

# Assessment of Tension, Anxiety And Stress When Players Face The Critical Number of Tennis Courts

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## ABSTRACT

**Background:** Success in sports not only depends on players' physical attributes, techniques, tactics, and strategies but also heavily relies on their psychological strength. A strong mental state serves as a crucial asset, especially when athletes face high-pressure situations such as deuce or critical points in a match, which can induce stress, anxiety, tension, and worry about losing. Despite its importance, coaches sometimes overlook psychological training, leaving players mentally vulnerable during these critical moments. **Objective:** This study investigates the psychological factors—specifically stress, tension, and anxiety—experienced by field tennis players in Bali when facing crucial points. **Method:** Using a quantitative descriptive approach with surveys, the research involved 41 tennis players, with data collected through questionnaires and documentation. **Result:** The analysis revealed that most players experience a medium level of stress during such moments, with over half feeling tension. **Conclusion:** Moreover, the study found a very strong correlation among the three variables, indicating that measuring one of these variables can provide insight into the others, highlighting the importance of psychological preparedness in competitive tennis.

**Keywords:** Assessment, *self-confidence*, *stress*, *tension*, *anxiety*, critical values, tennis

## ABSTRAK

**Latar Belakang:** Kesuksesan dalam olahraga tidak hanya bergantung pada atribut fisik, teknik, taktik, dan strategi pemain, tetapi juga sangat bergantung pada kekuatan psikologis mereka. Kondisi mental yang kuat merupakan aset penting, terutama ketika atlet menghadapi situasi bertekanan tinggi seperti deuce atau poin kritis dalam pertandingan, yang dapat memicu stres, kecemasan, ketegangan, dan kekhawatiran akan kekalahan. Meskipun penting, pelatih terkadang mengabaikan pelatihan psikologis, sehingga membuat pemain rentan secara mental selama momen kritis ini. **Tujuan:** Penelitian ini menyelidiki faktor-faktor psikologis—khususnya stres, ketegangan, dan kecemasan—yang dialami oleh pemain tenis lapangan di Bali ketika menghadapi poin-poin krusial. **Metode:** Menggunakan pendekatan deskriptif kuantitatif dengan survei, penelitian ini melibatkan 41 pemain tenis, dengan data dikumpulkan melalui kuesioner dan dokumentasi. **Hasil:** Analisis mengungkapkan bahwa sebagian besar pemain mengalami tingkat stres sedang selama momen-momen tersebut, dengan lebih dari separuhnya merasakan ketegangan. **Kesimpulan:** Lebih lanjut, penelitian ini menemukan korelasi yang sangat kuat antara ketiga variabel, yang menunjukkan bahwa mengukur salah satu variabel ini dapat memberikan wawasan tentang variabel lainnya, yang menyoroti pentingnya kesiapan psikologis dalam tenis kompetitif.

**Kata Kunci:** Asesmen, kecemasan, kepercayaan diri, ketegangan, nilai-nilai kritis, stres, tenis

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## Introduction

Achievement in the field of sports cannot be achieved in a short time, let alone a shortcut without hard work and practice. Sports achievements are produced through coaching programs, training programs and the gradual and continuous development of sports science in short-term, medium-term and long-term programs. Improving sports performance is not as easy as turning the palm of your hand, however requires coaching programs, training programs, implementation of training programs, and development of sports science and technology. Achievement sports are carried out through a process of coaching, training and developing sportsmen or athletes in a planned, tiered and sustainable manner through competition to achieve achievements with the support of studies of sports science and technology.

The sports coaching system is carried out by provincial administrators, city administrators or district in the sport of field tennis as a regional sports organization which is very strategic for achieving high achievements. Apart from that, tennis is very important in the hope that athletes will be able to achieve optimal performance. Achieving the highest sporting performance is a direct result of the organism's adaptation to the type and method of training (Jahonsyah and Evalina, 2007). High achievements are not easy to obtain, players must have competence, talent and excellent physical, technical, tactical and mental abilities.

In periodization and training programs, trainers usually provide a lot of physical training programs, techniques and tactics or strategies, but provide a very small portion of mental training, sometimes mental training is ignored or not even provided. This condition is often experienced and carried out by trainers in preparing training programs, so it is important to implement and carry out physical and mental training programs in a balanced and harmonious manner.

Review and assessment of psychological aspects in implementing training programs need to be outlined and analyzed in periodization and training programs. Mental or psychological aspects play a very important role when players experience critical numbers in a match, both *deuce* and *rubber set*. Players need to be trained in excellent mental readiness and endurance in every match. The physical and technical aspects of elite players have the same abilities, but to achieve victory the psychological and mental aspects are very influential. One way to understand an athlete's mentality is to carry out a personality examination (psychotest), because the research results show that mental factors will greatly influence the athlete's achievement of the highest level of achievement. As science and technology advances, experts can easily record and study various training techniques and methods, both physical training and skills, so that ultimately an athlete's success in winning a match is largely determined by the athlete's mental readiness and resilience. The results of research by Ostrow (1991) show that 80-90% of an athlete's success or victory in a match, especially between elite athletes, will be determined by the readiness and mental resilience of the athlete concerned (Sudibyo, 2001). Seeing the facts in the field about the importance of psychological aspects, research was carried out to study and analyze the psychological aspects of players (self-confidence, stress, anxiety) during critical numbers in sports games using net media (badminton, tennis, table tennis) in the province of Bali.

