







*Sport Training*

## Prevalence of burnout syndrome and perception by playing position in professional football players

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**Abstract - Aim:** The present study aimed to investigate the indicators of burnout, to determine whether playing position affects the perception of syndrome dimensions, and to identify burnout prevalence in professional football players. **Methods:** The participants were 100 professional football players (mean age  $24.3 \pm 4.6$  years and meantime as a professional athlete of  $9.2 \pm 4.5$  years) who were divided into three groups: 27 forwards, 34 midfielders, and 39 defenders. The Athlete Burnout Questionnaire (ABQ) and a sociodemographic questionnaire were applied. **Results:** The results show that a) the majority of athletes had low burnout indicators, b) there was no difference in the perception of burnout dimensions by playing position, and c) the prevalence of athletes with burnout, whether mild, moderate, or severe, was 13%. **Conclusion:** The variable of playing position was not a determinant of perception of burnout dimensions among the forwards, midfielders, and defenders. Nonetheless, the prevalence of burnout deserves attention, as the negative effects of this syndrome may exert impacts on health, well-being, and sports performance, making athletes more likely to abandon their sport.

**Keywords** Burnout, Athletes, Football.

### Introduction

Burnout syndrome is a response to the perception of chronic stress<sup>1</sup>. Concerns with its potential negative impacts on the performance and well-being of sports professionals have generated a series of studies on this topic<sup>2,3</sup>. One of the main characteristics of this syndrome is physical and emotional withdrawal, due to stress or dissatisfaction, from an activity previously perceived as enjoyable<sup>4,5</sup>. In sports, burnout is defined as a multi-dimensional syndrome characterized by i) physical and emotional exhaustion related to the high demands of training and competition, without a proper period for psychophysiological recovery; ii) a reduced sense of accomplishment, indicating dissatisfaction with one's skills and accomplishments in sports; and iii) sport devaluation, representing a lack of interest and concern about a sports career<sup>2,4</sup>.

Several models have been used to explain the development of burnout in athletes. However, the affective-cognitive model<sup>6</sup> is the most widely accepted<sup>7,8</sup> and was adopted in the present study. This model comprises a four-

stage process that is influenced by personality and motivation factors. The first stage consists of demands inherent to the sporting context to which the athlete is exposed (for example, high training loads). The second stage constitutes the athlete's cognitive appraisal of the situation (for example, being able to interpret a given situation as a threat). This appraisal leads to the third stage, the physiological response (for example, arousal). Finally, the fourth stage consists of the behavioural responses (for example, decreased performance)<sup>5,6</sup>. The evaluation process is continuous in this model, with burnout developing when the resources to cope with demands are inadequate<sup>6</sup>.

Elite athletes are particularly susceptible to manifestations of burnout<sup>9</sup>. Such burnout occurs due to the high expectations, constant pressure for high performance, and demand for positive results in competitions placed on elite athletes<sup>10</sup>. High-performance sports are associated with high competition and training loads, which place athletes under pressure from physical, social, and psychological stressors<sup>11</sup>. Thus, athletes are susceptible to burnout when there is an imbalance between the stressors related to their

participation in a sport and the resources used to cope with those stressors<sup>12</sup>. Moreover, because football is a popular sport in Brazil, with a daily presence in media coverage<sup>13,14</sup>, there is a permanent demand by fans and managers for victories and titles<sup>15</sup>.

Given this context, several studies have been conducted to analyse burnout in Brazilian football<sup>13,15,16</sup>. Some findings in this context have identified that coping strategies are developed as an athlete's experience increases since the athlete is exposed to different sources of stress throughout his career; athletes are thus capable of developing problem-focused strategies that can mitigate or prevent high-burnout indicators<sup>17</sup>. Another study found that the variables of amotivation and overtraining can predict burnout in professional football players<sup>18</sup>. Moreover, few studies have provided the prevalence of burnout in soccer players<sup>19,20</sup>. Despite this gap, it has been suggested that there is an increase in the prevalence of burnout among athletes due to the increase in training loads<sup>20</sup>. Providing estimates on the prevalence of burnout in football players can increase the information base for coaches, athletes, and professionals involved in the football context and enable the development and implementation of strategies to prevent burnout<sup>21</sup>.

