

The impact of stress on elite volleyball players female and male in Albania

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Abstract: Aims to examine the relationship between stress and the social environment for elite Albanian volleyball players. The impact of stress is individual and subjective. Methods: In total, there are 14 elite volleyball teams that participate in the National Championship in Albania. There are 7 female teams (no. 105) and 7 male teams (no. 102) competing in the National Championship in Albania over the age of 18. The number of selected subjects is a statistically representative sample of the target group, calculated with a confidence coefficient of over 92%. The applied scientific instrument is the standardized Athlete Psychological Strain Questionnaire (APSQ). The questionnaire contains 30 statements, 6 for each stress dimension. For each statement, the athletes expressed their responses on a scale from 1 to 5. Results: All the project results were statistically documented; IBM SPSS Statistics 26 and Microsoft Excel statistics were used. The level of significance was set at $p < 0.05$. Only in dimension 3 (stress from pressure outside of sports) do volleyball players experience a common point where females show 44.71% and males 44.85%. Conclusions: The lack of significant differences between men and women indicates that gender does not determine psychological stress states in athletes.

Keywords: Female, Men, Psychological, Stress, Volleyball.

1. Introduction

In competitive sports, psychological stress and tension can negatively impact the performance and well-being of athletes. They face various psychological and physical challenges that affect their athletic performance. These challenges include pressure to achieve high results, high expectations from coaches and fans, as well as internal and external competition. In the world of elite sports, success is often measured by performance in important competitions and tournaments. However, behind the scenes of victory and medals, there is another dimension that often remains unseen: the stress and influence of the social environment on athletes [1]. Stress can be described as a physical and psychological state, the activation of which constitutes a response to a demand coming from the external environment, with the aim of adapting or changing behavior [2]. The impact of stress is individual and subjective, based on human nature [3].

Each athlete in different sports disciplines must face demands that may be related to the external environment, team strategies, skill levels, and personal expectations. These demands constitute stress-generating factors and are known as stressors [4]. We often assess athletes by measuring and managing the workload associated with sport-related or non-sport-related stressors. An effective workload management program should aim to uncover excessive fatigue, identify its causes, and continuously adjust rest, recovery, training, and competition loads. The workload for each athlete is based on their current levels of physical and psychological fatigue, well-being, fitness, health, and

recovery [5]. Additionally, mental abilities such as inhibition, lack of focus, and insecurity can reflect poor training, potentially leading to team disunity [6].

Currently, there is relatively little scientific research on mental health and psychological well-being for elite athletes [7] but there is a growing interest at the academic and practical levels in supporting the mental health of this population [8]. Elite athletes experience fluctuating periods of vulnerability to mental illnesses or compromised psychological well-being [9]. An important concept for the development of mental health symptoms in athletes is psychological pressure, which involves a combination of perceived stress and difficulty coping with the demands of sports competition [10]. Data from elite athletes experiencing psychological concerns highlight a tendency to conceal their difficulties from staff, coaches, and teammates [11]. In a broad sense, the symptoms of psychological tension in athletes reflect the difficulties of adapting to a change in circumstances and are characterized by impairments in their social and athletic functioning, as well as other issues related to mood and self-control [12]. The regulation of emotions in athletes is thought to have significant implications for well-being and athletic performance [13] there is an important link between emotional state and performance [14]. Another important factor in an athlete's performance is internal motivation, which is influenced by the fulfillment of needs for autonomy, competence, and social relationships. Internal motivation and perceived performance predict an athlete's goal to be physically active in the future [15].

Elite athletes face numerous pressures, including high expectations from coaches, families, and fans, as well as demands to maintain a consistent and high performance at all times. Stress is an inevitable factor in the career of every elite athlete. The pressure to perform at the highest levels can lead to various psychological and physical challenges, including anxiety, mental fatigue, and physical injuries. An unfavorable social environment can exacerbate this condition by making athletes feel isolated, inadequately supported, or subjected to constant criticism. Therefore, it is essential for an athlete to have the tools and ability to cope with the above-mentioned stressors to manage acute and chronic stress [1]. It is necessary to understand the types of stressors athletes face and how they impact their performance [16]. A supportive social environment can play a crucial role in stress management and improving the well-being of athletes. Families, friends, coaches, and teammates can provide emotional support, motivation, and practical advice, helping athletes to cope with numerous challenges and maintain a healthy balance between their professional and personal lives.

This article aims to examine the relationship between stress and the social environment for elite Albanian athletes. Exploring the primary factors contributing to athletes' stress is important to identify possible strategies for its management through a supportive social environment. The study is the first of its kind at the national level, as local scientific literature does not yet have research on the mental health of elite athletes and the role of the social environment; sports psychology in Albania is still a developing branch, and studies on psychological aspects related to sports are not at the forefront of scientific research [17].

