lu (2018) showed that sophomores have a moderate level of reading self-efficacy. The distribution of the sample size was as follows: 32.4 percent of the sample was at the low level; 49.3 percent was at the medium level, which made up the biggest chunk; and 18.3 percent was at the high level of reading comprehension. The 300 research participants' reading comprehension scores ranged from 92 to 138. The average score for the research subjects was 115.49. The average score ranges from 92 to 138 which shows a moderate level of English reading competency. The reading comprehension level of the remaining subjects was intermediate in English for nearly half of them.

Table 10: Descriptive Statistics of Foreign Language Anxiety on Age

Variable	Age	N	Mean	SD
Foreign Language Anxiety	16	57	55.439	19.463
	17	168	54.327	17.123
	18	75	56.800	19.228

Table 10 presents a descriptive analysis of anxiety related to foreign language acquisition by age group indicating that the mean for Age 16 is 55.439, somewhat lower than the mean of Age 17 which is 54.327. With a mean score of 56.8, age 18 has the highest level of anxiety related to learning a foreign language. The age group of eighteen has a higher level of anxiety related to foreign languages. The following table 12, one-way analysis of variance (ANOVA) for foreign language anxiety on Age is provided in order to further investigate whether there is any association between foreign language anxiety and age.

Table 11: One-way Analysis of Variance for Foreign Language Anxiety on Age

	Sum of Squares	df	Mean Square	F	Sig.(2-tailed)
Between-group variation	322.608	2	161.304	0.491	0.612
Within-group variation	97539.029	297	328.414		
Total	97861.637	299			

The results of table 11, the one-way analysis of variance (ANOVA) for foreign language anxiety on age show that $p=0.612 > 0.05$, which indicates that there is no statistically significant difference in the foreign language anxiety scores between age groups. That is

to say that there is no variation in foreign language anxiety between the ages of 16 and 17.

Table 12: Descriptive Statistics of Foreign Language Anxiety on Sex

Variable	Sex	N	Mean	SD
Foreign Language Anxiety	F	161	56.913	17.83795
	M	139	53.1223	18.23337

Table 12 above shows that the mean for female students is 56.913, which is higher than the mean for male students indicating that the majority of female students experience higher levels of anxiety than male students. Concurrently, the T-test is administered to investigate the correlation between Sex and anxiety related to learning a foreign language.

Table 13: Independent Sample Test for Foreign Language Anxiety on Sex

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	0.407	0.524	1.817	298.000	0.070	3.791	2.087
Equal variances not assumed			1.814	289.688	0.071	3.791	2.090

The descriptive analysis of anxiety related to learning a foreign language makes it evident that the mean for females in Sex is somewhat greater than the mean for males, according to the T-test analysis above, t=1.817, P=0.07>0.05, the difference in anxiety related to learning a foreign language between males and females is small and not noticeable. But Lafontaine and Turcotte, et al. (2022) suggested that differences in participants' gender contributed to differences in anxiety and that negative emotions were a direct cause of anxiety in the understanding of ambiguous tolerance scenarios in reading. Based on the results of the analyses presented in the table above, it can be confirmed that Hypothesis 1 is valid, i.e. there is no significant difference in the extent of foreign language anxiety of the respondents when grouped according to profile.

Table 14: Descriptive Statistics of Tolerance of Ambiguity on Age

Variable	Age	N	Mean	SD
Tolerance of Ambiguity	16	57	39.140	9.376
	17	168	41.333	9.029
	18	75	40.107	8.948

Table 14 presents a descriptive study of age group tolerance of ambiguity indicating that the mean for Age 16 is 39.14, somewhat lower than the mean of Age 17, which is 41.333. With a mean score of 40.107, age 18 represents the middle range for foreign language anxiety. This can be concluded that 17 is a higher age at which people can tolerate

uncertainty. The following table 16 provides a one-way analysis of variance (ANOVA) for tolerance of ambiguity on Age in order to investigate any potential relationships between tolerance of ambiguity and age.

