**Diversitas Journal**
ISSN 2525-5215
Volume 10, Issue_Special 1 (Jan./Mar. 2025) p. 0205 – 0219
https://diversitasjournal.com.br/diversitas_journal

# Pre-Competition Anxiety and Achievement Motivation as Factors of Fear in Competition among Athletes

**ZHU, Yuqi[1]; FESTIJO, Jessa Frida T. [2]**

[1] 0009-0005-9275-1665; Lyceum of the Philippines University. Manila City, Manila (NCR), Philippines. yuqi.zhu@lpunetwork.edu.ph.
[2] 0000-00033612-0277; Lyceum of the Philippines University. Manila City, Manila (NCR), Philippines. frida.festijo@lpu.edu.ph.



**A B S T R A C T**

Fear of losing is seen as a stressor of athletes in winning competitions. The study employed quantitative research design to investigate the pre-competition anxiety experienced by high school athletes and its connection to their motivation for achievement wherein 154 athletic students from three representative high schools in Zhejiang, China were involved. It utilized various statistical techniques to describe demographic characteristics such as gender, grade level, and training duration. Mean comparison and analysis of variances were applied to identify variations in pre-competition anxiety based on gender, grade, and training duration, while correlation analysis was used to establish significant relationships between pre-competition anxiety and achievement motivation. Findings revealed that pre-competition anxiety level of students is above the average level, but not categorized as high level, as previously assumed in the hypothesis. They displayed a greater inclination towards fear of failure motivation, with achievement motivation falling within a moderate range rather than high. Gender, grade, and training duration showed significant differences in pre-competition anxiety, whereas self-confidence did not exhibit significant variations based on training duration. Findings concluded that fear of failure, although not the main factor, directly affects the significant positive correlation between pre-competition anxiety and achievement motivation.

**ARTICLE INFORMATION**

***Article process:***
Submitted: 10/14/2024
Approved: 10/29/2024
Published: 02/20/2025



**Keywords:**
sports education; fear of failure motivation; state anxiety; cognitive state anxiety; China

**RESUMO**

O medo de perder é visto como um estressor dos atletas em competições vencedoras. O estudo empregou um projeto de pesquisa quantitativa para investigar a ansiedade pré-competição experimentada por atletas do ensino médio e sua conexão com sua motivação para o desempenho, em que 154 estudantes atléticos de três escolas secundárias representativas em Zhejiang, China, estavam envolvidos. Ele utilizou várias técnicas estatísticas para descrever características demográficas, como sexo, série e duração do treinamento. A comparação média e a análise de variâncias foram aplicadas para identificar variações na ansiedade pré-competição com base no sexo, série e duração do treinamento, enquanto a análise de correlação foi usada para estabelecer relações significativas entre a ansiedade pré-competição e a motivação para o desempenho. Os resultados revelaram que o nível de ansiedade pré-competição dos alunos está acima do nível médio, mas não categorizado como nível alto, como assumido anteriormente na hipótese. Eles exibiram uma inclinação maior para a motivação do medo do fracasso, com a motivação para a realização caindo dentro de uma faixa moderada em vez de alta. Gênero, série e duração do treinamento mostraram diferenças significativas na ansiedade pré-competição, enquanto a autoconfiança não exibiu variações significativas com base na duração do treinamento. Os resultados concluíram que o medo do fracasso, embora não seja o principal fator, afeta diretamente a correlação positiva significativa entre a ansiedade pré-competição e a motivação para a realização.

**Keywords:**
educação esportiva; motivação do medo do fracasso; ansiedade de estado; ansiedade do estado cognitivo; China

*DOI: 10.48017/dj.v10ispecial_1.3173*

## Introduction

As sports are becoming increasingly widespread around the world, countries and places are paying more attention to the training of youth sports talents and the results of competitions. Nowadays, athletes' technical and tactical abilities have become more mature and perfect, and one of the most key factors in determining athletes' performance and results gradually tends to be athletes' psychological quality. The youth group is at an important stage of physical and mental development, and has poor psychological ability, coupled with the high confrontation of sports, it is increasingly demanding on the psychological ability of youth athletes. The psychological state of athletes' athletes' sports psychological state can be broadly divided into during training, before the start of the game, and after the competition psychological state. A good pre-competition psychological state will play a vital role in the athletes' excellent performance, and the most common pre-competition psychological state of athletes is anxiety, which affects the athletes' performance in a very vital manner. In sports, it often happens that an athlete's technical and tactical ability in training is quite good, but when it comes to the real game, their sports performance is often unsatisfactory, and a large part of the reason is the athlete's pre-competition bad psychological state caused by the individual cannot play the normal level of skills and tactics, according to Li (2022).

