

# Research Status, Harm and Alleviation Path of Exam Anxiety Among Vocational School Students

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**Abstract:** In recent years, with the changes in the syllabus of vocational education college entrance examination, the exam pressure of vocational school students has become increasingly high, and exam anxiety has become more obvious. As a special group, vocational school students' exam anxiety should be taken seriously. This study focuses on the current research status, harm, and ways to alleviate exam anxiety among vocational school students. Overall, there are relatively few studies on exam anxiety among vocational school students, and the scope is narrow. Most of the research is limited to data from current surveys. Although there are some analyses of the causes of exam anxiety among vocational school students, there is a lack of in-depth research on using specific intervention methods to specifically intervene in their exam anxiety. Exam anxiety among vocational school students may affect their cognitive function, academic performance, physical and mental health, etc. It is necessary to alleviate exam anxiety among vocational school students through multiple channels.

**Keywords:** Vocational school students; Exam anxiety; Relieve

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## 1. Introduction

There are different views among scholars at home and abroad on the definition of exam anxiety. It is generally believed that exam anxiety refers to the emotional, physiological, and behavioral anxiety experiences and cognitive concerns that individuals experience in academic evaluation contexts <sup>[1]</sup>. In 2021, Test Anxiety (TA) was included in the Performance Anxiety category of the Medical Thesaurus (MeSH) anxiety item, defined as anxiety that occurs during ability or knowledge testing <sup>[2]</sup>. Exam anxiety is the result of a combination of internal and external factors within an individual, such as genetics, cognitive evaluation, situational perception, and sensory feedback, as well as external factors such as family environment, school environment, and exam environment.

In the traditional beliefs, many people may think that vocational school students have less academic pressure and their exam anxiety should be rare. However, in reality, with the increasing demand for educational qualifications in society, vocational school students can only choose to continue their education and further their studies. They can enter university through separate enrollment exams, targeted enrollment exams, and other methods. Like ordinary high school students, they also have exam anxiety.

## 2. Research status of exam anxiety among vocational school students

As of July 2024, a total of 4,696 literature results were retrieved using the CKNI full-text journal database with “exam anxiety” as the main keyword. Using the same method, a total of 23 literature results were retrieved with “exam anxiety among vocational school students” as the main keyword, all of which were in Chinese. After excluding 15 pieces of literature that were not directly related, only 8 pieces of literature were directly related to this study. From this, it can be seen that although exam anxiety is relatively common among student groups and people’s attention to exam anxiety has always maintained a high trend, there are few direct studies on exam anxiety among vocational school students.

In the available research, Ye Y (2019)<sup>[3]</sup>, Luo J (2008)<sup>[4]</sup>, and Liu L (2013)<sup>[5]</sup> conducted case studies on exam anxiety disorders among vocational school students, using certain professional knowledge and skills to help exam anxiety visitors alleviate their exam anxiety disorders. Li H (2018)<sup>[6]</sup> used a cluster random sampling method to investigate the current situation of exam anxiety in anatomy courses among 201 students (including 18 boys and 183 girls) from 18 classes of first-year nursing majors at Chengdu Railway Health School as the research population. Song C *et al.* (2015)<sup>[7]</sup> used a stratified cluster random sampling method to investigate the exam anxiety status of 944 vocational nursing students. Both studies found that the vast majority of students had moderate to low levels of exam anxiety, and there was a significant difference in the level of exam anxiety between boys and girls, with girls having higher levels of exam anxiety than boys. Cui Q *et al.* (2018)<sup>[8]</sup> pointed out that weak academic performance, lack of confidence, high expectations, and weak self-discipline are the main reasons for exam anxiety among vocational school students. Zhao Na tested 145 vocational school students using the Academic Self-Efficacy Scale and a self-designed Exam Anxiety Scale<sup>[9]</sup>. The survey found that most students had pre-exam anxiety, and about 15% of students had high exam anxiety. The level of pre-exam anxiety was significantly negatively correlated with academic self-efficacy. Yang C *et al.* (2010) surveyed the exam anxiety of 414 vocational school students through a scale and found that most students have exam anxiety<sup>[10]</sup>. Zeng X *et al.* (2010)<sup>[11]</sup> proposed in their study “A Comparative Study of Anxiety between Vocational and High School Students” that vocational school students exhibit stronger anxiety than general high school students in their daily performance.