Table 15: One-way Analysis of Variance for Tolerance of Ambiguity on Age

	Sum of Squares	df	Mean Square	F	Sig.(2-tailed)
Between-group variation	322.608	2	161.304	0.491	0.612
Within-group variation	97539.029	297	328.414		
Total	97861.637	299			

The tolerance of ambiguity score between age groups has no statistical significance, according to the one-way analysis of variance (ANOVA) for tolerance of ambiguity on age shows that p=0.612 > 0.05. Stated differently that there is no discernible variation in the tolerance for ambiguity between the ages of 16, 17, and 18.

The second one looks at whether participants of various Sex tolerance for ambiguity differ significantly from one another.

Table 16: Descriptive Statistics of Tolerance of Ambiguity on Sex

Variable	Sex	N	Mean	SD
Tolerance of Ambiguity	F	161	41.335	8.670
	M	139	39.770	9.511

Table 16 above illustrates this point: the mean for female students is 41.335 greater than the mean for male students which indicates that most female students have a higher threshold for ambiguity than male students. Simultaneously, the T-test is administered to investigate the correlation between Sex and ambiguity tolerance.

Table 17: Independent Sample Test for Tolerance of Ambiguity on Sex

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	2.458	0.118	1.491	298.000	0.137	1.566	1.050
Equal variances not assumed			1.481	281.904	0.140	1.566	1.057

The T-test analysis indicates that t=1.491, P=0.137>0.05, which means that there is no statistical significance for the tolerance of ambiguity score between Sex. But otherwise, there is no difference in the tolerance for ambiguity between males and females. Overall, prove that Hypothesis 2 holds that there is no significant difference in the tolerance of ambiguity of the respondents when grouped according to profile.

Table 18: Descriptive Statistics of Respondents in the Level of Reading Comprehension on Age

Variable	Age	N	Mean	SD
The Level of Reading Comprehension	16	57	116.120	12.656
	17	168	115.650	12.688
	18	75	114.670	13.498

Table 18 presents a descriptive study of reading comprehension levels by age group, indicates that the mean score for Age 16 is 116.12, slightly higher than the mean score for Age 17, which is 115.65. With a mean score of 114.67, age 18 had the lowest reading comprehension level. Students with higher scores demonstrate a higher degree of reading comprehension. We can assume that reading comprehension is higher at age 16. The following table 20 one-way analysis of variance (ANOVA) for the degree of reading comprehension on Age is provided in order to further investigate whether there is any association between reading comprehension and age.

Table 19: One-way Analysis of Variance for the Level of Reading Comprehension on Age

	Sum of Squares	df	Mean Square	F	Sig. (2-tailed)
Between-group variation	77.9	2	38.95	0.234	0.791
Within-group variation	49339.087	297	166.125		
Total	**49416.987**	**299**			

The results of the one-way analysis of variance (ANOVA) for the reading comprehension level on age show that $p=0.791 > 0.05$, indicating that there is no statistically significant difference in the reading comprehension scores of the various age groups. On the other hand, there are no discernible differences in reading comprehension between the ages of 16,17 and 18. The second one focused on whether reading comprehension levels amongst subjects of various Sex differ significantly from one another.

Table 20: Descriptive Statistics of Respondents in the Level of Reading Comprehension on Sex

Variable	Sex	N	Mean	SD
The Level of Reading Comprehension	F	161	115.450	12.862
	M	139	115.550	12.895

Table 20 above shows that the mean for female students is 115.45, which is less than the mean for male students indicating that the majority of female students have lower reading comprehension levels than the majority of male students. Simultaneously, the T-test is administered to investigate the correlation between Sex and reading comprehension proficiency.