Additionally, the study will provide practical implications for coaches, team managers, and policymakers in creating an effective program for monitoring the mental health of elite Albanian athletes, in favor of optimal psychological well-being.

2. Materials and Methods

2.1. Participants

The number of selected subjects is a statistically representative sample of the target group where this questionnaire was developed, in the elite sport of volleyball in Albania, using the calculation with a confidence coefficient of over 92%. In total, there are 14 elite volleyball teams that participate in the National Championship. There are 7 female teams (no. 105) and 7 men's teams (no. 102) participating in the National Championship over the age of 18. Albanians practice volleyball in several cities, including Tirana, Durrës, Shkoder, Vlore, and Elbasan. The highest percentage of participants results in Tirana of Albania because the distribution of the Albanian population records a superiority of the city of Tirana.

2.2. Inclusion Criteria

The inclusion criteria include i) being aged between 18 and 38 years and ii) continuing to participate in sports throughout the 2023-2024 season. The "Barleti" University Research Ethics Committee granted approval for this study. Informed consent was obtained from all athletes to participate in this study. Confidentiality of all athlete data was ensured.

2.3. Procedure

The applied scientific instrument is standardized Athlete Psychological Strain Questionnaire (APSQ) [1] which investigates stress performances of elite athletes in volleyball. Questionnaire contains 30 statements, 6 for each stress dimension. For each statement, the athletes expressed their scale from 1 to 5, where: 1 = Not at all, 2 = A little, 3 = Sometimes, 4 = A lot, 5 = Very often. This model (APSQ), takes into consideration five dimensions. The stress dimensions are as follows:

1. *Performance stress-* (I felt anxious before important competitions; I felt stressed from the pressure to perform well).

2. *Stress from the social environment-* (I felt a lack of emotional support from my team, I felt that my coach did not support me enough).

3. *Stress from pressure outside of sports-* (I felt pressure from my family to perform well, I felt that my social and sporting obligations are in conflict).

4. *Stress from the emotional and psychological state-* (I felt emotional exhaustion from training and competitions, I felt hopeless and sad about my performance).

5. *Stress from support and resources-* (I felt a lack of financial support to continue sports, I felt that I did not have sufficient access to medical treatment resources).

Table 1.
(APSQ) Questionnaire used according to 5 dimensions.

1. Performance Stress		Male	Female		
1	Not at all				
2	A little				
3	Sometimes				
4	A lot				
5	Very often				
2. Stress from the social environment					
1	Not at all				
2	A little				
3	Sometimes				
4	A lot				
5	Very often				
3. Stress from pressure outside of sports.					
1	Not at all				
2	A little				
3	Sometimes				
4	A lot				
5	Very often				
4. Stress from the emotional and psychological state					
1	Not at all				
2	A little				
3	Sometimes				
4	A lot				
5	Very often				
5. Stress from support and resources.					
1	Not at all				
2	A little				
3	Sometimes				
4	A lot				
5	Very often				

2.4. Data Collection and Analysis

All the project results were statistically documented. (IBM) SPSS Statistics 26 and Microsoft Excel statistics were used. 92% criteria were taken as the confidence interval in the analyses. The level of significance was set at $p < 0.05$.

