

STUDY ON COMPETITIVE ANXIETY IN TABLE TENNIS ATHLETES

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Article history: Received: 2024 October 21; Revised 2024 November 8; Accepted 2024 November 11;
Available online: 2024 November 30; Available print: 2024 November 30

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ABSTRACT. The present study aims to explore the levels of competitive anxiety among table tennis athletes, identifying the factors that contribute to it and the impact on performance. **Objectives:** measuring the level of competitive anxiety, identifying the psychological and physical factors that influence the level of competitive anxiety. **Methods:** as a research tool, we used the questionnaire-based survey method, in which the measurement tool used was a standardized questionnaire called SCAT, which measures the characteristics of anxiety in both cognitive and somatic subcomponents. The research sample was composed of 53 adult athletes, who practice table tennis and who participated or are active participants in competitions organized by the Romanian Table Tennis Federation. **Results:** Analyzing the results of the questionnaire, some interesting trends were observed in relation to competition anxiety and its associated physical symptoms among athletes: an increased percentage of athletes reported **low anxiety**, suggesting a high degree of confidence in their abilities to perform in competitions; regarding the differences between men and women, the majority of men (**61.29%**) are in the category of low anxiety, while **50%** of women are in the category of **medium anxiety**; Regarding physical symptoms, according to respondents' feedback, physical symptoms of anxiety are rare. **Conclusions:** The study results suggest that competitive anxiety is a prevalent problem among table tennis athletes with a notable impact on performance. Gender differences in the perception and manifestation of anxiety may require tailored intervention strategies.

Keywords: anxiety, table tennis, sports performance

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REZUMAT. Studiu privind anxietatea competitivă la sportivi în tenis de masă. Studiul de față își propune să exploreze nivelurile de anxietate competitivă în rândul sportivilor de tenis de masă, identificând factorii care contribuie la aceasta și impactul asupra performanței. **Obiective:** măsurarea nivelului de anxietate competitivă, identificarea factorilor psihologici și fizici care influențează nivelul de anxietate competitivă. **Metode:** Ca instrument de cercetare s-a utilizat metoda anchetei pe bază de chestionar, în care instrumentul de măsurare utilizat a fost un chestionar standardizat denumit SCAT, care măsoară caracteristicile anxietății atât în subcomponentele cognitive, cât și în cele somatice. Eșantionul cercetării a fost compus din 53 de sportivi adulți, care practică tenis de masă și care au participat sau participă activ la competiții organizate de Federația Română de Tenis de Masă. **Rezultate:** Analizând rezultatele chestionarului, s-au observat câteva tendințe interesante în legătură cu anxietatea competițională și simptomele fizice asociate acesteia în rândul sportivilor: un procent crescut dintre sportivi au raportat o **anxietate scăzută**, ceea ce sugerează un grad înalt de încredere în abilitățile lor de a performa în competiții; în ceea ce privește diferențele dintre bărbați și femei, majoritatea bărbaților (**61,29%**) se încadrează în categoria cu **anxietate scăzută**, în timp ce **50%** dintre femei se află în categoria de **anxietate medie**; în privința simptomelor fizice, conform feedback-ului respondenților, simptomele fizice ale anxietății sunt rare. **Concluzii:** Rezultatele studiului sugerează că anxietatea competitivă este o problemă prevalentă în rândul sportivilor de tenis de masă, cu un impact notabil asupra performanței. Diferențele de gen în percepția și manifestarea anxietății ar putea necesita strategii personalizate de intervenție.

Cuvinte-cheie: anxietate, tenis de masă, performanță sportivă

INTRODUCTION

The way people react to various environmental stressors is different, especially if we refer to the emotional experiences along their lives, like multidimensional state anxiety (Cerin et al., 2000, 2001; Hanton et al., 2008; Mellalieu et al., 2009)

Competitive anxiety and stress management are part of any kind of competitions. Competitive anxiety is a mental state which includes cognitive, somatic and emotional components (Gillham et al., 2014; Mellalieu et al., 2009; Woodman and Hardy, 2001).