The definition of mental training is as follows (Sudibyo, 1995): "Mental training is an exercise to improve skills and develop mental strength systematically in the long term to: (1) strengthen willpower, (2) control emotional stability, (3) develop thoughts, motivation, attitudes, beliefs and behavior, as well as (4) improving physical processes and individual performance". The coaching process is a process that is carried out in a planned, orderly, directed and sustainable manner. Therefore, the main person responsible for coaching athletes must be someone who continuously handles athletes, in this case the coach is clearly the main person responsible. The role of psychologists as scientists in general is as a supporter who helps coaches in dealing with athletes, or acts as a consultant who provides consultation when needed, both to athletes and coaches. To be able to have this tough mentality, athletes need to do mental training systematic, which is an inseparable part of the general sports training program, and is stated in the annual training plan or training periodization. Mental development of athletes is not an effort that can be done in a short time. *Mental training* is a long-term exercise carried out systematically to strengthen the will, control emotional

stability, develop thoughts, attitudes and behavior and improve psychological processes and athlete performance (Sudibyo. 2001; Ellis. 2008).

A change in an athlete's behavior, feelings or thoughts that disturbs the athlete himself or interferes with the smooth running of training or communication between the athlete and other people is an indication that the athlete is experiencing psychological dysfunction or problems. However, before confirming that the problem is caused by psychological factors, it is necessary to carefully analyze the possibility of technical or physiological causes. If the main cause turns out to be technical or physical factors, then these factors need to be addressed first. Mental or psychological problems will be difficult to overcome if the main cause is not treated. Once it is confirmed that an athlete is experiencing mental psychological problems, or needs to improve his psychological skills, the athlete can apply mental training (Martin and Nikos, 2005).

Mental training is carried out as long as athletes undergo sports training, because mental training should be an inseparable part of the annual training program or training periodization. Some of these exercises require special time (especially when first learning relaxation and concentration exercises), but in general they are not time bound so they can be done at any time. There are three characteristics that should be present in athletes who will undergo mental training, namely: (1) athletes must be willing to undergo mental training. If a task is faced with a positive attitude, the potential for success will become more real. On the other hand, if athletes are lazy about doing their training, then failure will come their way. Therefore, the athlete himself must decide that he is willing to undergo each training program to completion, and must be sure that the training will bring benefits to the progress of his performance. Without this commitment, or if athletes feel forced to carry out their training, the benefits of the results of the training they undergo will be lost. (2) Athletes must carry out each training program in its entirety. The advantages or benefits of mental training will only be felt if the athlete carries out the entire training program as a whole, not in pieces. Similar to physical skills training, the mental training process must also be carried out repeatedly, because it requires time, effort, and feedback on the progress of an exercise, and (3) athletes must have the will to carry out the training perfectly, as best as possible. Each mental training program has been designed in a structured manner so that all activities have their own functions and benefits. Including all assignments and evaluations or self-assessments that must be carried out by the athlete, this is part of a mental training program that should not be ignored.

This is a brief description of mental training for elite athletes, with the hope that athletes, coaches and sports coaches will increasingly realize that mental training is very necessary to achieve peak performance, and to carry out this mental training requires a separate process and time allocation. Aspects of mental psychological skills (*psychological skills*) that can be trained cover many things, including aspects of emotional management, self-development, increasing concentration power, goal setting, preparation for matches, and so on. The most common form of mental skills training carried out by elite athletes is: (1) positive thinking as a way of thinking that directs something in a positive direction, looking at the good side. By getting used to positive thinking, you can grow self-confidence, increase motivation and establish cooperation between various parties. Positive thoughts will be followed by positive actions and words too, because thoughts will guide actions; (2) keep a mental exercise diary (*mental log*). Mental training notes are daily notes written by each athlete when they have finished training, matches or other events related to their sport. In this mental practice notebook you can write down your thoughts, shadows, fears, emotions, and other things that the athlete considers important and relevant. By changing the mindset of negative things to positive ones, athletes can use their mental training notes as a new step after experiencing frustration, doubt, fear, or feelings of guilt or guilt to re-build a positive and confident mental attitude; (3) goal setting *needs* to be done so that athletes have a direction to go. This goal is not just the final result (*output*) from participating in a championship. As far as possible, this goal setting must be measurable in order to see progress in achieving the set goals. So, the target must be able to provide a challenge that if the athlete works hard then the target can be achieved. Thus, setting targets can also function as a motivation generator; (4) relaxation exercises. The aim of relaxation exercises, including stress management exercises, is to control tension, both muscle tension and psychological tension; (5) *mental imagery* training is a form of mental training in the form of imagining oneself and movements in the mind. The benefits of imagery training

include learning or repeating new movements; correcting a movement that is wrong or incomplete; simulation exercises in the mind; training for athletes who are rehabilitating injuries.

This imagery exercise is often equated with visualization exercise because both involve imagining movements in the mind. However, in the athlete's imagination they not only 'see' their own movements but also function their senses of hearing, touch, smell and taste. To be able to master imagery training, an athlete must first be proficient in doing relaxation exercises; (6) concentration is a condition where a person's consciousness is focused on a certain object for a certain time. The purpose of concentration training is so that athletes can focus their attention or thoughts on something they are doing without being influenced by other thoughts or things happening around them. This concentration of attention must also be able to last for the required time. In order to get maximum results, this concentration exercise is usually only carried out if the athlete has mastered relaxation exercises. One form of concentration training is to focus attention on a particular object (Soetanto. 2010).

