

## The Influence of Coaches 'Control Behavior and Mental Toughness on Athletes Engagement

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### Abstract

### Original Research Article

Coaches 'behavior control and psychological tenacity are all important psychological variables of athletes' burnout. This study examined the influence of coaches 'control behavior and psychological tenacity on athletes' input. **Methods:** 380 Chinese athletes aged 14 to 26 from 11 sports were surveyed. **Results:** Coach Control behavior can significantly negatively predict athletes 'input and significantly negatively predict athletes' psychological tenacity. Moreover, athletes' psychological resilience was significantly and positively associated with their input. **Conclusion:** Coaches' control of behavior will reduce the input level of athletes.

**Keywords:** athletes' burnout, Coach Control behavior, psychology.

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## 1. INTRODUCTION

With the rise of positive psychology research, researchers' focus gradually shifts from solving individual psychological negative problems to promoting human positive psychology. Input is a hot topic in related research, which refers to the individual in a persistent, full state [1] of positive emotions and motivation. Lonsdale Introduce its concept into the sports domain and points out that exercise engagement reflects a lasting, positive cognitive and emotional experience in exercise (Lonsdale, 2007); it is the perfect link between individual traits, motor factors and motor performance [2- 4]. Zhong-qiu zhang believes that sports investment can be used as an important indicator of athletes psychological positive surface, can reflect the athletes positive healthy mental state, to stimulate athletes optimism, resilience, meaning and creativity, positive quality to effectively promote the development of athletes and mature, to enhance competitive ability, improve sports performance to lay a solid foundation for [2]. It was found that exercise input has positive effects on satisfaction with exercise performance, exercise performance and exercise experience. Moreover, exercise input is effective in preventing burnout symptoms [5] in athletes. Given the importance of athletes' investment in the field of competitive sports, understanding the formation mechanism of sports investment will help to improve the positive psychological quality and technical and tactical level

## 2. LITERATURE REVIEW

Exercise input is influenced by individual factors, social and environmental factors, and the interaction between the two. At the level of social environment, the verified antecedent variables include: coach independent support, coach-athlete relationship, social support, understanding care, coach leadership behavior, etc. At the individual level, motivation, gratitude, psychological resilience, and so on. Previous studies have shown that coach autonomic support is significantly and positively associated with exercise engagement. From the perspective of self-determination theory (Self-Determination Theory), coaches can be divided into two types, one is the main feature of autonomy, and the other is the main feature of control. Therefore, coach control behavior may be significantly negatively associated with athlete engagement. Previous studies showed that coach control behavior can be regarded as a significant stressor in exercise situations, and is significantly negatively associated with psychological resilience. Some researchers believe that psychological resilience is an important influencing factor of sports investment. Therefore, this study made the hypothesis that coach control behavior showed significant negative correlation with psychological tenacity and athlete input, and significant positive correlation between psychological tenacity and athlete input.

### 3. METHODS

#### 3.1. Participants

Based on the principle of convenience and the research method of random sampling, the high-level active athletes from Beijing, Shanghai, Heilongjiang, Shandong, Zhejiang and other provinces and cities were selected as the research objects. After the training of the athletes, the professional graduate students of sports psychology with systematic professional training will explain the instructions to fill in the questionnaire in detail, and issue the paper and pen questionnaire to the athletes, requiring the participants to answer carefully and independently according to the guidance and their own actual situation. To ensure the quality of the responses, the research assistant initially read the instructions and explained the purpose and requirements of the questionnaire. It takes on average 15 minutes to complete the survey. The survey was conducted voluntarily and anonymously, and the questionnaire was received by the subject and acknowledged to each participant. They have been trained for more than three years and have performed well in their respective sports. A total of 450 questionnaires were distributed, and after deleting the invalid questionnaires, 380 questionnaires received valid responses, with an effective recovery rate of 85.5%. Sports include football, badminton, volleyball, basketball, gymnastics and so on.