Table 21: Independent Sample Test for Respondents in the Level of Reading Comprehension on Sex

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	0.000	0.997	-0.067	298.000	0.947	-0.100	1.491
Equal variances not assumed			-0.067	291.428	0.947	-0.100	1.491

The T-test analysis reveals that t=-0.067, P=0.947>0.05, indicating that there is no statistical significance in the reading comprehension scores between Sex. To put it in another way, there are no distinctions in reading comprehension skills between men and women. Overall, demonstrate the validity of Hypothesis 3, that there is no significant difference in the level of reading comprehension of the respondents when grouped according to profile.

Table 22: Correlations between the LA and Reading Comprehension Achievements

		Foreign Language Anxiety	Reading Comprehension Achievements
Foreign Language Anxiety	Pearson Correlation	1	-0.360**
	Sig.(2-tailed)		0.000
	N	300	300
Reading Comprehension Achievements	Pearson Correlation	-0.360**	1
	Sig.(2-tailed)	0.000	
	N	300	300
Correlation is significant at the 0.01 level (2-tailed).			

As previously stated, the Comprehensive English Course and English Extensive Reading Course scores are specifically referred to when discussing the English reading comprehension achievements in this study. The Pearson correlation coefficient is used to examine the relationship between language anxiety and reading comprehension proficiency. The correlation coefficient between reading comprehension achievements and anxiety related to foreign languages is -0.360, indicating a negative association according to Table 23's data for the Pearson correlation coefficient statistic. This indicates that reading comprehension scores decrease with increasing levels of foreign language reading anxiety. The data met statistical significance as evidenced by the Sig.(2-tailed) of 0.000, which also means that there is no chance that the two variables are unimportant. The data reach a significant level of 0.01 when the correlation coefficient displays a * symbol at the upper right corner. Furthermore, we can see that each variable has a perfect positive linear relationship with itself because the major diagonal's correlation coefficient is always 1. The findings indicate that there is a negative relationship between reading comprehension proficiency and anxiety related to learning a foreign language. That is to say, kids' English reading performance decreases with increasing levels of language

anxiety. The outcome demonstrates that language anxiety may hinder students' capacity to process information in educational contexts. It appears that language learners find it challenging to store and produce language because language anxiety depletes the energy and strength needed for memory and thought processes (Mallillin & Lopez, 2024, pp. 97-108).

Table 23: Correlations between the TOA and Reading Comprehension Achievements

		TOA	**Reading Comprehension Achievements**
TOA	Pearson Correlation	1	0.425**
	Sig.(2-tailed)		0.000
	N	300	300
Reading Comprehension Achievements	Pearson Correlation	0.425**	1
	Sig.(2-tailed)	0.000	
	N	300	300
Correlation is significant at the 0.01 level (2-tailed).			

The Pearson correlation value between TOA and reading comprehension is 0.425, which indicates a positive link between the two as can be shown in Table 24. Essentially, this suggests that reading comprehension scores increase with subject TOA. The two variables between the probability of irrelevance are nearly nil when the (2-tailed) value is 0.000, suggesting that it is statistically significant. The data attained a significant level of 0.01 according to the two coefficients at the top right of the correlation coefficient. Therefore, we can conclude that reading comprehension achievement and ambiguity tolerance have a strong positive link. That is to say, students' achievements in English reading rise with their level of ambiguity tolerance. The study's conclusion demonstrated in order to keep with the drastically different reading system and cultural content associated with learning English, Chinese readers of the language needed to tolerate some degree of ambiguity. Students who can tolerate ambiguity well do marginally better when it comes to reading comprehension. Students who can take a certain amount of ambiguity better than those who get too afraid of it are likely to stick with it longer. This paper examines the connection between linguistic anxiety and ambiguity tolerance when performing reading comprehension tests. Table 25 shows the link between the two parameters. According to several researchers, students' reading performance is closely correlated with their ability to bear the ambiguities that vocabulary terms that are unrelated to the reading task generate (Xu Xianjia & Ouyang Guhua, 2018).