Football has different technical and tactical characteristics that are determined by playing position. For example, defenders position themselves based on the ball, the opponent, and teammates, with the intention of disrupting the opponent's ball possession<sup>22</sup>. For midfielders, mixed tactical behaviour is expected because they transition from defense to attack and attack to defense, while forwards have offensive characteristics, in contrast to the role of defenders<sup>23</sup>. Considering that different playing positions have different psychological characteristics, they may therefore have different susceptibility to the perception of burnout dimensions<sup>24</sup>. However, the relationship between playing position and burnout dimensions has not been investigated in Brazilian professional football players.

Given this gap, studies on burnout in professional football have practical implications because they can serve as references for the development of proposals for preventing and coping with the syndrome<sup>25,26</sup> that consider the actions performed during play by each group of athletes. In addition, the present study aims to investigate the indicators of burnout to assess whether the variable of playing position affects the perception of burnout dimensions and to identify burnout prevalence in professional football players. First, we hypothesized that athletes would have low indicators of burnout dimensions as evidenced in previous studies of football players<sup>15,17</sup>. Second, we expected to find a difference in the perception of burnout dimensions according to the variable of playing position.

## Methods

### *Participants*

The study included 100 professional football players, all males, who played for six first-division clubs from the football league of the Brazilian state of Pará (*Campeonato Paraense*) during the 2018 season and one club during the 2019 season. The participants had a mean age of  $24.3 \pm 4.6$  years and an average of  $9.2 \pm 4.5$  years of experience as a professional athlete. All athletes were in the competition phase. The athletes were divided into three groups based on playing position: a) 27 forwards (winger and center-forward), with a mean age of  $23.4 \pm 3.6$  years and a mean length of experience as professional athletes of  $8.9 \pm 3.9$  years; b) 34 midfielders (central midfielders, playmakers and attacking midfielders), with a mean age of  $23.7 \pm 4.9$  years and a mean length of experience as professional athletes of  $8.2 \pm 4.4$  years; and c) 39 defenders (center-backs, fullbacks, and goalkeepers), with a mean age of  $25.3 \pm 5.2$  years and a mean length of experience as professional athletes of  $10.4 \pm 5.2$  years. Only athletes who had at least one year of experience as professional athletes, based on their first registration as a member of the federation (a requirement for becoming a professional player), were selected to participate in the study.

### *Instruments*

The instrument used to measure burnout was the Athlete Burnout Questionnaire (ABQ)<sup>4</sup>, validated for the Portuguese version, called the *Questionário de Burnout para Atletas* (QBA)<sup>27</sup>. The QBA consists of 15 items: five items for the dimension of physical and emotional exhaustion (e.g., 'I feel "wiped out" from sport'), five items for the dimension of reduced sense of accomplishment (for example, 'I am not achieving much in sport'), and five items for the dimension of sport devaluation (for example, 'I don't care as much about the sport as I used to'). Responses are provided using a Likert scale with five frequencies of feelings: (1) almost never, (2) rarely, (3) sometimes, (4) frequently, and (5) almost always. The QBA has acceptable internal consistency (Cronbach's alpha = 0.82) and constructs validity<sup>28</sup>. Therefore, it has been frequently used in Brazilian sports settings<sup>17,29,30</sup>. In the present study, Cronbach's alpha coefficient was 0.77. In addition to the QBA, a sociodemographic questionnaire was used to collect data such as age, playing position, and length of experience as a professional athlete.

