The Influence of Mental Health Education on the State of Dance Competition of College Students

Shuai Zhang[1]*

Abstract

In modern competitive sports, the optimal mental condition enables athletes to perform at the optimal competitive level. The competition is a test and confirmation of the talent level of the athletes. Performance in the competition is not only related to honor but also to the remuneration and future career of the athletes. This study administered a psychological test to twenty college dance athletes who participated in the 2022 National Undergraduate Dance Championships to ascertain the relationship between psychological training, psychological selection, and performance enhancement. In this investigation, a comparative before-and-after experimental design was used. Athletes were evaluated for mental state indicators two months before the competition to ascertain the baseline level of these indicators. Consequently, the emotional/physical depletion of international elite athletes was significantly higher than that of elite athletes, and their energy levels were significantly lower. In addition, psychological regulation has dramatically enhanced the level of psychological fatigue and mood state among athletes, as evidenced by the significant decrease in emotional/physical exhaustion among international athletes ($P<0.01$) and the significant decrease in panic among level 1 and 2 athletes ($P<0.05$). After regulation and control, the negative evaluation of sports and the dread factor have a highly significant correlation with sports performance and a highly effective predictive ability for sports performance.

Keywords: Pre-match psychological state; Psychological regulation; College dancer; Sports performance

1. Introduction

(Brooks et al., 2023) In modern competitive sports, the optimal psychological state enables athletes to perform with their optimal competitive skills. The competition is a test and validation of the athletes' talent level. The competition's outcome affects the athletes' reputation, income, future, and careers. Therefore, besides dexterous abilities, adaptable strategies, and robust physical attributes, athletes are more than their mental state during competition. Imran, Zeshan, and Pervaiz (2020) found that when the skills of both parties are equal, the psychological state of the competitors is of utmost importance (Imran et al., 2020). Through research on the influence of psychological regulation on the exertion of athletes' skills and tactics, it is believed that psychological regulation of athletes can effectively improve the psychological state of athletes before a competition, thereby promoting the exertion of athletes' skills and skills and tactics in significant matches. Through psychological intervention on the psychological state of outstanding athletes before a competition, it has been discovered that after psychological control, the psychological fatigue, mood state, and anxiety state of athletes have been effectively maintained and promoted, thereby enhancing their competitive ability (Lyu, Hou, & Wang, 2022). Psychological regulation is based on the principles of sports psychology, utilizing various means of regulation to help athletes improve bad mood, bad cognition, and bad attitude so that athletes have a good mentality to participate in the competition and to ensure the full play of technical and tactical level (Xiao et al., 2021).

Sports dance combines art, music, athletics, and dance. Under the accompaniment of music with rich characteristics and style, male and female athletes collaborate to display a variety of exquisite technical body movements. Currently, the growth of sports dance in China is accelerating compared to when it was first introduced (Cahalan et al., 2019). Since the 1980s, the competition level of Chinese dance athletes has increased significantly; however, in terms of dance, technology, and competition status, they are inferior to the strong European and American teams. Therefore, it is necessary to study the pre-competition competitive state of dance athletes, constantly overcome the existing problems, and continuously summarize the experience to improve the level of dance technology of Chinese dance athletes in multiple aspects and catch up to the highest-level athletes in the world (Guo & Zhang, 2022). The development of sports dance is accelerating, increasing the competitive skill level of sports dance athletes and reducing the disparity between the competition levels of athletes (Sun et

[1] School of Music, Shanxi Normal University, Taiyuan, 030032, Shanxi, China
*Corresponding Author's Email: sxsd_zhangshuai@163.com

al., 2022). Most coaches and athletes recognize that the success or failure of competition for athletes with substantial strength often depends on their competitive state during the competition. However, there is no research on the pre-competition competitive state of Chinese dance athletes, and there is space for improvement (Lyu et al., 2022).

There are more domestic and foreign sports training theories about athletes' competitive state and competitive ability research, but the sports dance project began late in China. As a result, the domestic analysis focuses primarily on promotion, function development, and exploration of the teaching level. Few people from the competition level of sports dance athletes' competitive ability quality development problems, such as system, conduct in-depth research. As a result, there is currently no research on how to effectively use scientific training methods to enhance the competitive state of athletes before the competition and the sublimation of their theoretical level. Twenty participants in the 2022 National College Dance Championships were evaluated psychologically for this study. This study aims to ascertain mental health education's impact on college dance competitions' current state. In the 45 days preceding the competition, positive language advice, relaxation, and awakening training methods were adopted to implement psychological adjustment, and the influence of psychological adjustment on the psychological state of Wanda athletes of varying levels, as well as the relationship between psychological adjustment and sports performance, were analyzed. In this investigation, an experimental design with before-after comparisons was utilized. Athletes were evaluated for mental state indicators two months before the competition to ascertain the baseline level of these indicators. It is essential to examine the effect of psychological regulation on the mental condition of elite Sanda athletes and its relationship to their athletic performance.

