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The Impact of Coach Autonomy Support on Athlete Engagement and Burnout

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Abstract	Original Research Article

Athletes' investment is not only a lasting, positive cognitive and emotional experience in sports, but also an important indicator to measure the positive aspect of athletes, which can effectively avoid psychological fatigue in athletes. Therefore, it is particularly important to explore the influencing factors of the athletes' investment and to explore the ways to improve the athletes' investment, and for them to give full play to their sports skills steadily in sports training and competition. Results: Three hypotheses presented in this study are supported. Coach autonomy support significantly positively predicts athlete engagement level; Instructor self-support significantly negatively predicted athlete psychological fatigue. Significantly negative athlete engagement predicted athlete mental fatigue.
Keywords: coach autonomy support, athlete engagement, burnout.

1. INTRODUCTION

In the 80s of last century, the concept of athlete psychological fatigue was first proposed in the field of sports psychology, and as competitive sports in various countries entered a white-hot stage, the study of athlete psychological fatigue has received extensive attention from researchers at home and abroad. Athlete Burnout refers to the decline in psychological function of athletes in coping with internal and external pressure, due to the continuous consumption of psychological and physical capital not being replenished in time, which is specifically manifested in a reduced sense of achievement, emotional/physical exhaustion and negative evaluation of sports [1]. In China, some scholars believe that in the field of competitive sports, athletes' psychological fatigue refers to the decline in psychological function caused by athletes' internal resources being continuously consumed without timely and effective supplementation when coping with internal and external stress [2]. Sports-induced psychological fatigue of athletes will lead to interpersonal tension, subjective experience and sports performance decline, and in severe cases, it will endanger the psychological health of athletes, and eventually quit sports and end their sports career early. Given that psychological fatigue has an important impact on athletes, understanding the formation mechanism of athletes' psychological fatigue is of great value to enhance and improve athletes' competitive performance.

2. LITERATURE REVIEW

At present, the theoretical models of the formation and intensification of athletes' psychological fatigue mainly include cognitive-affective model, passive training stress model, training stress model, sports commitment model, single identity development and extrinsic control model, integration model and psychological capital theory. However, the construction of the above theories and models is mainly based on a one-dimensional situational perspective, and there is no comprehensive investigation of the interaction mechanism of various factors such as individual self-personality or social environment. When training in competitive sports, G.A.MAGEAU research believes that coach autonomy support, as an important part of the social support system, can alleviate the physical and mental discomfort of athletes [3]. Atkinson *et al*., showed a significant positive correlation between social support and athlete engagement [4]. In China, some researchers believe that coaches' coaching style, especially coaches' self-supportive coaching methods, has become an important factor affecting athletes' engagement and psychological fatigue [5]. In addition, Graña suggests that exercise engagement is also the best way to prevent burnout in athletes [6]. Therefore, the

author hypothesizes that in the Chinese athlete population, coach self-support can significantly positively predict the level of athlete engagement. Instructor-based support can significantly negatively predict athletes' psychological fatigue. Significant negative athlete engagement predicts athlete mental fatigue.

3. METHODS

3.1. Participants

Based on the principle of convenience, this study adopts the research method of random sampling, and selects high-level active athletes from Beijing, Tianjin, Zhejiang, Shandong, Jiangsu and other provinces and cities as the research objects. After the athletes' training, the sports psychology major students who have undergone systematic professional training will take the main test, explain in detail the questionnaire filling instructions, distribute paper and pen self-filled questionnaires to the athletes, and ask the participants to answer carefully and independently according to the guidance words and their actual conditions. To ensure the quality of the responses, the research assistant reads the instructions at the beginning and explains the purpose and requirements of the questionnaire. It takes an average of 15 minutes to complete the survey. The survey was conducted voluntarily and anonymously, and after the questionnaire was completed, the main test was reviewed on the spot and thanked each participant. They have been training for more than 3 years and excel in their respective sports. A total of 600 questionnaires were distributed, and after the invalid questionnaires were deleted, 450 questionnaires were effectively responded, with an effective recovery rate of 75%. Sports include basketball, tennis, athletics, swimming, gymnastics, etc.

