

Original Paper

A Study on Academic English Writing Anxiety and Self-Regulated Writing Strategies among Graduate Students

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Abstract

This study examines the relationship between academic English writing anxiety and self-regulated writing strategies among graduate students. Based on 64 valid questionnaire responses, descriptive statistics and Pearson correlation analysis were conducted. The results showed that 53.1% of the participants reported high levels of academic English writing anxiety. Emotional regulation strategies were used most frequently, whereas conceptualization strategies were used least frequently. A significant negative correlation was found between academic English writing anxiety and self-regulated writing strategies. The findings highlight the need to address graduate students' writing anxiety and strengthen strategy-based instruction, especially in conceptualization strategies, to support academic English writing development.

Keywords

graduate students, academic English, writing anxiety, self-regulation strategies

1. Introduction

Over the past decade, the rise of positive psychology has broadened the scope of Second Language Acquisition (SLA) research, particularly by drawing greater attention to learners' emotional experiences. Emotions such as anxiety, enjoyment, and boredom have received increasing empirical attention in recent studies (Li et al., 2024). Among these emotions, anxiety remains one of the most influential affective factors, as it may interfere with learners' engagement, cognitive processing, and language performance.

Within this broader affective turn, writing anxiety has become an important topic in second language writing research. Existing studies have shown that anxiety can negatively affect learners' writing confidence, writing performance, and willingness to engage in writing tasks. However, much of the

previous research has focused on external sources of English writing anxiety, whereas relatively less attention has been paid to learners' internal coping mechanisms and their efforts to regulate anxiety during the writing process. In addition, existing studies have mainly examined undergraduate learners (Ma & Dong, 2017; Zhang & Zhang, 2023), leaving graduate students comparatively underexplored. This gap is noteworthy because graduate students are often expected to complete more demanding academic writing tasks, such as reading-based writing, research reports, conference abstracts, journal articles, and theses. These tasks require not only linguistic competence but also sustained motivation, strategic planning, emotional control, and self-regulated learning.

Self-regulation strategies may therefore play a crucial role in helping graduate students cope with academic English writing anxiety. In academic writing contexts, learners need to set goals, plan writing procedures, monitor their progress, seek feedback, manage negative emotions, and revise their texts strategically. These self-regulatory processes may help reduce anxiety and support more effective writing performance. Nevertheless, the relationship between academic English writing anxiety and self-regulated writing strategies among graduate students remains insufficiently examined, especially in EFL contexts.

To address this gap, the present study investigates the relationship between academic English writing anxiety and self-regulated writing strategies among graduate students. Specifically, it aims to examine graduate students' levels of academic English writing anxiety, identify the self-regulation strategies they employ, and explore the correlation between these two variables. By doing so, this study seeks to enrich research on affective factors in second language academic writing and provide empirical evidence for understanding how graduate students regulate their writing-related emotions and behaviors.

The findings of this study may also offer practical implications for academic English writing instruction. By clarifying the relationship between writing anxiety and self-regulation strategies, teachers can gain a better understanding of graduate students' psychological experiences during academic writing. Such understanding may help instructors design more targeted pedagogical interventions, such as strategy-based writing instruction, anxiety-reduction activities, and process-oriented feedback. Ultimately, this study aims to contribute to more effective support for graduate students' academic English writing development.

2. Literature Review

2.1 Writing Anxiety

Writing anxiety has long been recognized as an important affective factor in language learning and writing development. Daly and Miller (1975) conceptualized writing anxiety as learners' tendency to avoid or resist writing tasks when they experience anxiety during the writing process. They also developed the Writing Apprehension Test, which provided an early measurement tool for examining

writers' anxiety-related responses. Later, with the influence of Krashen's (1985) affective filter hypothesis, anxiety began to receive increasing attention in second language acquisition research. From this perspective, negative emotions may raise learners' affective filter and thus hinder language input, processing, and performance.

In second language writing research, writing anxiety is generally understood as a situation-specific form of anxiety associated with writing tasks. It may appear before, during, or after writing and can manifest as worry, avoidance, low confidence, fear of evaluation, and difficulty organizing or expressing ideas. In the Chinese EFL context, Guo and Qin (2010) defined English writing anxiety as a type of anxiety that arises before writing and leads learners to experience aversion, negative emotions, and reduced expectations for writing performance. Subsequent studies have further examined the sources and influencing factors of writing anxiety. For example, Liang et al. (2020) found that peer assessment in English writing may also affect learners' writing anxiety, suggesting that classroom interaction and feedback practices can shape students' emotional experiences in writing.