There are many experts, like Wan (2022) and Bai (2022), dedicated to the pre-competition psychological series of issues to explore and research, to help athletes out of trouble organization to establish a good psychological current state, which can also help athletes in the game to better enhance and play their technical and tactical level. In recent years, there have been many proposals about the impact of the relationship between athletes' pre-competition anxiety, achievement motivation and competition performance, however, the conclusions reached by various experts are not entirely consistent. It is proposed that anxiety is related to the individual and that different individuals have different anxiety responses to competitions. That is, to maintain the best athletic performance during the competition, the player must bring a certain amount of competition anxiety to stimulate the individual. It is also necessary for the athlete to have a proper understanding and orientation of race anxiety and to understand his or her mental state. If an athlete can transform anxiety into a normal and positive phenomenon that blends into a motivation for achievement, it can have a beneficial effect on the athlete's game and ensure optimal physical performance for competition that might otherwise have a negative impact. Therefore, this paper looked into the relationship between athletes' psychological anxiety and achievement motivation on competition performance to help athletes perform at a good technical and tactical level and achieve desired sports performance. It focused on examining the assessment of the relationship between pre-

competition competition anxiety and achievement motivation among high school sports special students using high schools in Zhejiang Province, China as sampling location targets.

The study aimed at identifying the levels of assessment of the student respondents on pre-competition anxiety in terms of state self-confidence, somatic state anxiety, and cognitive state anxiety. It also investigated the levels of the assessment of the student respondents on achievement motivation in terms of hope of success motivation, and fear of failure motivation.

The paper assumed using the following null hypotheses-- there is no significant difference of respondents' pre-competition anxiety based on the demographic variables. Similarly, it aimed to confirm that there is no significant relationship between pre-competition anxiety and achievement motivation.

## Literature Review

### The concept of achievement motivation

In achievement motive theory, need for achievement is conceptualized as an explanatory variable that triggers certain experiences and behaviors spontaneously, according to Grund, et al. (2022), by including mindfulness, the present study points to potential processes that underlie the link between motivational self-concepts and respective latent. These findings are a first step toward illuminating the phenomenological and excitatory nature of need for achievement in students' everyday lives and illustrate the necessity of noticing motive-specific cues to integrate them into the explicit motivational self-concept.

Dai & Yang (2016) studied 120 basketball players in Cuba using the Achievement Motivation Scale. The results showed that the level of achievement motivation of men basketball players is higher than that of women basketball players, and the reason may be that men are more competitive than women. For female athletes, the cultivation of competitive heart is conducive to the improvement of achievement motivation.

Wei (2016) took 88 professional sports training athletes of different events in a university in Guangxi as the investigation objects, studied the achievement motivation of athletes by using the Sports Achievement Motivation Scale, and put forward the corresponding methods, and drew the following conclusions: Coaches should fully understand the psychological characteristics of athletes; Cultivate athletes' ability of arranging goals reasonably in daily training; And put forward challenging but achievable goals before the competition; In the training life, we should try to meet the reasonable requirements of athletes: different incentive methods should be adopted for different athletes, and training should be arranged in a targeted way. Wang (2007) took provincial team gymnasts as the investigation object, and through the research on training and competitive ability, drew the following conclusions: Athletes with high training level have higher motivation for pre-competition

achievement, and athletes with moderate training level have stronger will to improve their own technical and tactical ability.

