| **RESEARCH ARTICLE**

The Study on English Reading Anxiety of Chinese College Undergraduates Based on the Broaden-and-Build Theory

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| **ABSTRACT**

Among many factors that affect students' English reading performance, reading anxiety, which is an important emotional factor in English learning, has gradually attracted attention in recent years. There is enough evidence that anxiety, as a kind of negative emotion, can significantly affect students' reading performance. However, the current researches mainly focus on the differences in students' reading performance caused by anxiety. Relatively few studies have been carried out on the correlation between reading anxiety, anxiety causes and coping strategies. Therefore, this paper aims to explore the causes and coping strategies of English reading anxiety based on quantitative and qualitative research. The research refers to Saito's Foreign Language Reading Anxiety Scale to design a questionnaire and measure the degree of Chinese college students' English reading anxiety. Based on the broaden-and-build theory and combined with the interview results, it is concluded that Chinese college undergraduates have English reading anxiety in general. Nevertheless, by establishing pleasant reading resources and adopting effective coping strategies, learners can reduce English reading anxiety, thus improving reading ability and enhancing reading interest.

1. Introduction
1.1 Research Background
With the continuous development of globalization, cross-cultural communication is becoming more and more important. As the main medium of international communication, English is becoming more and more important. However, English reading anxiety, as a common problem in the process of English learning, hinders the development of learners' reading and cross-cultural communication abilities. At the end of the 20th century, Saito et al. (1999) put forward the concept of English reading anxiety and developed the Foreign Language Reading Anxiety Scale (FLRAS), which, for the first time, pointed out that English reading anxiety and general English anxiety are different but related. English reading anxiety is an independent concept that varies from language to language. In China, studies on English reading anxiety show that English reading anxiety is prevalent among English learners. It may be caused by many factors, including learners' gender, low reading comprehension ability, and negative attitudes towards texts. Hao and Hao (2001) pointed out that anxiety has a negative impact on students' reading comprehension. Liao (2008) conducted an empirical study on non-English majors and found that they generally have reading anxiety, which is negatively correlated with English achievement. Shi and Liu (2006) studied the influence of English reading anxiety on English achievement and believed that gender differences may lead to differences in English reading anxiety levels. Men generally show higher anxiety levels, and are negatively correlated with English achievement. Zhou (2008) discussed the relationship between reading anxiety and reading strategies and believed that learners' reading anxiety level affects their choice of reading strategies. Zhang (2012)

studied the relationship between college students' English reading achievement and reading anxiety through FLRAS and found that reading achievement was positively correlated with reading anxiety, suggesting that moderate reading anxiety was helpful in promoting English reading learning. This is contrary to what previous studies have revealed, indicating that it is necessary to further study how to achieve moderate reading anxiety rather than excessive anxiety. Based on Barbara Fredrickson's broaden-and-build theory, the study investigated about 200 undergraduate students in Chinese universities, and proposed to use reading pleasure to build resources to cope with reading anxiety, rather than reading pleasure completely replacing reading anxiety. Therefore, adopting diversified reading material selection, progressive reading challenges, cooperative learning and sharing, cultivating positive learning attitude and providing effective reading strategies can effectively deal with English reading anxiety.

1.2 Research Significance
College English Syllabus points out that colleges should cultivate students' strong reading ability and certain listening, speaking, writing and translation ability. At the same time, it emphasizes that teaching should pay attention to the cultivation of students' reading ability because reading is the basis of students' comprehensive language ability, which plays an important role in obtaining key information. Therefore, an in-depth study of English reading can effectively improve students' comprehensive ability in English. More importantly, it is of great significance to study the causes of English reading anxiety and related coping strategies because English reading anxiety is a key factor affecting the development of English comprehensive ability.

1.3 Research Questions
This study deeply understands the sources and effects of reading anxiety and proposes effective coping strategies. By constructing a research framework, this paper explores the degree and influencing factors of college students' English reading anxiety, finds out the causes of English reading anxiety, and gives suggestions based on relevant theories and empirical research. It is helpful in promoting further research on English reading anxiety. At the same time, the application of the research results will also provide useful references for practical teaching.

2. Literature Review
2.1 English Reading Anxiety
2.1.1 Definition of English Reading Anxiety
The American Psychological Association defines anxiety as an unpleasant emotional state, which is mainly characterized by individual perception of tension, fear and worry and is activated by the autonomic nervous system. It is a self-deprecating cognition, which can be generally divided into trait anxiety, state anxiety and situation specific anxiety (Spielberger, 1983). Shi and Liu (2006) believe that anxiety is a nervous and fearful emotional state formed by individuals who are frustrated by their self-esteem and self-confidence due to the failure of expectations to achieve their goals, the threat of inability to overcome obstacles or the increase of their sense of failure and guilt. Gardner and MacIntyre (1993) argue that foreign language anxiety has a close and special relationship with the second language environment.

Therefore, based on the viewpoints mentioned above, English reading anxiety has the following characteristics: it is manifested as tension, worry, fear, etc.; the cause of anxiety is that individuals are worried about not achieving the anticipated reading effect; its generation is related to the individual's reading environment.