An athlete's success is determined by physical and mental readiness. Psychological or mental conditions will affect an athlete's *performance* both during training and during competition. Developing athletes' mental readiness is an important part so that the athlete's personality problems and conflicts can be managed well so that the athlete continues to perform optimally. Some of the obstacles that we can encounter in performance sports and which have often become national issues are: (1) national sports management problems, (2) parent sports organizations that have not implemented long-term programs consistently and continuously, (3) absorption and scientific approaches and technology in sports is still limited, (4) there is a fairly wide gap between top athletes and top athletes in terms of their abilities and achievements, (5) the talent scouting system has so far been carried out naturally, it seems that it does not show adequate results, and (6) weaknesses coaching process at the basic or beginner level (Husdarta, 2010). Various efforts need to be made to optimize sports clubs at various levels of coaching starting from pupils, students and those in the community. The existence of sports clubs needs to be maintained so that athletes' potential can develop optimally. A serious commitment to improving the quality of long-term sports development certainly requires good management. Efforts that need to be made are (1) Increasing the quantity and quality of sports clubs both at the production, nursery and peak performance levels. (2) Improving management, (3) Improving the quality of coaches, trainers and athletes, (4) Improving the quality of results (Sudono, 2008). Coaches in sports can function as creators or implementers of training programs, as motivators, counselors, evaluators and are responsible for all matters related to the coaching. As ordinary people, coaches, like athletes, have unique personalities that differ from one another. Every trainer has advantages and disadvantages, therefore no trainer is purely ideal or perfect. Psychological states (mood) influence athlete performance, especially feelings of anger, tension, fatigue, enthusiasm, depression) (Selmi et al., 2023). Seeing the facts in the field about the importance of psychological aspects, research was conducted to examine and analyze aspects of pressure experienced by players when competing in sports games using net media (badminton, tennis, table tennis). Athletes not only need technical, tactical but also psychological readiness (Lavrentiev, et.al., 2023). The table below shows five components of psychological test results that describe the mental condition of elite athletes, including: attitude, motivation, self-confidence, anxiety and body image.

Table 1. *The Five Popular Test Content Areas*

<i>Test Content Areas</i>	<i>Psychology Test (%)</i>
<i>Attitude</i>	22
<i>Motivation</i>	31
<i>Confidence</i>	19
<i>Anxiety</i>	14
<i>Body Image</i>	14

(Source: Ostrow, 1990, *Dictionary of Sport Psychology in Setyobroto Sudibyo. 2001*)

The training factors that need to be prepared in every training program in every sport are; physical preparation, technical preparation, tactical preparation, and mental preparation. Athletes' achievements are an accumulation of physical qualities, techniques, tactics and psychological maturity. To achieve high performance requires proper target planning including physical, technical, tactical and mental preparation (Lubis and Heryanty, 2007). Physical and technical preparation is the basis for building achievements. High achievement consists of physical condition, technique, tactics, talent environmental requirements, and personality (Grosser, et.al, 2012). The results of evaluation and analysis regarding world champions show that athletes who are able to produce intensive achievements are; (1) have excellent physical fitness, (2) master perfect technique, (3) have the psychological and moral characteristics required by the sport they are involved in, (4) are suitable for the sport they are involved in, and (5) have experience practicing and competed for years (Husdarta, 2010).

Certain types of anxiety and tension are beneficial for athletes (Sahni & Bhogal, 2017). Athletes who have levels of depression, low fatigue and high enthusiasm tend to have the opportunity to win the race (Brandt et al., 2016). It is stated that emotional symptoms that arise in competition need to be managed well in order to obtain optimal transfer and be positively useful (Wetzel et al., 2022). The keys to athlete success, at least according to (Vyshnevetska et al., 2023), include the right attitude towards winning and losing, technical skills, adaptability, understanding of similar situations and games. There are several cognitive and psychological elements apart from technical ability, tactics, adaptation and attitude are important parts. It is necessary to recognize when stress in athletes becomes a burden and causes profound losses in competition, because athletes' responses to stress are different (Terokhina et al., 2023; Birkholz et al., 2024).

There is a relationship between a high level of psychology and performance when competing (X. Zhang & Zeng, 2022), this suggests that special treatment is needed to achieve a balance between physical and psychological abilities. An athlete's confidence in facing a competition is influenced by the level of training, fatigue from previous matches and energy consumption (T. Li & Ma, 2023). If the trend is positive, the athlete's level of confidence will increase. Programmed stress control can help junior football players to manage pressure during competition (Olmedilla et al., 2019). One of them is by applying pressure by competing, this will result in tension, enthusiasm, confusion and fatigue, during competition the level of enthusiasm will increase (Brandt et al., 2021), however for athletes who experience low pressure it will increase the opportunity to perform better.

The next discussion is about tension. For tennis players, the workload will increase as the tournaments they participate in progress (Whiteside & Reid, 2017), just like in table tennis. This is due to long competitions (Le Mansec et al., 2017).

Stability of psychological mental condition is a dynamic thing and continues to change along with the athlete's life experience, the ability to fight and control stress while still performing well is the desired end result (Naboychenko et al., 2022), in the end, after competing the level will be Winning and losing in competitions it affects athletes' emotions, winning causes positive emotions and vice versa (Zhou & Li, 2009).

Several things that can reduce pressure for players, namely, being a psychological host for individual athletes has its own advantages, so that players can play more relaxed (Wunderlich et al., 2023), having a positive perception of what they are doing will have a positive impact on the results (Wunderlich et al., 2023). Liu et al., 2018), with a metacognitive approach to achieving goals (Theodosiou et al., 2018)

## **Material and Method**

### ***Participants***

This study employed a quantitative descriptive approach using a survey method. The sample consisted of 41 participants selected through purposive random sampling from the tennis community in Bali in 2023.

### ***Procedure***

The questionnaire was specifically constructed to measure players' stress, tension, and anxiety when facing critical points during tennis matches. Data were gathered through direct questionnaire administration and observation documentation during matches.