#### 3.2. INSTRUMENTS

##### 3.2.1 Coach Control Behavior Scale

Using the "Controlling Coach Behaviors Scale" (CCBS) developed by Bartholomew, Ntoumanis, and others, and translated and revised by Chinese scholar Zhao Daliang *et al.*, [7], which has been tested for applicability in Chinese athletes and has good reliability and validity. The questionnaire contains 15 items and four dimensions, including reward control, negative conditional attention, coercion, and excessive personal control. The scale uses a 7-point rating scale, ranging from 1 "strongly disagree" to 7 "strongly

agree". The total Cronbach's alpha coefficient of the Coach Controlled Coaching Style Scale is 0.96, and the Cronbach's alpha coefficients of the reward control, negative conditional attention, coercion, and excessive personal control dimensions are 0.89, 0.87, 0.91, and 0.75, respectively.

##### 3.2.2 Mental Toughness Scale

The study was compiled by Gucciardi *et al.*, and Niu Pengcheng translated the revised Psychological resilience Scale (Mental Toughness Index), which included 8 items and a single dimension. Using Likert 7 comments, 1 means 100% of the time, 7 means 100% of the time. In this study, the internal consistency coefficient of the psychological resilience scale was 0.96.

##### 3.2.3 Athlete Engagement Scale

Using the "Athlete Engagement Questionnaire" (AEQ) developed by Lonsdal *et al.*, and translated and revised by domestic scholars Ye Lv *et al.*, [4], which has 16 items and includes four dimensions of confidence, dedication, vitality, and enthusiasm. In this study, the overall internal consistency coefficient of the Athlete Engagement Scale is 0.97.

#### 3.3. DATA ANALYSIS

Data analysis was conducted using SPSS 22.0 (IBM, Armonk, NY, USA) for descriptive analysis, reliability analysis, and correlation analysis of the questionnaire data.

### 4. RESULTS

Table 1 presents the mean (M) and standard deviation (SD) of coach control behavior, coach-athlete relationship, and athlete engagement. Pearson's analysis was used to obtain the correlation coefficients between coach control behavior, coach-athlete relationship, and athlete engagement. The results showed that all variables were significantly correlated.

**Tab.1: Variable Means, Standard Deviation and Correlation Coefficients (n=380)**

	<i>Mean</i>	<i>Std</i>	<b>1</b>	<b>2</b>	<b>3</b>
Coach Control Behavior	3.00	1.53	1		
Mental Toughness	4.32	0.67	-0.40***	1	
Athlete engagement	4.31	0.61	-0.34***	0.42***	1

### 5. DISCUSSION

#### 5.1 Direct Effect of Coach Control Behavior on Athlete Engagement

Coach control behavior can hinder the satisfaction of athletes' basic psychological needs, leading to a lack of self-determined motivation and ultimately reducing the level of athlete engagement. 5.2 The effect of Mental Toughness on Athlete Engagement Athletes with high psychological tenacity will not only make more positive cognitive evaluation of individual projects, but also engage in training and competition

with a more positive attitude. In addition, temporary failures are seen as "feedback", setbacks as "resilient investments", and the pressures encountered in training as a rare "opportunity to challenge and grow". Therefore, athletes can eliminate negative thinking, stimulate positive emotions, and devote themselves to personal projects under the guidance of the goal.

#### 5.3 Implications

Coaches' control behavior will reduce the investment level of athletes' input, while individuals

with strong psychological tenacity can alleviate the negative impact of coaches' control behavior, and then improve the investment level of athletes.

#### 5.4. Limitations and Prospects

The limitations of this study. Cross-sectional study. The collected data in this study are cross-sectional in nature and lack trace data, so it is not possible to accurately infer the causal relationship between variables.

## 6. CONCLUSION

Three hypotheses proposed in this study are supported. The control behavior of the coach, the control performance of the athletes.

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