Table 24: Correlations between the Foreign Language Anxiety and Tolerance of Ambiguity

		Foreign Language Anxiety	**TOA**
Foreign Language Anxiety	Pearson Correlation		-0.467**
	Sig.(2-tailed)		0.000
	N	300	300
TOA	Pearson Correlation	-0.467**	
	Sig.(2-tailed)	0.000	
	N	300	300
Correlation is significant at the 0.01 level (2-tailed).			

According to Table 24, there is a negative link between language anxiety and tolerance for ambiguity, with a Pearson correlation coefficient of -0.467. It implies that reading anxiety for foreign languages decreases with increasing TOA of the participants. The Sig. Given that the (2-tailed) value is 0.000, it is statistically significant. The data attained a significant level of 0.01 according to the two coefficients at the top right of the correlation coefficient. Consequently, we can conclude that language anxiety and ambiguity tolerance are highly negatively correlated. In other words, students' tolerance for ambiguity decreases as their level of language anxiety increases. To put it plainly, tolerance of ambiguity is the ability to accept unclear circumstances. Learning a foreign language involves a considerable amount of uncertainty regarding meanings, reference, and pronunciations which frequently causes language anxiety. The analysis shown above rules out the fourth hypothesis. The degree of reading comprehension and the ability to tolerate ambiguity are positively correlated based on Pearson correlation coefficient. Thus, the better one's reading comprehension, the greater their tolerance for ambiguity. There is a direct relationship between reading comprehension and anxiety related to learning a foreign language; students who have less worry about learning a foreign language are likely to have higher reading comprehension levels. Based on the Pearson correlation analysis, it may be inferred that students who have a higher tolerance for ambiguity also tend to have lower levels of anxiety related to learning a foreign language. Finally, it can be concluded that there is a negative relationship between tolerance of ambiguity and foreign language learning anxiety, a positive relationship between foreign language learning anxiety and reading comprehension achievement, and a positive relationship between tolerance of ambiguity and English reading comprehension achievement. According to Sun (2023), the following findings were obtained: the higher the ambiguity tolerance level of students in different achievement groups, the lower the level of reading anxiety; ambiguity tolerance in complex situations had the strongest correlation with English reading anxiety; and ambiguity tolerance in unfamiliar situations had the greatest variability in group comparisons.

4. Conclusion

This study aims to investigate the relationship between reading comprehension proficiency and the degree of anxiety associated with learning a foreign language as well as the senior high school students' ability to tolerate ambiguity. The primary conclusions are as follows: First, using Ely's SLTAS and Satio *et al.*'s FLCAS, it shows that, out of 300 students, 49% have a middle tolerance for ambiguity and 49% have a middle level of anxiety related to learning a foreign language. As a result, it may be concluded that students are still at the stage of learning English when they are merely absorbing information and that they still need improvement in applying that information. It is also seen in the outcomes of anxiety related to learning a foreign language. Students exhibit the greatest worry when it comes to communication which is followed by anxiety related to negative evaluations and lastly, anxiety related to test. These findings also imply that students are apprehensive about applying what they have learned.

Second, reading comprehension levels among students who have high and poor tolerance for ambiguity and anxiety related to learning a foreign language differ. The degree of reading comprehension and TOA have a positive correlation. This implies that there is little variation in the reading comprehension proficiency of students based on their level of TOA. By contrast, there appears to be a negative difference in reading comprehension between those with high and low levels of anxiety. It is anticipated that students who exhibit lower levels of anxiety would score higher, while those who exhibit higher levels of anxiety would score lower.

Thirdly, there is no difference in the reading comprehension level, anxiety related to foreign languages or ambiguity tolerance between male and female students. Furthermore, the degree of reading comprehension, anxiety related to learning a foreign language, and ambiguity tolerance are not affected by age groups. Regarding the connection between ambiguity tolerance and anxiety related to learning a foreign language, it may be summed up by stating that students who exhibit high levels of ambiguity tolerance also exhibit low levels of anxiety related to learning a foreign language.

Conflict of Interest Statement

The author declares no conflict of interest in this research.

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