Zheng (2011), a scholar, took disabled athletes as the survey objects and measured them with the help of Achievement Motivation Scale. The results show that, compared with ordinary athletes, disabled athletes have a higher desire for achievement, that is, they have a higher level of achievement motivation and a higher level of pursuit of success. Scholar Xu (2014) studied and analyzed the level of achievement motivation of athletes with the help of "Competitive Motivation Scale" and drew the following conclusions: There are significant differences in the level of achievement motivation of male and female athletes, and male athletes are significantly higher than female athletes; There are significant differences in the level of achievement motivation of athletes at different ages. Athletes with different training duration have different achievement motivation levels but not significant.

**The relationship between achievement motivation and competition performance**

In studying the relationship between pre-race anxiety and performance motivation, the researcher found that other scholars have made similar studies on these two variables. Based on Biswas, et al. (2021), motivation is the basic drive for all kinds of action. It has a direct influence on academic achievement and sports performance that builds an urge to incentive values of success. Anxiety in pre-competition especially in sports formulates positive inward settings in mind to overcome the challenge. Their study concluded that the three groups selected had almost identical states of achievement motivation and sports competition anxiety.

Yang (2013) used 240 professional athletes in the province as the investigation subjects, and measured their achievement motivation level and group cohesion level using the Achievement Motivation Scale, and obtained the following findings: The level of achievement motivation is a major factor affecting athletes' competition performance, and is a significant criterion for predicting athletes' competition performance, and the level of athletes' achievement motivation is significantly and positively correlated with competition performance, and the higher the level of achievement motivation The higher the level of achievement motivation, the more desirable the performance obtained. In 2012, 128 athletes underwent investigation objects and measured the level of motivation to pursue success and motivation to avoid failure respectively with the Individual Difference Scale of Achievement Tendency (Fan, 2012). The following research results were obtained: The level of motivation to pursue success was significantly positively correlated with the performance of the athletes, that is, the higher the level of motivation to pursue success, the better the performance of the athletes; There is a significant negative correlation between athletes' motivation to avoid failure and their performance, that is, the higher the motivation to avoid failure, the less ideal the performance. There are many studies on pre-competition anxiety, and their subjects are

professional athletes, professional athletes, amateur gymnastics students, specialized athletes, college student athletes, and so on. Therefore, the Cognitive Trait Anxiety Scale and the Competition State Anxiety Scale are applicable to different athletes and sports. The current research on pre-competition anxiety mainly focuses on 1. competition anxiety, such as Martens' classification of trait anxiety and state anxiety; 2. the "inverted U-shaped hypothesis" and mutation theory; 3. optimal functional area theory, reversal theory and physiological arousal; 4. multidimensional anxiety theory, etc.

Studies on the relationship between athletes' pre-competition anxiety, achievement motivation and athletes' performance are abundant, but there are few convincing theories for a particular sport, and the research on anxiety and performance will be a difficult and prolonged process. Through the analysis of previous studies, it was found that most of the studies on athletes' anxiety were specifically on high-level athletes, such as athletic athletes and national level athletes, while the studies on adolescent athletes and amateur athletes were minimal, and this paper will focus on adolescent athletes (Leng, 2007).

## Methods

Using descriptive research design, this study focused on pre-competition anxiety of high school sports students and the relationship between pre-competition anxiety and achievement motivation. In this study, the researcher adopts the quantitative research method to select three representative high schools in Zhejiang Province, namely a, B and C. The population size of this study was 252, and 154 student respondents were selected to complete the questionnaire through power analysis and then analyzed. The researchers used a simple random sampling technique to sample respondents from three schools.

The study was divided into a questionnaire and a simple experimental design, which was divided into three parts and distributed to 154 student-athletes via an online survey. In addition, due to this study's particularity, the researchers designed an experimental method that was easier to do. The researchers selected two mid-scale competitions, a varsity shot-put competition and a regional track and field competition and used an easily accessible instrument to test the physiological anxiety status of student-athletes in the run-up to the competition to ensure that the pre-competition anxiety mentioned in this study was real.