### Data Collection

Data collection involved observations, documentation, and a questionnaire designed to assess psychological aspects such as stress, anxiety, and tension levels.

### Data Analysis

Following data collection, descriptive statistical analysis was performed to determine the distribution and frequency of stress, tension, and anxiety levels among players. Additionally, correlation analysis was conducted to examine the relationships among these psychological variables using appropriate statistical software.

### Result

Based on the sample (N=41), it shows that the stress level of tennis players in the Very High category = 1 person (2.44%), high = 21 people (51.22%), medium = 17 people (41.46%), low = 2 people (4.88 %), and very low = 0 people (0%), which can be seen in the following diagram:

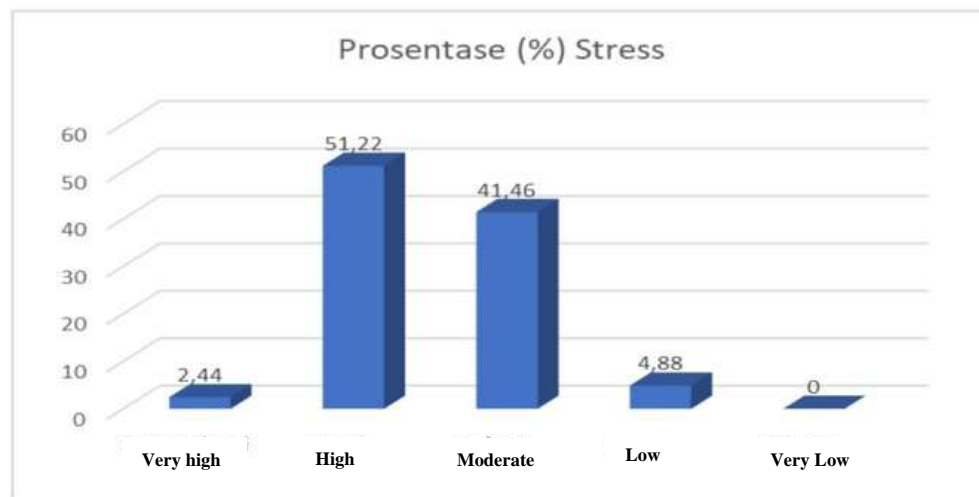


Figure 1. Criterion of Tennis Player *Stress*

Based on the sample (N=41), it shows that the *anxiety* level of tennis players in the Very High category = 1 person (2.44%), High = 21 people (51.22%), Medium = 13 people (31.71%), Low = 6 people (14.63 %), and Very low = 0 people (0%), which can be seen in the following diagram:

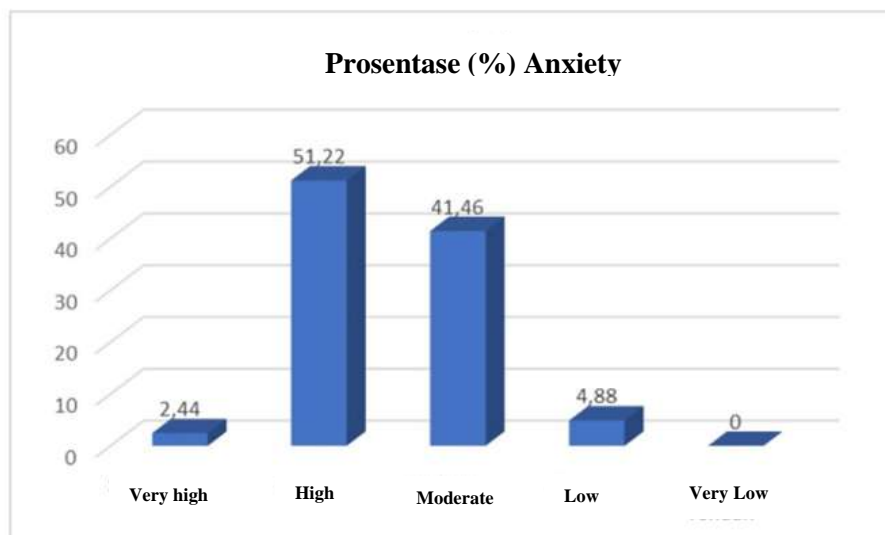


Figure 2. *Anxiety* aspects of tennis players

Result of analysis shows:

Table 2 Result of analysis data

	Anxiety tension	Stress
Tension		,903**
Worry	,903**	,841**
Stress	,841**	,810**

Table 4 states that based on partial correlation analysis, the correlation between tension and anxiety 0.903, calm with stress 0.841 and stress with anxiety 0.810.

## Discussion

Based on the research results, it turns out that the stress level is only 2.44%, which is very high, more than 51%, the rest is medium to low, while tension is 2.44% very high, (17.07%) is high, 59.54% is medium, the rest is low and very low. . Lastly anxiety (2.44%), High = 21 people (51.22%), Medium = 13 people (31.71%), Low = 6 people (14.63%). These results can be interpreted as tension, anxiety and stress. Furthermore, when checking whether there was a correlation between the three variables, it turned out that it was clear that when paired, the three variables had a high correlation. Sports performance is not only a physical problem, namely those related to the movement of body parts, muscles, bones, but the reach of sports is further, namely related to the psychological problems and symptoms of the perpetrator. Maximum performance can be achieved by players who are truly ready to compete with all their abilities. This readiness is the physical and psychological readiness of the athlete concerned.