There are many different factors such as, gender, life experience, age, skill level (Gan et al., 2009; Radochonski et al., 2011), control of the situation (Jones, 1995) and self-confidence (Gillham et al., 2014; Mellalieu et al., 2009; Wagstaff et al., 2011), which have an impact on competitive anxiety.

In competitive sport, athletes atypically report arousal and other somatic and emotional changes during competition (Gould et al., 1993b). Despite the fact that emotional reactions tend to be uncomfortable or exhausting, they are crucial if we want to obtain an optimal response in competitions (Hanton and Jones, 1997; Hanton and Connaughton, 2002).

Competitive anxiety has lately become an object of study in sports psychology (Mellalieu et al., 2006; Wadey and Hanton, 2008). Its definition, as we find it in Ong and Chua (2021), is the following: "a trait and/or state-like response to a stressful sport-related situation, which the individual perceives as potentially stressful, resulting in a range of cognitive appraisals, behavioral responses, and physiological arousals".

Generally, there are two types of anxiety: state anxiety and trait anxiety (Kar, 2013). State anxiety involves feeling of apprehension, tension, fear, and increased physiological arousal (Kar, 2013). This is an immediate emotional state response to the specific situation. State anxiety also consists of somatic and cognitive anxiety (Kar, 2013). The characteristics of somatic anxiety are related to physical symptoms like: accelerated heartbeat, muscle weakness and difficulty in breathing. (Martinent et al., 2010). Meanwhile, cognitive anxiety refers to discomfort and mental disturbance for approaching events.

Table tennis, if explored in a culturally diverse surrounding, could be worthy of attention. Due to its complexity and demanding situations, this sport is very demanding for the players - releasing emotional and cognitive reaction. (Hagan Jr. et al., 2017). The speed of the ball requires a short rapid response, that is why table tennis resembles other fast paced and reactive sports with discontinuous tasks. (Raab et al., 2005). All these elements are essential for the players, as they need advanced cues in deciding the appropriate cues and the movement patterns that offer improved performance. (Mann et al., 2007).

In table tennis competitions, players do not fight against the opponents only through physical actions, but also through emotions.

These players try to identify the emotions of their opponents and match histories to improve their own control of the competitive situation. Players usually hide or try to give a false account of their emotions in order to mislead the opponents; they also try to use other tools, like emotional expressions, in influencing various events. (Sève et al., 2005, 2007).

Therefore, any emotional instability may cause habitual technical faults (performance errors) that may affect subsequent match outcomes.

AIM OF THE STUDY

The aim of this research was to determine, by means of an applied questionnaire, the levels of competitive anxiety among table tennis players, identifying the factors contributing to it and its impact on sports performance.

RESEARCH OBJECTIVES

In order to assess competitive anxiety in table tennis players, setting specific objectives is essential. These objectives help structure the research and ensure that the information obtained is relevant and applicable. To conduct the research, we set the following objectives:

- measuring competitive anxiety levels in a representative number of table tennis players using a standardized questionnaire. This objective will allow a comparative analysis of anxiety levels in different groups (men vs. women);
- identifying psychological and physical factors that influence the level of competitive anxiety, such as pressure of results, social expectations, previous competition experience. Understanding these factors can help develop personalized interventions to manage anxiety.

METHODS AND MEANS

Research subjects

The research sample consisted of **53** adult athletes who practice table tennis and who participated or actively participate in competitions organized by the Romanian Table Tennis Federation. The group consisted of athletes aged between **18** and **30** years, providing a representative picture of competitive anxiety in adults. Of the total participants, **22** were female, representing **42%** of the sample, and **31** were male, representing **58%** of the sample. This relative gender balance allows for a relevant comparative analysis between levels of competitive anxiety in both male and female table tennis athletes.