Through the organization and analysis of existing research, it is found that overall, there are relatively few studies on exam anxiety among vocational school students, and the scope is narrow. Most of the research is limited to data from current surveys. Although there are some analyses of the causes of exam anxiety among vocational school students, there is a lack of in-depth research on using specific intervention methods to specifically intervene in exam anxiety among vocational school students.

## 3. The harm of exam anxiety among vocational school students

In 2013, a study pointed out that the proportion of exam anxiety cases received by psychological counseling

rooms in vocational schools had reached 30% <sup>[12]</sup>. In recent years, with the changes in the syllabus of vocational education and college entrance examinations, the exam pressure of vocational school students has become increasingly high, and exam anxiety has become more obvious. As a special group, the mental health status of vocational school students should be taken seriously, and the harm caused by exam anxiety cannot be ignored.

### **3.1. Exam anxiety affects individuals' cognitive function and academic performance**

In recent years, researchers have begun to pay attention to the effects of exam anxiety on individual attention, working memory, inhibitory function, and related brain mechanisms <sup>[12]</sup>. Positive emotions can promote cognitive activity, while negative emotions can hinder cognitive activity. Exam anxiety, as a negative emotional response, may hurt an individual's attention, working memory, and inhibitory function. Lin H (2014) <sup>[13]</sup> pointed out in his research that there is a linear negative correlation between exam anxiety and attention stability, and the higher the level of exam anxiety, the lower the attention stability index. There are significant differences in the attention stability index among individuals with different levels of exam anxiety, with high exam anxiety individuals having significantly lower attention stability indices than low exam anxiety individuals. Gao Y *et al.* (2014) <sup>[14]</sup> also pointed out in their research that whether it is trait-based exam anxiety or state anxiety in exam situations, high-anxiety individuals have the worst attention stability. Chen S *et al.* (2009) <sup>[15]</sup> pointed out that high exam anxiety can interfere with students' memory processes, leading to incorrect information retrieval and exam scores. Du J *et al.* (2008) <sup>[16]</sup> also pointed out in their research that exam anxiety may have an impact on memory accuracy and may thus affect students' exam scores. Wei H (2021) <sup>[17]</sup> pointed out in his research that exam anxiety weakens an individual's distractor inhibition function and dominance response inhibition function. It can be seen that exam anxiety can affect an individual's academic performance by impairing their cognitive function.

### **3.2. Exam anxiety affects physical and mental health**

Most vocational school students are between the ages of 15–19. They are sensitive during adolescence and highly concerned about others' evaluations. Faced with the possibility of failure in exams, they exhibit excessive exam anxiety. Students with exam anxiety are prone to a series of physiological reactions such as palpitations, shortness of breath, headaches, excessive sweating, poor sleep quality, and frequent urination when facing exams. In severe cases, they may even experience diarrhea, cardiovascular dysfunction, and damage to the endocrine system. At the same time, due to overly sensitive psychological reactions and unstable emotional states, their social adaptation ability deteriorates and their learning initiative is lacking. This may lead to incorrect cognitive evaluations of themselves, resulting in low self-efficacy, learning fatigue, etc. Over time, this can lead to a vicious cycle, reduced happiness, decreased self-confidence, and in severe cases, even extreme behavior <sup>[18]</sup>.

In summary, exam anxiety can cause serious harm to the normal learning life and physical and mental health of vocational school students. Reducing the negative impact of exam anxiety can help vocational school students reduce anxiety and emotional distress, thereby improving their physical and mental health levels and enhancing their learning efficiency.

## **4. The path to relieving exam anxiety of vocational school students**

Given the negative impact of exam anxiety on vocational school students, the following ways to better

alleviate exam anxiety is a question worth pondering.