The questionnaire adopts the existing questionnaire from Competition state anxiety scale, using the Achievement Motivation Scale. The control test of competition state anxiety was compiled by Krane (1994). The Mental Readiness Form-Likert Scale (MRF-L) is for CSAI-2(Martens, Burton, Vealey, Bump, & Smith, 1990). The scale measures athletes' state anxiety from three dimensions: cognitive state anxiety, somatic state anxiety and state confidence. Each anxiety subscale consists of 9 questions and is a 4-point scale. The score for each subscale ranges from 9 to 36. The higher the score, the higher the level of cognitive state anxiety, somatic

state anxiety and state confidence. The questions measuring cognitive state anxiety, somatic state anxiety and state confidence were all 9 questions.

Descriptive statistics were used by the researchers to analyze student respondents' gender, grade level, and their years of training; while T-test and ANOVA were used to determine whether there were significant differences in the student respondents' assessments of pre-match anxiety based on their demographic variables. Lastly, Pearson correlation analysis was used to identify a significant relationship between pre-competition anxiety and achievement motivation.

**Results and Discussion**

The researchers conducted a series of data analysis, such as the demographic of the survey object, the assessment of students' pre-competition anxiety, and analyzed the differences and significance of each factor through the data. On this basis, the proposed training plan is put forward.

**Table 1**.

*Demographic characteristics of the respondents*

| | | Frequency | Percent |
|---|---|---|---|
| Gender | male | 91 | 59.09 |
| | female | 63 | 40.91 |
| Grade | senior one | 63 | 40.91 |
| | senior two | 50 | 32.47 |
| | senior three | 41 | 26.62 |
| Training years | 1-3 years | 49 | 31.82 |
| | 3-5 years | 41 | 26.62 |
| | 5 years above | 64 | 41.56 |
| sum | | 154 | 100.0 |

As seen from Table 1; the final effective sample size of this study is 154. In terms of gender, males account for 59.09% and females for 40.91%. In terms of grades, the proportion of "senior one", "senior two" and "senior three" were 40.91%, 32.47% and 26.62%, respectively. In terms of training years, "more than 5 years" accounted for the highest proportion, 41.56%; It was followed by "3-5 years", accounting for 26.62%.

**Table 2**.

*Assessment of the student respondents on pre-competition anxiety*

| | N | Minimum | Maximum | Mean | Std. Deviation | Median |
|---|---|---|---|---|---|---|
| State Self-confidence | 154 | 1.220 | 3.780 | 2.643 | 0.709 | 2.670 |
| Somatic State Anxiety | 154 | 1.000 | 3.890 | 2.595 | 0.774 | 2.615 |
| Cognitive State Anxiety | 154 | 1.110 | 3.780 | 2.605 | 0.694 | 2.670 |
| Pre-competition Anxiety | 154 | 1.630 | 3.560 | 2.614 | 0.387 | 2.650 |

The means of pre-competition anxiety and its three dimensions are all between 2-3 points, and the assessment of the pre-competition anxiety is between disagree and agree (table 2). State Self-confidence was highest at 2.643, while Somatic State Anxiety was lowest at 2.595. To sum up, the pre-competition anxiety level of the surveyed students is above the average level, but not a high level.

**Table 3**.

*Significant difference of respondents' pre-competition anxiety based on the demographic profile*

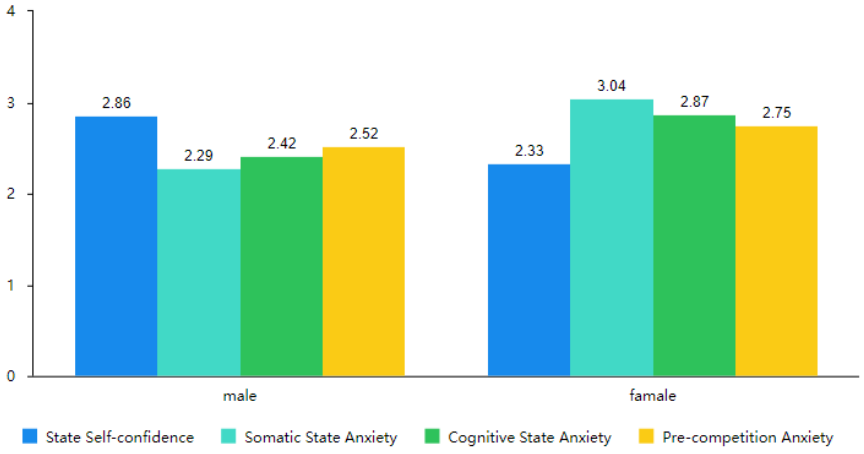
| | Gender (Mean ± Std. Deviation) | | *t* | *p* |
|---|---|---|---|---|
| | Male (*n*=91) | Female (*n*=63) | | |
| State Self-confidence | 2.86±0.66 | 2.33±0.67 | 4.815 | 0.000** |
| Somatic State Anxiety | 2.29±0.70 | 3.04±0.65 | -6.765 | 0.000** |
| Cognitive State Anxiety | 2.42±0.65 | 2.87±0.67 | -4.202 | 0.000** |
| Pre-competition Anxiety | 2.52±0.40 | 2.75±0.33 | -3.737 | 0.000** |