2. Literature Review

Sports dance, specifically the international standard dance, is a Western-originated dance art. Western characteristics, "individual standard, rich in creating" cultural aspects also profoundly influenced the development process of sports dance, forming the unique international sports dance, diversity, aesthetic, aesthetic, educational, entertaining, blend, rhythm, emotion, modeling, performance, display, mobility, humanity, dynamic, mass, fitness, competitive, and many other characteristics, and a unique social, material, and spiritual charm (Sahu, 2020). Whether in a sports dance arena or on television, the dancers' extraordinary body energy, superior dance technology, elegant artistic temperament, beautiful sense of rhythm, profound emotions, and selfless performance consciousness captivated the audience. Sports dance is a type of dance that, like artistic gymnastics, ice dance, and synchronized swimming, combines sports and art (Zhang et al., 2021) and is favored by most students for its distinct allure. Sports dance is a competitive sport consisting primarily of men and women engaging in double practice, combining elements of competitive sports and artistic dance. Each sport dance has distinct origins and style characteristics (Dang et al., 2021).

According to style and technical structure, sports dance can be divided into two categories: modern and Latin (Johnston et al., 2021). Competitive sports dance can be divided into three categories based on the competition items: modern dance, Latin dance, and group dance. Latin dance comprises rumba, cha-cha, samba, bullfighting, and cowboy dance. Group dance incorporates Latin group dance and modern group dance. Combining hierarchical analysis (AHP) with physical training mode is to develop a college student physical health evaluation model. Twenty 2019 students from various disciplines were chosen as experimental subjects using X University as the experimental setting. One group (ten students) adopted the original mode of the physical education course, while the other group (ten students) incorporated physical training into the course. The two groups' pre- and post-experiment evaluation scores were compared using the health evaluation model. The results demonstrated that the overall physical fitness score in group A increased by 2.87 percent. Athletes before the competitive state for athletes results in an essential role in the study of the factor that makes the athletes before the game can more explicit in their expected goals, simultaneously through their tactical play and adjustment, according to the characteristics of the project through various effective means to complete or close to their expected purpose of the highest domain. Therefore, it is essential for athletes (Ren, Yan, & Sun, 2021; Xu, Fan, & Brown, 2021).

The relationship between competitive ability and competitive state is reciprocal and complementary (Jiang, Horta, & Yuen, 2022). The former is necessary for the emergence and growth of the latter. In other words, competitive ability is the prerequisite for athletes to perform in their competitive state. In contrast, the competitive state's quality directly affects the effect of playing their competitive ability. Competitive ability comprises the integration and application of physical, skill, tactical, sports intelligence, and psychological ability throughout the competitive process. The components of physical fitness are body morphology, body function, and sports ability. There are five sub-categories of sports quality: strength quality, endurance quality, speed quality, flexibility quality, and agility quality (Yuan, 2020). The

fundamental body shape for sports dancers consists primarily of body symmetry, correct facial features, muscle lines, and long limbs. Physical function refers to an athlete's organs' flawless and normal operation (Jin & Martin, 2019). Sports dance is the combination of sports and dance, emphasizing the artistry of dance and the competitiveness of sports. Then, physical fitness is the fundamental power support for the development of all elements and the support for ensuring athletes' technical exertion, flexibility display, and competition integrity (Xie, Chen, & Zhang, 2021).

In body dancing, strength is the foundation for displaying dance tension and maximizing athletes' potential. Athletes with superior strength and quality will unquestionably execute their movements with vigor and intensity, which has always made this sport the focal point of athletic competitions. Liao, Tang, and Shim (2022) define speed as the capacity to execute rapid movement. It can not only directly affect the performance of some objects, but also significantly impact the growth of other characteristics. In sports dance, particularly Latin dance, quickness plays a crucial role. Endurance is the capacity of an athlete's body to perform for an extended period, resist fatigue, and recover rapidly after exhaustion. Training endurance quality is essential for a dancer's artistic vocation and vitality (Lyu et al., 2022). A dancer's endurance is directly proportional to the integrity of his movements and the extent of their extension, i.e., the quality of each movement. Flexibility is required for all forms of dance and pertains to the capacity of the human body to execute large-scale movements. Flexibility is essential in sports dance to demonstrate the problematic elegance of dance. Notably, the emergence of certain extension movements and difficult raising techniques in Latin dance has increased the physical flexibility requirements for athletes to demonstrate the beauty of dancers' lines and the appreciation of sports dance items (Pietsch, Linder, & Jansen, 2022). Physicality cannot be neglected in the discipline of sports dance. Its position within the constitution is very reasonable. Furthermore, it has scientific and research value for this research.