Matches or competitions have their own level of anxiety, research states that it is high (Kurniawan, Nopembri, and Purnomo 2023), this happens to teenage athletes. This will interfere with competition with physical symptoms such as digestive disorders (Wilson, Fearn, and Pugh 2023), and further effects will increase uric acid (de Oliveira et al. 2022). It should be noted that this anxiety is experienced by both the visiting and home teams (Da Silva et al.2014), it is proven that the visiting team will experience a higher level of anxiety experienced (Carolina-Paludo et al., 2020), feeling nervous (L. Zhang , 2023). Another source states that the level of competition that is participated in is also a source of anxiety in itself, the higher the level that is participated in, the higher the level of anxiety will be (Ji and Yu 2023), what is no less interesting is that this anxiety will be greater with the responsibilities and positions of the players, as well as stage experience match (Li and Hu 2023)(Sukiri et al. 2023). This requires maintaining a positive mental condition before the match until actually competing (Yong, 2021).

This study of the correlation between anxiety and competition experience turns out to not be a figment. Research shows that the higher the level of competition you participate in, the ability to overcome anxiety will also increase (Sobirov et al., 2022). Competing experience influences self- confidence and this also influences anxiety control (Junior John Elvis, 2018). Experience will have a positive impact on the athlete's anxiety control as well as athlete religiosity apparently has a contribution to contributing to increasing the ability to reduce anxiety (Guntoro and Putra 2022).

Looking at the aspect of the training process, ideally athletes or players who have the potential for high achievement should be handled by a reliable coach. This is to avoid a coaching and training process that is not of good quality and causes a lot of wasted time due to the trainer's incompetence. Facts on the ground show that in general coaches only have experience as former athletes and do not have coaching qualifications and competencies. This condition becomes worse if the coach is only equipped with skills resulting from a course or upgrading course, so apart from being a former athlete, it is important for a professional trainer to have a sports education or sports coaching qualification. Training Mental *training* is usually neglected by coaches in providing training programs, even though mental maturity is a determining factor in achieving sporting achievements.

Mental preparation is needed to ensure optimal physical performance. If all the factors trained are the same, then the winner in a match or competition will be the athlete who has superior psychological

preparation. To be able to improve their sporting achievements or performance, athletes need to have a tough mentality, so they can train and compete with high enthusiasm, total dedication, never give up, and are not easily distracted by non-technical problems or personal problems. This way athletes can carry out their training program seriously, so that they can have excellent physical condition, high technique, and the right fighting strategy in accordance with the training program designed by the coach.

Games that are limited by the net, points or scores are obtained using a *point relay system*, so players are expected to concentrate, be confident, control tension, pressure and stress, even if it occurs during critical numbers and *deuces*, psychological aspects that are very influential in winning the match. This feeling of depression is caused by many factors that come from within and from outside. Tension is anything that is felt to be urgent and pressing on the individual. Every player who competes in a sporting event will feel tension coming over him, in the form of emotional impulses and attempts to anticipate the match situation he faces. Singer quoted by Husdarta (2010) stated that; "Stressful activities are not always bad for an athlete." Judging from the various mental and emotional reactions, Singer explains that there are two symptoms related to emotions, namely; lack of readiness and full readiness. Smith (Yuanita Nasution, 2007) in his paper said that "stress is a symptom of self-balance to be able to adapt to changes both from outside and within the athlete himself". Stress will always occur in individuals if something they hope for is challenged, so that the possibility of not achieving that hope haunts their minds. Stress means a situation that has the potential to cause anxiety and awakening. *Competitive stress* or *stress* that arises in a match is a negative emotional reaction in athletes if their sense of self-worth feels threatened. Things like this happen when junior athletes consider a competition as a tough challenge to be successful, considering their performance abilities, and in circumstances like this the athlete thinks more about the consequences of fatigue. Singgih (2008) *stress* is a symptom that changes when athletes move from a low level of performance to a higher level. Pressure caused by expectations and the desire to create the best as well as the desire to compete in front of an audience plays a big role in causing *stress*. According to Harsono (1998) and ..... the effects of *stress* include: (1) body shaking, (2) pacing, (3) confused thoughts, (4) confusion, (5) pessimism, (6) heartbeat louder, (7) cold sweat, (8) frequent trips to the back/toilet, (9) feeling tired, and (10) irritability. The success and winnings of sports games using internet media include; badminton, tennis and table tennis are strongly influenced by psychological aspects.

Badminton, tennis and table tennis players who are very pressed for this critical number, if they are able to overcome this, will emerge confident, able to overcome tension and control their emotions well towards the end of the match.

In tennis matches, athletes can compete up to 4 times a day, research data shows that stress increases from the first match to the fourth (Giménez-Egido et al., 2020). Valid pulse rate is used to determine general and specific conditions that occur in athletes regarding concentration, intensity, mental condition, stress or the athlete's position under competition pressure (Carlstedt, 2018). Sometimes in tennis matches there is unsportsmanlike behavior so this needs to be prevented (Gimeno et al., 2013), this behavior occurs because one of the reasons is the high pressure of competition.

Pre-competition pressure is felt by athletes 24 hours before the competition, feelings such as fear of failure, feeling helpless, lack of concentration, worry, experiencing unrealistic expectations (Kumar & Kumar, 2016). The tension felt by athletes is higher when they enter the competition period (Chou et al., 2021). Sometimes athletes will forget and experience situational blindness due to pressure, whether from personal targets or targets from coaches, administrators or the state, so this causes attention to be focused on the source of pressure, not on completing the competition. The pressure of competing turns out to increase cortisol and testosterone, after competing the levels will decrease (Casanova et al., 2016). A sign that athletes are tense due to stress is an abnormal increase in their pulse rate (Korobeynikov et al., 2023) creating tension will have a negative impact on performance, especially for immature junior athletes (Lavrentiev, Sergienko, Antonenko, et al., 2023). In reality, athletes are faced with high levels of stress in competition, if this happens it can affect their ability to compete (Motevalli et al., 2022).



