

DOI:10.2478/tperj-2021-0007

Anxiety and athlete performance: a systematic narrative review of the mutual influence of these concepts

Remus Francisc DATCU¹, Sorin BRÎNDESCU², Simona PETRACOVACHI³

Abstract

Purpose This systematic review was designed to assess the existence of a potential bidirectional relationship between competitive anxiety and sport performance among professional athletes. Psychotherapists believe that the relationship between these 2 parameters can be directly proportional and, moreover, can go both ways, as they have systematically observed in the general population.

Methods For this purpose, a number of 45 descriptive studies were selected from the cybernetic literature to estimate the level of anxiety in competitive athletes, the variables that may influence this parameter and the level of performance achieved as a result. Without therapeutic intervention, anxiety parameters and its covariates were assessed to detect the influence on sport performance and predict the outcome of a competition based on these concepts.

Results The systematic review of these studies revealed that competitive anxiety has a major and statistically significant influence on the competitive situation of an athlete, having an important action on their career in the short and long term.

Conclusions This analysis has succeeded in demonstrating that a certain degree of anxiety, within the limits imposed by the game experience and through fine psychological mechanisms, can become an asset in terms of achieving the chosen goal in the athlete's career.

Key words: anxiety, sports performance, stress

Rezumat

Scop Acest review sistematic a fost conceput în vederea evaluării existenței unei posibile relații bidirecționale între anxietatea competițională și performanța sportivă în rândul sportivilor profesioniști. Psihoterapeuții consideră că relația dintre acești 2 parametrii poate fi una direct proporțională și, pe deasupra, poate fi în ambele sensuri, așa cum au observat sistematic în rândul populației generale.

Metode În acest scop, s-au ales un număr de 45 de studii descriptive din librăriile cibernetice de specialitate care au estimat nivelul de anxietate în cadrul sportivilor de performanță, variabilele care pot influența acest parametru și nivelul de performanță obținut în consecință. Fără a se interveni terapeutic, s-au evaluat parametrii de anxietate și covariabilele sale pentru a decela influența asupra performanței sportive și a prezice rezultatul unei competiții pe baza acestor concepte.

Rezultate În urma analizei sistematice a acestor studii, s-a putut evidenția că anxietatea competițională are o putere de decizie majoră și semnificativă din punct de vedere statistic asupra situației competiționale a unui sportiv, având o acțiune importantă asupra carierei acestuia pe termen scurt și lung.

Concluzii Această analiză a reușit să demonstreze că un anumit grad de anxietate, în limitele impuse de către experiența de joc și prin mecanisme fine psihologice, poate deveni un atu în ceea ce privește atingerea scopului ales în cariera de sportiv.

Cuvinte cheie: anxietate, performanță sportivă, stress.

¹ PhD Student, West University of Timișoara, Faculty of Physical Education and Sport, Romania, email: francisc.datcu@e-uvr.ro

² Associate Professor, PhD, West University of Timișoara, Faculty of Physical Education and Sport, Romania

³ Professor, PhD, West University of Timișoara, Faculty of Physical Education and Sport, Romania

Introduction

Anxiety, in all its forms, is considered, in the perception of the sport world and the less knowledgeable, as an important factor influencing sport performance [1-4]. According to important studies in modern psychology, anxiety is subdivided into cognitive, somatic and regulatory (also known as self-control) dimensions [2].

Based on this concept, in the world of sport it has been considered essential to assess the importance of this psychological parameter (anxiety and its subcomponents) and the long-lasting impact it can have on sport performance [5]. Studies conducted over the last decades in the field of sport psychology have been able to substantiate the existence of this anxiety state in the population of competitive athletes [6-11]. The aim of this study is to assess competitive anxiety and its relationship with sport performance.

Objectives

1. Review the terms defining types of competitive anxiety in the literature.
2. To assess the relationship between competitive anxiety and defining demographic variables of the study population (gender, age, type of performance or sport performed).
3. Assessing the link between sport performance level and competitive anxiety.
4. Review the literature on the types of therapy used to optimise anxiety levels in athletes.

Methods

A. Inclusion and exclusion criteria for studies required for the systematic review

We chose to **remove** from the studies we searched those with the following characteristics:

- a) Focused on the anxiety felt by another category of the population;
- b) Had a participant pool of over 700 subjects;
- c) Dealt with amateur athletes.

Detailing the basic criteria that we devised in the initial design phase of this work necessary to track down the information material needed for us. These **inclusion criteria** are considered to be essential in our research work on competitive anxiety theory.

They include:

- a) Estimated number of participants between 15 and 700;
- b) The age limit for participants was set between 15 and 50 years;
- c) The performance level chosen in this analysis was professional;
- d) Studies should be described in a full published article in an ISI-listed journal;
- e) Do not include therapeutic measures of any kind used to relieve the psychological status of anxiety;
- f) The language of publication of the article is English.

B. Source of information

We have studied the **cyber library** (of sport psychology) by visiting the following sites:

- <https://pubmed.ncbi.nlm.nih.gov/>,
- <https://www.cochranelibrary.com/>,
- <https://jbi.global/>
- <https://www.crd.york.ac.uk/prospero/>.

In order to collect studies that meet the criteria established in the initial design stage of the systematic review, we used as keywords "anxiety in sport", "competitive anxiety", "performance in sport", and "sport performance".