3. Results

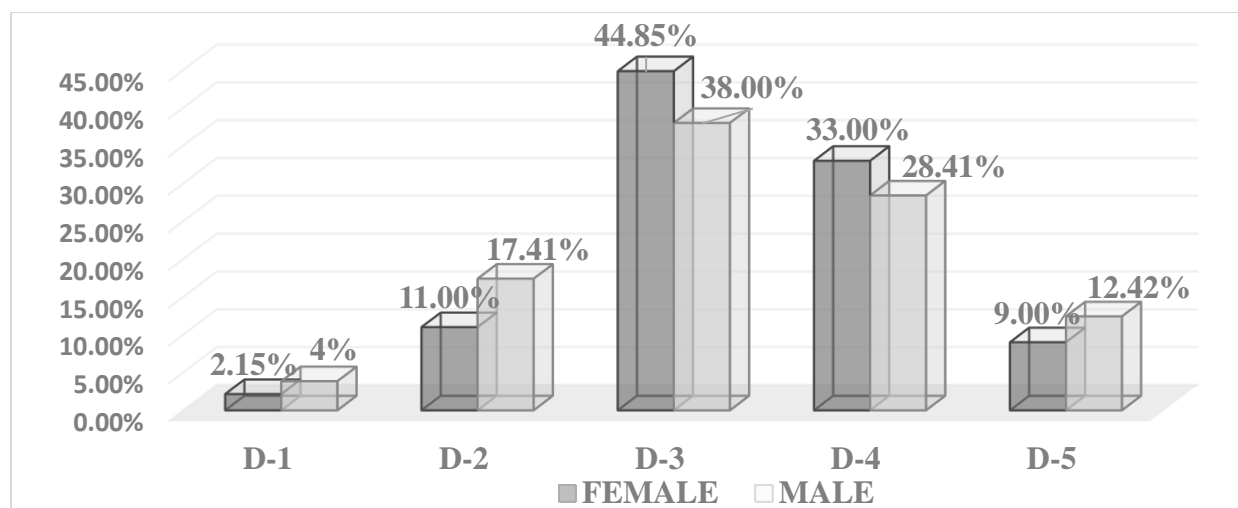
Table 2 presents the data obtained from the questionnaire (APSQ) in the 5 dimensions (D-1,2,3,4,5) expressed in percentage. (APSQ) applied to (No.105) 7 women's volleyball teams (T-1,2,3,4,5,6,7) and (No.102) 7 men's teams (T-1,2,3,4,5,6,7) at the elite level of volleyball in Albania.

Table 2.

Data obtained from (APSQ) according to men's and women's volleyball teams.

T	Female					T	Male				
	No. 105	D-1	D-2	D-3	D-4		D-5	No. 102	D-1	D-2	D-3
T-1	11	0	28	49	21	T-1	4	13	36	58	3
T-2	0	13	39	52	3	T-2	6	19	37	29	16
T-3	0	24	27	36	19	T-3	13	15	45	14	18
T-4	0	0	69	36	2	T-4	0	0	22	58	28
T-5	0	8	61	21	11	T-5	0	31	64	15	3
T-6	0	22	57	9	7	T-6	4	35	46	2	19
T-7	8	10	33	49	0	T-7	0	11	65	25	0
Mean	2.15%	11%	44.85%	33%	9%		3.85%	17.41%	38%	28.41%	12.42%

Source: (T-Team, D-1-Performance stress; D-2- Stress from the social environment; D-3- Stress from pressure outside of sport; D-4- Stress from the emotional and psychological state; D-5- Stress from support and resources).

**Figure 1.**

Comparative data between women and men volleyball players.

Source: (D-1-Performance stress; D-2- Stress from the social environment; D-3- Stress from pressure outside of sports; D-4- Stress from the emotional and psychological state; D-5- Stress from support and resources).

4. Discussion

The current study aimed to examine the mental health of Albanian female and male volleyball players, providing findings and applying the APSQ. An expert translated the questionnaire into Albanian, preserving its psychometric properties. This instrument was adapted to the culture and environment of the national elite volleyball player, with the aim of early detection of anxiety and stress manifestations in Albanian athletes and the design of preventive strategies. It is worth noting that volleyball is not considered a strictly aerobic sports discipline and that this type of sport has been shown to promote better adaptation to other stressors [18, 19]. It has been noted that psychological factors can predict, prevent, and aid recovery from sports injuries [20] and can influence not only the health of athletes but also performance outcomes [21]. In a recent meta-analysis, it was stated that 15% to 35% of elite athletes report various mental health symptoms such as anxiety, depression, and alcohol misuse [22]. The APSQ is the recommended practitioner screening tool within the International Olympic Committee (IOC) Sports Mental Health (MH) Assessment to aid in the early detection of MH problems in athletes [23].

The APSQs have established factorial, convergent, and divergent validity, and higher scores indicate greater psychological strain. For men, the most significant determinants of stress generation

are emotional/psychological state, followed by pressures athletes face off the field and stress from their social environment. The availability of support and resources is not a significant aspect related to distress. According to Rosenfield and Smith [24] women experience more internalized mental disorders, while men are more affected and experience external factors. Researchers Duncan and Messner [25] have also shown that men provide their coping strategies based on their external motivational factors.