#### **4.1. Building the correct self-awareness**

Human cognition directly affects emotions, and incorrect or unreasonable beliefs can lead to negative emotions and maladaptive behaviors, resulting in physiological and psychological symptoms. Therefore, helping students lose irrational thinking, change erroneous self-awareness, and form correct self-awareness is of great significance in alleviating exam anxiety. This requires helping students build reasonable self-expectations, correct learning motivation, establish correct life and moral values, unload exam burdens, reduce worries about exams, maintain a good coping attitude, and thus alleviate exam anxiety<sup>[19]</sup>.

#### **4.2. Enhance self-efficacy and boost self-confidence**

Self-efficacy refers to an individual's subjective judgment of their ability to complete academic tasks. Hu C *et al.* (2022)<sup>[20]</sup> pointed out in their research that in educational contexts, the occurrence of exam anxiety can usually be divided into two situations. One is that individuals have learning and exam skills or cognitive abilities deficiencies, and cannot organize learning materials well, resulting in exam anxiety emotions. The second type is when an individual believes that their ability cannot handle the current situation. The second scenario here is a state of low self-efficacy. Numerous studies have shown a significant negative correlation between self-efficacy and test anxiety. The higher the self-efficacy, the lower the test anxiety of students. Conversely, the lower the self-efficacy, the lower the test anxiety of students. Therefore, enhancing students' self-efficacy and confidence can help alleviate their test anxiety.

Self-efficacy emphasizes how individuals perceive their abilities rather than the abilities themselves. Therefore, to enhance the self-efficacy of vocational school students, it is necessary to guide them to have a correct positioning of their goals, not aim too high, and avoid forming learned helplessness. To set goals and plans based on one's zone of proximal development, constantly experience success, enhance confidence, and thus improve self-efficacy. Students can also be guided to engage in positive self-suggestion to enhance their self-efficacy, such as saying more positive words like 'I can do it' and less or trying not to say negative words like 'I am always the worst.'

#### **4.3. Strengthen knowledge reserves and scientifically master exam strategies**

"Don't fight unprepared battles." When students are not fully prepared for knowledge and passively take exams, due to the unknown nature of the exam, they will feel nervous and panic when encountering questions they don't know, which can easily lead to exam anxiety. On the contrary, if vocational school students can work hard in their daily studies, constantly improve their learning methods, pay attention to the accumulation of knowledge in their daily studies, and have confidence in the knowledge and skills that need to be mastered well, then they will not be so nervous during exams due to lack of confidence, and it will be less likely to experience high levels of exam anxiety. In addition, doing exams also requires certain skills. Mastering scientific exam strategies such as doing simple and easy-to-understand questions first and then doing difficult ones, arranging time reasonably, and rigorously reviewing questions can also help alleviate students' exam anxiety.

#### **4.4. Reasonable attribution**

Sometimes, words like, 'I'm so stupid,' 'I just can't do anything well,' 'I'm always so useless.' Can be heard

from the students. Due to the tendency of individuals with high exam anxiety to associate failure with constant factors such as ability, and to make external, unstable, and situational attributions of success, this attribution of exam results may make students feel inadequate or unable to pass the exam, leading to exam anxiety and affecting academic performance <sup>[21]</sup>. Therefore, vocational school students should be guided to make correct attributions, such as attributing good test results to their abilities and efforts, which will give them more confidence in themselves. When a test result is not satisfactory, attributing the failure to bad luck or difficult questions will reduce the sense of guilt and alleviate exam anxiety.

#### **4.5. Adequate sleep, reasonable diet, and maintaining good physical fitness**

People often say that ‘the body is the capital of revolution,’ and physical health and mental health are closely linked. A strong body can protect mental health. Existing research shows that exam anxiety can affect sleep quality, and sleep quality can also affect the degree of exam anxiety. Low sleep quality can easily trigger anxiety emotions. Diet, on the other hand, is the source of nutrition for the body and the foundation of overall health. Therefore, to alleviate the exam anxiety of vocational school students, it is necessary to guide them to choose suitable exercise methods in their daily study and life, strengthen physical exercise, ensure sufficient sleep time every day, have a reasonable diet, ensure nutrition, and maintain good physical fitness.