Players are usually afraid before facing a match, afraid of failing to meet the expectations of coaches, friends and family. Although there is the possibility of being afraid of getting injured or maybe afraid of feeling isolated, ridiculed and so on if they fail in a match. Players who are too anxious about a match are athletes who are unable to deal with their problems well. The player is psychologically defeated before competing, but the anxiety experienced by the player is not always disturbing or detrimental. Under certain circumstances, anxiety can provide added value and is even necessary to achieve optimal performance. Players who experience excessive feelings of anxiety when facing a match may cause anxiety in the form of health problems or behavioral deviations so that their appearance and self-confidence will decrease and their concentration level will decrease. According to Harsono (1998: 273), several signs that athletes are experiencing tension are as follows; (1) stiff movements and loss of rhythm, (2) complains of being cold even though he is sweating, (3) stiff neck and shoulders and stomach ache, (4) loses ability to concentrate, (5) becomes sensitive and overly reactive to 10 friends' behavior at the club (lying down, talking loudly, teasing, etc., (6) being alone from the coach and his friends at the club, (7) losing appetite and, (8) being pessimistic. Mental training for field tennis players can be done by (1) thinking positively as a way of thinking that directs something in a positive direction, looking at the good side, (2) making a mental training diary (*mental log*), (3) *goal-setting* needs to be done so that athletes have a direction to go towards, (4) relaxation training with the aim of relaxation training, including stress management training, is to control tension, both muscle tension and psychological tension, (5) *mental imagery* training is a form of mental training in the form of imagining yourself and your inner movements. thoughts, and (6) concentration is a condition where a person's consciousness is focused on a certain object at a certain time (Soetanto, 2010). Mental maturity is a determining factor in achieving sporting achievements, which is necessary to ensure the optimization of physical performance or excellent athlete appearance.

Trainers are expected to be able to prepare, implement and evaluate coaching or training programs that are accurate, comprehensive, balanced and proportional between physical, technical, tactical/ strategy and mental training aspects.

## Conclusion

This research can be concluded the level of player *tension* when facing the critical value of field tennis in the categories Very High (2.44%), good (17.07%), fair (58.54%), poor (19.51%), and very poor (2.44%). The level of player *anxiety* when facing the critical value of field tennis is in the categories Very High (2.44%), good (51.22%), fair (31.71%), poor (14.63%). The *stress* level of players when facing critical values in the sport of field tennis in categories Very High (2.44%), good (51.22%), fair (41.46%), poor (4.88%). Both tension, anxiety and stress are highly correlated

## Author contribution statement

Suratmin together with I Putu Darmayasa, Daniel Womsiwor, Lintang Hilmi, Mumtaz Surath, and Hanik Liskustyowati: Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Writing - original draft preparation, Writing - review & editing. Sandi Prayudho and Yunita: Data validation, revising models, and accessing data.

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## References

- Birkholz, L., Jäger, N. K., & Schäfer, S. (2024). Stress-induced changes in heart rate variability and its relation to anxiety in daily life. *Psychoneuroendocrinology*, 161, 106574.  
<https://doi.org/10.1016/j.psyneuen.2024.106574>
- Brandt, R., Bevilacqua, G. G., Crocetta, T. B., Monteiro, C. B., Guarnieri, R., Hobold, E., ... & Andrade, A. (2021). Comparisons of mood states associated with outcomes achieved by female and male athletes

