

# A Review on the Research of Athlete Burnout

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**ABSTRACT.** Athlete's burnout is a kind of psychological symptom of body exhaustion, low sense of achievement and sports devaluation. It is a common psychological phenomenon in athlete's sports career and has a bad influence on athlete's development. This paper studies the concept, measurement method, group difference, related factors, function, mechanism and behavior control of athlete burnout by literature method. Conclusion: The measurement method of athlete's burnout experienced three development periods. ABQ questionnaire is recognized as one of the most suitable self-report measurement tools to evaluate athlete burnout. There are group differences in athlete's burnout, and the factors that affect athlete's burnout are various. There is a lack of strict experimental control research on the mechanism of sports burnout. The main ways to control the burnout behavior of athletes are: shaping the tough psychology of athletes, changing the training methods, changing the rest methods, making personalized training plans and objectives, strengthening the guidance of athletes' coping styles, and reasonably supplementing nutrition. The factors affecting the development of athletes are a complex system, which needs to pay attention to the causes and control measures of athletes' burnout from many aspects.

**KEYWORDS:** athlete burnout, measurement method, occurrence mechanism, behavior control

## 1 Conceptual Deconstruction

Burnout is a kind of psychological and physiological reaction of exhaustion. It is a psychological symptom caused by inability to cope with excessive pressure and long-term dissatisfaction (Smith, 1986)[1] Burnout has the following characteristics:

Physical and emotional exhaustion show indifference, lack of energy, interest, and distrust. Low sense of personal achievement shows low self-esteem, failure and depression; Dehumanization shows the individual without humanity and emotion.

Readeke (1997) thinks that dehumanization shows the attitude of alienation and indifference to customers in professional workers, but for athletes, they should only be no longer interested in the sport itself[2]. Therefore, Raedeke and Smith (2001) pointed out that the biggest difference between the measurement of athlete's burnout and the general job burnout is that they changed the dehumanization sub scale into "devaluation of sports", and defined athlete's burnout as "a psychological symptom of emotional and physical exhaustion, reduced sense of achievement and devaluation of sports"[3]. Athlete burnout is composed of emotional and physical exhaustion, which reduced sense of achievement and sports devaluation. It is one of the important indexes to diagnose athlete's psychological fatigue[4]. Emotional and physical exhaustion refers to the feeling of excessive use and exhaustion of emotion and body. Reducing the sense of achievement refers to the individual's lack of competence and failure frustration in their work sense, and sports devaluation refers to the negative and indifferent attitude towards sports training set competition[5]. Burnout is a common psychological phenomenon in athletes' sports career, which has a bad influence on the development of athletes[6-7].

In the research of sports psychology, there are four related theoretical models to explain the phenomenon of athletes' burnout, including Smith's cognitive emotional stress model, Silva's negative training stress response model, Coakley's single identity development and external control model, Schmidt and Stein's sports commitment burnout model. According to Smith's stress-based burnout model, burnout is a response process including physiological, psychological and behavioral factors. Presented in predictable stages, these responses are influenced by motivation and personality level[8]. Silva's negative training stress response model emphasizes the athletes' response to physical training and decides whether they are tired. In particular, he believes that physical training makes the athletes feeling the physical and psychological pressure, but it has positive and negative effects, and the positive and timely results can be obtained[6]. Most of Smith's and Silva's models emphasize stress, Coakley (1992) emphasized social factors in his single identity development and external control mode. He believed that the real cause of burnout was related to the social organization in charge of competitive sports, because it would affect the identity and control of young athletes, especially the high competitive sports did not allow young people to develop normal self-identity, and there was not enough time for him and non competitive sports getting along with friends. Therefore, young athletes have to identify with themselves and focus on success in sports, but they are injured or lack of success, and the resulting pressure leads to their burnout; at the same time, coaches and parents control the decision-making power of most things in athletes' life, so that they can not determine their experience and self-development direction, which again leads to stress and potential burnout living[9]. Schmidt & Stein's sport commitment burnout model is based on Kelley's commitment theory[10], and points out two directions of commitment: 1 wants to participate in some activities, and 2 must participate in some activities to explain the psychology

of individuals participating in some activities or insisting on some activities[11].