Overall, previous studies have contributed substantially to the conceptualization, measurement, and explanation of English writing anxiety. Existing research has clarified its definitions, developed or adapted relevant scales, and explored various factors that may contribute to anxiety in writing contexts. Nevertheless, compared with studies on the causes and manifestations of writing anxiety, relatively fewer studies have examined how writing anxiety is related to learners' internal regulation processes, particularly their use of self-regulated writing strategies. This limitation indicates the need for further research on the relationship between academic English writing anxiety and self-regulation among graduate students.

2.2 Self-Regulation Strategies

Self-regulation has been widely discussed in educational psychology and second language learning research. Zimmerman (1988) argued that self-regulation is not merely a spontaneous individual activity but a dynamic process shaped by personal, behavioral, and environmental factors. Boekaerts (1999) further proposed a three-layered model of self-regulated learning, emphasizing the roles of cognitive strategies, metacognitive strategies, and resource management strategies. Although Zimmerman and Boekaerts conceptualized self-regulation from different perspectives, their models share a common understanding: self-regulation involves learners' active control before, during, and after learning. In other words, learners set goals and prepare for learning, monitor and adjust their behavior during the learning process, and reflect on their performance after completing a task.

In the field of language learning, self-regulation strategies refer to the deliberate strategies learners use to plan, monitor, control, and evaluate their learning behaviors and emotional responses. These strategies may include goal setting, time management, attention control, self-monitoring, help seeking, feedback use, and self-reflection. In writing contexts, self-regulation is particularly important because writing is a complex and recursive process that requires learners to manage cognitive demands,

linguistic resources, motivation, and emotional pressure at the same time.

Research on self-regulation strategies in China began to develop at the end of the twentieth century. Li (1994) introduced and summarized Zimmerman's views on self-regulation and promoted early research on how students could be guided to regulate their own learning. More recent studies have extended this line of inquiry to language learning. For example, Luo et al. (2021) examined the relationship among language learning strategies, self-regulation, and academic achievement, suggesting that appropriate strategy use can facilitate self-regulated learning and contribute to students' academic success. Empirical studies have also attempted to develop instruments for measuring learners' regulatory strategies. Xu and Kou (2015), drawing on Horwitz's Foreign Language Classroom Anxiety Scale, developed the English Learning Anxiety Self-Regulation Strategy Scale, providing a useful tool for examining how learners regulate anxiety in English learning.

Overall, previous research has established a theoretical and empirical foundation for understanding self-regulation strategies in language learning. However, existing studies have paid relatively limited attention to the role of self-regulation strategies in academic English writing, especially among graduate students. Moreover, the ways in which these strategies interact with emotional factors such as writing anxiety remain insufficiently explored. Further investigation is therefore needed to clarify whether and how self-regulated writing strategies are associated with graduate students' academic English writing anxiety.

2.3 The Relationship between English Writing Anxiety and Self-Regulation Strategies

The relationship between writing anxiety and self-regulation strategies has received growing attention in second language writing research. Zito et al. (2007) conducted an early study comparing students with learning difficulties and high-achieving students in terms of their writing-related difficulties and strategy use. Their findings suggested that writing anxiety and self-regulation strategies may affect the writing process in different ways: anxiety can hinder learners' engagement and performance, whereas self-regulation strategies can support planning, monitoring, and task completion. This line of research indicates that writing anxiety should not be examined only as an isolated emotional variable, but also in relation to learners' strategic control over the writing process.

More recent studies have provided empirical evidence for the association between writing anxiety and self-regulation. Wardani and Mbato (2022), for example, examined the relationship between English writing anxiety and self-regulated learning strategies and found that dimensions of writing anxiety, including somatic anxiety, avoidance behavior, and cognitive anxiety, were negatively correlated with self-regulation. Their findings suggest that students who experience higher levels of writing anxiety may be less likely to employ effective self-regulatory strategies, or that insufficient self-regulation may intensify anxiety during writing. Similarly, studies in the Chinese EFL context have shown that the frequency and effectiveness of self-regulation strategy use may vary according to learners' anxiety levels. Ma and Dong (2017), in a survey of non-English-major undergraduates, explored the

relationship between writing anxiety and self-regulation strategy use. Zhang and Zhang (2023) also found that undergraduate learners' second language writing anxiety was generally at a moderate level and that higher self-regulation was associated with lower writing anxiety.