In every sport, the display and application of technology determine the outcome of athletes' participation (Yi et al., 2020). Different types of sports necessitate different athletic abilities. Consequently, for sports such as sports dance, which belong to the skill-led difficult and beautiful event group, its technical ability factors can be divided into skilled mastery of dance routines, the entire play of basic skills, control of their own body, comprehensive art field performance ability, feeling and processing ability of various music, adaptability of the field body and coordination ability with dance partners. As a competitive athlete engaged in difficult and attractive events, displaying the routine on the field is of the utmost importance (Vella et al., 2023). In addition to displaying routine movements in detail, the performance of fundamental skills is the top priority of the judge's evaluation technology. Secondly, the ability to control one's body during competition is also required for athletes' abilities (Dyson et al., 2022). In sports dance, participants control the coordination of their body parts, including their head, neck, shoulders, limbs, trunk, waist, and crotch, through static contraction of muscle strength to ensure correct body posture and perfect dance lines. This is the technical key to displaying the beauty of dance. The random music the competition team performs distinguishes sports dance from other sports and necessitates athletes with exceptional artistic ability and expressiveness. They have a high-performance quality when coping with tempo, displaying an artistic conception of music, exerting tension, and communicating with their partners (Nie et al., 2021).

The adaptability of the on-site body to the site's environment, the transitory body's adaptability, environmental emergencies, etc., are the adjustment techniques a successful athlete must possess (Sun et al., 2021). Finally, sports dance is a two-person competitive sport, so the characteristics of the sports project determine the unity and coordination of two-person cooperation. Athletes should pay close attention to the opposing team's situation while performing their abilities flawlessly. Only when they complete their movements and play in harmony can they exhibit technical tension and achieve a more competitive state (Vincent, Patel, & Zaremski, 2022). Competitive strategies are the most variable aspect of all contests. Competitive tactics are a type of strategy and action performed to win the competition and defeat the opposition. According to the characteristics of dance events, coaches and athletes can conduct pre-match strategic analysis and adjustment before the competition based on the current situation of the venue, the characteristics of the environment, the situation of the opponent, the state of the players themselves, and the features of the referee, which is essential for the entire competition (Chenchen, Rong, & Shuaijing, 2019; Menhas et al., 2021). Sports intelligence is a type of intelligence that refers to the capacity of athletes to participate in sports training and competitions using general intelligence and multidisciplinary knowledge, including sports theory. With the accelerated growth of competitive competition, the requirements for athletes to compete are becoming increasingly comprehensive. Also of significant importance to an athlete is intelligence (Xiaofei, Korobeinik, & Kozina, 2021).

Individual psychological characteristics related to training and competition and the capacity to comprehend and adapt the psychological process to the demands of training and competition comprise an athlete's psychological ability. It is

essential to athletes' competitive ability (Benítez-Sillero et al., 2021). Psychological factors permeate the entire competition and are divided into three sections: psychological preparation before the competition, psychological control during the competition, and psychological adjustment after the competition (Bissett & Tamminen, 2022). The psychological preparation before the competition refers primarily to increasing the athletes' awareness of the competition and stimulating their motivation to ignite their enthusiasm for the competition; psychological control during the competition means that the athletes maintain a good and stable psychological mood during the crucial stages of the competition and always maintain a high level of play (Kostyun et al., 2021). The post-competition psychological adjustment refers primarily to the summarization and normalization of the overall performance of the race schedule after its conclusion. This study focuses on the mental state of competitors before competition.

3. Methodology

3.1 Respondents

Twenty participants who competed in the National Dance Competition in 2022 were investigated. There are 10 male athletes, 10 female athletes, 4 international elite athletes, 8 elite athletes, 6 level 1 athletes, and 2 level 2 athletes. The average age is 20.25±2.29 years, and the average exercise duration is 6.31±2.29 minutes.

3.2 Experimental steps

This experiment employs a pre- and post-comparison design. Two months before the competition, the psychological state indicators of the athletes were evaluated to ascertain their baseline levels. After the training period (45 days before the competition), the psychological state indicators were retested with the same content as the initial test. The coaches or administrators will assist the team in implementing each index test, and the athletes will be required to provide an honest evaluation for each question on the questionnaire.

3.3 Control methods

The psychological adjustment and control of exceptional college dance athletes should be effective and straightforward, and the pre-competition training process should incorporate the following steps and techniques. First, reduce athletes' negative sentiments and increase their desire for competition as a first step. Weekly, analyze and encourage the completion of training assignments for athletes. This paper uses training and competition video to explore the athletes' strengths and the technical characteristics and vulnerabilities of their primary opponents. Prepare thoroughly for the competition, taking into account all potential obstacles. Second, assist athletes in developing self-confidence. After formulating the technical and tactical play methods for various opponents for athletes, provide positive language hints, such as believing that success must be theirs through hard work, reducing mistakes during competition, and playing at their own technical and tactical level as the key to victory. Third, adjust the psychological strain placed on athletes. Instill in the athletes an appreciation for both the outcome and the competition process. The competition is a genuine struggle. How to play in normal time and competition are irrelevant as long as you play to your level. Finally, before training, athletes must perform relaxation and wake-up exercises. The objective is to get the participants' attention, wake up their bodies, and get them ready for active training. The participants will play intense, high-pitched music during training to energize the athletes. After training, the musicians will play soft, slow music to help the athletes transition out of their training condition and relax their bodies and minds. The weekly competition allows the athletes to enter a training condition and obtain mental relaxation.