2.1.2 Importance of Studying English Reading Anxiety
Reading ability is very important for Chinese college students. English teaching in China's universities aims to enable students to obtain the required professional information in English. Various English tests at home and abroad, such as TOEFL, IELTS, GRE, College English Test (CET), and Professional English Test (PET), all attach importance to the investigation of reading comprehension ability. However, English reading anxiety is common in English learning, and the degree of anxiety varies. English reading anxiety mainly comes from the lack of cognition of English and the infiltration of English culture. At the same time, it also involves college students' concerns about academic achievements, which leads to low efficiency and much anxiety in English reading. Anxiety not only affects students' learning effect but also has a negative impact on their psychological conditions. In view of the importance of English to Chinese students, it is of great significance to improve English reading ability and reduce English reading anxiety in the teaching of English as a foreign language.

2.1.3 Research Status of Foreign Language Reading Anxiety
In recent years, some experts at home and abroad have begun to study the relationship between foreign language reading anxiety and academic performance. Saito et al. (1999) used the Foreign Language Reading Anxiety Scale to study 383 American college students in French, Russian and Japanese. The results show that reading a foreign language can lead to anxiety, and with the growth of reading difficulty, students' anxiety increases while their academic performance decreases. Sellers (2000) conducted a study on the influence of Spanish learners' reading comprehension. The results show that the higher the level of reading anxiety, the worse the learners' memory of Spanish texts; the lower the level of reading anxiety, the easier it is for students to remember

the language text. Domestic research on foreign language reading anxiety started late, but recently, many scholars have carried out empirical research on English reading anxiety. Deng (2003) studied the relationship between anxiety and English reading efficiency and found that anxiety may have both positive and negative effects on reading efficiency, revealing the dual effects of anxiety. It shows that only moderate adjustment of learners' anxiety can help improve reading efficiency. In an experiment, Shi and Liu (2006) found that the reading anxiety of 220 non-English major sophomores had a moderate negative correlation with their CET-4 scores, and showed that the degree of anxiety could predict the overall level of students' English to a certain extent.

So far, studies at home and abroad have confirmed that foreign language learners generally have reading anxiety, which imposes a significant influence on reading performance.

2.1.4 Related Research on Causes of English Reading Anxiety

Modern schema theory believes that the process of reading comprehension is a bidirectional process in which the existing background knowledge in the reader's mind interacts with the content of the article. A schema refers to the stored experience in memory, which is the structure of the existing knowledge in the human brain. The reading object, which is the article itself, does not have any meaning. The meaning exists in the reader's mind, depending on the degree of activation of the relevant schema knowledge during the reader's reading process. In the process of English reading comprehension, the absence of schema is an important cause of comprehension difficulties. The schema is formed in experience, and different cultural backgrounds have created completely different experiences. Therefore, cultural differences lead to the lack of schema suitable for non-native English speakers, which causes obstacles in the process of reading comprehension. Chinese universities usually do not offer British and American culture courses for non-English majors, which leads to students' failure to fully grasp the cultural background knowledge of English-speaking countries. Therefore, when encountering cultural differences in the process of reading, students often feel anxious and at a loss.

Another important reason for English reading anxiety is the lack of language knowledge, which includes pronunciation, vocabulary, phrases, sentence structure, paragraphs, text structure and so on. Language is the medium of information transmission. Lack of language knowledge will affect and hinder the development of reading skills. In the study of the relationship between foreign language reading anxiety and English achievement, Shi and Liu (2006) found that for most English learners, low-level processing, such as letter and word recognition, can generally be completed automatically and efficiently in their mother tongue. That is because after years of practice, native readers' reading behavior is close to mechanical reaction, so not only do they feel relaxed and comfortable in the reading process, but they have a clear understanding of the content they read. However, when reading English, because the foreign language system has not been fully acquired, learners must pay more attention to the low-level processing process, which leads to distraction, reduced efficiency, and anxiety.

2.1.5 Related Research on Coping Strategies of English Reading Anxiety

Krashen (1983) believes that the necessary condition for the development of i + 1 is that the learner understands the input containing i + 1; that is, the language learner's current level is i, and the language input difficulty he can accept should be i + 1. If the difficulty is i + 2, it will produce anxiety; if the difficulty is i + 0, it cannot stimulate curiosity or provide new knowledge necessary for progress. Similarly, if English reading materials are too difficult, which include a large number of new words and difficult sentences, students are likely to feel anxious. Then, the use of reading skills, such as looking up dictionaries, is impossible. On the contrary, if reading materials are too simple, learners may not be able to produce the excitement of reading, nor can they mobilize the enthusiasm for learning. Therefore, Krashen (1983) believed that the difficulty of selecting reading materials should be less than 3% for new words and 70% for post-reading comprehension. Teachers should give priority to some short, knowledgeable or story-based articles when selecting reading materials so as to cultivate students' interest in reading. Then, the teaching methods are adjusted according to the length, content and genre of the article, and much attention should be paid to improve reading speed and cultivate reading skills. In addition, studies have shown that the choice of reading materials should be diversified, and the relevant background knowledge should also be suitable for students' acceptance.