** $p<0.01$

T-Test and ANOVA were used to analyze the significant difference of pre-competition anxiety based on the demographic profile. The results showed that pre-competition anxiety had significant differences in gender, grade, and training years. The state self-confidence, somatic state anxiety, cognitive state anxiety and pre-competition anxiety of the student respondents in the different genders are all significant ($p<0.01$), indicating that pre-competition anxiety and its sub-dimensions have significant differences in genders. Liu, J. et al. (2003) found that the intensity and directionality of pre-game anxiety reactions of athletes with different degrees differed in terms of gender.

**Figure 1.**

*Mean Comparison of Respondents' Pre-competition Anxiety Based on Gender*




Male's state self-confidence was higher than females (figure 1). Compared with the female respondents, the male respondents have more active will quality, personality, and more confident in their ability to perform. The level of somatic state anxiety and cognitive state anxiety in female was higher than that in male. Chen (2016) came to the following conclusions: there were significant differences in the pre-test anxiety levels of sports high school candidates in terms of gender, with girls having higher levels of cognitive state anxiety, and the level of cognitive state anxiety and somatic state anxiety of female students is higher than that of male students, and the level of state self-confidence of female students is lower than that of male students. Male had lower levels of pre-competition anxiety than female. In a study on the anxiety level of athletes in college athletics, Fu (1999) suggested that female athletes had higher anxiety levels than male athletes.

**Table 4**.

*Significant difference of respondents' pre-competition anxiety based on the demographic profile*

| | Grade (Mean ± Std. Deviation) | | | *F* | *P* |
|---|---|---|---|---|---|
| | Senior one (*n*=63) | Senior two (*n*=50) | Senior three (*n*=41) | | |
| State Self-confidence | 2.72±0.69 | 2.70±0.70 | 2.46±0.75 | 1.853 | 0.16 |
| Somatic State Anxiety | 2.40±0.77 | 2.54±0.77 | 2.95±0.68 | 6.874 | 0.001** |
| Cognitive State Anxiety | 2.45±0.70 | 2.62±0.66 | 2.83±0.67 | 3.806 | 0.024* |
| Pre-competition Anxiety | 2.52±0.37 | 2.62±0.39 | 2.75±0.38 | 4.278 | 0.016* |

* $p<0.05$ ** $p<0.01$

The cognitive state anxiety and pre-competition anxiety of the students respondents in the different grades both show significant ($p<0.05$), the somatic state anxiety in the different grades shows significant ($p<0.01$), the state self-confidence in the different grades shows no significant ($p>0.05$), which means that there is a significant difference in student respondents' assessment of Pre-competition anxiety (except the state self-confidence) when their grades is a factor. Liu, J. et al. (2003) studied the directionality of pre-competition anxiety using the CSAI-2 scale revised by Jones and Swan and tested college athletes before the competition. The study showed that the intensity and directionality of pre-game anxiety reactions of athletes with different degrees differed in terms of grade level, and underclassmen students with insufficient competition experience showed obvious symptoms of somatic anxiety such as worry, nervousness and anxiety.