3.4 Measurement Scale

Three subscales comprise the sports psychological fatigue scale: a diminished sense of accomplishment, emotional / physical exhaustion, and negative evaluation of sports. Each subscale's scores range between 525 points. The greater the score, the greater the amount of fatigue. A structural equation model analysis revealed that X2 (87) =149.7, P0.01, GFI=0.91, NNGI=0.95, GFI=0.96, and RMSEA=0.06. In addition, the POMS Mood Scale consists of seven dimensions tension, wrath, fatigue, depression, energy, panic, and self-related emotion. There are a total of 40 entries. Each subscale's score ranges from 0 to 28 points. The greater the score on the five negative subscales, the more mood interference there is.

Similarly, the lower the level of mood interference, the higher the score on the two positive subscales of vitality and emotion related to the self. After testing, the scale's reliability ranges from 0.62 to 0.82, with an average R-value of 071. The gauge employs a 5-point Likert scale.

3.5 Data Analysis Tool

IBM SPSS statistical software was used to analyze the data. The analysis methods included one-way ANOVA paired sample t-test, Pearson correlation analysis, and multiple linear stepwise regression analysis.

4. Results and Discussion

4.1 Characteristics of the pre-competition psychological state of college dance athletes of different sports grades

Table 1 demonstrates significant differences (P<0.05)

between college dance athletes' emotional/physical exertion factor scores from different grades. In addition, there were statistically significant differences (P< 0.05) in the energy factors of mood state scores. In addition, the scores for the panic factors of mood state demonstrated highly significant differences (P<0.01). The results of additional multiple comparisons revealed that among the factors that decrease a sense of accomplishment, master athletes scored the lowest, with a significant difference between them and level 12 athletes (P<0.05). The score of the international master is the highest among the emotional/physical exhaustion factors, and there is a highly significant difference between the scores of the master athletes (P0.01). The international master has the lowest score on the energy factor, and there is a significant difference between the scores of the master athletes (P0.05). International elite athletes had the lowest terror factor scores, demonstrating a highly significant difference from level 1 and 2 athletes (P<0.01). The scores of elite athletes differed considerably from those of athletes at levels 1 and 2 (P<0.05).

Table 1

Variance Analysis of Psychological Fatigue And Mood State of College Dance Athletes of Different Sports Grades Before the Competition.

Variable	International Master		Master level		Levels 1 and 2		Variance Analysis	
	M	SD	M	SD	M	SD	M	SD
Reduced sense of achievement	12.74	0.5	11.71	1.97	13.55	1.01	3.502	0.052
Emotional/physical exhaustion	14.3	1.28	10.28	2.48	12.43	1.93	5.515	0.013
The negative evaluation of sports	10	1.41	10.27	3.48	11.55	2.82	0.564	0.578
Nervous	3.4	0.57	5	3.82	6.66	2.28	1.942	0.174
Anger	3	1.82	4.85	4.86	6.21	2.91	1.133	0.344
Fatigue	3.24	4.56	6.13	3.71	5.21	3.44	0.772	0.446
Depressed	1.74	0.5	4.71	3.48	5.66	3.15	2.357	0.124
Energy	6.24	4.02	11.84	3.06	9	2.77	4.227	0.031
Flustered	2	1.41	4.41	2.75	6.55	1.01	8.48	0.002
Self-related emotions	5	2.70	8.56	2.56	6.66	2.44	2.655	0.098

4.2 The Influence of psychological regulation on the psychological state of excellent college dance athletes

Excellent college dance athletes exhibited statistically significant differences in emotional/physical exhaustion and negative evaluation factors of sports, as determined by a paired t-test (P<0.05). Through psychological adjustment and control of excellent college student dancers, the paired t-test revealed a significant difference in the energy factor of excellent college student dancers (P<0.05). In contrast, the scores of other factors improved, but there was no significant difference. The further comparison reveals a highly significant difference (P<0.01) between international college dance athletes' emotional/physical exhaustion factors. In addition, there is a significant difference (P<0.05) between the distress factors of twelve college dance athletes. The results of psychological adjustment and control on outstanding college dancers indicate that their performance in the championship is significantly better than their performance in the championship (P<0.05). (Table 2).

Table 2

Comparison of Sports Performance of Excellent College Dance Athletes Before and After Psychological Control.

Variable indicator	Time	M±SD	t	p
Sports performance	Tournament	10.24±5.80	2.401	0.026
	Championships	7.20±5.64		

4.3 The relationship between psychological state and sports performance after regulation

It can be seen from Table 3 that the emotional/physical exhaustion factors of excellent college dance athletes are significantly correlated with sports performance (P<0.05). Likewise, the negative evaluation factors of sports significantly correlate with sports performance (P<0.01).

Table 3

Correlation Between Psychological Fatigue and Sports Performance.