Taken together, previous studies have indicated a meaningful relationship between English writing anxiety and self-regulation strategies. However, two limitations remain. First, existing research has mainly focused on undergraduate students, while graduate students have received comparatively limited attention. Second, many studies have examined writing anxiety in general English writing classrooms, whereas academic English writing has been less fully explored. This distinction is important because graduate students are often required to engage in high-stakes academic writing tasks, including course papers, research proposals, theses, conference submissions, and journal manuscripts. These tasks may generate anxiety related not only to language proficiency but also to research competence, disciplinary knowledge, publication expectations, and academic identity.

Therefore, further research is needed to examine the relationship between academic English writing anxiety and self-regulated writing strategies among graduate students. By focusing on this group, the present study aims to provide a more context-sensitive understanding of how graduate students experience and regulate anxiety in academic English writing. The findings may offer pedagogical implications for academic writing instruction, especially in helping instructors design strategy-based support to reduce anxiety and enhance students' academic writing development.

3. Methods

3.1 Research Questions

- 1) What is the current level of English academic writing anxiety and self-regulation strategies among graduate students in China?
- 2) Is there a correlation between English academic writing anxiety and self-regulation strategies among graduate students in China? If so, what is the strength of this correlation?

3.2 Research Participants

This study employs a questionnaire survey conducted via Wenjuanxing (an online questionnaire platform). A total of 65 graduate students from universities in eastern Shandong Province were selected as participants. The average age of the participants is 24 years. All participants have experience in academic writing courses and are facing pressure related to the publication of their English academic writings. The participants are from diverse disciplines, including Foreign Language and Applied Linguistics, Electronic Science and Technology, Pharmacy, Financial Management, and Radiation Oncology.

3.3 Research Instruments

3.3.1 Survey Questionnaire

The questionnaire used in this study is structured into three main sections: basic demographic information, the English Writing Anxiety Scale, and the Self-Regulation Strategy Scale. The demographic section collects information on participants' age and gender. Both the English Writing Anxiety Scale and the Self-Regulation Strategy Scale employ a 5-point Likert scale, with five options for each item: Strongly Disagree, Disagree, Slightly Agree, Agree, and Strongly Agree, corresponding to scores of 1, 2, 3, 4, and 5, respectively.

The English Writing Anxiety Scale is primarily based on Cheng Yuxiu's Second Language Writing Anxiety Scale, translated by Guo Yan and Qin Xiaoqing (2010). The scale consists of 22 items, addressing physical anxiety, cognitive anxiety, and avoidance behaviors. The Self-Regulation Strategy Scale is based on the English Writing Anxiety Self-Regulation Strategy Scale developed by Ma Jie and Dong Pan (2017), which also contains 22 items. This scale measures four dimensions: action strategies, conceptualization strategies, avoidance strategies, and emotional strategies. For the purposes of this study, the word "English" in the original questions was replaced with "academic English".

3.3.2 Data Analysis

After the survey responses were collected, the data were analyzed using SPSS 27.0. Descriptive statistics were used to assess the participants' levels of academic English writing anxiety and self-regulation strategy use. Pearson's correlation coefficient was then applied to examine the relationship between academic English writing anxiety and self-regulation strategies.

4. Findings

4.1 Reliability and Validity of the Questionnaire

A total of 65 questionnaire responses were collected in this study. After screening the data, one response was excluded because it was invalid, leaving 64 valid responses for subsequent analysis.

Before conducting further statistical analyses, the reliability and validity of the questionnaire were examined. The Second Language Writing Anxiety Scale consisted of 22 items, including seven reverse-coded items: Items 1, 4, 7, 17, 18, 21, and 22. These items were reverse-scored before data analysis. The Cronbach's alpha coefficient of the scale was 0.953, indicating excellent internal consistency. The Kaiser-Meyer-Olkin (KMO) value was 0.799, suggesting that the data were suitable for factor-related analysis.