Barnett (1989) defined reading strategies as the mental operations involved in the reader's conscious processing of the text to understand its meaning, while Goodman (1996) believed that it is a process in which the reader continuously samples, predicts, tests, and confirms from the text while reading. Excellent readers will consciously or unconsciously take some specific actions to enhance their understanding of the text during the reading process. Using effective reading strategies can improve reading efficiency and help avoid anxiety caused by reading disorders. Studies have shown that reading strategies not only contain some skills, such as prediction, inference, guessing, skimming, etc. but also include the selective and controllable behaviors adopted by readers to achieve the expected reading goals. With the advancements in research, the content of reading strategies is constantly enriched, including the activation of background knowledge, the use of cognitive schema, and the strategy of in-depth understanding of the text. Therefore, if students can improve their strategic awareness and ability, they can continuously overcome the anxiety caused by reading obstacles.

2.2 The Broaden-and-Build Theory
2.2.1 Introduction of the Broaden-and-Build Theory
Fredrickson (2001) first proposed and developed the broaden-and-build theory of positive emotions, which explains the evolutionary adaptation value of positive emotions and presents the mechanism of positive emotions promoting individual development. The two functions of expansion and construction are the core parts of the theory.

2.2.1.1 The Expansion Function
Positive emotions can expand the individual's immediate thought-action category, including the scope of the individual's attention, cognition, and action (Fredrickson, 2001). Fredrickson (2001) believes that both negative and positive emotions have the significance of evolutionary adaptation. Negative emotions can enable individuals to benefit from threatening situations. When individuals experience life threats, negative emotions will cause them to have a tendency for specific actions and narrow their thinking and action resources so that they can focus more on the immediate situation, make decisions quickly, and take action to survive. Positive emotions have completely different adaptive values. When individuals experience positive emotions in a non-threatening situation, they will have a tendency to engage in non-specific actions, and they will become more focused and open. In this state, there is an impulse to try new methods, develop new problem-solving strategies, and make original efforts. Positive emotions expand the scope of individual attention, cognition and action by prompting individuals to actively think about the possibility of many actions. This is the "expansion" function of positive emotions.

2.2.1.2 The construction function
Negative emotions benefit individuals in the context of fighting and escaping by narrowing the cognitive action category of individuals, and the benefits are direct and instantaneous, while positive emotions bring indirect and long-term benefits to individuals. They can help individuals construct lasting physical, intellectual, psychological and social resources. The function of this construction is realized on the basis of "expansion". The expansion of the scope of thinking-action provides an opportunity to build sustainable resources for individuals. For example, studies on certain animals have shown that cubs often have the behavior of climbing on flexible branches during play, and this behavior also appears in adult individuals escaping the pursuit of carnivores, which is evidence of building body resources. Play can also build lasting social resources. Collective play and sharing pleasure and excitement with fellows can enhance individual social connection and attachment and become an important basis for future social support.

2.2.2 Application of the Broaden-and-Build Theory
Fredrickson (2001) conducted a follow-up study measuring the psychological resilience, positive emotions, negative emotions and psychological resources of the subjects before and after the 911 terrorist attacks and analyzed the mechanism of psychological resilience. It shows that the individual's psychological resilience promotes recovery from negative emotions and growth through positive emotions. The study provides a new way for crisis intervention and psychological assistance.

Hughes and Kendal (2008) studied the effect of positive emotional state on the threat cognitive bias of children with AD (anxiety disorder), who make more threatening explanations for ambiguous stimuli. The results showed that AD children under neutral emotions made less threatening explanations than those under negative emotions, while AD children under positive emotions made less threatening explanations than those under neutral emotions, which proved the management function of positive emotions on negative emotions. Therefore, positive emotions can be used as a treatment for individuals with anxiety disorders and the management of anxiety by reducing anxiety cognition.

In the study of the relationship between reading anxiety and college students' English achievement, Zhang (2012) found that there was a low positive correlation between students' reading achievement and reading anxiety level based on the broaden-and-build theory. Therefore, it is proposed that reading pleasure be used to establish resources to deal with reading anxiety rather than entirely replacing reading anxiety with reading pleasure. It is concluded that certain reading anxiety is helpful for students' English reading learning.

3. Survey and Implementation of Undergraduate English Reading Anxiety
3.1 Design and Implementation of Questionnaire
3.1.1 Survey Participants
The subjects of this study are undergraduate students in mainland China. A total of 200 valid questionnaires were obtained through the distribution of questionnaires on the Wenjuanxing platform. Among the survey participants, 43 were male and 157 were female. The age distribution of the surveyed students ranged from 17 to 23 years old. These students come from different colleges and majors, with language majors accounting for 37% and other majors accounting for 63%. Specifically, there were 74 language majors and 126 other majors. In terms of grade level, there were 18 freshmen, accounting for 9% of the total sample; 43

sophomores, accounting for 21.5%; 100 juniors, accounting for 50%; and 39 seniors, accounting for 19.5%. Although most students are not majoring in English, their learning environment typically involves English courses or materials, as well as a demand for English reading. However, compared to students majoring in language, there may be differences in English learning and application among these students, which warrants further research.

3.1.2 Research Tools

In this study, we primarily referred to Saito et al.'s (1999) Foreign Language Reading Anxiety Scale and Ning Zhenye's "Research on Foreign Language Reading Anxiety of College English Majors" to design the survey questionnaire for undergraduate reading anxiety among college students (Ning, 2011). In this study, the questionnaire was used to measure the level of reading anxiety among undergraduate students. For convenience, the questionnaire was translated into Chinese. The survey questionnaire consists of three parts: the first part is a personal information survey form; the second part is the "Undergraduate Reading Anxiety Scale"; and the third part consists of open-ended questions designed to understand the respondents' willingness to participate in later interviews.