METHODS

To carry out this study, the survey method was used. A standardized questionnaire called the Sports Competition Anxiety Test - SCAT (Martens et al. 1990) was used as a measurement tool used in the research. The SCAT is a

15-item self-report scale that assesses athletes' anxiety levels in both cognitive and somatic subcomponents. The questionnaire analyzes an athlete's response to a series of statements about how they feel in a competitive or performance situation. Of the 15 items, 10 of them measure symptoms associated with anxiety, the other 5 statements are included to reduce inaccurate or false responses to the questionnaire. The collected data were measured using a 3-point Likert scale (1 - rarely; 2 - sometimes; 3 - often).

Questionnaire application procedure

Each of the research subjects was given the questionnaire individually and they were given a privacy space to ensure honest answers, and without time limit, they completed it. For each statement, they had to complete the three-point scale as they felt when competing.

RESULTS

The results presented below show the levels of competitive anxiety among table tennis athletes identified by them as contributing factors to sports performance.

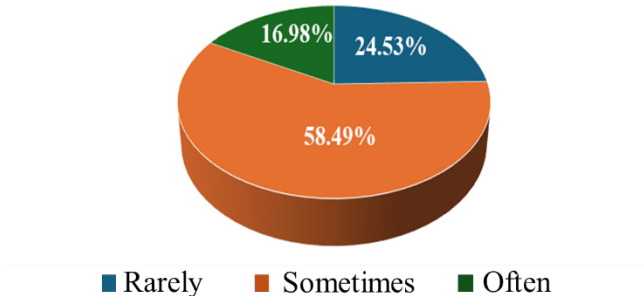


Fig. 1. Feeling anxious before the competition

The graph clearly illustrates the prevalence of feelings of anxiety among the surveyed athletes. Of the 53 participants, most (31 athletes, i.e. 58.49%) chose the option "sometimes", which means that most athletes occasionally experience anxiety before or during competitions. Nearly a quarter of the respondents (24.53%) indicated that they experience anxiety "rarely", suggesting a relatively frequent state of calm before competitions. In contrast, 16.98% of the athletes chose the 'often' option, indicating that they experience anxiety more frequently, with this group being the lowest percentage. Thus, the graph clearly reflects the distribution of feelings of anxiety within this sample.

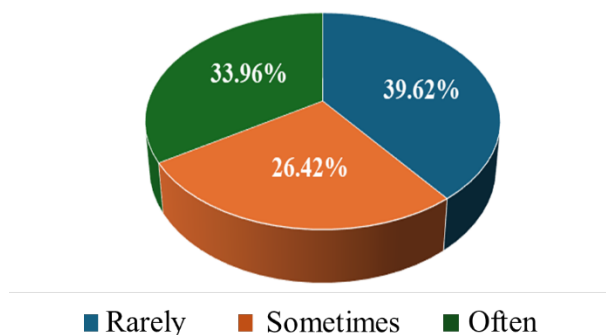


Fig. 2. Performance concerns

As illustrated in the figure, the athletes' responses to the statement about fear of not performing well were quite divergent. From the total of 53 athletes:

- **21 athletes** (39.62%) indicated that they "rarely" fear failure in competitions, suggesting that they have a low level of performance anxiety.
- **14 athletes** (26.42%) reported that they "sometimes" have these fears, showing a moderate level of anxiety.
- **18 athletes** (33.96%) answered that they "often" fear that they will not perform well, indicating a higher level of anxiety about their performance in competitions.

This diversity of responses reflects the fact that the athletes in the sample perceive the pressure to perform well differently, some experiencing the fear of failure more frequently, while others experience it less often.

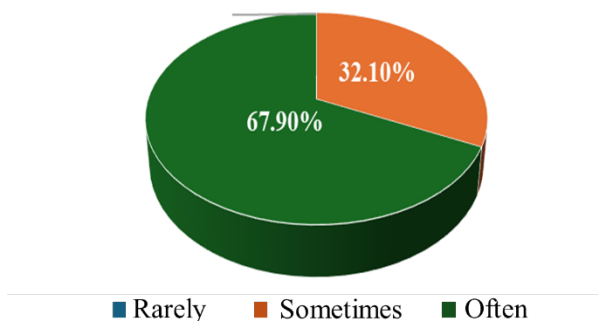


Fig. 3. Athletes' perception of themselves as good athletes

The graph reflects a clear trend of confidence and self-assurance among the athletes interviewed. Of the 53 respondents, **67.90%** often consider themselves **good athletes**, indicating a high level of self-efficacy and confidence in their

own abilities. The remaining **32.10%** mentioned that they **sometimes** have the same opinion about themselves during competitions, which shows moderate self-confidence.