The English Writing Anxiety Self-Regulation Strategy Scale also showed satisfactory reliability and validity. Its Cronbach's alpha coefficient was 0.895, indicating good internal consistency. The KMO value was 0.701, which met the acceptable threshold for further statistical analysis.

Overall, the two scales demonstrated acceptable reliability and sampling adequacy. Therefore, the questionnaire data were considered appropriate for subsequent correlation and statistical analyses.

4.2 Statistical Analysis of Writing Anxiety

Table 1. General Overview of Graduate Students' English Writing Anxiety

Measure	Sample Size	Minimum	Maximum	Mean	Standard Deviation
Scores	64	24	105	64.781	20.828

The theoretical scoring range for the Second Language Writing Anxiety Scale is 22 to 110 points. As shown in Table 1, the highest score was 105, and the lowest was 24, which is consistent with the theoretical range. The difference of 83 points between the highest and lowest scores suggests that participants experienced varying degrees of writing anxiety. The average score was 64.781, with a standard deviation of 20.828.

Following the categorization criteria proposed by Rezaei and Jafari (2014), participants were divided into three categories: “low writing anxiety”, “moderate writing anxiety”, and “high writing anxiety”. The thresholds for these categories were 50 and 65 points. Scores below 50 indicate low anxiety, while scores above 65 indicate high anxiety, with scores in between classified as moderate anxiety. The distribution of anxiety levels is summarized in Table 2:

Table 2. Distribution of Graduate Students by Writing Anxiety Level

Anxiety Level	Frequency	Percentage	Valid Percentage	Cumulative Percentage
High Anxiety	34	53.1	53.1	53.1
Moderate Anxiety	14	21.9	21.9	75
Low Anxiety	16	25	25	100
Total	64	100	100	

As seen in Table 2, 53.1% of the students experienced high anxiety, 21.9% had moderate anxiety, and 25.0% had low anxiety. This indicates that a majority of graduate students experience moderate to high levels of English academic writing anxiety, suggesting that academic writing anxiety is a widespread issue among graduate students.

Writing anxiety in academic English can be observed in three main areas: physical anxiety, cognitive anxiety, and avoidance behaviors. To better understand writing anxiety among graduate students, we analyzed each dimension individually, as detailed below:

Table 3. Graduate Students' Cognitive Anxiety Scores

Measure	Sample size	Minimum	Maximum	Mean	Standard Deviation
Q1	64	1	5	2.72	1.386
Q3	64	1	5	2.34	1.275
Q7	64	1	5	3.22	1.327
Q9	64	1	5	3.12	1.548
Q14	64	1	5	2.47	1.490
Q17	64	1	5	3.22	1.303
Q20	64	1	5	2.75	1.403
Q21	64	1	5	3.25	1.403

The cognitive anxiety items (Items 1, 3, 7, 9, 14, 17, 20, 21) yielded relatively similar mean scores, but Items 7 (confidence in writing) and 17 (concern about others' evaluation) scored higher. This indicates that students tend to experience anxiety related to evaluation during writing, especially after completing their writing, when they worry about their performance.

Table 4. Graduate Students' Physical Anxiety Scores

Measure	Sample size	Minimum	Maximum	Mean	Standard Deviation
Q2	64	1	5	2.81	1.296
Q6	64	1	5	2.59	1.178
Q8	64	1	5	2.97	1.321
Q11	64	1	5	2.72	1.315
Q13	64	1	5	2.75	1.403
Q15	64	1	5	2.72	1.408
Q19	64	1	5	2.19	1.413

Items 2 (heart racing), 8 (time pressure), and 13 (anxiety under time limits) had higher mean scores. This suggests that students often feel physical anxiety, such as increased heart rate and panic, when facing time constraints in their writing tasks.

Table 5. Graduate Students' Avoidance Behavior Scores

Measure	Sample Size	Minimum	Maximum	Mean	Standard Deviation
Q4	64	1	5	3.84	1.13
Q5	64	1	5	3.62	1.327
Q10	64	1	5	2.97	1.272
Q12	64	1	5	3.47	1.309
Q16	64	1	5	2.25	1.357
Q18	64	1	5	3.37	1.175
Q22	64	1	5	3.41	1.256

Items 4 (avoiding writing in English) and 5 (avoidance of writing in English unless required) had higher mean scores, indicating that students tend to avoid writing tasks and lack initiative in academic writing.