## 2 Measuring Method

The problem of measurement method is often accompanied by the problem of conceptual deconstruction and serves for conceptual deconstruction. It only puts forward the factor structure of an important concept, but without corresponding measurement method, scientific research often stops at the level of conceptual debate and cannot continue to advance rapidly to the level of behavioral control[12].

How to measure the athlete's burnout effectively has become the first task of establishing the athlete's burnout monitoring system. There are three developing periods in the measurement of athlete burnout. The first stage: in the 1980s, Maslach, Jackson, Leiter [13-15] and others believed that psychological fatigue was mainly composed of emotional exhaustion, depersonalization and personal achievement. Among them, emotional exhaustion is the first symptom and the most representative indicator. Maslach et al. (MBI [13]) has also become a widely used job burnout scale with good psychological characteristics by scholars (Koeske & Koeske, 1993; Lee & Ashforth, 1996).

The second stage, in the 1990s, it was found that MBI was a burnout scale based on the background of service industry. The characteristics of burnout of athletes and waiters were not the same because of the different nature of their work. Fades thinks that athlete's burnout is manifested as: negative self-concept of athletic ability, emotional and physical occupation, psychological withdrawal, evolution by coach and team matters, coherent approach coach expectations, and acquisition. Based on this, an EABI questionnaire on athlete's burnout is developed [16].

The third stage, At the beginning of this century, Raedeke and Smith (2001) simplified the psychological fatigue of athletes into three dimensions, namely (emotion / physical exhaustion, reduced sense of achievement and sports evolution). After that, the research of athlete's psychological fatigue mostly takes the athlete's psychological fatigue questionnaire (ABQ) of Raedeke and Smith (2001) as the measuring tool of three-dimensional sports psychological fatigue. MBI, EABI and ABQ are the main scales to measure the burnout of athletes at present. These three scales all have good characteristics of measurement. There is no doubt about the effect of measuring the burnout of athletes.

Comparatively speaking, the ABQ questionnaire is recognized as one of the most suitable self-report measurement tools [17-18]. The questionnaire measures the three dimensions of athletes' burnout: emotional and physical exhaustion, reduced sense of achievement and sports devaluation, and there are 11 items in total (the ABQ questionnaire of "athletes' burnout scale" is translated by Lu Junhong of Taiwan [19] and 5-point Likert type Scale), and 11 items were scored. If the higher the score, the higher the level of burnout, the stronger the perception of the item. 1 to 5 represent "never", "rarely", "sometimes", "often" and "always", respectively.

### 3 Group Differences

From the perspective of biological evolution, there is no doubt that differential treatment is always conducive to individual development and phylogenetic evolution, and demographic variables such as gender, age, occupation, education level are the most attractive group differences. In the field of competitive sports, coaches' burnout and the relationship between coaches and athletes are seldom paid attention to, but it has an important influence on training competitions and athletes. Zhang Liwei and Zhao Qian have conducted a survey on 208 coaches who have been in charge for 5-35 years. They are based on the concept of measurement of sports psychological fatigue proposed by raedeke et al. (raedeke, 1997; raedeke & Smith, 2001), From the three dimensions of emotional and physical exhaustion, reduced sense of achievement and devaluation of sports, the ABQ questionnaire was modified as CBQ questionnaire to measure coaches' burnout. The results show that when coaches are divided into two groups by the median of 12 years, the level of burnout is higher for coaches who have been in charge for a long time, and lower for coaches who have been in charge for a short time [19]. In the empirical study of burnout, Yang Congyi found that the higher the "commitment" and "complementarity" in the coach player relationship, the lower the burnout of athletes [5].

Yan Danling (2011) took 325 students in the high school sports class as the research object to explore the influence of players' perception of coach player relationship on sports motivation and burnout. The measurement results showed that: the intimacy, commitment and complementarity of coach player direct and post perspective were negatively related to burnout [20].

### 4 Related Factors

Constructing concept system is the primary task of scientific research. To explore the logical relationship between the important concepts within the discipline is the basis of researching concept system and the key point of scientific research. Causality can be divided into: antecedent, consequence and unconfirmed causality, It is difficult to treat burnout as an independent variable or dependent variable at the level of morality and operation, The research on the related factors of sports burnout focuses more on the level of correlation rather than causality. What are the psychological concepts and phenomena related to sports burnout?