Bilateral test	Reduced sense of achievement	Emotional/physical exhaustion	The negative evaluation of sports
Sports performance	0.444	0.549	0.588
P	0.050	0.011	0.005

It can be seen from Table 4 that after psychological control, the anger and depression factors of excellent college dance athletes have a significant correlation with sports performance (P<0.05). In addition, the panic factor significantly correlates with sports performance (P<0.01). However, other factors have no significant correlation with sports performance.

Table 4

Correlation between mood state and sports performance

Bilateral test	Nervous	Anger	Fatigue	Depression	Energy	Flustered	Selfish
Sports performance	0.367	0.517	0.231	0.489	-0.238	0.583	-0. 375
P	0.110	0.018	0.327	0.028	0.3I0	0.006	0.101

4.4 Regression analysis

The correlation analysis results indicate that emotional / physical exhaustion, negative evaluation of exercise, wrath, depression, and panic have varying degrees of impact on exercise performance. Using multiple stepwise regression analyses, this study examined the quantitative relationship between the factors of mood scale and psychological fatigue questionnaire as independent variables and sports performance as dependent variables. Results indicated that the independent variables' negative evaluation of exercise and agitated factor entered the equation, with R^2 values of 0.347 and 0.341, respectively. The adjusted R^2 values were 0.311 and 0.306, respectively. The negative evaluation of exercise could explain the 30.5% difference in the dependent variable's exercise performance, and the independent variable flustered could explain the 31.1% difference in the dependent variable's exercise performance, both of which had a highly significant predictive ability (P<0.01) (Table 5).

Table 5

Regression analysis of mood state, psychological fatigue, and sports performance

Predicted variable	Forecast variables	R	R^2	Adjusted R^2	F	t
Sports performance	The negative evaluation of sports	0.588	0.346	0.311	9.584	3.096
	Flustered	0.583	0.341	0.306	9.331	3.055

4.5 Main constituent factors of pre-competition competitive state of college sports dancers

Five aspects of an athlete's physical ability, skills, tactics, psychology, and intellect contribute to sports dance athletes' pre-competition competitive state adjustment. The competitive state of an athlete before competition consists of three components: skill state, physical state, and psychological state. When these three states can be adjusted to the best pre-competition state in time and space, only then can it be said that the athletes have reached a zenith of pre-competition competitive state, i.e., the best pre-competition competitive state. Sports training and competition are the two central pillars of competitive sports, with the competitive aptitude and competitive state constituting their essential components. Athletes are trained, and coaches are regulated to attain an ever-increasing competitive state among athletes.

4.6 Control measures of psychological factors in pre-match training

In the regular competitive competition of athletes, psychology is just as significant as any other factor. It describes the reactions of athletes before and after the competition. Athletes who are overly apprehensive and nervous will experience varying degrees of decline in their physical functions and performance, so that this anxiety can be managed in the following ways. The first method is encouragement. The coaches should encourage the competitors before the competition, impart ideas about the competition, and boost the competitors' positive mood to cater to the competition in action and consciousness actively.

Similarly, athletes should motivate themselves appropriately, mainly when promoted to the competition. Not only will self-motivated mobilization increase their momentum, but it will also have a significant impact on their collaborators. In this manner, regardless of the competition's magnitude or the opponent's strength, players can improve and strengthen their momentum by motivating themselves and their coaches (Rahman et al., 2019).

The second method is self-relaxation. Athletes frequently experience anxiety during competition due to the caliber of their opponents and the magnitude of the competition, and they cannot withstand pressure. Then, take a deep breath and relax, breathing deeply and slowly exhaling to calm your mood. In addition, they can momentarily close their eyes and meditate on the accolades and participation experience they've gained in previous competitions to gain the confidence to win, recall the thriving scenes, and establish the confidence to succeed. Third, formulate attainable competition goals based on their conditions. Before the competition, athletes will set an objective based on their level of training.

Consequently, establishing this objective also affects the athletes' stress levels. If the goal is too low, it is simple for athletes to become complacent and lose motivation, making it challenging to stimulate their inner potential. On the other hand, if the objective is too lofty, it will burden

the athletes psychologically. Therefore, the target should be based on our training level, with the attainable objective guiding our efforts.

5. Discussion

In the study, international athletes exhibited a pattern of psychological exhaustion and mental instability, manifested primarily by emotional / physical exhaustion and energy factors. There was a significant difference between global and elite athletes, indicating that the higher the level of competition, the better the psychological condition. During the training period, the athletes' injuries, weight loss, competition pressure, and coaches' criticism will interfere with their ability to complete the training tasks routinely. Athletes will experience psychological apprehension, which will subsequently impact their training state. External and interior factors influence and support one another. Insufficient communication between athletes and instructors will also result in the accumulation of negative emotions. To investigate the causes of international athletes' high negative emotional scores, interviews with instructors and athletes revealed that the athletes' skill level, injuries, and accomplishments all affected their psychological state before the competition.