4.3 Statistical Analysis of Self-Regulation Strategies

Table 6. Overall Situation of Graduate Students' Self-Regulation Strategies

Measure	Sample Size	Minimum	Maximum	Mean	Standard Deviation
Scores	64	44	94	71.063	15.639

The average score of the self-regulation strategy scale was 71.063, with a standard deviation of 15.64. The difference between the maximum and minimum scores (50 points) suggests substantial variability in the use of self-regulation strategies. The self-regulation strategies include four dimensions: emotional strategies, action strategies, conceptualization strategies, and avoidance strategies. The frequencies of use for each of these four strategies are analyzed in the following table:

Table 7. Use of Different Self-Regulation Strategies by Graduate Students

Strategy Type	Size	Minimum	Maximum	Mean	Deviation
Emotional Strategies	64	12	35	25.031	7.760
Action Strategies	64	9	35	21.781	7.004
Conceptualization Strategies	64	6	15	11.250	2.992
Avoidance Strategies	64	5	24	13.000	4.976

As shown in Table 7, in terms of the mean scores of the four strategy dimensions, emotional strategies received the highest score, followed by action strategies, avoidance strategies, and conceptualization strategies, with mean scores of 25.031, 21.781, 13.000, and 11.250, respectively. This result suggests

that graduate students relied more on emotional regulation and action strategies when coping with academic English writing anxiety, while conceptualization strategies appeared to be relatively less prominent.

4.4 Correlation Analysis between English Writing Anxiety and Self-Regulation Strategies

Table 8. Correlation between English Writing Anxiety and Self-Regulation Strategies

Writing Anxiety		Writing Anxiety	Self-Regulation Strategies
		1	-.367**
Self-Regulation Strategies	Pearson Correlation		0.003
	Sig. (2-tailed)		
	N	64	64
Writing Anxiety	Pearson Correlation	-.367**	1
	Sig. (2-tailed)	0.003	
	N	64	64

Note: Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 8, the correlation coefficient between writing anxiety and self-regulation strategies is -0.367, indicating a negative linear relationship between the two variables. This relationship is statistically significant at the 0.003 level. Therefore, the findings suggest that, in the context of academic English writing, graduate students with higher levels of writing anxiety tend to report less frequent use of self-regulation strategies. Conversely, students who use self-regulation strategies more frequently tend to experience lower levels of writing anxiety.

5. Discussion

This study examined graduate students' academic English writing anxiety and their use of self-regulation strategies. The results show that writing anxiety is common among graduate students, with 53.1% of the respondents reporting a high level of anxiety. This finding suggests that academic English writing can be a considerable emotional burden for graduate students. Unlike general English writing tasks, academic writing often involves more complex requirements, such as argument development, disciplinary knowledge, source integration, logical organization, and academic language use. These demands may increase students' psychological pressure and make them more vulnerable to anxiety.

The anxiety reported by the participants was reflected in three major dimensions: somatic anxiety, cognitive anxiety, and avoidance behavior. Somatic anxiety may appear as physical reactions, such as an increased heart rate or nervousness under time pressure. Cognitive anxiety is mainly related to students' concerns about their writing performance, language accuracy, and academic quality. Avoidance behavior indicates that some students may delay, reduce, or even avoid writing tasks when they feel anxious. These findings suggest that writing anxiety is not merely an emotional experience but may also affect students' writing behaviors and engagement.

The study also found that graduate students differed in their use of self-regulation strategies. Emotional regulation was the most frequently used strategy, followed by action strategies, whereas conceptualization strategies were used least frequently. This pattern indicates that many students are aware of the need to manage their emotions during writing, and some are able to take practical actions, such as dividing writing tasks into smaller steps. However, the relatively low use of conceptualization strategies suggests that students may not be sufficiently prepared in terms of planning, organizing ideas, clarifying writing goals, and constructing the overall structure of academic texts. Since academic writing requires strong planning and organization, insufficient use of conceptualization strategies may partly explain why students experience difficulty and anxiety in writing.