- in high-level judo and brazilian jiu-jitsu championships: Psychological factors associated with the probability of success. *The Journal of Strength & Conditioning Research*, 35(9), 2518-2524.
- Brandt, R., da Silveira Viana, M., Crocetta, T. B., & Andrade, A. (2016). Association between mood states and performance of Brazilian elite sailors: Winners vs. non-winners. *Cultura, Ciencia y Deporte*, 11(32), 119-125.
- Carlstedt, R. A. (2018). Heart Rate Variability Monitoring and Assessment During Training and Competition: A Window Into Athlete Mind–Body Responding. In *Evidence-Based Applied Sport Psychology*. <https://doi.org/10.1891/9780826105530.0009>
- Carolina-Paludo, A., Nunes-Rabelo, F., Maciel-Batista, M., Rúbila-Maciel, I., Peikriszwili- Tartaruga, M., & Simões, A.C. (2020). Game location effect on pre-competition cortisol concentration and anxiety state: A case study in a futsal team. *Revista de Psicologia Del Deporte*, 29(1), 105–112.
- Casanova, N., Palmeira-De-Oliveira, A., Pereira, A., Crisóstomo, L., Travassos, B., & Costa, A.M. (2016). Cortisol, testosterone and mood state variations during an official female football competition. *Journal of Sports Medicine and Physical Fitness*, 56(6), 775–781.
- Chou, CC, Wang, FT, Wu, HH, Tsai, SC, Chen, CY, Bernard, JR, Kuo, YC, & Liao, YH (2021). “The Competitive Season and Off-Season”: Preliminary Research concerning the Sport- Specific Performance, Stress, and Sleep in Elite Male Adolescent Basketball Athletes. *International Journal of Environmental Research and Public Health*, 18(24). <https://doi.org/10.3390/ijerph182413259>
- Da Silva, MMF, De Paiva Vidual, MB, De Oliveira, RA, Yoshida, HM, Borin, JP, & Fernandes, PT (2014). Ansiedade E Desempenho De Jogadoras De Voleibol Em Partidas Realizadas Dentro E Fora De Casa. *Revista Da Educacao Physics*, 25(4), 585–596. <https://doi.org/10.4025/reveducfis.v25i4.24347>
- De Oliveira, LFG, Souza-Junior, TP, Fecho, JJ, Gomes-Santos, JAF, Sampaio, RC, Vardaris, C.V., Lambertucci, R.H., & de Barros, M.P. (2022). Uric Acid and Cortisol Levels in Plasma Correlate with Pre-Competition Anxiety in Novice Athletes of Combat Sports. *Brain Sciences*, 12(6). <https://doi.org/10.3390/brainsci12060712>
- Giménez-Egido, J.M., Hernández-García, R., Escribano, D., Martínez-Subiela, S., Torres-Luque, G., Ortega-Toro, E., & Cerón, J.J. (2020). Changes in markers of oxidative stress and  $\gamma$ - amylase in saliva of children associated with a tennis competition. *International Journal of Environmental Research and Public Health*, 17(17), 1–12. <https://doi.org/10.3390/ijerph17176269>
- Gimeno, F., Lacambra, D., Marcén, C., Gutiérrez, H., Sáenz, A., Castillo, R., & Sánchez, M.E. (2013). Sportsmanship Rating Scale in Tennis Competition with Young Players. *Procedia - Social and Behavioral Sciences*, 82, 740–744. <https://doi.org/10.1016/j.sbspro.2013.06.340>
- Guntoro, TS, & Putra, MFP (2022). Athletes' religiosity: How it plays a role in athletes' anxiety and life satisfaction. *HTS Teologiese Studies / Theological Studies*, 78(1). <https://doi.org/10.4102/hts.v78i1.7802>
- Ji, H., & Yu, L. (2023). Comprehensive Physical and Psychological Training of Modern Pentathlon Athletes. *Revista Brasileira de Medicina Do Esporte*, 29. [https://doi.org/10.1590/1517-8692202329012022\\_0308](https://doi.org/10.1590/1517-8692202329012022_0308)
- Junior John Elvis, H. (2018). Selective Antecedents of Competitive State Anxiety Dimensions During High Stakes in Elite Competition. *American Journal of Sports Science*, 6(3), 88. <https://doi.org/10.11648/j.ajss.20180603.14>
- Korobeynikov, G., Korobeynikova, L., Korobeynikova, I., & Kokhanovich, A. (2023). Stress Management Mechanisms in Younger Athletes. *International Journal of Pediatrics and Child Health*, 11, 18–21. <https://doi.org/10.12974/2311-8687.2023.11.03>
- Kumar, A., & Kumar, C. A. (2016). A study of pre-competitive anxiety involving male and female players competing in team versus individual events. *International Journal of Physical Education, Sports and Health IJPESH*, 369(31), 135–137.

- Kurniawan, DD, Nopembri, S., & Purnomo, E. (2023). Relationship between anxiety levels and the performance of early adolescent athletic athletes in tri-race numbers. *Retos*, 48, 742–748. <https://doi.org/10.47197/RETOS.V48.97269>
- Lavrentiev, O., Sergienko, Y., & Antonenko, S. (2023). Organization of the training process for athlete with high qualifications in sports sambo. *Scientific Journal of National Pedagogical Dragomanov University. Series 15. Scientific and Pedagogical Problems of Physical Culture (Physical Culture and Sports)*, 3(162), 211–216. [https://doi.org/10.31392/npu-nc.series15.2023.3k\(162\).43](https://doi.org/10.31392/npu-nc.series15.2023.3k(162).43)
- Lavrentiev, O., Sergienko, Y., Antonenko, S., Krupenya, S., & But, O. (2023). Psychological preparation of freestyle wrestlers during competitions. *Scientific Journal of National Pedagogical Dragomanov University. Series 15. Scientific and Pedagogical Problems of Physical Culture (Physical Culture and Sports)*, 9(169), 86–91. [https://doi.org/10.31392/npu-nc.series15.2023.9\(169\).18](https://doi.org/10.31392/npu-nc.series15.2023.9(169).18)
- Le Mansec, Y., Seve, C., & Jubeau, M. (2017). Neuromuscular fatigue and time motion analysis during a table tennis competition. *Journal of Sports Medicine and Physical Fitness*, 57(4), 353–361. <https://doi.org/10.23736/S0022-4707.16.06129-6>
- Li, J., & Hu, X. (2023). Psychological Training of Soccer Players At Competition Level. *Revista Brasileira de Medicina Do Esporte*, 29. [https://doi.org/10.1590/1517-8692202329012022\\_0381](https://doi.org/10.1590/1517-8692202329012022_0381)
- Li, T., & Ma, Y. (2023). Relationship Between Psychological Quality and Training in Basketball Players. *Revista Brasileira de Medicina Do Esporte*, 29. [https://doi.org/10.1590/1517-8692202329012022\\_0354](https://doi.org/10.1590/1517-8692202329012022_0354)
- Liu, Y.C., Wang, M.Y., & Hsu, C.Y. (2018). Competition Field Perceptions of Table-tennis Athletes and their Performance. *Journal of Human Kinetics*, 61(1), 241–247. <https://doi.org/10.1515/hukin-2017-0123>
- Motevalli, S., Sulaiman, T., Wong, KY, & Jaafar, WMW (2022). Athletes' Psycho-physical Training and Cognitive Restructuring Module To Enhance University-athlete Students' Well-being. *The Open Psychology Journal*, 15(1). <https://doi.org/10.2174/18743501-v15-e221018-2022-13>
- Naboychenko, E.S., Noskova, MV, & Shershnev, V.N. (2022). Mental stability of elite athletes in individual and team sports as a key to successful sports activities. *Perspektivy Nauki i Obrazovania*, 60(6), 445–458. <https://doi.org/10.32744/pse.2022.6.26>
- Olmedilla, A., Moreno-Fernández, I.M., Gómez-Espejo, V., Robles-Palazón, F.J., Verdú, I., & Ortega, E. (2019). Psychological Intervention Program to Control Stress in Youth Soccer Players. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.02260>
- Sahni, M., & Bhogal, G. (2017). Anxiety, depression and perceived sporting performance among professional cricket players. *British Journal of Sports Medicine*, bjsports-2017-097827.5. <https://doi.org/10.1136/bjsports-2017-097827.5>
- Selmi, O., Ouergui, I., Muscella, A., Levitt, D.E., Suzuki, K., & Bouassida, A. (2023). Monitoring mood state to improve performance in soccer players: A brief review. In *Frontiers in Psychology* (Vol. 14). <https://doi.org/10.3389/fpsyg.2023.1095238>
- Sobirov, O., Skrypchenko, I., Ahmedov, F., Norboyev, K., Badayev, R., & Utayev, Z. (2022). Competitive Anxiety Level of International and National Kurash Athletes before and during Competition. *International Journal of Human Movement and Sports Sciences*, 10(6), 1173–1177. <https://doi.org/10.13189/saj.2022.100607>
- Sukiri, Wenly, AP, Pelana, R., & Setiakarnawijaya, Y. (2023). Bibliometric Analysis of Anxiety and Athletes in the Last Decade. *International Journal of Human Movement and Sports Sciences*, 11(3), 509–516. <https://doi.org/10.13189/saj.2023.110301>
- Terokhina, O., Dudnil, Y., & Remeshevskiy, A. (2023). The effects of stress on the sportsman's body and training activities. *Scientific Journal of National Pedagogical Dragomanov University. Series 15. Scientific and Pedagogical Problems of Physical Culture (Physical Culture and Sports)*, 3(162), 402–