#### **4.6. Take appropriate intervention measures**

At present, there are many intervention methods for exam anxiety. In existing research, behavioral intervention and cognitive-behavioral intervention are still the mainstream intervention methods, and psychosomatic intervention is also constantly developing. According to relevant research statistics, behavioral therapy (emotion-centered therapy), cognitive therapy, cognitive-behavioral therapy, skill-centered therapy, and a combination of cognitive, behavioral, and skill-based methods can effectively alleviate exam anxiety, among which the combination of multiple treatment methods produces the best intervention effect <sup>[22]</sup>. In terms of specific intervention methods, due to the limited research on interventions specifically targeting exam anxiety among vocational school students, it is not yet possible to compare which intervention method has the best effect. Vocational school students and high school students are of similar age, and commonly used intervention methods for high school students’ exam anxiety can be referenced in terms of intervention methods, such as relaxation training, rational emotion therapy, mindfulness training, etc.

##### **(1) Relaxation training**

Relaxation training is a type of relaxation training that mainly involves a series of conscious relaxation exercises, such as imagination relaxation, deep breathing relaxation, and muscle relaxation, for 20–30 minutes each time, to reduce an individual’s negative emotions. In existing research, relaxation training is very useful for coping with anxiety, and as exam anxiety is a type of anxiety, the intervention effect of relaxation training on it is also significant.

##### **(2) Rational emotive therapy**

The core concept of rational emotion therapy is the ABC theory of emotions. In this theory, A refers to the triggering event, B refers to the thoughts generated by an individual after encountering the triggering event, and C refers to the individual’s emotional and behavioral responses. Psychologist Ellis pointed out that what plays a key role in an individual’s emotions is not the triggering event itself, but the attitude and thoughts held by the individual towards the triggering event. That is to say, triggering event A is only an indirect cause of emotional and behavioral reactions, while B represents the individual’s thoughts generated after encountering

the triggering event, which is the direct cause of the individual's emotional and behavioral reactions, that is, C is determined by B. Therefore, the key to changing an individual's emotional or behavioral response is to regulate or alter B in the ABC theory. According to this theory, the key to alleviating students' exam anxiety lies in helping them recognize and change unreasonable beliefs and thinking patterns to reduce negative emotional distress and guide students to re-establish more positive and flexible ways of thinking.

### (3) Mindfulness training

Mindfulness training is a self-regulated mental training method that advocates adopting an open attitude to accept current things, observing and accepting current feelings, emotions, and thoughts, and understanding oneself with an open mind and comprehensive attention without criticism. With the development of mindfulness, many studies at home and abroad have confirmed the important role of mindfulness in regulating and improving negative emotions in recent years. Many studies on exam anxiety among primary and secondary school students in China have pointed out a significant negative correlation between mindfulness level and exam anxiety, meaning that the higher the level of mindfulness, the lower the level of exam anxiety. Therefore, mindfulness training can be used to improve mindfulness levels and alleviate exam anxiety. Currently, commonly used mindfulness training methods among students include mindfulness breathing, mindfulness meditation, mindfulness walking, body scanning, etc. Through these mindfulness training methods, students can introspect, relax, and alleviate exam anxiety.

In the process of students' growth, although family, school, and society play different roles, they are all very important. Therefore, no matter which mitigation approach is adopted, it requires the coordination and cooperation of family, school, and society. Schools should equip full-time mental health teachers, form professional teams, and regularly organize parent-teacher conferences, themed lectures, exam psychological counseling and other activities through group counseling or individual counseling. Attention should be paid to students with severe exam anxiety, and active communication with parents should be maintained. Parents should also value their responsibilities as parents, actively communicate and exchange ideas with teachers to timely understand their children's situation and actively participate in school activities. Society should also pay attention to the group of students who experience exam anxiety, spread positive energy, and alleviate their exam anxiety. In the future, research on intervention for exam anxiety among vocational school students can also focus on exploring and comparing its effectiveness.

## Disclosure statement

The authors declare no conflict of interest.

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