The Pearson correlation analysis showed a significant negative correlation between academic English writing anxiety and self-regulation strategies ($r = -0.367$, $p = 0.003$). This result indicates that students with higher levels of writing anxiety tend to report less frequent use of self-regulation strategies. Conversely, students who use self-regulation strategies more frequently may experience lower levels of writing anxiety. However, because this study employed a correlational design, the result should not be interpreted as evidence of causality. It is possible that anxiety reduces students' ability or willingness to regulate their writing process, but it is also possible that insufficient self-regulation increases anxiety. The relationship between the two variables may therefore be dynamic and reciprocal.

These findings have important pedagogical implications for academic English writing instruction. First, teachers should pay greater attention to students' emotional states during writing. Writing anxiety should be recognized as a normal but influential factor in academic writing development. A supportive classroom environment may help students view moderate anxiety as a potential source of motivation rather than only as a barrier. Second, instructors should provide explicit training in self-regulated writing strategies. In particular, more attention should be given to conceptualization strategies, such as analyzing writing requirements, setting specific writing goals, outlining the structure of a paper, and planning the development of arguments before drafting. Third, teachers can help students reduce avoidance behaviors by designing process-oriented writing tasks, breaking large assignments into manageable stages, and providing timely feedback throughout the writing process. Fourth, writing assessment should move beyond teacher-centered evaluation and incorporate peer feedback, self-assessment, and diversified assessment methods. These practices may help students develop stronger self-monitoring abilities and gradually build confidence in academic English writing.

Despite its findings, this study has several limitations. First, it mainly relied on questionnaire data. Although questionnaires are flexible and efficient, they may be affected by respondent bias and may not fully capture the contextual and dynamic features of emotions. Future research could adopt more objective and immediate measures, such as heart rate, eye movement, blood pressure, and respiration, to reduce memory bias and improve the ecological validity of the findings (Li et al., 2024). Second, qualitative methods such as interviews, reflective journals, or writing-process observations could be

used to further explore the factors that influence writing anxiety and self-regulation strategy use. Third, the sample size of this study was relatively small, and participants were not differentiated by academic discipline. Future studies could include larger and more diverse samples and compare graduate students from different disciplinary backgrounds. Finally, future research may broaden the scope of emotional inquiry in second language writing. In addition to anxiety, emotions such as enjoyment, expectation, pride, interest, shame, guilt, and boredom also deserve further investigation (Jiang & Li, 2017; Li, 2020; Li et al., 2018; MacIntyre et al., 2019; Teimouri, 2018). A broader perspective on second language emotions would contribute to a more comprehensive understanding of graduate students' academic writing experiences.

6. Conclusion

This study investigated graduate students' academic English writing anxiety, their use of self-regulation strategies, and the relationship between these two variables. The results showed that academic English writing anxiety was common among the participants, with 53.1% reporting a high level of anxiety. Their anxiety was mainly reflected in somatic anxiety, cognitive anxiety, and avoidance behavior.

The study also found that graduate students used different types of self-regulation strategies. Emotional regulation was used most frequently, followed by action strategies, while conceptualization strategies were used least frequently. Pearson correlation analysis further revealed a significant negative correlation between academic English writing anxiety and self-regulation strategies ($r = -0.367$, $p = 0.003$), suggesting that higher anxiety was associated with less frequent use of self-regulation strategies.

These findings enrich research on affective factors in academic English writing and respond to the limited attention previously given to graduate students. Pedagogically, the study suggests that teachers should provide supportive, process-oriented writing instruction, help students develop effective self-regulation strategies, especially conceptualization strategies, and adopt diversified assessment methods to reduce anxiety and promote long-term engagement in academic English writing.

Competing Interests

The author declares no competing interests.

Declaration of Generative AI Use

Generative artificial intelligence (AI) tools, specifically ChatGPT, were used only for language editing and refinement to enhance the clarity and readability of the manuscript. The author takes full responsibility for the content of the manuscript.

Ethical Statement

This study involved human participants. According to the relevant institutional guidelines, formal ethical approval was not required. However, informed consent was obtained from all participants prior to data collection. Permission was also obtained from the school and relevant teachers. Participation was entirely voluntary, and all data were collected and used in accordance with applicable ethical standards. The anonymity and confidentiality of all participants were strictly protected.

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