Imran et al. (2020) assert that the positive psychological characteristics of exceptional female college dancers include self-confidence and emotional adjustment. In the study, after psychological control, the scores of psychological fatigue and mood state of athletes improved. The scores of emotional/physical exhaustion, negative evaluation of sports, and energy factors were significantly different (P0.05), consistent with previous studies findings. Further analysis revealed that international college performers' emotional/physical exhaustion scores decreased significantly (P<0.01). The scores of college students in levels 1 and 2 for disorder factors decreased significantly (P<0.05). Since world-class athletes' technical and tactical level has peaked, there is little room for improvement. The athletes do not believe that the technical and tactical level has been substantially improved by the heavy exercise load and monotonous training, and they are concerned that this will have a negative impact on competition results and lead to emotional/physical exhaustion. Athletes have a complete comprehension of their strengths, a correct perspective of the competition process and effects, and reduced emotional/physical exhaustion through psychological regulation. Athletes' psychological state is easily influenced by the outside environment or others (Lyu et al., 2022). Targeted psychological regulation can effectively enhance the positive mood, decrease the negative attitude, and maintain the good psychological state of elite college dance athletes to ensure their regular and super-level performance in training and competition (Xiao et al., 2021).

In the study, the factors of panic and negative evaluation of sports have a highly significant correlation with sports performance (P0.05), and the characteristics of anger and depression/physical exhaustion have a significant correlation with sports performance, indicating that negative emotions can have a direct impact on sports performance. The two factors of panic and negative evaluation of athletics were found to have a highly significant predictive effect on athletic performance (P0.01). It can accurately predict and explain the variance between 305% and 311% of sports performance. All pre-competition efforts are intended to enhance athletic performance. Performance in sports is not only related to the athletes' prestige but also to their salary and future careers. Failure to win the competition may affect prospective study or employment opportunities. At this time, the athletes' negative emotions stem from their dread of failure and the pressure of their social environment. They value not only the competition procedure but also the competition outcomes. To better prepare for the competition, during pre-competition training, the quantity of exercise will increase, and coaches will also be more strict with the athletes' lifestyle management (Cahalan et al., 2019). The athletes have reduced the joy of life in these norms and the opportunities for negative emotion transfer. Athletes who are unhappy in training and life will experience various negative emotions, including poor training status, injury, weight control, etc. If athletes do not receive encouragement and understanding from their instructors at this time, they will feel more exhausted, helpless, depressed, and worthless (Guo & Zhang, 2022).

6. Conclusion

Before a competition, every effort is made to enhance athletic performance. Performance in sports is not only linked to an athlete's reputation but also to salary and prospective career prospects. Failure to win the competition may affect future study or employment opportunities. At this time, the negative emotions the athletes display result from failure anxiety and social pressure. Not only do they value the process of competition, but also its outcomes. To better prepare for the competition, not only will the pre-competition training include more exercise, but the instructor will also be stricter with the athletes' lifestyle management. Athletes adhering to these

principles reduce the joy of life and the likelihood of transmitting negative emotions. In this study, the mood/physical fortitude of international elite athletes is significantly higher than that of elite athletes and significantly lower (P0.05). Psychological regulation has dramatically enhanced the level of psychological fatigue and mood state of athletes, as evidenced by the significant decrease in emotional/physical exhaustion among international athletes (P0.01) and the significant decrease in panic among level 1 and 2 athletes (P0.05). After regulation, the negative evaluation of sports and the panic factor correlate highly significantly with sports performance (P 0.01), indicating a highly significant predictive ability for sports performance. Not only do elite athletes have extreme psychological traits, but they also have negative psychological traits. Psychological regulation can effectively improve the psychological condition of athletes, which applies to the psychological adjustment of athletes during pre-competition training.

7. Implications and Future Directions

This study's findings are substantial and have significant implications for the body of knowledge. The study has contributed to the body of knowledge by demonstrating that the mental health of athletes is necessary to enhance their behavior and learning performance. When motivated and informed about enhancing their mental health, athletes work harder and perform better in competition. Athletes should have access to mental health literacy to ensure adequate preparation. Access to health information is the key to improving the performance of athletes. Improving athletes' health behavior can improve mental health literacy, thereby facilitating their market expansion. The success rate of an athlete's performance in competition is determined by their mental health and level of performance.

In addition, this study concludes that coaches should focus on regulating the psychological state of their athletes before competition. Thus, the athletes can completely comprehend the significance of the competition, increase their communication with the athletes, and impart their own competition experience to the players, allowing them to gain successful experiences and reduce their psychological pressure and, on the other hand, regulating the athletes' competitive condition before the competition is the joint responsibility of the athletes and coaches. In this regard, athletes and coaches should collaborate actively to accomplish the optimal competitive state before the match, maximize the optimal competitive level, and produce the best competition outcomes.

This study concludes that elite athletes possess positive and negative psychological traits. In addition, psychological regulation can effectively improve the psychological state of athletes, which pertains to the psychological adjustment of athletes during pre-competition training. However, there are some potential directions for future research following this investigation. First, it is necessary to conduct these studies to determine the relationship between sports performance and health regulations. Second, the impact of student athletic performance on their psychological health should also be examined. Thirdly, this research should determine the effect of positive coaching on the mental health of college students, as this is a crucial era for learning and enhancing mental health standards.