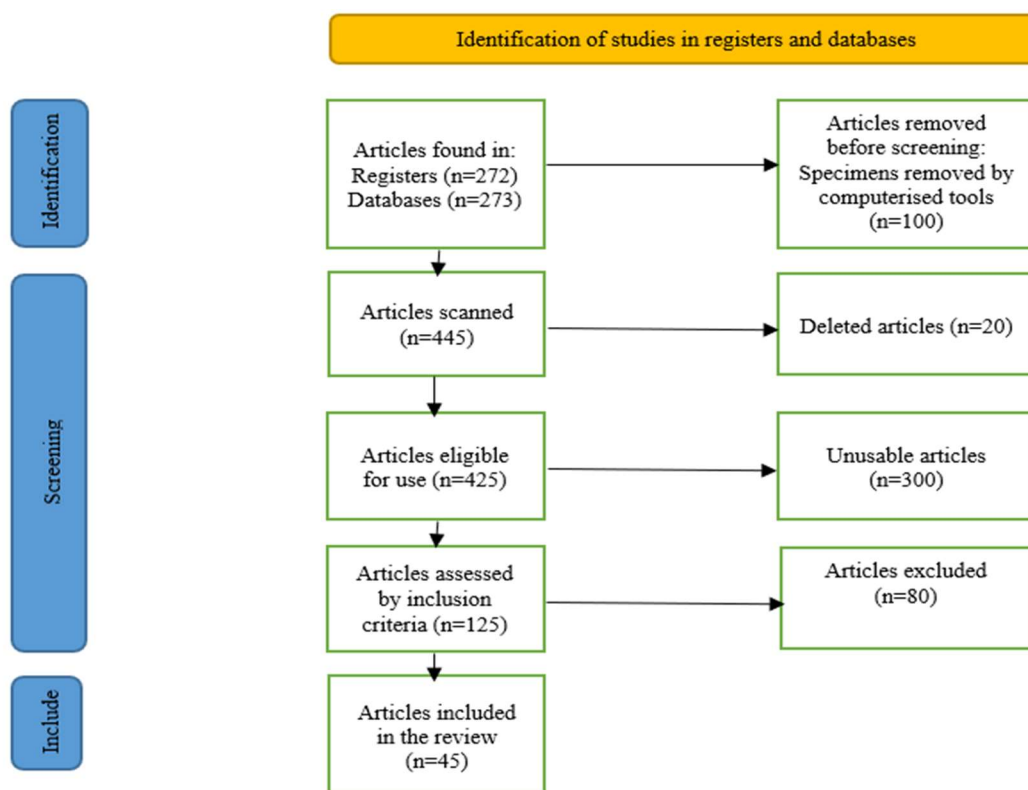


Figure 1. PRISMA diagram

Table I. List of items included in our review and some important facts about them

	Article name	Number of participants	Type of information extracted	Type of analysis performed	Study findings
1	Wen-Nuan Kara Cheng, Lew Hardy (2015)	Substudy 1- 485; substudy 2- 370; substudy 3- 425	descriptive data from cross-sectional studies	factor analysis; factor loadings; interfactor correlation.	The regulatory dimension of anxiety is the most important factor in maintaining/increasing physical performance.
2	Muhammad Khushdil Khan, Alamgir Khan, Sami Ullah Khan, Salahuddin Khan (2017)	120	descriptive data	percentage and standard average analysis	Anxiety is an important factor influencing sports performance.
3	Eleri Sian Jones, Richard Mullen, Lew Hardy (2018)	Substudy 1- 174; substudy 2- 516; substudy 3- 104	prospective data	confirmatory factor analysis (CFA) on a hierarchical model and a structural equation model (PLS), MANOVA analysis	Performance in sport occurs in people who develop low levels of physiological and cognitive anxiety and high levels of conscious control.
4	Ademir Felipe Schultz de Arruda, Marcelo Saldanha Aoki, Gustavo Drago, Alexandre Moreira (2018)	25	descriptive data	ANOVA analysis, Z score	The increase in the parameters studied shows the importance that athletes associate with a certain type of game and the link with their position in the hierarchy of the society to which they belong.
5	Amit Kumar (2016)	60	descriptive data	percentage and standard average analysis	The difference between male and female athletes is in mental toughness during matches, not competitive anxiety.
6	Ademir F.S. Arruda, Marcelo S. Aoki, Ana Carolina Paludo, Alexandre Moreira (2017)	20	descriptive data	ANOVA analysis, Friedman test	The more threatening the perception of the game in terms of personal hierarchy, the higher the level of competitive anxiety.
7	Anita Singh, Devender Singh Parmar (2011)	40	descriptive data	descriptive analysis and t-test	The level of competitive anxiety does not differ between different types of team sports.

8	Marcos Gimenes Fernandes, Sandra Adriana Neves Nunes, José Vasconcelos-Raposo, Helder Miguel Fernandes (2012)	303	descriptive data	Box M test, scatter plots, Pearson correlation coefficient, median division method	The 3 dimensions of anxiety are interrelated, as shown by the multidimensional theory of anxiety. Female players are more prone to cognitive anxiety, and male players with significant gaming experience are more confident in their own strengths.
9	Astrid Junge, Birgit Prinz (2017)	290	descriptive data	percentage and standard mean analysis, T-test	The prevalence of depression in lower league players is higher than in the majority of the population, while players with high playing experience have the lowest levels of anxiety and depression.
10	Mandana Sangari, Farnoosh Fotrousi, Forouzan Fattahi Masrour (2012)	16	descriptive data from cross- sectional studies	t-test, Pearson correlation coefficient	The major link between certain positive mental skills and the level of competitive anxiety occurs among female professional soccer players and may influence the outcome of sports performance.
11	Taner Bozkus, Mutlu Turkmen, Murat Kul (2013)	83	descriptive data	regression and descriptive analysis	Game experience and self-perception are mutually reinforcing and inversely proportional to the level of competitive anxiety.
12	Despoina Tsopani, George Dallas, Emmanouil K. Skordilis (2011)	86	descriptive data	multiple regression analysis, ANOVA and MANOVA	The major difference between winning and losing players in this individual game occurs in self-confidence, which shows a linear relationship with sport performance, outweighing the effects of somatic and cognitive anxiety.
13	Anne M. Haase (2009)	137	descriptive data	standard mean and percentage analysis, multiple regression, ANOVA and MANOVA	Players of individual sports are more at risk of developing eating disorders (bulimia, dieting) and having high levels of physical social anxiety.
14	Merita Tiric-Campara, Emir Tupkovic, Edin Mazalovic, Emir Karalic, Mirza Biscevic, Jasminka Djelilovic-Vranic, Azra Alajbegovic (2012)	55	descriptive data	percentage and standard average analysis	There is a directly proportional relationship between all the defining elements of aggression and the level of anxiety among contact athletes. Aggression and its level also increases with the age of the players, as well as the number of injuries suffered during their careers.
15	Abhijit Thander (2016)	20	descriptive data	percentage and standard mean analysis, T-test	There are no significant differences between reported anxiety levels in karate and judo practitioners.
16	HuiXin Yang, XuPing Wen, Fei Xu (2020)	327	descriptive data	Pearson correlation coefficient, exploratory factor analysis	Athletes' positive emotions influence hope and sense of self-control.