**Table 5**.

*Significant difference of respondents' pre-competition anxiety based on training years*

| | Training years (Mean±Std. Deviation) | | | *F* | *P* |
|---|---|---|---|---|---|
| | 1-3 years(*n*=49) | 3-5 years(*n*=41) | 5 years above(*n*=64) | | |
| State Self-confidence | 2.32±0.64 | 2.75±0.74 | 2.83±0.66 | 8.588 | 0.000** |
| Somatic State Anxiety | 2.84±0.75 | 2.72±0.70 | 2.33±0.77 | 7.428 | 0.001** |
| Cognitive State Anxiety | 2.81±0.67 | 2.68±0.66 | 2.40±0.69 | 5.412 | 0.005** |
| Pre-competition Anxiety | 2.65±0.32 | 2.72±0.36 | 2.52±0.43 | 3.785 | 0.025* |

* $p<0.05$ ** $p<0.01$

The training years were divided into three groups: 1-3 years, 3-5 years, and 5 years above, and if there is a significant difference in student respondents' assessment of Pre-competition anxiety when their training years is a factor was determined. As can be seen from Table 5 and Figure 4, the state self-confidence, somatic state anxiety and cognitive state anxiety of the student respondents with different training years are all significant ($p<0.01$), the pre-competition anxiety of the student respondents with different training years is significant ($p<0.05$). It indicated that pre-competition anxiety and its sub-dimensions are significantly different in terms of training years. Students with longer training years had higher self-confidence than other students. Students with shorter training years had higher levels of pre-competition anxiety than students with longer training years. Cai (2013), pointing out that players with longer training periods have slightly lower levels of cognitive and somatic anxiety than those with shorter training periods and slightly higher self-confidence than the latter on the contrary. The longer the training years, the stronger the physical condition, the more competitions, and activities they participate in. So, they have richer competition experience and growth experience. Rich competition experience is conducive to their self-psychological adjustment to relieve anxiety.

**Table 6**.

*Correlation between pre-competition anxiety and achievement motivation*

| | State Self-confidence | Somatic State Anxiety | Cognitive State Anxiety | Hope Of Success Motivation | Fear Of Failure Motivation | Pre-competition Anxiety | Achievement Motivation |
|---|---|---|---|---|---|---|---|
| State Self-confidence | 1 | | | | | | |
| Somatic State Anxiety | -0.223** | 1 | | | | | |
| Cognitive State Anxiety | -0.190* | 0.182* | 1 | | | | |
| Hope Of Success Motivation | -0.384** | 0.394** | 0.247** | 1 | | | |
| Fear Of Failure Motivation | -0.352** | 0.367** | 0.323** | 0.432** | 1 | | |
| Pre-competition Anxiety | 0.351** | 0.639** | 0.602** | 0.174* | 0.222** | 1 | |
| Achievement Motivation | -0.436** | 0.450** | 0.334** | 0.857** | 0.835** | 0.233** | 1 |

* $p<0.05$ ** $p<0.01$

There was a significant negative correlation between state self-confidence and somatic state anxiety (r=-0.223, p<0.01), a significant negative correlation between state self-confidence and cognitive state anxiety (r=-0.190, p<0.05), and a significant positive correlation between somatic state anxiety and cognitive state anxiety (r=0.182, p<0.05). There was a significant positive correlation between the hope of success motivation and fear of failure motivation (r=0.432, p<0.01). Simultaneously, there was a significant positive correlation between pre-competition anxiety and achievement motivation (r=0.233, p<0.01). Mo (2016) measured 78 college athletes who participated in the 2015 National College Rock Climbing Championships, the results showed that: somatic state anxiety was positively correlated with cognitive state anxiety, and state self-confidence was negatively correlated with cognitive state anxiety and somatic state anxiety. The study's findings are consistent with that of Jamshidi (2011) who found a significant correlation between increasing desire to win and competition anxiety.

## Conclusion

The study's outcomes refute the null hypotheses, indicating that there exists a significant relationship among respondents' pre-competition anxiety concerning demographic profiles, and a positive correlation between pre-competition anxiety and achievement motivation. Specifically, males predominate over females in the sample, with "senior one" representing the largest proportion in terms of grades, and "more than 5 years" accounting for the highest segment in terms of training duration. Although the surveyed students' pre-competition anxiety levels surpass the average, they do not reach a high level. Additionally, respondents exhibit a higher inclination towards fear of failure motivation, while their achievement motivation levels hover around the medium range but do not attain high levels.

