

# The effect of coaching support behavior on the intrinsic motivation of athletes: The mediating role of psychological needs

Tongling Wang<sup>1\*</sup>

## Abstract

The purpose of this study is to examine the effect of coaches' supporting conduct on the psychological motivation of athletes. Using the coach self-support scale, the basic psychological needs scale, and the athlete psychological fatigue questionnaire, 450 athletes were surveyed to investigate the effect of coaches' self-support on athletes' mental fatigue and the mediating role of athletes' basic psychological needs. The study indicated that the predictive effect of a sense of autonomy is weaker than that of competence and a sense of belonging when it comes to the perception of autonomous support. Although self-determination theory asserts that self-satisfaction is the most important of the three basic psychological needs, it has a moderating effect on competency and sense of belonging, and the content of choice and self-decision contained in the sense of autonomy, which includes democratic behavior and positive feedback in coaching autonomous support, has a natural consistency. Basic psychological needs partially mediate between coaching autonomy support and intrinsic drive. Among the three fundamental psychological demands, belonging has the greatest effect on internal motivation, followed by competence; autonomy has no significant effect.

**Keywords:** Coaches; Supportive behaviors; Intrinsic motivation; Athletes

## Introduction

Similarly, the fundamental psychological needs hypothesis, a sub-theory of self-determination theory, asserts that the sense of autonomy, competence, and belonging are the three basic psychological requirements humans are born with. The sense of autonomy refers to the sense of control that people have over their choices and decisions in a particular environment; the sense of competency refers to the sense of control that people have in carrying out influential tasks in a social environment, and the sense of belonging refers to the sense of needing or being needed by others in a particular environment. When these demands of individuals are met, they will serve as an intermediary and bridge in the interplay between the social environment and intrinsic motivation, enabling individuals to create their highest level of productivity. Coaches' autonomy support refers to a mode of interpersonal communication in which coaches give athletes more freedom, decision-making, and choice while lowering external control and monitoring, provided that coaches fully respect and acknowledge athletes' sentiments. Studies have demonstrated that athletes' perceptions of coaches' autonomous support stimulate their fundamental psychological needs, namely autonomy, ability, and relationship. Identifying an athlete's ideas and

emotions, fostering choice, self-motivation, behavioral norms, and minimizing stress and control are examples of coaching techniques demonstrating autonomous support. Although coaching activity is a significant element influencing the intrinsic motivation of athletes, the coach's autonomous support behavior has the most impact on enhancing athletes' intrinsic drive. When gymnasts perceive their coaches' autonomy, they exhibit more intrinsic and internalization of extrinsic motivation. It forces the athlete to think, feel, and act under the coach, known as the controlling interpersonal communication style. Coaching supporting behaviors (need-supportive) are the interpersonal interactions between coaches and athletes. The positive direction, which relates to need-thwarting, consists of three components: autonomous support, ability support, and relationship support (Chamarro et al., 2020). Self-support means that coaches allow athletes to make their own decisions, support their ideas, and take the initiative; Competency support means that coaches recognize the growth of athletes, have positive expectations for them, believe they can achieve their goals, and provide athletes with positive feedback and encourage skill development. Relationship support refers to being kind to the athlete, being interested in the activities they are engaged in, loving them deeply, and providing them with care and support. As a significant human

<sup>1</sup> Postdoctoral Mobile Station of Management Science & Engineering of Nanjing University of Aeronautics and Astronautics, Nanjing Jiangsu, China  
Corresponding Author's Email: wtlsxy@163.com

resource, coach assistance is important for assisting high-pressure groups such as athletes to grow and develop, gain self-confidence, deal with adversity, and enhance their athletic performance. It can create a positive psychological environment for athletes, help to stimulate the motivation of individual self-determination, make the individual generate a steady stream of internal motivation to confront external threats and challenges, and allow it to be destroyed in setbacks and not collapse. The more setbacks are encountered, the more courageous, improving mental toughness (Hoxha & Çetin, 2020). Students' perceived teacher autonomy support has a high positive link with students' competence, sense of autonomy, and sense of belonging. These three basic psychological requirements are strongly correlated with students' autonomy motivation, according to Guo et al. (2020). (such as intrinsic motivation). According to Howladar and Rahman (2021), the autonomy support level of coaches has a good predictive potential for the autonomy control degree of learning. It can promote the fundamental psychological needs of young athletes. When gymnasts experience autonomous support from instructors, their internal motivation and internalization of external incentives are enhanced, according to Selvi and Bozo (2020). It forces the players to comply with the coaches' thoughts, emotions, and behavior, known as the controlling interpersonal communication style. Consequently, in the context of Chinese culture, this study focuses on young athletes, with the following research objectives: 1) Confirm the satisfaction of basic psychological needs, the mediating role between coaches' autonomy support and athletes' intrinsic motivation (Table 1), and 2) Explore the path of the relationship between coaches' autonomy support, the satisfaction of basic psychological needs, and intrinsic motivation (Figure 3, Figure 4). The model of the research hypothesis is depicted in Figure 1. According to self-determination theory, the environment gives autonomy support, contributing to people's fundamental psychological needs. The fulfillment of the demands for autonomy, competence, and belonging ensures the stimulation of intrinsic motivation and the internalization of extrinsic motivation. Since self-determination theory was derived from western psychology research, that culture promotes individualism, whereas our culture is more concerned with collectivism. Whether this hypothesis is ubiquitous across cultures is a question worthy of consideration (Seyedi et al., 2022; Stieler et al., 2022).