17	Manuel Castro-Sánchez, Amador J. Lara-Sánchez, Félix Zurita-Ortega, Ramón Chacón-Cuberos (2019)	371	descriptive data from cross- sectional studies	regression and descriptive analysis	Goal-oriented work climates positively influence levels of emotional intelligence and anxiety, especially in non-contact sports.
18	Claire Thornton, David Sheffield, Andrew Baird (2017)	102	descriptive data	cluster analysis, ANOVA, T-test	Those who give up contact sports lose their tolerance for physical pain due to fear. Athletes who play a contact sport are more likely to experience a higher threshold of physical pain because of their ability to adapt to it.
19	Marco Correia, António Rosado (2019)	601	descriptive data	confirmatory factor analysis (CFA)	Women and individual game athletes are more prone to higher levels of cognitive and somatic anxiety and loss of mental focus.
20	Sertan Kagan, Ziya Koruc, Gozde Latifoglu (2017)	38	descriptive data	factor analysis; factor loadings; inter-factor correlation; internal consistency; variance (mean); composite replication	There is an important link between cognitive and somatic anxiety levels before and after a sports competition. The physiological parameters studied (heart rate, breathing, sweating, EEG and EMG signals) are correlated with pre- competitive anxiety.
21	Manuel Castro-Sánchez, Félix Zurita-Ortega, Ramón Chacón-Cuberos, Carlos Javier López- Gutiérrez, Edson Zafra- Santos (2018)	372	descriptive data	regression and descriptive analysis	Goal-oriented work climates are more common in team sports, as is a high level of emotional intelligence.
22	Hafrún Kristjánsdóttir, Arna V. Erlingsdóttir, Geir Sveinsson, Jose M. Saavedra (2018)	174	descriptive data	multiple regression analysis, ANOVA	There were no significant differences in the variables studied according to the age of the study participants. The only difference is that male players have lower levels of anxiety than female players.
23	Gomes, A.R., Faria. S., Vilela, C. (2017)	673	descriptive data	regression and descriptive analysis	The closer a person's perception of a situation is to assessing it as a challenge rather than a threat due to better self- awareness, the lower the person's background anxiety and the lower the risk of developing burnout syndrome.
24	Dejana Velikić, Jasmina Knežević, Nadežda Rodić (2014)	90	descriptive data	multiple regression analysis, descriptive	Personal performance level can affect pre-competitive anxiety, with better players being calmer and more prepared to face the sporting challenge.
25	Richard G Cowden, Dana Fuller, Mark Anshel	16	descriptive data	multiple regression analysis, descriptive	The ways in which athletes adapt to different situations are linked to their mental strength. This connection is partly

	(2014)				explained by the character traits of the players, but also by the control of emotions, of borderline situations and the ability to solve different problems.
26	Boris Milavi, Damir Jurko, Zoran Grgantov (2013)	286	descriptive data	descriptive, regression analysis	It has been shown that with advancing age, there is an increase in self-confidence and a decrease in competitive anxiety, especially for females.
27	Manuela Mihaela Ciucurel (2011)	70	descriptive data	descriptive, regression analysis	Pre-competitively, an athlete will perform better as long as they have low anxiety and short reaction time. Post-competition, performance levels are potentiated by anxiety, but are not influenced by reaction time.
28	Tim Woodman, Lew Hardy, Matthew Barlow, Christine Le Scanff (2010)	Substudy 1-20; substudy 2- 24	descriptive data	descriptive analysis, ANOVA	People who choose high-risk sports are described as having higher levels of alexithymia than the general population. As a result of engaging in this kind of physical activity, the way you interact with other people, especially your partner, improves significantly post-competition.
29	Anuj Kumar (2015)	60	descriptive data	descriptive analysis and t-test	There were no major differences between the physiologically and psychologically measured anxiety states of male and female players, whether participating in a team or individual game.
30	Katharina Strahler, Felix Ehrlenspiel, Moritz Heene, Ralf Brand (2010)	20	descriptive data	descriptive, regression analysis	The insignificant increase in cortisol levels (taken as a physiological parameter in the body's adjustment reaction to stress) indicates an important mental adaptation in professional athletes prior to a major sports competition.
31	Behroz Khodayaria, Abdulamir Saiiari, Yaghob Dehghani (2011)	144	descriptive data	descriptive analysis and t-test	Mental skills correlate strongly with self-confidence, mutually reinforcing each other and significantly reducing levels of competitive anxiety. At the same time, there were no major differences between the 2 types of athletes.
32	Bjørn Tore Johansen, Tommy Haugen (2013)	83	descriptive data	descriptive analysis and t-test, ANOVA	Increased levels of self-confidence can cause a referee to develop a reduced sports anxiety score, which over time leads to increased sports performance and improved rankings.
33	Stine Nylandsted Jensen, Andreas Ivarsson, Johan Fallby, Silke Dankers, Anne-Marie Elbe (2018)	323	descriptive data	descriptive analysis	An inverse relationship between age, anxiety, social phobia and perfectionistic worry was found in this study. Depression is more common among younger players.
34	Adriana Kaplánová (2020)	110	descriptive data	descriptive analysis	Financial rewards lead to better training of professional football players, with increased performance levels, motivation and respect for coach, teammates and one's self. These players are more invested in the outcome of a match,