References

Benítez-Sillero, J. d. D., Martínez-Aranda, L. M., Sanz-Matesanz, M., & Domínguez-Escribano, M. (2021). Determining factors of psychological performance and differences among age categories in youth football players. *Sustainability, 13*(14), 7713. https://doi.org/10.3390/su13147713

Bissett, J. E., & Tamminen, K. A. (2022). Student-athlete disclosures of psychological distress: Exploring the experiences of university coaches and athletes. *Journal of Applied Sport Psychology, 34*(2), 363-383. https://doi.org/10.1080/10413200.2020.1753263

Brooks, S. J., Candow, D. G., Roe, A. J., Fehrenkamp, B. D., Wilk, V. C., Bailey, J. P., Krumpl, L., & Brown, A. F. (2023). Creatine monohydrate supplementation changes total body water and DXA lean mass estimates in female collegiate dancers. *Journal of the International Society of Sports Nutrition, 20*(1), 2193556. https://doi.org/10.1080/15502783.2023.2193556

Cahalan, R., Comber, L., Gaire, D., Quin, E., Redding, E., Ni Bhriain, O., & O'sullivan, K. (2019). Biopsychosocial characteristics of contemporary and Irish University-level student dancers a pilot study. *Journal of Dance Medicine & Science, 23*(2), 63-71. https://doi.org/10.12678/1089-313X.23.2.63

Chenchen, X., Rong, G., & Shuaijing, X. (2019). Impact of a Sport Education season on students' table tennis skills and attitudes in China's high school. *International Journal of Information and Education Technology, 9*(11), 820-825. https://doi.org/10.18178/ijiet.2019.9.11.1311

Dang, Y., Koutedakis, Y., Chen, R., & Wyon, M. A. (2021). Prevalence and risk factors of dance injury during COVID-19: a cross-sectional study from university students in China. *Frontiers in psychology, 12*, 759413. https://doi.org/10.3389/fpsyg.2021.759413

Dyson, B., Shen, Y., Xiong, W., & Dang, L. (2022). How Cooperative Learning Is Conceptualized and Implemented in Chinese Physical Education: A Systematic Review of Literature. *ECNU Review of Education, 5*(1), 185-206. https://doi.org/10.1177/20965311211006721

Guo, Z., & Zhang, Y. (2022). Study on the interactive factors between physical exercise and mental health promotion of teenagers. *Journal of Healthcare Engineering, 2022*, 4750133. https://doi.org/10.1155/2022/4750133

Imran, N., Zeshan, M., & Pervaiz, Z. (2020). Mental health considerations for children & adolescents in COVID-19 Pandemic. *Pakistan journal of medical sciences, 36*(S4), S67-S72. https://doi.org/10.12669/pjms.36.COVID19-S4.2759

Jiang, Q., Horta, H., & Yuen, M. (2022). International medical students' perspectives on factors affecting their academic success in China: a qualitative study. *BMC Medical Education, 22*(1), 574-574. https://doi.org/10.1186/s12909-022-03597-z

Jin, J., & Martin, R. (2019). Exploring the past to navigate the future: examining histories of higher dance education in China in an internationalized context. *Research in Dance Education, 20*(2), 225-240. https://doi.org/10.1080/14647893.2019.1566304

Johnston, S. A., Roskowski, C., He, Z., Kong, L., & Chen, W. (2021). Effects of team sports on anxiety, depression, perceived stress, and sleep quality in college students. *Journal of American College Health, 69*(7), 791-797. https://doi.org/10.1080/07448481.2019.1707836

Kostyun, R. O., Burland, J. P., Kostyun, K. J., Milewski, M. D., & Nissen, C. W. (2021). Male and female adolescent athletes' readiness to return to sport after anterior cruciate ligament injury and reconstruction. *Clinical journal of sport medicine, 31*(4), 383-387. https://doi.org/10.1097/JSM.0000000000000751

Liao, T., Tang, S., & Shim, Y. (2022). The development of a model to predict sports participation among college students in Central China. *International Journal of Environmental Research and Public Health, 19*(3), 1806. https://doi.org/10.3390/ijerph19031806

Lyu, Z., Hou, Y., & Wang, Y. (2022). Research on the current situation of college students' physical health under the background of the integration of sports and medicine. *Journal of Healthcare Engineering, 2022*, 1581282. https://doi.org/10.1155/2022/1581282

Menhas, R., Dai, J., Ashraf, M. A., M Noman, S., Khurshid, S., Mahmood, S., Weng, Y., Ahmad Laar, R., Sang, X., & Kamran, M. (2021). Physical inactivity, non-communicable diseases and national fitness plan of China for physical activity. *Risk Management and Healthcare Policy, 14*, 2319-2331. https://doi.org/10.2147/rmhp.s258660