G.Reenleaf (1998) researched the burnout of 149 female college students and their coaches' behaviors. The results showed that the communication ability between athletes and their coaches, the athletes' perception of coaches' feedback style, training guidance style and coaches' burnout level were important factors affecting the level of burnout. Researchers believe that coaches with high burnout level, athletes' perception of their behavior is autocratic, and they tend to win for the purpose of communication. The type of autocratic behavior style of coaches is more likely to make athletes sense the severity of training conditions and lack of control over training competitions, which is easy to cause burnout [21]. Wang Bin et al.

Investigated 483 active athletes with sports psychological resilience questionnaire, competitive sports response questionnaire and Athlete Burnout Questionnaire, to investigate the influence of psychological resilience on athlete burnout and the intermediary role of coping style in it. The results showed that: psychological resilience has a significant negative predictive effect on Athletes' burnout, coping style plays a part of the intermediary role in the influence of psychological resilience on Athletes' burnout, and the intermediary effect accounts for 66% of the total effect. Compared with psychological resilience, coping style is a more recent factor affecting athletes' burnout; it will be beneficial to strengthen psychological resilience and coping style guidance To reduce athlete burnout [22]. Chen zuosong et al. Used the measurement tools such as Athlete Burnout Questionnaire (ABQ) to test and study the professional athletes. The results showed that: athletes engaged in closed and open sports had the main effect on all dimensions of burnout, and there was a significant gender difference in emotional / physical exhaustion of athletes, Women are higher than men, and there are significant differences in the level of achievement, and there are significant differences in the three dimensions of burnout in open sports and closed sports. Stress can directly affect the burnout of athletes, and it can also affect the burnout of athletes through self-efficacy, self-esteem and other intermediary variables [23].

## 5 Function

The function and function of psychological construction mainly refers to the influence of a certain construction or a phenomenon on other psychological construction, such as the influence on work, quality of life, health and social adaptation. In terms of sports burnout, related research issues, such as the impact of sports burnout on sports training quality, achievement motivation, competition effect, satisfaction, self-efficacy and other psychological variables. Many qualitative materials can see the negative effects of sports burnout. For example, the athletes said, "if I have to do this for another year for the Olympic Games, I don't want to participate in the Olympic Games.". I've practiced for so many years, but I'm not afraid of fatigue. In fact, I don't want to practice psychologically. I wish I could strangle myself with the training rope" . Relevant research also confirms the negative effects brought by sports burnout, such as Zhang Liancheng and Zhang Liwei, who take 381 skilled athletes as research objects, have measured their psychological fatigue and training competition satisfaction. The results show that when sports psychological fatigue is taken as independent variable, it can explain 35.3% of the total variance of training Competition Satisfaction [24]. Wu Min et al. Studied 692 athletes by using the questionnaire of athlete's organizational stressor, the scale of athlete's perceived social support and the scale of athlete's burnout. The results showed that: athlete's organizational stressor and its dimensions were significantly positively correlated with athlete's burnout, social support and its dimensions were significantly negatively correlated with athlete's burnout, and the regulatory effect of different types of social support was significant .There should be differences [25].

## **6 Occurrence Mechanism**

Occurrence mechanism refers to a mechanism that causes a certain event or a certain process to occur finally according to a specific operation mode among various factors. Due to the imbalance between individual resources and environmental requirements of athletes' burnout, athletes have immediate and short-term physical and mental stress reactions. When it is difficult to recover effectively for a long time, the stress reactions continue to accumulate, and gradually develop into physical and mental symptoms and functional disorders characterized by emotional exhaustion, physical exhaustion, reduced sense of achievement and negative evaluation of sports. A questionnaire survey conducted by Lin Ling on 125 athletes of different events (shooting, archery, judo, handball, taekwondo, weightlifting, hockey, softball, wrestling, track and field) showed that the main factors affecting the psychological fatigue of athletes were training factors (81% of the athletes chose), environmental factors (75%), social support factors (52%), and personal cognitive factors (48%). As for training factors, training organization (such as monotony and dullness) is the main reason, followed by training load. As for environmental factors, unreasonable management system, too closed management environment and disharmonious team environment are the main reasons. Among the factors of social support, the main reasons are lack of communication and social interaction, worry about personal future, lack of trust and support from coaches, etc[26]. Due to the lack of strict experimental control research on the mechanism of sports burnout, there is also a lack of evidence of favorable causal relationship. The main reason is that in view of moral restrictions and operational difficulties, it is unable to formally induce psychological fatigue.