					and the financial consequence can lead to transient increases in anxiety levels.
35	Alyona I. Grushko, Igor V. Haidamashko, Renat R. Ibragimov, Dmitry S. Kornienko, Ekaterina Korobeynikova, Sergey V. Leonov, Alexander N. Veraks (2016)	162	descriptive data	descriptive, regression analysis	Professional football players are using imagination much more often and better as a technique to improve sporting performance. Their level of motivation and the experience they have gained through years of practice help them to perform much better than other categories of athletes.
36	Astrid Junge,1,2,3 Nina Feddermann-Demont (2015)	471	descriptive data	descriptive, multiple regression analysis	Professional football players have similar levels of depression and anxiety as the general population. Significant differences were found for younger players (with a higher degree of depression), depending on their position in the team, level of play and number of injuries suffered.
37	Claudiu Marius Săftescu (2018)	51	descriptive data	descriptive analysis, Pearson correlation coefficient, multiple regression	The more the person is adapted to different stressful situations in their career field, the lower their levels of background anxiety and the higher their performance, leading to a substantial increase in their self-esteem and sociability.
38	Hiroaki Masaki, Takahiro Hirao, Yuya Maruo, Dan Foti, Greg Hajcak (2018)	216	descriptive data	descriptive, multiple regression analysis	Both the sub-delta and theta components of the brain waves correlate with the correct/incorrect status of the statements used. Athletes with low levels of anxiety can cope better with situations where they avoid external stimuli and lose focus, whereas anxious athletes lose control of the situation that requires their full attention more quickly.
39	Aygül Çağlayan Tunç, Mehibe Akandere (2019)	600	descriptive data	descriptive analysis, multiple regression, ANOVA	Young people who participate in sport, at any level, have better social and behavioural adjustment characteristics than those who do not choose any physical activity. The level of personal comfort is markedly increased among athletes, and the state of criticism and anxiety associated with thoughts of worthlessness and personal inferiority is much lower than among non-athletes.
40	Zamirullah Khan, Zeeshan Haider, Naseem Ahmad, Sartaj Khan (2009)	20	descriptive data	descriptive, multiple regression analysis	Competitive anxiety and the motivation to achieve a previously set goal potentiate each other, affecting an athlete's performance.
41	Serkan Zengin (2019)	197	descriptive data	multiple regression analysis, T-test, ANOVA	The variables studied were: age, gender and type of sport performed. Gender has been shown not to significantly influence levels of sports anxiety. Instead, age and type of

					sport do. The relationship is inversely proportional in terms of age (young people being more anxious) and in terms of the type of sport; those who play an individual sport are more anxious than people who play a team sport.
42	Ali Osman Kivrak, Mehmet Altin (2019)	280	descriptive data	descriptive analysis, multiple regression, t-test	Young people are more prone to anxiety-depressive psychological distress, and choosing an individual sport over a team sport exacerbates this condition.
43	Iuliana Boroș-Balint, Simona Tache (2010)	62	descriptive data	descriptive, multiple regression analysis	Amateur athletes develop average levels of competitive anxiety, with a moderate increase after the sporting event. Professional athletes exhibit higher levels of anxiety before a sporting event, only to escape it almost completely at the end.
44	Sara Ann Johnston, Christine Roskowski, Zhonghui He, Lingchen Kong, Weiyun Chen (2020)	327	descriptive data	descriptive analysis, multiple regression, t-test, ANOVA	Sport succeeds in reducing depression and improving overall sleep quality. Team sport is statistically more appropriate, with a much higher prevalence than individual sport.
45	Cristian Modroño, Félix Guillen (2018)	79	descriptive data	descriptive analysis, T-test	There were no significant differences between the female and male genders in terms of the degree of anxiety felt around a sporting event. Age correlates inversely with anxiety (young people being more affected). Sports hierarchy provides a high degree of self-confidence that negatively potentiates sports anxiety.

Results

Results of each study accepted in our analysis

All 45 articles studied anxiety and its relationship to sport performance, with variables represented by gender (anxiety in women vs. men), age (anxiety in minor league vs. junior league athletes), type of sport (anxiety in team vs. individual sports) and type of competition (stress in a semi-final vs. final). Despite differences in the design of the studies involved in this review, all working hypotheses reached a similar conclusion: anxiety is inversely correlated with sports performance and mutually reinforcing [38-82]. What permeated the first lines of our scientific notes was that an athlete exhibits a subliminal level of anxiety, no matter how high-performing or mentally balanced they are. This level of anxiety helps, rather than hinders, satisfactory results in the world of professional competition [39,45].

A. Summary of results

Anxiety by number of study participants

In team sports, where there have logically been a greater number of athletes leading an intertwined existence due to the very nature of the game, it has not been observed that there is a significant difference between teams with a few participants (up to 10) and those made up of squads of more than 30 members [40-46].