Nie, Y., Ma, Y., Wu, Y., Li, J., Liu, T., Zhang, C., Lv, C., & Zhu, J. (2021). Association between physical exercise and mental health during the COVID-19 outbreak in China: a nationwide cross-sectional study. *Frontiers in Psychiatry, 12*, 722448. https://doi.org/10.3389/fpsyt.2021.722448

Pietsch, S., Linder, S., & Jansen, P. (2022). Well-being and its relationship with sports and physical activity of students during the coronavirus pandemic. *German Journal of Exercise and Sport Research, 52*(1), 50–57. https://doi.org/10.1007/s12662-021-00750-6

Rahman, M. M., Liang, C. Y., Gu, D., Ding, Y., & Akter, M. (2019). Understanding levels and motivation of physical activity for health promotion among chinese middle-aged and older adults: a cross-sectional investigation. *Journal of healthcare engineering, 2019*, 9828241. https://doi.org/10.1155/2019/9828241

Ren, T., Yan, J., & Sun, Q. (2021). Sociodemographic correlates of organized sports participation in a sample of middle school students in China. *Frontiers in Public Health, 9*, 730555. https://doi.org/10.3389/fpubh.2021.730555

Sahu, P. (2020). Closure of universities due to coronavirus disease 2019 (COVID-19): impact on education and mental health of students and academic staff. *Cureus, 12*(4), e7541. https://doi.org/10.7759/cureus.7541

Sun, J., Yao, C., Wang, Z., Wu, J., Zhang, B., Zhou, Z., Liu, F., & Zhang, Y. (2022). The beneficial effects of square dance on musculoskeletal system in early postmenopausal Chinese women: a cross-sectional study. *BMC Women's Health, 22*(1), 247. https://doi.org/10.1186/s12905-022-01832-9

Sun, Y., Ji, P., Wang, Y., & Fan, H. (2021). The Association Between the Subjective Exercise Experience of Chinese Women Participating in Square Dance and Group Cohesion: The Mediating Effect of Income. *Frontiers in Psychology, 12*, 700408. https://doi.org/10.3389/fpsyg.2021.700408

Vella, S. A., Aidman, E., Teychenne, M., Smith, J. J., Swann, C., Rosenbaum, S., White, R. L., & Lubans, D. R. (2023). Optimising the effects of physical activity on mental health and wellbeing: a joint consensus statement from sports medicine Australia and the Australian Psychological Society. *Journal of Science and Medicine in Sport, 26*(2), 132-139. https://doi.org/10.1016/j.jsams.2023.01.001

Vincent, H. K., Patel, S., & Zaremski, J. L. (2022). Impact of COVID on sports injury patterns, changes in mental well-being, and strategies to prepare for future pandemics in sport. *Current sports medicine reports, 21*(6), 196-204. https://doi.org/10.1249/JSR.0000000000000966

Xiao, T., Jiao, C., Yao, J., Yang, L., Zhang, Y., Liu, S., Grabovac, I., Yu, Q., Kong, Z., & Yu, J. J. (2021). Effects of basketball and Baduanjin exercise interventions on problematic smartphone use and mental health among college students: a randomized controlled trial. *Evidence-Based Complementary and Alternative Medicine, 2021*, 8880716. https://doi.org/10.1155/2021/8880716

Xiaofei, W., Korobeinik, V. A., & Kozina, Z. L. (2021). Features of the organization of teaching for future physical education teachers in the People's Republic of China and the possibility of implementing an individual approach in their training: a review article. *Health, Sport, Rehabilitation, 7*(2), 8-17. https://doi.org/10.34142/HSR.2021.07.02.01

Xie, W., Chen, W.-W., & Zhang, L. (2021). The effect of square dance on family cohesion and subjective well-being of middle-aged and empty-nest women in China. *Health Care for Women International, 42*(1), 43-57. https://doi.org/10.1080/07399332.2020.1797041

Xu, Q., Fan, M., & Brown, K. A. (2021). Men's sports or women's sports?: Gender norms, sports participation, and media consumption as predictors of sports gender typing in China. *Communication & Sport, 9*(2), 264-286. https://doi.org/10.1177/2167479519860209

Yi, X., Liu, Z., Qiao, W., Xie, X., Yi, N., Dong, X., & Wang, B. (2020). Clustering effects of health risk behavior on mental health and physical activity in Chinese adolescents. *Health and Quality of Life Outcomes, 18*, 1-10. https://doi.org/10.1186/s12955-020-01468-z

Yuan, L. (2020). Analysis of College Students' Psychological Behavior and Research on Educational Management Strategies in the Network Information Environment. In *2020 International Conference on Modern Education and Information Management (ICMEIM)* (pp. 218-221). IEEE. https://doi.org/10.1109/ICMEIM51375.2020.00057

Zhang, L., Zhao, S., Weng, W., Lin, Q., Song, M., Wu, S., & Zheng, H. (2021). Frequent sports dance may serve as a protective factor for depression among college students: a real-world data analysis in China. *Psychology research and behavior management, 14*, 405-422. https://doi.org/10.2147/prbm.s299891