Moreover, pre-competition anxiety exhibits significant discrepancies across gender, grade, and training duration, whereas state self-confidence shows no notable differences concerning training duration. Female participants report higher levels of somatic and cognitive state anxiety compared to males, who exhibit lower levels of pre-competition anxiety. Grades also reveal significant differences in pre-competition anxiety levels. However, state self-confidence does not vary significantly based on training duration. Notably, students with longer training durations exhibit higher state self-confidence, while those with shorter training durations demonstrate elevated pre-competition anxiety levels. Findings revealed a significant positive association between pre-competition anxiety and achievement motivation.

## Funding agency

The paper presentation was funded by the Research and Innovation Center of Lyceum of the Philippines University, Manila Campus, Philippines.

## REFERENCES

Bai, Y. L. (2022). Comparative Study on the governance characteristics of Competitive sports in the United States, Germany, and China (PhD Dissertation, Shanghai University of Sport).

Biswas, N., Kapas, P., Jana, A., & Paul, A. (2021). A Comparative Study on Achievement Motivation and Sports Competition Anxiety among the Students of Different Tier of Academic Hierarchy. International Journal of Sport and Health Sciences, 15(2), 180-183.

Cai, W. J. (2014). Research on Sports Anxiety of Junior High School Men's Basketball Players in Shanghai Huangpu District Sports League (master's thesis, Shanghai Normal University).

Cai, G. L. (2012). Investigation on competition State anxiety of Junior Track and Field athletes in Chongqing (master's Thesis, Southwest University).

Chen, C. Y. (2016). Analysis on the influence of pre-exam Anxiety on Sports performance of Physical Education College students in Hunan Province (master's Thesis, Hunan Normal University).

Chen X D. (2014). Investigation and analysis of pre-competition anxiety of sports students. Contemporary Sports Science and Technology (28),197-198. doi:10.16655/j.cnki.2095-2813.2014.28.035.

Chen Zhi-Qiang.(2015). Correlation analysis between pre-competition anxiety and gymnastic performance. Sports (08),36+14.

Dai, Y. S., & Yang, P. F. (2006). Investigation and analysis of achievement motivation of CUBA athletes. Journal of Wuhan Physical Education University (03),42-44.

Fan, Q. (2012). A study on the relationship between pre-competition anxiety, achievement motivation, self-efficacy, and performance of adolescent soft athletes (master's thesis, Shandong University of Sport).

Fang Shulin.(2019). The relationship between pre-competition anxiety and coping strategies of college athletes in track events. Zhejiang Sports Science (03),81-88.

Fu, M. Q. (1999). The time change pattern of pre-competition anxiety and the correlation between pre-competition anxiety and competition performance of high-level track athletes. China Sports Science and Technology (03).

Gou, M. H. & Liu, B. C. (2023). The Contemporary Writing and experience of the modernization of Chinese Education. China Audio-Visual Education (03),9-16.

Grund, A., Galla, B. M., & Fries, S. (2022). Achievement motivation in students' everyday lives: Its relationship to momentary positive and negative activation and the moderating role of mindfulness. Learning and Individual Differences, 97, 102176.

Hanin, Y. L. (1989) Interpersonal and intergroup anxiety: Conceptual and methodological issues. An international perspective.

Han, X. (2016). Research on pre-competition Anxiety characteristics of Flower Cheer athletes in ordinary universities (master's thesis, Shandong Normal University).

Hou, G. G. (2017). Research on the relationship between Pre-competition anxiety, stress Coping, Psychological Control and Sports performance of Short track speed skaters (master's Thesis, Jilin University).

Huang, X.T., Tension, W., & Mao, C.H. (2018). Sport psychology (2nd ed.). Shanghai: East China Normal University Press.

Jamshidi, A., Hossien, T., Sajadi, S. S., Safari, K., & Zare, G. (2011). The relationship between sport orientation and competitive anxiety in elite athletes. Procedia-Social and Behavioral Sciences, 30, 1161-1165.

Ji, L., Zhang, L. W., & Yao, J. X. (2007) Sports Psychology. Beijing: Beijing Sport University Press.