A positive and significant aspect is the fact that **none of the athletes chose the "rarely" option**, suggesting that all research participants have a positive image of their own sports performance. This is a clear sign of a generally high level of confidence and self-assurance, essential for success in competitions.

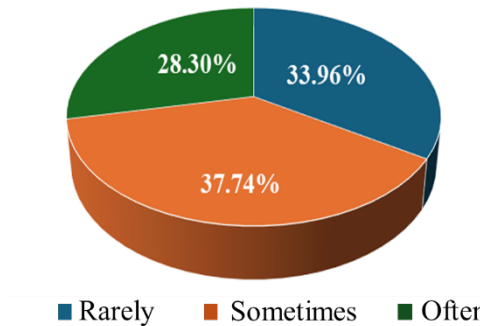


Fig. 4. The frequency of fear of failure

The fear of making mistakes during competition generated quite varied responses among athletes. The most common answer was **"sometimes"**, with **37.74%** of athletes indicating that they occasionally experience this fear. In second place, with **33.96%**, are those who mentioned that they **"rarely"** fear mistakes during the competition, which suggests that a significant part of this sample experiences this anxiety only in isolated cases. Finally, **28.30%** of respondents indicated that they are **"often"** afraid of making mistakes, highlighting that a smaller but important proportion feels this insecurity more frequently.

This distribution shows that fear of making mistakes is a relevant anxiety factor for athletes but varies in intensity from person to person.

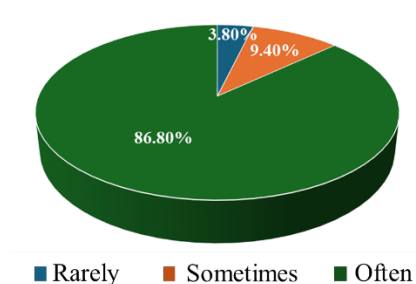


Fig. 5. The importance of setting a goal

The chart highlights the major importance athletes place on goal setting. **86.80%** of respondents believe that goal setting is "**often**" essential to their performance, which underlines the crucial role it plays in motivation and direction in competitions. On the other hand, a very small percentage, only **3.80%**, believe that goal setting is "**rarely**" important, indicating that only a small proportion of athletes underestimate or neglect this element in their training.

This strong prevalence of the view that goals are essential indicates that most athletes believe that setting clear and realistic goals improves their focus and performance.

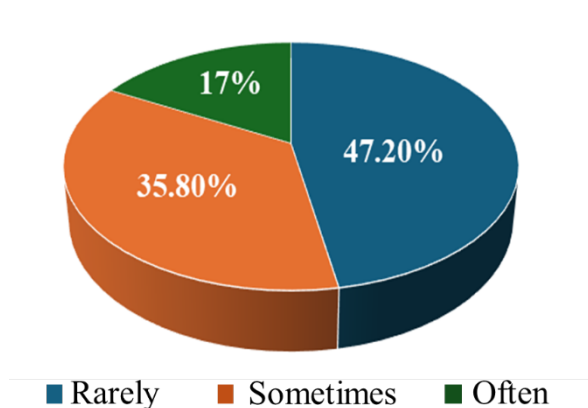


Fig 6. Frequency of feeling nervous before competitions

The results indicate that nervousness, as a phenomenon and a disruptive factor during competitions, is felt differently by athletes. According to the data:

- **47.20%** of respondents state that they "**rarely**" feel nervous, which suggests a low level of anxiety during competitions for this category.
- **35.80%** of athletes indicate that they "**sometimes**" feel nervous, which suggests that a considerable part of them experience this feeling under certain conditions or circumstances.
- Finally, **17%** of respondents say they "**often**" feel nervous, highlighting a minority who experience this disruptive factor to a significant degree.