### *Procedures and data collection*

Prior contact was made with each club's technical staff to clarify the procedures and objectives of the study. Next, the data were collected from the athletes in hotel rooms or at training centres. The researcher explained to

the participants the objectives of the study and how to complete the instruments. Subsequently, the participants signed an informed consent form and completed the sociodemographic and QBA questionnaires. All athletes were in a competitive phase at the time of data collection. This study was approved by the Human Research Ethics Committee under opinion number 65796316.3.0000.0017.

*Statistical analysis*

The following classification was adopted for burnout indicators: participants who scored  $\geq 3$  in one dimension were considered to have mild burnout, those who scored  $\geq 3$  in two dimensions were considered to have moderate burnout, and those who scored  $\geq 3$  in three dimensions were considered to have severe burnout<sup>31</sup>.

The normality of the data distribution was assessed with the Kolmogorov-Smirnov test. As the data presented a nonparametric distribution, median (Md) and quartiles (Q1; Q3) were used to characterize the results. The Kruskal-Wallis test with Dunn's post hoc test was used to assess possible differences in the perception of the burnout dimensions among the forward, midfielder, and defender groups. The effect size was calculated using the Eta squared ( $\eta^2$ ), with values from 0.000 to 0.003 indicating no effect, from 0.010 to 0.039 indicating a small effect, from 0.060 to 0.110 indicating an intermediate effect, and from 0.140 to 0.200 indicating a large effect<sup>32</sup>. The effect size and a 95% confidence interval were calculated to represent the analyses<sup>33</sup>. Statistical analyses were performed using the statistical package Prism, version 7 (GraphPad Software Inc., San Diego, CA, USA). The level of significance adopted was  $p < 0.05$ .

**Results**

Table 1 presents the descriptive data for the scores on burnout dimensions for all athletes. The results indicate that the frequency of feelings of burnout ranged between almost never and rarely for the different dimensions, showing that the athletes had a low propensity for experiencing burnout.

Table 2 indicates whether perceptions of the dimensions of burnout were affected by playing position. The results show that the playing positions did not affect the perception of the dimensions of physical and emotional exhaustion, reduced sense of accomplishment, and sport devaluation.

Table 3 shows the prevalence of athletes affected by mild burnout ( $\geq 3$  in one dimension), moderate burnout ( $\geq 3$  in two dimensions), and severe burnout ( $\geq 3$  in three dimensions). The results identify that the prevalence of burnout was low. Of the total of athletes considered to be experiencing burnout, the highest percentage was observed in the occurrence of mild burnout, followed by moderate burnout, and, lastly, severe burnout.

**Table 1** - Descriptive data on the burnout dimensions of the total number of athletes ( $n = 100$ ).

	PEE	RSA	DEV
Min	1.0	1.0	1.0
Q1	1.4	1.6	1.2
Md	1.8	1.8	1.8
Q3	2.2	2.4	2.2
Max	5.0	3.4	5.0

Note. Min = Minimum value; Q1 = 25% Percentile; Md = Median; Q3 = Percentile 75%; Max = Maximum value; PEE = Physical and Emotional Exhaustion; RSA = Reduced Sense of Accomplishment; DEV = Sport Devaluation.

**Table 2** - The perception of burnout dimensions by playing positions.

Dimension	Md (Q1 - Q3)	Md (Q1 - Q3)	Kruskal-Wallis	$\eta^2$	95% CI
Playing position					
Forwards ( $n = 27$ )		Midfielders ( $n = 34$ )			
PEE	1.8 (1.4 - 2.6)	1.8 (1.4 - 2.2)	p = 0.30	0.003	-0.631 to 0.381
RSA	1.8 (1.6 - 2.2)	1.9 (1.8 - 2.5)		0.002	-0.405 to 0.606
DEV	1.8 (1.4 - 2.0)	1.8 (1.4 - 2.6)		0.000	-0.461 to 0.549
Forwards ( $n = 27$ )		Defenders ( $n = 39$ )			
PEE	1.8 (1.4 - 2.6)	1.6 (1.2 - 2.0)	p = 0.30	0.014	-0.737 to 0.248
RSA	1.8 (1.6 - 2.2)	1.8 (1.6 - 2.2)		0.002	-0.589 to 0.393
DEV	1.8 (1.4 - 2.0)	1.6 (1.2 - 2.2)		0.026	-0.824 to 0.164
Midfielders ( $n = 34$ )		Defenders ( $n = 39$ )			
PEE	1.8 (1.4 - 2.2)	1.6 (1.2 - 2.0)	p = 0.30	0.004	-0.596 to 0.325
RSA	1.9 (1.8 - 2.5)	1.8 (1.6 - 2.2)		0.010	-0.669 to 0.253
DEV	1.8 (1.4 - 2.6)	1.6 (1.2 - 2.2)		0.036	-0.852 to 0.077