3.1.2.1 Personal Information Survey Form

The first part is the personal information survey form, mainly including questions about the respondent's gender, age, major, and grade level.

3.1.2.2 Compilation of the "Undergraduate Reading Anxiety Scale"

This scale mainly refers to the Foreign Language Reading Anxiety Scale developed by Saito et al. (1999) and the "Foreign Language Reading Anxiety Scale" in Ning Zhenye's "Research on Foreign Language Reading Anxiety of College English Majors". Considering the actual situation of the surveyed subjects and the research content, this study adapted the content of the above scales to compile the "Undergraduate Reading Anxiety Scale" as the primary research tool for this survey study. The scale consists of a total of 20 questions. The scale uses the Likert 5-point scale method, which is an attitude scale. Each question in the scale has 5 options: A=Strongly Agree, B=Agree, C=Neither Agree nor Disagree, D=Disagree, E=Strongly Disagree. In order to improve the reliability of the scale, 4 reverse-scored questions and 16 positively-scored questions are set in the scale. Among them, questions 12, 13, 14, and 18 are reverse-scored questions. The higher the agreement with the option, the lower the anxiety level for this question. Option A is scored 1 point, option B is scored 2 points, option C is scored 3 points, option D is scored 4 points, and Option E is scored 5 points. For positively-scored questions, the higher the agreement with the option, the higher the anxiety level for this question, where option A is scored 5 points, option B is scored 4 points, and so on.

3.1.3 Questionnaire Quality Check
3.1.3.1 Reliability Test of the Questionnaire

The reliability of the scale used in quantitative analysis is crucial for the credibility of the data. To confirm the reliability, the reliability of the valid questionnaires was tested using SPSS 24.0 before statistical analysis. The test results are shown in Table 1.

Table 1: Summary of Reliability Analysis

Reliability Statistics	
Cronbach's alpha	Item number
0.891	20

The overall reliability coefficient of the "Undergraduate Reading Anxiety Scale" in Table 1 is 0.891, which is greater than 0.8. According to statistical standards, this indicates that the scale has good reliability, demonstrating high reliability and stability.

3.1.3.2 Validity Test of the Questionnaire

Validity is an important indicator of the scientific nature of a scale. To validate the "Undergraduate Reading Anxiety Scale", this study conducted a validity analysis using SPSS 24.0. The test results are shown in Table 2.

Table 2: Summary of Validity Test

KMO and Bartlett's Test		
KMO Sampling Adequacy Measure		0.911
Bartlett's Test of Sphericity	Approx. Chi-Square	2491.850
	Degrees of Freedom	190
	Significance	0.000

Based on Table 2, the KMO value of the "Undergraduate Reading Anxiety Scale" is 0.911, which is greater than 0.8. Additionally, Bartlett's Test of Sphericity is highly significant (p < 0.000). According to statistical standards, this indicates that the scale has high validity.

From the above table, it can be observed that the scale demonstrates high reliability and validity. To a certain extent, it can measure the online Chinese learning anxiety of novice learners.

3.1.4 Questionnaire Implementation
3.1.4.1 Preliminary Testing of the Questionnaire
The questionnaire used in the study is an adapted version. To ensure the reliability and validity of the questionnaire, we conducted a preliminary test before its formal distribution. The preliminary test was conducted through the Wenjuanxing platform, and a total of 53 questionnaires were collected. During the screening process, 3 invalid questionnaires were excluded, resulting in 50 valid questionnaires. Subsequently, we coded these questionnaires and inputted the data into SPSS 24.0 for reliability and validity analysis. The results showed that the questionnaire met the requirements for reliability and validity, thus proceeding to the formal distribution stage.

3.1.4.2 Formal Distribution of the Questionnaire
For the survey targeting undergraduate students, we chose to distribute the questionnaire via links provided by the Wenjuanxing platform. We utilized communication tools such as WeChat and QQ to send out the questionnaire links. Considering the possibility of comprehension difficulties among the respondents, we specifically provided a Chinese version of the questionnaire. A total of 205 questionnaires were received. After excluding 5 invalid questionnaires, we obtained 200 valid questionnaires.

3.1.4.3 Questionnaire Collection and Data Entry
The questionnaire data were downloaded from the Wenjuanxing platform and converted into Excel spreadsheets. Subsequently, we inputted the collected information into SPSS 24.0 for data entry.

3.1.4.4 Data Statistical Analysis
We processed and organized the collected data using SPSS 24.0 and generated corresponding textual reports.

3.2 Interview Design
3.2.1 Interview Outline
Recognizing the inherent limitations of questionnaire surveys in capturing the complex and subjective experiences associated with English reading anxiety, this study adopts a mixed-methods approach by combining quantitative data from questionnaires with qualitative insights gained from individual interviews. This complementary methodology aims to provide a comprehensive understanding of the multifaceted nature of English reading anxiety among Chinese college undergraduates.