3.2. Instruments

3.2.1. Perceived Autonomy Support : the Sport Climate Questionnaire，SCQ-PAS

The study adopts G.C. Williams et al[7]Perceived Autonomy Support: the Sport Climate

Questionnaire, SCQ-PAS, revised by domestic scholars Zhu Xiao na, Li Na and others, SCQ-PAS has a total of 3 dimensions and a total of 15 questions. The scale uses a 7-level evaluation, and the higher the score, the higher the level of the coach's self-support coaching. The overall internal consistency coefficient of the scale is 0.96.

3.2.2. Athlete Engagement Questionnaire, AEQ

Using the Athlete Engagement Questionnaire, AEQ, compiled by Lonsdal et al., and translated and revised by domestic scholar Wang Bin et al., [8], the questionnaire has a total of 16 items, including four dimensions of confidence, dedication, vitality and enthusiasm. In this study, the overall internal consistency coefficient of the athlete input scale was 0.96.

3.2.3. Athlete Burnout Questionnaire，ABQ

Athlete Burnout Questionnaire, ABQ, compiled by RAEDEKE et al. and revised from tension [7]. The scale uses 5 levels of evaluation, ranging from 1 "strongly disagree" to 5 "strongly agree". The questionnaire has been widely used in domestic and foreign research, and the applicability test has been carried out in the Chinese athlete population, and has good reliability and validity. Athlete Burnout Questionnaire, ABQ total cloned bach coefficient of 0.945.

3.3. Data Analysis

Data Analysis SPSS 22.0 (IBM, Armonk, NY, USA) is used to enter questionnaire data for descriptive analysis, reliability analysis, and correlation analysis.

4. RESULTS

Table 1 illustrates the mean (M) and standard deviation (SD) of coach autonomy support, athlete input, and athlete mental fatigue, and Pearson analysis is used for correlation coefficients between coach autonomy support, athlete engagement and athlete psychological fatigue. The results showed that all variables were significantly correlated.

Table 1: Variable Means, Standard Deviation and Correlation Coefficients (n=287)

	Mean	*Std*	1	2	3
Self-support	5.55	1.01	1		
Athlete engagement	4.10	0.58	0.54***	1	
Mental fatigue in athletes	2.41	0.79	-0.12***	-0.34***	1

5. DISCUSSION

5.1 The direct role of coach autonomy support on athlete input

Drawing on the SEM constructed by predecessors, it is shown that structural equations support the chain mediation role of basic psychological needs, coaches improve the level of autonomy support, meet the basic psychological needs of athletes, promote

the formation of autonomous motivation, and ultimately improve the level of athletes' input.

5.2 The direct effect of coach autonomy support on athletes' psychological fatigue

Coaches improve the level of autonomy support, meet the basic psychological needs of athletes, promote the formation of autonomous motivation, and ultimately improve the level of athletes' input. Relevant studies have shown that the autonomous support of

coaches can predict the satisfaction of athletes' 3 basic psychological needs, and the satisfaction of needs can predict their enthusiasm for participating in sports, thereby stimulating self-determination motivation, thereby alleviating and eradicating the emergence of athletes' psychological fatigue.

5.3 Revelation

This study is a practical application of interpersonal dynamics theory to affect athletic performance. Good behavior of coaches can promote better participation in sports training and competition.

5.4 Limitations and Outlook

Shortcomings in this study. Cross-sectional studies. The data collected in this study are cross-sectional in nature and lack tracking data to accurately infer causal relationships between variables.

6. CONCLUSION

Three hypotheses presented in this study are supported. Coach autonomy support significantly positively predicts athlete engagement level; Instructor self-support significantly negatively predicted athlete psychological fatigue. Significantly negative athlete engagement predicted athlete mental fatigue.

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