Overall, gender does not appear to be a significant factor in determining stressors because men and women identify higher percentages of the same factors, as reflected in Figure 1, as follows: dimensions. Specifically, referring to the dimensions that constitute the APSQ, it is found that female athletes assess pressures outside of sport as a more important negative stressor, compared to men, respectively 44.85% and 38%. Emotional and psychological state constitutes a higher concern among women (33%), compared to men (28.41%). The social environment is considered the most significant source of stress for male volleyball players (17.41%), compared to 11% of women. Emotional and psychological well-being is the most significant concern among women (33%), compared to men (28.41%). The social environment is considered the most significant source of stress for male volleyball players (17.41%), compared to 11% of women. For 12.42% of male volleyball players, the presence of support and the availability of necessary resources have a higher impact on perceived stress, compared to women (9%). Furthermore, pre-competition performance generates higher levels of stress for male athletes (4%) than for female athletes (2.15%). The percentages reported for all dimensions of the questionnaire show minimal differences between male and female athletes. Our study's results confirm the literature's findings about differences in external coping between the sexes. While teammates provide social support in team sports, female athletes may have more difficulty perceiving social support in individual sport.

The aim of the current study was to assess the validity and reliability of the APSQ when used with Albanian volleyball players. The results provide early evidence that the APSQ is a reliable psychometric tool for assessing the mental health of volleyball players from a screening perspective. Therefore, early signs of mental health problems in volleyball players can be identified, and preventive measures can be initiated with the APSQ, which is adapted to the culture and environment of elite volleyball in Albania.

For volleyball players, the factor that generates the most stress is the emotional/psychological state. Pressures outside the sports field are the second most important factor, followed by stress from the relevant social environment. The presence of support and resources does not appear to be a dominant factor in relation to psychological pressure.

As can be seen, gender does not constitute a determining variable for the factors that influence psychological stress states in volleyball players, as there are no differences between men and women. However, there are some differences for specific factors that this study takes into account between men and women, which are as follows:

1. For women, the emotional/psychological state is a stressor with a higher weight, compared to men.
2. Pressures outside the sports field, which mainly have to do with balancing sports and social life, are a more important stressor for men, although based on the reported percentages reflected in the results table, the difference is not very large.
3. The surrounding social environment, which mainly refers to the relationship with the coach and the motivational climate of the team, turns out to be a more important stressor for men, compared to women.
4. No differences were found between the two genders in terms of stress before competition performance, as well as in terms of the presence of financial support and access to necessary resources.

For volleyball players, the factor that generates the most stress is the emotional/psychological state. Stress outside the sports field is the second most important factor, followed by stress from the relevant social environment. The presence of support and resources does not appear to be a dominant factor in relation to psychological stress.

According to research, the APSQ has been used in several scientific studies at an international level to investigate the psychological health of athletes by detecting in advance athletes who have a higher predisposition to be affected by anxiety and stress to take the necessary measures for a personalized and efficient psychological intervention. This instrument has proven to have high validity and reliability for the early detection of symptoms of psychological stress in athletes, as evidenced by various studies conducted in Croatia, Turkey, Portugal, Japan, Australia, China, etc., showing excellent validity in different cultural contexts. The same conclusion has been confirmed in the research conducted with Albanian athletes. Many of these scientific studies have also evaluated the dimensions of this scientific instrument, focusing mainly on gender differences, revealing that there is a significant difference between male and female athletes in the subdimension of external coping, in favor of women. Studies also reported that women experience more internal mental disorders, while men are more affected by external factors and offer their coping strategies also by external factors [26].

The study conducted with elite Albanian volleyball players confirms the results found in the international literature regarding the elements that most affect the mental health of athletes, where the priority falls mainly on the mental/psychological state. Furthermore, the findings of the study regarding gender differences converge, emphasizing that male athletes are more influenced by external factors, compared to females, for whom internal factors remain the stressors with the most emotional weight. Despite the growing interest in the MH of athletes, there are currently no systematic protocols for the early detection or treatment of MH issues in Albania. For men, the primary sources of stress are their emotional/psychological state, pressures faced off the field, and stress from their social environment. Support and resources do not significantly impact men's distress levels. For female volleyball players, the factor that generates the most stress is the emotional/psychological state. Stress outside the sports field is the second most important factor, followed by stress from the relevant social environment. The presence of support and resources does not result in being dominant factors in relation to psychological stress.

5. Conclusions

From this study we come to the conclusion that, a) for male and female volleyball players, the most important factor related to the generation of stress and anxiety is stress from pressure outside of sports, followed by the stress from psychological and emotional states and the social environment. b) There are no significant differences in psychological stress states between men and women, indicating that gender is not a determining factor. c) For female athletes, their emotional/psychological state is a stressor with a higher emotional load compared to men. d) For men, the social environment has a stronger impact on stress compared to women. e) Stress before competition performance and financial support/resources are not factors that affect the compromise of psychological well-being for athletes, regardless of gender.

5.1. Limitation of the Study

No clinical assessment, data collected by self-report, no information about particular conditions of athletes' personal life, which can interfere with the outcome of this research at the moment the study was conducted (e. g. relationships or other specific life situations).

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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