Anxiety by gender of study participants

Without sounding socially prejudiced or misogynistic, competitive anxiety seems to be more common among women athletes. The question that arises is whether the higher percentage of competition-related anxiety reported by female participants is influenced by certain cognitive and emotional parameters [47,48,50]. First, some researchers wonder whether women really feel more anxiety or actually report more than men, when in fact, the level of anxiety would be similar in reality. This difference in level can be explained by the fact that male subjects would feel compelled to mask their level of anxiety due to the patriarchal and protective role associated with them by society. Another explanation is that men may confuse feelings of anxiety with feelings of adrenaline, not perceiving it as a threat or as a feeling of discomfort [49,51,52]. In contrast, female subjects are much

better and more accurately able to understand all the emotional and psychological changes they experience [53-56].

Anxiety by age of study participants

Looking at the link between anxiety and sports performance, a pertinent conclusion emerges that the more experienced and advanced an athlete is in the world of the sport he or she practices, the lower levels of anxiety he or she develops. This concept was supported by the results of the studies reviewed in this systematic review [57,58]. Younger athletes showed much higher levels of pre- and post-competition anxiety, describing that the main reason for this feeling was lack of experience. The more the athlete was subjected to limit situations, and it should be noted that this happened as he got older, the better he was able to cope with them (this was objectified by the level of performance achieved), which helped to lower anxiety levels and improve overall emotional status [59-65].

Anxiety according to the type of sport practiced by the subjects enrolled in the study

All studies accepted for use in this review presented two types of sport: team and individual [66-68]. What was observed in all studies was that the anxiety of the subjects involved was much lower for those involved in a team sport than for those involved in an individual sport [69,70]. The motivation behind this result lies in several psychological aspects: athletes are taught from the beginning of their careers that it is the collective and not a specific person that matters most, they are trained to temper their bouts of negative emotions to achieve a controlled and harmonious environment for all members, to rely on the help of others and most importantly, to offer that unconditional help at all times and with an unbending heart [71-73]. In this way, these athletes will become accustomed to interacting in a more intimate and meaningful way with other people, helping them to develop a psychological and emotional persona more grounded in the realities of society. In contrast, individualistic athletes are more prone to competitive anxiety, perhaps precisely because they do not have to learn to compromise in the name of the team or the goal, in the name of sociability and the community in which they practice their sport [74-77].

Anxiety as a function of the level of performance achieved by study participants

The more experienced a participant is, the less and less distressing anxiety they develop around a sporting event. The increased number of games in which he has participated, the proportionally greater number of hours of training carried out, the similar situations in which he has found himself, the mistakes from which he has learned, the opinion of the experts he has had so far, the maturity he has shown, all add up to an appropriate psychological and emotional response, more grounded in reality, without exaggeration and with control of negative perceptions, focused on obtaining an optimal solution from the body in the sporting event in which he is involved[78].

Anxiety by years of training associated with each subject surveyed

Sport is first and foremost about total dedication. This accumulates in successive years. This parameter is directly related to performance and, as previously established, its enrichment, through hours of training, through participatory competitions, leads to a significant decrease in anxiety, reaching a minimum liminal level of competitive stress necessary to engage the physiological mechanisms of adaptation to the risk situation perceived by the body[80].

Anxiety according to the time period designated to be assessed by participants

The first time interval chosen was that of the most recent sporting event in which the subjects studied participated [81], because: the intensity of the feeling of anxiety is at its highest, both from the perspective of experiencing it in vivo and from the perspective of remembering it. In the acute event, the athlete described a level of anxiety correlated with the level of performance usually achieved. The second time interval chosen was the entire career of the athlete, to characterize the feeling of anxiety over a longer period of time. Athletes described a decrease in anxiety as a result of the passage of time, maturation, accumulation of experience, "melting away" of pre-competitive emotions, increased self-esteem and confidence in their own strengths[82].

Discussions

A. Summary of evidence

The findings observed in all the studies evaluated in this review are as follows:

- Anxiety has an inverse proportional and bidirectional relationship with sport performance [16-20]. The more experienced an athlete is and the higher the level of performance in sport, the lower the level of competitive anxiety. Also the reverse is valid. If the state of anxiety is acute and emotionally significant, the participant in the sport competition may experience a moderate decrease in performance, this will vary depending on the overall game experience [21-23].
- Game anxiety is more commonly described among female athletes due to particular cognitive and emotional psychology characteristics [24-28].
- Sport anxiety is perceived more intensely by younger athletes compared to their older and more experienced opponents [29,30].
- Athletes involved in a team sport are more protected from the occurrence of competitive anxiety than individual athletes, whose anxiety is more intense and stressful, leading to a reduced level of competence in sport [31-33].
- A high level of performance associated with a high number of years of training correlates with a high degree of self-confidence that minimizes the level of competitive anxiety to a subliminal threshold necessary for optimal body functioning [34-37].

B. Limitations of this review

We could consider that the limitations of this study are related to the absence of a therapeutic element that could influence the results of the elements found. From the outset of this review, we have specified that we wish to view the relationship between anxiety and sports performance through the unaltered prism of therapeutics of any kind. We felt it was necessary to see the statistical relevance of these connections, and then to see whether it was appropriate to intervene therapeutically. It will be interesting to see if in the near future there will be studies or meta-analyses that will study the effect of psychological therapy on the intensity of the relationship between the two elements mentioned above.

Conclusions

Performance in sport and competitive anxiety are closely related to each other, and they reinforce each other in a negative way. The way forward in the near and more distant future should include the influence of cognitive-behavioural therapy on the personality and character development of each individual athlete, with a particular focus on the stage of creating a correctly assessed and updated self-image. A proper characterisation of each individual athlete leads to a more efficient phasing of the steps to follow in order to build a strong, successful personality in the chosen field of sport. The relationship between anxiety in general and job performance may seem like a simple, one-way, negative potentiation. When we bring up competitive anxiety, a subcategory of the large group of anxieties that can touch the human psyche, things

can seem simpler and coarser. Which is completely false. Everyone is different and therefore feels the unique stress or internal and external pressure that is associated with every sporting event. What some athletes perceive as anxiety, others may describe as a subliminal state of being. What some athletes consider to be a moderate level of pre-competitive stress, others may decide is a toxic, paralyzing state of fear. Every competitive athlete, throughout his or her career, accumulates a wide variety of playing experiences, which lead to an improvement of physical and mental performance capabilities in his or her area of expertise. At least in theory. The better that player manages to perform in his sport, the more his level of self-confidence and self-esteem increases proportionally, altering the process of anxiety.