Note. PEE = Physical and Emotional Exhaustion; RSA = Reduced Sense of Accomplishment; DEV = Sport Devaluation; Md = Median; Q1 = 25% Percentile; Q3 = Percentile 75%;  $\eta^2$  = effect size; CI = confidence interval.

**Table 3** - Prevalence of athletes affected by mild, moderate, and severe burnout.

	Mild	Moderate	Severe	Total
Athletes not affected	–	–	–	<b>87 (87%)</b>
Athletes affected	<b>10 (10%)</b>	<b>2 (2%)</b>	<b>1 (1%)</b>	<b>13 (13%)</b>
Forwards	2 (2%)	0 (0%)	1 (1%)	3 (3%)
Midfielders	5 (5%)	1 (1%)	0 (0%)	6 (6%)
Defenders	3 (3%)	1 (1%)	0 (0%)	4 (4%)
Total of athletes				<b>100 (100%)</b>

Note. Numbers in bold refer to the total number of athletes; Numbers without bold refer to the group of athletes affected by burnout.

## Discussion

The aims of this study were to 1) investigate the indicators of burnout, 2) determine whether playing position affects the perception of burnout dimensions, and 3) identify burnout prevalence in professional football players. Two hypotheses were tested in this study. First, we hypothesized that athletes would have low indicators of burnout dimensions. Second, we expected to find different perceptions of burnout dimensions according to the playing position. In summary, the main results show that a) the majority of athletes had low burnout indicators; b) there was no difference in the perception of burnout dimensions among the defenders, midfielders, and forwards; and c) the total prevalence of athletes affected by burnout, whether mild, moderate, or severe, was 13%.

Considering the indicators of burnout dimensions, the reduced value for physical and emotional exhaustion suggests that, in general, these athletes made adequate psychophysiological adjustments to the demands of training and competition<sup>13,15</sup>. In addition to psychophysiological adaptation, one study has suggested that low indicators for the physical and emotional exhaustion dimension are reported by athletes with low levels of subjective stress outside the sport and with adequate coping with stressors<sup>10</sup>. This finding corroborates the affective-cognitive model, which suggests that effective coping strategies can mitigate burnout physically and emotionally<sup>6</sup>. Another possible explanation is that athletes may present a high level of intrinsic motivation because intrinsically motivated athletes have a reduced perception of psychophysiological burnout<sup>6,34</sup>.

Similar to the physical and emotional exhaustion, the reduced sense of accomplishment dimension had low indicators, which shows that the athletes were satisfied with their professional skills and achievements<sup>2,15</sup>. A meta-analysis showed that social support from people considered important in the sport setting, such as coaches and teammates, may be relevant for athletes' professional accomplishments by providing instructions that help improve their skills, which helps maintain the required performance in high-performance sports<sup>35</sup>. Therefore,

social support can reduce burnout in athletes, in addition to helping with performance<sup>6</sup>. In addition, athletes who have low indicators for this dimension still feel the desire to participate in the sport, feel intrinsically motivated, and are aware that their participation in the sport promotes personal growth<sup>9</sup>.