Ji, L, Yin, H. C., Yan, J. (2016) Sports Psychology. Beijing: Higher Education Press.

Leng, S. (2007). A Comparative study on pregame anxiety of North Athletes in the Men's Basketball Super League of College Students (master's Thesis, Northeast Normal University).

Liu, J., Wang, S.M., & Zuo, C.X. (2003). Experimental Research on intensity and direction of pre-competition state anxiety of college athletes. Journal of Tianjin University of Physical Education (01),35-37.

Lin Xiaotao, Lu Sitai & Ma Peng.(2023). Pre-competition anxiety of college students majoring in Physical education and its Influencing factors. Journal of Guizhou Minzu University (Philosophy and Social Sciences Edition)(03),122-139.

Nie, Y. J. (2022). Investigation on the status quo and development countermeasures of Henan Track and Field Reserve Talent Base under the background of Sports and Education Integration (master's thesis, Harbin Institute of Physical Education).

Sonstroem, R. J., & Bernardo, P. (1982). Intraindividual Pregame State Anxiety and Basketball Performance: A Re-examination of the Inverted-U Curve. Journal of sport psychology, 4(3).

Su, Q. F. (2007). A preliminary study on cognitive trait anxiety of Chinese professional curlers. Journal of Capital Institute of Physical Education (04),47-49.

Wan B. W. (2022). Research on the Development of high-level Basketball teams in Jiangsu Universities under the background of Sports and Education Integration (master's Thesis, Nanjing University of Physical Education).

Wang, B. C. (2013). Research on the level, coping style, and relationship of sports cognitive trait Anxiety of volleyball players in Liaoning Province (Master Dissertation, Shenyang Institute of Physical Education).

Wang Hong. (2020). National university athletics championships players pre-match anxiety status quo of the study (a master's degree thesis, huazhong university of science and technology). https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD202202&filenam e=1020348249.nh

Wang J. (2007). Investigation and analysis of achievement motivation of male competitive gymnasts. Journal of Henan Normal University (Natural Science Edition)(02),165-169.

Wang Jin. (2020). The juvenile table tennis players pre-match anxiety, self-reflection, and study on the relationship between the mental toughness (a master's degree thesis, hunan university of science and technology). https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD202101&f ilename=1021553354.nh

Yang, Y. (2013). Research on the relationship between achievement motivation, cohesion, and competition performance. Sports Science and Technology Literature Bulletin (03),30-32+38.

Yang, Y., Wei, P. L. (2003). A comparative study on the development characteristics of achievement motivation of college students in Physical education and ordinary colleges. Journal of Shenyang Physical Education Institute (03),50-52.

Yin, X. W., Xi, Y. L., & Qiu, D. M. (2009). The relationship between achievement motivation coping strategies and pre-competition emotions in bodybuilders. Journal of the Capital Institute of Physical Education (03), 349-351+355.

Yasukuni Liang.(2016). Research on athletes' pre-competition anxiety and its countermeasures. Tomorrow's Style (21),362.

Yi Chao & Wang Fazhen.(2017). A comparative analysis of the influence of two relaxation methods on pre-match anxiety state of college football players. Journal of Henan Institute of Education (Natural Science Edition)(04),77-79+92.

Zhang, J. W. (2018). Study on the influence of self-efficacy and pre-competition anxiety on sports performance of college students majoring in badminton. School of Psychology, Beijing Sport University (eds.) Abstracts of the 11th National Conference on Sports Psychology (Post-Conference Edition) (pp.104).

Zhang Rui & Liang Wenkui.(2020). Review of athletes' pre-competition anxiety and analysis of its psychological factors. Sports Style (04),225.

Zhao Kaitao, Yu Ling, Xia Junmei, Li Qinye & Hu Zhimiao.(2022). Investigation and Countermeasure Analysis of Pre-competition Anxiety of high-level college female basketball Players... (eds.) Compilation of abstracts of the 12th National Sports Science Conference -- Wall Newspaper Exchange (Sports Training Branch) (pp.158-159). Abstract compilation of papers of the 12th National Sports Science Conference -- Wall Newspaper Exchange (Sports Training Branch).