Drawing upon the "Broaden-and-Build" theory, pioneered by Fredrickson (2001) around 1998, our interviews seek to explore how positive emotions, such as happiness, interest, and anticipation, contribute to broadening individuals' awareness and stimulating novel, exploratory thoughts and actions. According to this theory, over time, this expanded behavioral repertoire nurtures the development of essential skills and psychological resources, thereby enhancing overall well-being. By integrating these theoretical principles into our interview design, we aim to elucidate how positive emotions may serve as protective factors against English reading anxiety, fostering resilience and adaptive coping strategies among respondents.

Furthermore, our interviews aim to delve into the specific cognitive processes and coping mechanisms employed by individuals experiencing English reading anxiety. Within the framework of the "Broaden-and-Build" theory, we seek to understand how individuals cognitively appraise and emotionally respond to challenging reading tasks, as well as the strategies they employ to manage and alleviate anxiety symptoms. By uncovering these underlying processes, we aim to provide valuable insights for both theoretical advancement and practical interventions in the field of English language education.

Overall, our interview design is guided by a holistic understanding of English reading anxiety within the context of positive psychology, with the aim of elucidating the interplay between emotional experiences, cognitive processes, and coping strategies among Chinese college undergraduates. Through this integrated approach, we endeavor to contribute to the development of more effective interventions and support mechanisms for individuals experiencing English reading anxiety. Specific interview questions are shown in Table 3.

Table 3: Interview Outline

1	Basic Information
2	Do you feel anxious when reading in English?
3	What are the reasons that typically cause you to experience English reading anxiety?
4	Do you agree that a certain level of English reading anxiety can enhance reading proficiency?
5	Have you tried using enjoyable resources (e.g., finding interesting topics, using preferred reading materials, etc.) to alleviate English reading anxiety?
6	In your opinion, which specific strategies may be most effective for you in alleviating English reading anxiety?
7	Would you be willing to participate in a project or activity aimed at helping students establish enjoyable resources to alleviate English reading anxiety?

3.2.2 Selection of Interview Participants

During the initial stages of data analysis, the survey participants were categorized into three groups based on their levels of English reading anxiety: low anxiety, moderate anxiety, and high anxiety.

For the selection of interview participants, this study chose one participant from each group to ensure coverage of respondents with different levels of anxiety, thus gaining a more comprehensive understanding of the situation of English reading anxiety and its coping strategies. Through this selection method, we can delve into individual experiences and feelings at different levels of anxiety while also comparing similarities and differences between different groups, providing more comprehensive data support for further exploration in the study.

Specifically, representative participants with low, moderate, and high levels of anxiety were selected based on the analysis of survey questionnaire results, and they were invited to participate in the interviews. Three interview participants were ultimately selected, as detailed in Table 4.

Table 4: Specific Information of Interview Participants

Participant	Age	Gender	Major	English Proficiency	Anxiety Level	Interview Date
Participant1	20	Female	Ethnology	Did not pass CET4	High Anxiety	2024.2.15
Participant2	21	Female	Biological Engineering	CET4，6	Moderate Anxiety	2024.2.15
Participant3	22	Male	English	CET4，6；TEM4,8	Low Anxiety	2024.2.15

3.2.3 Implementation of Interviews

In-depth discussions on English reading anxiety were conducted through interviews, with three survey participants selected to represent low, moderate, and high levels of anxiety. Contact information provided in the survey questionnaire allowed successful invitations of these three participants, and interview times were arranged.

Due to geographical distribution and scheduling constraints, the online conferencing tool Tencent Meeting was used for the interviews. Prior to the interviews, contact was made with each participant to confirm interview times, meeting links, and related matters.

During the interview process, we followed the pre-designed interview outline and systematically asked the participants questions, guiding them to share their experiences with English reading anxiety and coping strategies. Through communication with the participants, we were able to gain insights into individual experiences and feelings at different levels of anxiety, as well as their perceptions and coping strategies regarding English reading anxiety.

After the interviews, the responses from the participants were compiled and detailed written records were made. These textual materials will serve as important sources of data for the research paper, providing support for the analysis and discussion of English reading anxiety and coping strategies.

4. Survey Results and Analysis
4.1 Reading Anxiety Situation
4.1.1 Overall Analysis of Anxiety Situation

The Undergraduate Reading Anxiety Scale consists of 20 questions. When calculating the anxiety scores, scores for positively-worded and negatively-worded questions are calculated separately, and then the scores of all 20 questions are summed up to obtain the total score. The total anxiety score on this questionnaire ranges from 22 to 96 points, with a higher score indicating higher levels of anxiety among respondents. The specific data are shown in Table 5.

Table 5: Descriptive Statistics Table

Descriptive Statistics

	Cases	Minimum Value	Maximum Value	Mean	Standard Deviation
Total Score	200	22	96	64.55	13.504
Valid Cases (Columns)	200				

To further understand the overall situation of English reading anxiety, the author referred to the grouping method proposed by Ganschow and Sparks (1996), which divides anxiety into three levels: low anxiety, moderate anxiety, and high anxiety. The high anxiety group scores higher than the sample mean by one standard deviation or more, while the low anxiety group scores lower than the sample mean by one standard deviation or more. The values between low anxiety and high anxiety are considered moderate anxiety. According to Table 5, the mean score of English reading anxiety for the survey respondents is 64.55, with a standard deviation of 13.504.