A study showed that high indicators of the sport devaluation dimension are experienced by athletes with little disposition to make psychosocial sacrifices, who are not willing to tolerate the extensive psychosocial stresses inherent to elite sport and therefore debate whether their commitment to the sport is worthwhile<sup>10</sup>. In addition, negative interactions, such as rejection by coaches and teammates, may indicate that an athlete's contribution is not important<sup>35</sup>. However, our findings suggest the opposite because the reduced frequency of the dimension of feelings of sport devaluation suggests that the athletes in this study remain interested in, committed to, and motivated by their sport<sup>8,15</sup>. The results also suggest that athletes may be willing to make psychosocial sacrifices, are in a supportive environment even when injured, and experience low levels of stress in the sport setting<sup>10</sup>. Consequently, the first hypothesis about low burnout indicators was confirmed for the three dimensions.

The intergroup comparison of the perception of burnout dimensions by playing position did not indicate differences among forwards, midfielders, and defenders. Thus, this result does not confirm the second hypothesis. Although playing positions differ in their psychological characteristics<sup>24</sup>, no difference has previously been found in the perception of burnout by playing position<sup>25</sup>, which accords with our results. One possible explanation for this finding is that football is a collective sport. Thus, the perception of burnout may be decreased<sup>36</sup> due to the sharing of stressful demands with teammates, which can increase intrinsic motivation and decrease the perception of sport devaluation, thereby allowing athletes to deal emotionally with exhaustion and poor performance<sup>35</sup>.

Regarding the prevalence of burnout, our results are in accordance with the literature, which reports the prevalence of high indicators of burnout among the athlete population ranging from 1% to 2%<sup>20</sup>. In addition to the prevalence of high-burnout indicators, the total prevalence of athletes with a burnout in this study is in line with the estimate that 10% of athletes experience some level of burnout during their sports career<sup>37</sup>. Although the prevalence of burnout was relatively low, at 13%, it is nonetheless an indicator that requires attention because burnout factors are associated with mental health in athletes. In fact, some athletes may present high levels of stress throughout their careers, causing psychobiological disorders<sup>38,39</sup>. Moreover, lower levels of coping strategies may lead to the perception of certain situations in the sport setting as threatening and stressful<sup>12,17</sup>, and low levels of intrinsic motivation may also put athletes at risk of experi-



encing higher levels of burnout<sup>36</sup>. Therefore, the negative adaptations associated with stress, inefficient coping strategies, and lack of motivation place athletes at risk of developing burnout and consequently may ultimately contribute to the prevalence of burnout<sup>18</sup>.

The present study indicates, as a practical application, that the monitoring of burnout does not need to be conducted in a specific way by playing position. Nevertheless, this assertion does not rule out the need to monitor burnout indicators in athletes in general.

Despite the contributions provided for a better understanding of the perception of burnout in professional football players, two limitations of the study are worth noting. The first is the cross-sectional nature of the study, which does not allow for the identification of possible changes in burnout indicators that may occur during the competition phase. The second is related to the healthy worker effect because the data collection performed only with currently active athletes does not acknowledge the possible athletes affected by burnout who have dropped out of their athletic career, given that retirement from the sport is one of the consequences of the syndrome.

For future research, we suggest the adoption of longitudinal designs to investigate burnout syndrome to develop a better understanding of the cause-and-effect relationship between playing position and other psychological variables in professional football players, as well as to monitor changes in the perception of burnout by playing position during the preseason, competitive phase, and postseason. In addition, future research should seek to develop a specific reference table for professional football, as was created in a study for soccer athletes of the under-20 category<sup>40</sup>. Finally, future studies should address players aged 30 and older, since the profile of this group for burnout may be different.

### Conclusion

Professional football players, in general, experience reduced frequencies of feelings of burnout in its different dimensions. Despite representing different technical and tactical conditions, playing position was not a determinant in the perception of burnout dimensions among forwards, midfielders, and defenders. Lastly, the finding that burnout occurs in approximately one in eight athletes deserves attention because the negative effects of the syndrome may exert impacts on health, well-being, and sports performance, making these athletes more likely to stop playing the sport.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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