Thus, more than half of the athletes (**82.80%**) rarely or sometimes feel nervous, which is a positive sign, indicating that most of the athletes in this sample have the ability to effectively manage negative emotions during competitions.

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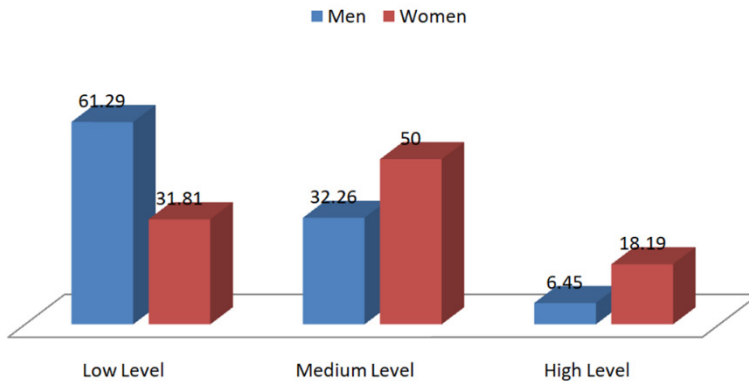


Fig. 7. Percentage comparison between women and men

Comparative analysis of SCAT (Sport Competition Anxiety Test) scores for women and men reveals significant differences in anxiety levels.

DISCUSSIONS

Analyzing the results of the questionnaire, several interesting trends were observed in relation to competition anxiety and its associated physical symptoms among athletes:

- almost **49.05%** of athletes reported low anxiety, suggesting a high degree of confidence in their ability to perform in competitions.
- **61.29%** of men fall into the low anxiety category, indicating a significant prevalence of confidence in their competitive abilities.
- In contrast, only **31.81%** of women are in the same category, highlighting a difference of almost **30%** between the two sexes.

This suggests that men are more likely to experience low levels of anxiety compared to women.

39.63% of the respondents stated that they have average anxiety, which indicates that a considerable part of the athletes feel some pressure, but not to an extent that significantly affects their performance. About **50%** of women fall into the medium anxiety category, which shows a greater tendency for women to feel moderate anxiety during competitions. In contrast, only **32.26%** of men are in this category, suggesting a greater predisposition of women towards an average level of anxiety.

Only **11.32%** of athletes reported high anxiety, highlighting that most do not experience overwhelming fear before competitions.

Research shows that athletes in general feel relatively calm before competitions, but this state of calm is more common among men than women. Nervousness rarely occurs among athletes before a direct competition, which indicates a good ability to manage emotions and stress.

According to respondents' feedback, physical symptoms of anxiety are rare.

An increased heart rate is a more commonly observed symptom, with just over **20%** of athletes reporting that they experience it often, and nearly **40%** saying that they experience it sometimes.

On the other hand, nausea occurs often in only **7.5% of athletes**, suggesting that overall physical symptoms of anxiety are less common.

CONCLUSIONS

Past research has demonstrated the impact that competitive anxiety can have on sporting performance, with a meta-analysis by Woodman and Hardy (2003) indicating a significant adverse effect for cognitive anxiety on sport performance.

Other studies have shown that high anxiety situations cause athletes to engage in excessive error monitoring (Masaki et al., 2017); reduce anticipation timing performance (Duncan et al., 2016); decrease search rate and processing efficiency (Nieuwenhuys et al., 2008); and have a negative effect on shooting accuracy in soccer (Wilson et al., 2009). Competitive anxiety has also been shown in past research to heighten the risk of sport injury (Ford et al., 2017), with a review study indicating that competitive trait anxiety is a risk factor for musculoskeletal injury in athletes (Ong and Chua, 2021).

The study focused on analyzing the anxiety level of table tennis players. The conclusions of our investigation highlighted that anxiety represents a serious problem in sport competition and that if we train our team with mental coaching and psychological evaluation, we can prevent the rise of the anxiety level and also improve sportive results. (Sopa, 2021).

Acknowledgement

All authors contributed equally to the research and consented to the publication of the article.

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