Using the formula $M \pm 0.99 \times SD$, where M represents the mean anxiety score (64.55) and SD represents the standard deviation (13.504), the author calculated that $M + 0.99 \times SD$ equals 77.91896 points (approximately 77.92 points), and $M - 0.99 \times SD$ equals 51.18104 points (approximately 51.18 points). Therefore, scores greater than 77.92 points belong to the high anxiety group, scores lower than 51.18 points belong to the low anxiety group, and scores between 51.18 and 77.92 points are considered moderate anxiety. The situation of English reading anxiety for each group is presented in Table 6.

Table 6: Situation of English Reading Anxiety in Each Group

Group	Range of Values (Points)	Number of Participants	Percentage
Low Anxiety Group	< 51.18	31	15.5%
Moderate Anxiety Group	≥51.18 and ≤77.92	138	69%
High Anxiety Group	> 77.92	31	15.5%

The data in Table 6 indicates that the low anxiety group consists of 31 individuals, accounting for 15.5% of the total sample size. The moderate anxiety group comprises 138 individuals, making up 69% of the total sample size. The high anxiety group consists of 31 individuals, also representing 15.5% of the total sample size. This data suggests that the survey participants experience varying degrees of anxiety. Furthermore, the combined proportion of moderate and high anxiety reaches 84.5%, indicating that the majority of survey participants experience moderate to high levels of anxiety.

In summary, the current state of English reading anxiety among the survey participants exhibits several characteristics:

1. There is a prevalent presence of English reading anxiety among the survey participants, with a high proportion (84.5%) experiencing moderate to high levels of anxiety.
2. The sample sizes for low anxiety and high anxiety groups are equal, each accounting for 15.5% of the total sample size.

4.1.2 Analysis of Anxiety Scores for Different Items
In this study, SPSS 24.0 was used to conduct a descriptive analysis of the data of the 20 items in the online Chinese learning anxiety scale for beginner learners. The items are arranged in descending order of their means. The arrangement of each item is shown in Table 7.

Table 7: Descriptive Statistics for Each Item

Descriptive Statistics

Item	Cases	Minimum Value	Maximum Value	Mean	Standard Deviation	Variance
1. When I am reading English, I feel uneasy if I am not sure if I understand the material.	200	1	5	3.82	0.998	0.996
3. When I am reading English, I often feel unable to remember what I read due to confusion.	200	1	5	3.63	1.162	1.351
2. When I am reading English, I can understand the meaning of the vocabulary, but I still cannot understand what the author is saying.	200	1	5	3.59	1.162	1.350
5. When I am reading English, I feel nervous if I am not very familiar with the topic.	200	1	5	3.58	1.153	1.330
20. For English reading, we have to learn too much English national cultural knowledge and historical knowledge.	200	1	5	3.52	0.992	0.985
9. When I am reading English, I often mentally translate the material word by word.	200	1	5	3.51	1.199	1.437
6. When I am reading English, I feel uneasy whenever I encounter unfamiliar grammar phenomena.	200	1	5	3.38	1.205	1.453
4. Whenever I see the entire English passage, I feel a kind of dread.	200	1	5	3.33	1.327	1.760
7. When I am reading English, I feel nervous if I cannot understand every word.	200	1	5	3.32	1.234	1.523
11. I feel very anxious about learning new English symbols necessary for reading.	200	1	5	3.30	1.248	1.558
16. Compared with being forced to learn English reading, I prefer to learn English speaking.	200	1	5	3.19	1.236	1.528
10. When I am reading English, if I encounter strange symbols, I am influenced and have difficulty remembering what I read.	200	1	5	3.16	1.280	1.639
18. I am satisfied with my current level of English reading.	200	1	5	3.15	1.198	1.435
15. The most difficult part of English learning is English reading.	200	1	5	3.10	1.190	1.417
17. I don't mind reading English silently, but I feel uncomfortable when asked to read aloud.	200	1	5	3.05	1.271	1.616
19. I always feel out of sync with the cultural information and ideological messages conveyed in English reading materials.	200	1	5	3.03	1.086	1.180
8. When I am reading English, I feel uneasy if I encounter words I cannot pronounce.	200	1	5	2.96	1.295	1.677
13. I feel confident when reading English.	200	1	5	2.86	1.143	1.307
12. I enjoy reading English.	200	1	5	2.82	1.139	1.297
14. Once adapted, English reading is not difficult at all.	200	1	5	2.30	1.060	1.124
Valid Cases (Columns)	200					

The statistical results from Table 7 indicate that the highest mean score for English reading anxiety among undergraduate students is 3.82, while the lowest mean score is 2.30. There are 16 items with mean anxiety scores at or above 3 points. This suggests that undergraduate students experience anxiety in various aspects related to English reading tasks.

According to Table 7, the top six items are 1, 3, 2, 5, 20, and 9. The first item, "When I am reading English, I feel uneasy if I am not sure if I understand the material," ranks first in terms of anxiety level. This implies that this particular issue triggers the highest level of anxiety. The result indicates a common uncertainty among students regarding their comprehension abilities while reading in English. When students are unsure if they understand the material they are reading, they experience anxiety. This anxiety may affect their reading experience, learning outcomes, and even their motivation and emotional state. Therefore, this result suggests a need to focus on and address students' reading anxiety in English reading instruction. Implementing appropriate teaching strategies and support measures can help students improve their reading comprehension, boost confidence, alleviate anxiety, and enhance their English reading skills.