References

- Annesi J. J. (1998). *Applications of the individual zones of optimal functioning model for the multimodal treatment of precompetitive anxiety*. Sport Psychologist, 12 (3), 300-316.
- Cerin E. & Barnett, A. (1989). *Mechanisms Linking Affective Reactions to Competition-Related and Competition-Extraneous Concerns in Martial Artists*. Scandinavian Journal of Sports Sciences and Medicine, 10 (2), 50-57.
- Hanin Y. (1978). *A study of anxiety in sports*. Sport Psychology: An analysis of athlete behavior, 7 (5), 236 - 249.
- Hanin Y. (1986). *The state-trait anxiety research on sports in the USSR*. Cross-cultural Anxiety, 5 (3), 45-64.
- Lazarus R. S. & Lazarus B. N. (1994). *Passion and Reason: making sense of our emotions*. Oxford University Press, 45-53
- Thatcher J. & Jones M. V. (2004). *Coping and Emotion in Sport: An Introduction*. Nova Science Publishers, 78-84
- Feldman G., Hayes A., Greeson J., Kumar S. & Laurenceau J. P. (2007). *Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R)*. Journal of Psychopathology and Behavioral Assessment, 8 (29), 177-190.
- Raglin J.S. & Hanin Y. (2000). *Competitive anxiety*. Human Kinetics, 143-156
- Cox, R. H. (2007). *Sport psychology: Concepts and applications*. McGrawHill Companies, 124-135
- Stannard L. (2013). *Effects of Anxiety on the Body*. Oxford University Press, 56-78
- Derakshan N. & Eysenck M. W. (2001). *Manipulation of focus of attention and its effects on anxiety in high-anxious individuals and repressors*. Anxiety, Stress & Coping, 7 (14), 173-191.
- Gould D., Petlichkoff L., Simons J. & Vevera M. (1987). *Relationship between Competitive State Anxiety Inventory-2 subscale scores and pistol shooting performance*. Journal of Sport Psychology, 4 (9), 33-42.
- Mullen, R., Hardy, L. & Tattersall, A. (2005). *The effect of anxiety on motor performance: A test of the conscious processing hypothesis*. Journal of Sport & Exercise Psychology, 27 (3): 212-225.
- Wilson M., Smith N. C. & Holmes P. (2007). *The role of effort in influencing the effect of anxiety on performance: Testing the conflicting predictions of processing efficiency theory and the conscious processing hypothesis*. British Journal of Psychology, 98 (2), 411-428.
- Morris L. W., Davis M.A. & Hutchings C. H. (1981). *Cognitive and emotional components of anxiety: Literature review and a revised worry-emotionality scale*. J. Educ. Psychol, 7 (3), 541-555.
- Crust L. & Swann C. (2011). *Comparing two measures of mental toughness*. Pers Individual Difference. J. Educ. Psychol, 3 (50), 217- 221.
- Gould D., Hodge K., Peterson K. & Petlichkoff L. (1987). *Psychological foundations of coaching: Similarities and differences among intercollegiate wrestling coaches*. The Sport Psychologist, 5 (1), 293-308.
- Mack M. G. & Ragan B. G. (2008). *Development of the mental, emotional, and bodily toughness inventory in collegiate athletes and non-athletes*. Journal of Athletic Training, 43 (2), 125-132.
- Loupou D., Fotini M., Barkoukis V., Tsorbatzoudis H., Grouios G. & Taitzoglou I. (2008). *Psychological and physiological changes of anxiety prior a swimming competition*. The Open Sports Medicine Journal, 2 (1), 14-19.
- Craft L. L., Magyar T. M., Becker B. J. & Feltz D. L. (2003). *The relationship between the Competitive State Anxiety Inventory-2 and sport performance: A meta-analysis*. Journal of sport and exercise psychology, 25 (1), 44-65.
- Martens, R., Vealey, R. S. & Burton, D. (1990). *Competitive anxiety in sport*. Human Kinetics, 67-75.