## **7 Behavior Control**

Control is the ultimate and most important goal of scientific research. Behavior control refers to the direct control of people's specific activities, which is based on direct personal observation. The most direct and effective way of behavior control is supervision. Competitive sports have high requirements for the speed, strength, endurance and other sports of athletes. Athletes must undergo the training stimulation of large amount of exercise and high intensity load if they want to improve their performance. There are many reasons for athletes' burnout, in addition to physiological factors, psychological factors and situational factors are more important. There are several ways to control athlete burnout as follows:

### ***7.1 Shape the tough psychology of athletes***

As a potential psychological advantage, psychological tenacity is not fixed or completely determined by innate heredity, but a developing personality factor. Influenced by the acquired environment, it can be mined and improved in many ways.

### ***7.2 Change the way you train.***

By changing the single and repeated training program, the interest of the training form can effectively improve the input of athletes' training, stimulate their enthusiasm and enthusiasm, and then improve the quality and efficiency of training. The famous sensory deprivation experiment (Bexton, Heron & Scott, 1954) suggests that 2-3 days of extreme "quiet" can damage people's various psychological functions and make people "Crazy" [27]. For example, change the position for training, change the project for training, change the form for training, enrich the training content to reduce the monotony and boredom during training, so as to delay the generation of burnout.

### ***7.3 Develop personalized training plans and objectives.***

Because each athlete's physique and technique are different, the emphasis of training should also be different. When the athletes feel that the training plan formulated by the coach can not meet their own needs and promote the improvement of technical level, they should actively communicate with the coach to improve the pertinence and effectiveness of the training plan. Short term training and competition goals can make athletes get positive feedback more quickly, thus maintaining their interest in training and improving their self-confidence, reducing the possibility of reducing their sense of achievement.

### ***7.4 Change the way of rest***

One of the important causes of burnout is that the central nervous system of athletes processes training competition information for a long time, resulting in nervous tension. By changing the rest mode, the athletes' attention to the training and competition can be transferred, so as to avoid the protective inhibition that may occur when the central nervous system continuously processes the training and competition information.

### ***7.5 Increase the task oriented response of athletes***

Strengthen the guidance of coping style, increase the task oriented coping of athletes, and reduce the off oriented coping and distracted oriented coping. In the field of sports, cognitive emotional stress management training (SMT), cope intervention and coping effectiveness training (CET) are the most extensive coping intervention projects. It is found that these events can significantly improve the coping self-efficacy, coping effectiveness, subjective performance, self-confidence and self-esteem of athletes, and significantly reduce the level of pressure and anxiety of athletes [28].

### ***7.6 Keep a positive, optimistic and open-minded attitude and be willing to accept***

### *yourself*

Being willing to accept oneself helps to alleviate the symptoms of burnout, to maintain a good attitude, to be aggressive, to be brave to overcome difficulties, to meet challenges, and to build self-confidence. A person should have an optimistic and open-minded attitude towards life. He can not only accept his own advantages and face everything, but also reduce and eliminate the feeling of psychological fatigue. Can also accept their own shortcomings, can accept their own success; can also accept their own failure, face it calmly.

### **7.7 Reasonable nutrition supplement**

Reasonable supplement of nutrition is helpful to alleviate the symptoms of burnout. Nutrition balance can promote positive mood and keep happy mood, so as to prevent burnout.

## **8 Conclusion**

The factors that affect the development of athletes are complex and diverse, it is not only athletes' own competitive ability and psychological quality, but also coaches' training level, ideological guidance and social security system support. In the study of athlete's burnout, we should not only pay attention to the core subject - athlete's own factors, but also pay attention to the coach athlete relationship, organizational behavior and many social factors. Therefore, we need to pay attention to the causes and control measures of athlete's burnout from many aspects.

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