The second-ranked item is item 3: "When I am reading English, I often feel unable to remember what I read due to confusion." This indicates that this issue also triggers a considerable level of anxiety. The result suggests that students frequently experience difficulty remembering reading content due to confusion encountered during the reading process, obstacles, or comprehension challenges. This confusion may increase students' reading anxiety, affecting their understanding and memory of reading materials and consequently impacting their learning outcomes. Therefore, this result highlights the need for English reading instruction to pay particular attention to and address students' potential confusion during the reading process. Providing appropriate guidance and support to help them overcome difficulties enhances reading efficiency and memory, can alleviate reading anxiety, and improve reading performance.

The second-ranked item, "When I am reading English, I can understand the meaning of the vocabulary, but I still cannot understand what the author is saying," implies a common challenge students face during English reading. Despite understanding the meanings of individual words, students still struggle to grasp the author's intended meaning or theme. This difficulty may stem from students' insufficient understanding of the overall structure, grammar, and logical relations within the text, preventing them from moving beyond word-level comprehension to understanding context and content. Consequently, this leads to reading confusion and anxiety. Therefore, this result suggests the need for English reading instruction to pay special attention to and address students' difficulties in comprehending the overall meaning of the text. By providing appropriate reading strategies and techniques, students can improve their ability to grasp the overall content of the text, thereby alleviating reading anxiety and enhancing reading comprehension skills.

The fourth-ranked item, "When I am reading English, I feel nervous if I am not very familiar with the topic," suggests that students feel anxious when encountering unfamiliar topics. This may stem from a lack of confidence in handling unfamiliar subjects, leading to anxiety. This nervousness can impact students' reading efficiency and comprehension, thereby affecting their academic performance. Therefore, this result highlights the importance of English reading instruction in addressing students' ability to cope with unfamiliar topics. Providing appropriate guidance and support can help students build confidence in handling unfamiliar subjects, alleviate reading anxiety, and improve reading outcomes.

Ranked fifth is item 20: "For English reading, we have to learn too much English national cultural knowledge and historical knowledge." This implies that students commonly feel the need to acquire extensive knowledge of English national culture and history to read effectively in English. This requirement may increase their reading burden and anxiety. Students may perceive that, in addition to language difficulty, they need to understand cultural and historical backgrounds to comprehend English texts better, which adds extra pressure and distress. Therefore, this result suggests the importance of English reading instruction in considering students' needs for cultural and historical knowledge and providing appropriate support and resources to alleviate their reading burden and anxiety, helping them better cope with reading challenges.

Ranked sixth is item 9: "When I am reading English, I often mentally translate the material word by word." This result indicates that students tend to translate the material word by word in their minds when reading in English rather than understanding the meaning of the original text directly. This translation approach may increase reading time and burden and lead to decreased reading efficiency. Additionally, it may reflect students' lack of confidence in English reading, believing that only by translating word by word can they ensure the accuracy of understanding. Therefore, this result suggests the importance of English reading instruction in helping students change this translation habit, cultivating their ability to understand English texts directly, improving reading efficiency and comprehension, thereby alleviating reading anxiety and enhancing reading proficiency.

According to Table 7 above, we can see that the last six ranked items are 17, 19, 8, 13, 12, and 14. We can observe that item 17 ranks sixth among the six items with the lowest anxiety scores. The item reads, "I don't mind reading English silently, but I feel uncomfortable when asked to read aloud."This phenomenon may reflect that the respondents are more exposed to situations involving silent reading in their daily lives, such as reading texts, practice exercises, or independent reading, and have relatively fewer opportunities for reading aloud. Therefore, they may be more accustomed to silent reading and feel more confident and comfortable with it. However, when it comes to reading aloud, they may face more pressure and anxiety because it requires demonstrating language abilities, including pronunciation and fluency, in public settings. Nevertheless, the relatively low anxiety score also indicates that the respondents do not have much anxiety in this aspect, which may imply that they have a certain level of confidence or do not strongly feel the need to read aloud.

The next item, ranked after, is item 19: "I always feel out of sync with the cultural information and ideological messages conveyed in English reading materials." This relatively low level of anxiety may reflect several possible factors. Firstly, the respondents may have some understanding and identification with the cultural information in English reading materials, making it easier for them to resonate with the cultural information they read and reducing anxiety about the cultural mismatch. Secondly, the respondents may have some experience in cross-cultural communication, such as exposure to different cultures through the internet, media, or

coursework, enhancing their understanding and acceptance of diverse cultures and reducing anxiety about cultural mismatch. Lastly, the respondents may have a certain level of education and proficiency in English, enabling them to better comprehend and interpret the cultural information in English reading materials, thereby alleviating anxiety about cultural mismatch. This result provides insights for teaching practice, such as providing more opportunities for cross-cultural communication and cultural background introductions to help students enhance their understanding and acceptance of cultural information, thus reducing anxiety about cultural mismatch.