22. Cazenave N., Le Scanff C. & Woodman T. (2007). *Psychological profiles and emotional regulation characteristics of women engaged in risk-taking sports*. *Anxiety StressCoping*, 20 (4), 421-435.
23. Cratz L. L., Magyar T. M., Becker B. J. & Feltz D. L. (2003). *The relationship between the competitive state anxiety inventory-2 and sport performance: a meta-analysis*. *J Sport Exercise Psychol*, 25 (1), 44-65.
24. Mahoney M. J., Gabriel M. J. & Perkins T. S. (1987). *Psychological skills and exceptional performance*. *The Sport Psychologist*, 10 (1), 181-199.
25. Feltz D., Lirgg C. & Albrecht R. (1992). *Psychological implications of competitive running in elite young distance runners: A longitudinal analysis*. *The Sport Psychologist*, 8 (6), 128-138.
26. Jones G. & Hardy L. (1990). *Stress in sport: Experiences of some elite performers*. Chichester: John Wiley, 118-124.
27. Cerin E. (2003). *Anxiety versus Fundamental Emotions as Predictors of Perceived Functionality of PreCompetitive Emotional States, Threat, and Challenge in Individual sports*. *Journal of Applied Sport Psychology*, 7 (15), 223 -238.
28. Petrie T. A., Greenleaf C., Reel J. & Carter J. J. (2010). *Personality and psychological factors as predictors of disordered eating among female collegiate athletes*. *Eating Disorders*, 17 (4), 302-321.
29. Brewer B. & Petrie T. (1995). *A comparison between injured and uninjured football players on selected psychosocial variables*. *Acad Athlete J*, 9 (10), 11-18.
30. Spitzer R. L., Kroenke K., Williams J. B. & al. (2006). *A brief measure for assessing generalized anxiety disorder: the GAD-7*. *Arch Intern Med*, 166 (4), 1092-1097.
31. Woodman T. & Hardy L. (2003). *The relative impact of cognitive anxiety and selfconfidence upon sport performance: a meta-analysis*. *Journal of Sports Sciences*, 21 (3), 443-457.
32. Weinberg R. S. & Gould D. (1995). *Foundations of sport and exercise psychology*. Human Kinetics. 12-17
33. Maki B. E. & Whitelaw R. S. (1993). *Influence of expectation and arousal on center-of-pressure responses to transient postural perturbations*. *Journal of Vestibular Research*, 6 (10), 25-39.
34. Crawford S. & Eklund R. C. (1994). *Social physique anxiety, reasons for exercise, and attitudes toward exercise settings*. *Journal of Sport & Exercise Psychology*, 16 (2), 70-82.
35. Rainey D. W. (1999). *Sources of stress, burnout, and intention to terminate among basketball referees*. *Journal of Sport Behavior*, 22 (3), 578-590.
36. Taylor A. H., Daniel J. V., Leith L. & Burke R. J. (1990). *Perceived stress, psychological burnout and paths to turnover intentions among sport officials*. *Journal of Applied Sport Psychology*, 2 (5), 84-97.
37. Butt J., Weinberg R. & Hom T. (2003). *The intensity and directional interpretation of anxiety: Fluctuations throughout competition and relationship to performance*. *Sport Psychologist*, 7 (1), 35-54.
38. Wenn- Nuang K. C. & Hardy L. (2015). *Three dimensional model of performance Anxiety: tests of the adaptative potential of the regulatory dimension of Anxiety*. *Psychology of Sport and Exercise*, 7 (6).
39. Khan M. K., Khan A., Khan S. U. & Khan S. (2017). *Effects of Anxiety on athletic performance*. *Res Inves Sports Med*, 8 (2).
40. Jones E. S., Mullen R. & Hardy L. (2019). *Measurement and validation of a three factor hierarchical model of competitive Anxiety*. *Psychology of Sport and Exercise*, 43 (2): 34-44.
41. De Arruda A. F. S., Aoki M. S., Drago G. & Moreira A. (2018). *Salivary testosterone concentration, Anxiety, perceived performance and ratings of perceived exertion in basketball players during semi-final and final matches*. *Physiology and Behaviour*, 10 (2).
42. Kumar A. (2016). *A study on mental toughness and sports competition Anxiety for male and female basketball players*. *International Journal of Physical Education, Sports and Health*, 3(2), 379-381.
43. De Arruda A. F. S., Aoki M. S., Paludo A. C. & Moreira A. (2017). *Salivary steroid response and competitive Anxiety in elite basketball players: effect of opponent level*. *Physiology and Behaviour*, 10 (2), 291-296.
44. Singh A. & Parmar D. S. (2015). *A comparative study of competitive Anxiety between basketball and volleyball players*. *International Research Journal of Management, IT & Social Sciences*, 2 (1), 1-4.
45. Fernandes M. G., Nunes S. A. N., Vasconcelos- Raposo S. & Fernandes H. M. (2013). *Factors influencing competitive Anxiety in Brazilian athletes*. *Brazilian Journal of Kinesiology and Human Performance*, 6 (5).
46. Junge A. & Prinz B. (2018). *Depression and Anxiety symptoms in 17 teams of female football players including 10 German first league teams*. *British Journal of Sports Medicine*, 9 (8).
47. Sangari M., Fotrousi F. & Masrouf F. F. (2012). *Relationship between mental skills and competitive Anxiety in female national football players*. *World Applied Sciences Journal*, 20 (8), 1175-1178.
48. Bozkus T., Turkmen M. & Kul M. (2013). *The effects of age, sports experience and physical self perception on competition Anxiety levels of female football player*. *International Journal of Academic Research*, 5 (4).
49. Tsopani D., Dallas G. & Skordilis E. K. (2011). *Competitive state Anxiety and performance in young female rhythmic gymnasts*. *Perceptual and Motor Skills*, 112 (2): 549-560.
50. Haase A. M. (2009). *Weight perception in female athletes: associations with disordered eating correlates and behavior*. *Journal of Clinical Sports Psychology*, 3 (6), 218-231.
51. Tiric- Campara M., Tupkovic, E. Mazalovic, E., Karalic E., Biscovic M., Djelilovic- Vranic J. & Alajbegovic A. (2012). *Correlation of Aggressiveness and Anxiety in fighting sports*. *Medical Archives*, 66 (2), 116-121.
52. Thander A. (2016). *Analysis of sports competition Anxiety between male judokas and karate fighters*. *International Journal of Scientific Research*, 5 (6).
53. Yang H. X., Wen X. P. & Xu F. (2020). *The influence of positive emotion and sports hope on pre-competition state Anxiety in martial arts players*. *Frontiers in Psychology*, 11: 1460.
54. Castro- Sanchez M., Lara- Sanchez A. J., Zurita- Ortega, F. & Chacon- Cuberos R. (2019). *Motivation, Anxiety and emotional intelligence are associated with the practice of contact and non-contact sports: an explanatory model*. *Sustainability*, 11: 4256.