405. [https://doi.org/10.31392/npu-nc.series15.2023.3k\(162\).84](https://doi.org/10.31392/npu-nc.series15.2023.3k(162).84)
- Vyshnevetska, V. ħ., Gordieieva, M. V., & Bortnik, M. S. (2023). Competitive efficiency activities in cybersports and factors affecting it. *Scientific Journal of National Pedagogical Dragomanov University. Series 15. Scientific and Pedagogical Problems of Physical Culture (Physical Culture and Sports)*, 4(163), 62–67. [https://doi.org/10.31392/npu-nc.series15.2023.04\(163\).12](https://doi.org/10.31392/npu-nc.series15.2023.04(163).12)
- Wetzel, Ā., Gůldenpenning, I., & Weigelt, M. (2022). Competitive emotions in sport—a scoping review. *German Journal of Exercise and Sport Research*, 52(3), 419–432. <https://doi.org/10.1007/s12662-021-00772-0>
- Whiteside, D., & Reid, M. (2017). External match workloads during the first week of Australia open tennis competition. *International Journal of Sports Physiology and Performance*, 12(6), 756–763. <https://doi.org/10.1123/ijspp.2016-0259>
- Wilson, P.B., Fearn, R., & Pugh, J. (2023). Occurrence and Impacts of Gastrointestinal Symptoms in Team-Sport Athletes: A Preliminary Survey. *Clinical Journal of Sports Medicine*, 33(3), 239–245. <https://doi.org/10.1097/JSM.0000000000001113>
- Wunderlich, F., Corten, C., Furley, P., & Memmert, D. (2023). Home advantage in tennis exists independence of competition level, gender and COVID-19 restrictions: evidence from German team tennis competitions. *International Journal of Sport and Exercise Psychology*. <https://doi.org/10.1080/1612197X.2023.2235592>
- Yong, L. (2021). Characteristics of athletes' psychological state before competition and the correlation analysis of the psychological state of athletes of different levels. *Revista de Psicologia Del Deporte*, 30(2), 108–121.
- Zhang, L. (2023). Influence of Athletes' Anxiety on Competition Results. *Revista Brasileira de Medicina Do Esporte*, 29. [https://doi.org/10.1590/1517-8692202329012022\\_0551](https://doi.org/10.1590/1517-8692202329012022_0551)
- Zhang, X., & Zeng, X. (2022). Analysis of the Effect of the Stability of Athletes' Psychological Quality on Sports Basketball Games. *Journal of Environmental and Public Health*, 2022. <https://doi.org/10.1155/2022/8624803>
- Zhou, W., & Li, R.-X. (2009). Effect of Winning and Losing on Mood State and Brainwave Activity in Recreational Competitive Sports. *Journal of Xi'an Institute of Physical Education*, 26(3), 381384. [http://ezproxy.lib.ucf.edu/login?url=http://search.proquest.com/docview/20708098?accountid=10003%5Cnhttp://sfx.fcla.edu/ucf?url\\_ver=Z39.88-004&rft\\_val\\_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ:physicaleucationshell&atitle=Effect+of+Wi2023\).](http://ezproxy.lib.ucf.edu/login?url=http://search.proquest.com/docview/20708098?accountid=10003%5Cnhttp://sfx.fcla.edu/ucf?url_ver=Z39.88-004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ:physicaleucationshell&atitle=Effect+of+Wi2023).) *Anxiety State of 17-35 Years-Old Handball Players in Competitive Activity*. 45–48. <https://doi.org/10.37539/230412.2023.77.74.008>