The next item is item 8: "When I am reading English, I feel uneasy if I encounter words I cannot pronounce." This may indicate that the respondents have a certain level of confidence or tolerance when faced with unfamiliar word pronunciations. Perhaps they have become accustomed to encountering pronunciation difficulties during the learning process, or they have acquired some techniques for addressing such issues. Therefore, this result provides insights for teaching practice, such as providing more opportunities for pronunciation training and practice to help students enhance their ability to cope with pronunciation difficulties, further reducing related anxiety.

The last three items are reverse-scored questions, namely item 13: "I feel confident when reading English," item 12: "I enjoy reading English," and item 14: "Once adapted, English reading is not difficult at all." This indicates that the majority of respondents hold positive attitudes towards these statements related to confidence, enjoyment, and perceived difficulty. They do not feel anxious about English reading. This may reflect that the respondents have a strong interest and confidence in English reading and possess certain reading abilities and experiences, as well as positive attitudes and mindsets. This provides insights for teaching practice, such as further enhancing students' interest and confidence, as well as guiding them to cultivate a positive learning attitude, thereby promoting the improvement of English reading ability.

4.2 Interview Results Statistics and Overall Situation Analysis

In this section, we will statistically analyze the overall situation of the interview results to comprehensively understand the English reading anxiety status of the interviewees and its related factors. Through the analysis of the interview results, we will explore the main causes of anxiety, preferred coping strategies, and willingness to participate in projects or activities among the surveyed subjects at different anxiety levels, thus providing deeper insights and arguments for our understanding of the relationship between English reading anxiety and reading proficiency.

4.2.1 Causes of Anxiety

Respondent 1 is in the high anxiety group, and the usual causes of their reading anxiety are unfamiliar vocabulary and complex sentence structures. Respondent 2 is in the moderate anxiety group, and the usual causes of their reading anxiety are a lack of understanding of the content described in the text, unfamiliar vocabulary, and complex sentence structures. Respondent 3 is in the low anxiety group, and the usual cause of their reading anxiety is unfamiliar vocabulary. Therefore, it can be concluded that whether it is high anxiety, moderate anxiety, or low anxiety, the following three forms of anxiety are commonly present:

(1)   Insufficient Vocabulary: Encountering unfamiliar words or phrases can lead to feelings of unease and anxiety.
(2)   Grammar Confusion: Complex sentence structures and tense changes are also among the factors that cause anxiety.
(3)   Cultural Background Differences: Due to differences between Chinese and Western cultures, specific expressions and cultural background knowledge may lead to difficulties in understanding.

4.2.2 The Degree of Agreement on Moderate Anxiety Promoting Reading Proficiency

Respondent 1, in the high anxiety group, does not fully agree that anxiety can promote reading proficiency. Respondent 2, in the moderate anxiety group, tends to agree to some extent that moderate anxiety can promote reading proficiency. Respondent 3, in the low anxiety group, tends to agree to some extent that a certain degree of anxiety can promote reading proficiency. Therefore, it can be concluded that respondents generally agree to some extent that moderate anxiety can promote reading proficiency.

4.2.3 Coping Strategies for Anxiety

All three respondents believe that progressive reading challenges, self-reflection, and adjustment to build pleasant resources can help alleviate reading anxiety and improve reading proficiency. Respondents' expectations for pleasant reading resources include the following points:

(1)   Interesting material: Respondents hope that reading materials will attract their interest and reduce their boredom with reading.
(2)   Moderate difficulty and challenging: respondents expect reading materials to be moderately challenging but not too difficult to maintain motivation and confidence in reading.

(3) Strong interactivity and feedback: respondents hope that reading materials can provide interactive sessions and timely feedback to enhance the sense of participation and achievement in reading.

4.2.4 Interview Summary

To alleviate reading anxiety, establishing pleasant reading resources is crucial. This includes providing content-rich and interesting reading materials, designing interactive and feedback-rich reading activities, and creating a relaxed and pleasant reading atmosphere. Through the establishment of these resources, we can help learners better enjoy the reading process and improve their reading interests and abilities. Through in-depth analysis of typical issues, we can gain a clearer understanding of the root causes and impacts of English reading anxiety. By establishing pleasant reading resources and implementing effective coping strategies, we hope to alleviate learners' reading anxiety and improve their reading abilities and interests. Future research can further explore how to apply these strategies to actual teaching and assess their long-term effects.

5. Conclusion

5.1 Conclusions of the study:

(1) Most people's English reading anxiety stems from not establishing pleasurable reading resources that allow positive emotions to arise.
(2) Expanding the range of positive emotions and narrowing the range of negative emotions to reach a moderate level of anxiety is most helpful to English reading.
(3) Establishing a reserve of pleasant reading resources will help reduce English reading anxiety and improve reading levels.
(4) Diversified reading materials, progressive reading challenges, increasing the frequency of English reading, and creating effective English reading resources are all effective ways to establish pleasant reading resources.

5.2 Research Shortcomings

This study initially suggests that the establishment of pleasant reading resources can help improve English reading levels by bringing reading anxiety to a moderate level, but it is worthwhile to explore in depth how to apply the method of establishing the mechanism of reading pleasure resources to actual teaching and the applicability of the method.

Conflicts of Interest: The authors declare no conflict of interest.

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