55. Thornton C., Sheffield D. & Baird A. (2017). *A longitudinal exploration of pain tolerance and participation in contact sports*. Scandinavian Journal of Pain, 16 (3), 36-44.
56. Correia M. & Rosado A. (2019). *Anxiety in athletes: gender and type of sport differences*. International Journal of Psychological Research, 12 (1), 9-17.
57. Kagan S., Koruc Z. & Latifoglu G. (2017). *Comparison of psychological and physiological changes of the Anxiety in various sports*. Revista de cercetare și intervenție socială, 56, 44-56.
58. Castro- Sanchez M., Zurita- Ortega F., Chacon- Cuberos R., Lopez- Gutierrez C. J. & Zafra- Santos E. (2018). *Emotional intelligence, motivational climate and levels of Anxiety in athletes from different categories of sports: analysis through structural equations*. International Journal of Environmental Research and Public Health, 15, 894.
59. Kristjansdottir H., Erlingsdottir A. V., Sveinsson G. & Saavedra J. M. (2018). *Psychological skills, mental toughness and Anxiety in elite handball players*. Personality and Individual Differences, 134, 125-130.
60. Gomes A. R., Faria S. & Vilela C. (2017). *Anxiety and burnout in young athletes: the mediating role of cognitive appraisal*. Scandinavian Journal of Medicine & Science in Sports, 27 (12), 2116-2126.
61. Velikic D., Knezevic J. & Rodic N. (2014). *Relations of some personality traits and characteristics of sportsmen with the level of sports Anxiety*. SportLogia, 10 (1), 35-43.
62. Cowden R. G., Fuller D. K. & Anshel M. H. (2014). *Psychological predictors of mental toughness in elite tennis: an explanatory study in learned resourcefulness and competitive trait Anxiety*. Perceptual and Motor Skills, 119 (3), 1-18.
63. Milavic B., Jurko D. & Grgantov Z. (2013). *Relations of competitive state Anxiety and efficacy of young volleyball players*. Coll. Antropol, 37 (2), 83-92.
64. Ciucurel M. M. (2011). *The relation between Anxiety, reaction time and performance before and after sport competitions*. Procedia, 33, 885-889.
65. Woodman T., Hardy L., Barlow M. & Le Scanff C. (2010). *Motives for participation in prolonged engagement high-risk sports: an agentic emotion regulation perspective*. Psychology of Sport and Exercise, 11, 345-352.
66. Kumar A. (2015). *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, 3 (1), 135-137.
67. Strahler K., Ehrlenspiel F., Heene M. & Brand R. (2010). *Competitive Anxiety and cortisol awakening response in the week leading up to a competition*. Psychology of Sport and Exercise, 11 (2), 48-54.
68. Khodayari B., Saiiari A. & Dehghani Y. (2011). *Comparison relation between mental skills with sports Anxiety in sprint and endurance runners*. Procedia, 30, 2280-2284.
69. Johansen B. T. & Haugen T. (2013). *Anxiety level and decision-making among Norwegian top-class soccer referees*. International Journal of Sport and Exercise Psychology, 11 (2), 215-226.
70. Jensen S. N., Ivarsson A., Fallby, J., Dankers S. & Elbe A. M. (2018). *Depression in Danish and Swedish elite football players and its relation to perfectionism and Anxiety*. Psychology of Sport & Exercise, 36, 147-155.
71. Kaplanova A. (2020). *Financial awards and their effect on football players Anxiety and coping skills*. Frontiers in Psychology, 11, 1148.
72. Grushko A. I., Haidamashko, I. V., Ibragimov R. R., Kornienko D. S., Korobeynikova E. Y., Leonov S. V. & Veraksa A. V. (2016). *Does the motivation, Anxiety and imagery skills contribute to football experience?* Procedia, 233, 181-185.
73. Junge A. & Feddermann- Demont N. (2016). *Prevalence of depression and Anxiety in top-level male and female football players*. BMJ Open Sport Exerc Med, 2, 87.
74. Săftescu C. M. (2018). *Relația dintre performanță, inteligență emoțională, Anxietate și coping în rândul jucătorilor de fotbal*. Studia Doctoralia. Psychology and Educational Science, 9-10, 72-95.
75. Masaki H., Hirao T., Maruo Y., Foti D. & Hajcak G. (2018). *Feedback- related electroencephalogram oscillations of athletes with high and low sports Anxiety*. Frontiers in Psychology, 9, 1420.
76. Johnston S. A., Roskowski C., He Z., Kong L. & Chen W. (2020). *Effects of sports on social Anxiety and subjective well-being levels of university students*. Journal of American College Health, 6 (7), 20-30.
77. Khan Z., Haider Z., Ahmad N. & Khan S. (2011). *Sports achievement motivation and sports competition Anxiety: a relationship study*. Journal of Education and Practice, 2 (4), 15-28.
78. Zengin S. (2019). *Examination of trait Anxiety states of university students doing sports in team and individually in terms of some variables*. Journal of Education and Training Studies, 7 (8), 6-15.
79. Kivrak A. O. & Altin M. (2019). *A scrutiny on the changes in the self-respect, Anxiety and depression levels of the university students performing individual and team sports*. International Journal of Higher Education, 8 (3), 2-9.
80. Boroș- Balint I. & Tache S. (2010). *Anxietatea și activitatea fizică*. Palestrica Mileniului III- Civilizație și Sport, 11 (1), 24-27.
81. Johnston S. A., Roskowski C., He Z., Kong L. & Chen W. (2019). *Effects of team sports on Anxiety, depression, perceived stress and sleep quality in college students*. Journal of American College Health, 4 (3), 20-27.
82. Modrono C. (2018). *Anxiety characteristics of competitive windsurfers: relationships with age, gender and performance outcomes*. Journal of Sport Behavior, 34 (3), 10-15.