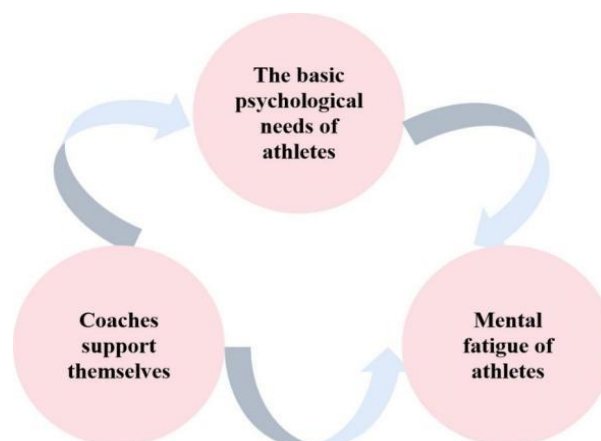


Figure 1 Hypothetical model of the relationship between coaches' autonomous support, athletes' basic psychological needs, and athletes' mental fatigue

## Research objects and methods

### Research objects

The author investigates the connection between coaches' autonomy support and athletes' intrinsic drive, revealing the mediation role of athletes' fundamental psychological requirements. The survey was conducted between March and June of 2020, with the target population being young athletes from the 2020 youth women's and men's volleyball leagues. 500 questionnaires were distributed; 50 invalid questionnaires were discarded, leaving 450 valid questionnaires. Among them were 212 male athletes (47.2%) and 238 female athletes (52.8%). The primary players represented 52 percent, the replacements 31.9 percent, and the intermediate players 16.1 percent; Second-level athletes represented 45.5 percent, first-level athletes represented 51.7 percent, and elite athletes represented 2.8 percent. 16.6 percent of the athletes were under the age of 16, 47.1% were between the ages of 16 and 17, 32.1% were between the ages of 18 and 19, and 4.2% were between the ages of 20 and 21.

### Measuring tools

#### (1)Autonomy Support Perception Scale

The Autonomous Support Perception Scale refers to the Health Care Climate Questionnaire (HCCQ) scale while also drawing from the autonomy perception scale. It consists of seven components. In addition, to modify the scale to the circumstances of the group project, add "in the team,..." before each item. For example: "I feel that the coach listens to me on the team." The scale is a 5-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement. The fact that the factor loadings of the items were all greater than 0.5, as determined by principal component analysis, indicates that the scale has good construct validity. The test of the

scale's internal consistency revealed that Cranach's alpha was 0.855 (Coterón et al., 2020; Kim & Lee, 2020; Liu et al., 2020).

(2) Basic Psychological Needs Scale

The basic psychological needs scale comprises three dimensions: autonomy, competence, and belonging. The sense of autonomy scale adopts the IPLOC scale, which consists of 5 items, a total of 5 items, such as I can arrange training according to my thoughts and ways. Competency uses the IMI scale, with a total of 5 items, such as I am satisfied with my training performance. The sense of belonging is based on the ANR scale, with a total of 5 items, such as I was recognized in the team. After using principal component analysis, the items with factor loadings less than 0.5 in the questionnaire were eliminated. Finally, three factors are formed. Including 3 items of autonomy, 4 items of competence, sense of belonging 4 items. Confirmatory factor analysis shows that  $\chi^2=102.887$ ,  $df=32$ ,  $\chi^2/df=3.215$ ,  $RMSEA=0.081$ ,  $CFI=0.946$ ,  $NFI=0.924$ ,  $IFI=0.947$ ,  $GFI=0.893$ . The overall internal consistency was 0.868, and Cranach's  $\alpha$  values of

the three dimensions of autonomy, competence, and belonging were 0.964, 0.898, and 0.892, respectively. The scale is scored on a 5-point Likert scale, with 1 indicating very disagree and 5 indicating very agree (J Coterón, 2020).

Data processing

Using SPSS19.0 and AMOS21.0 to organize and analyze the data, using statistical methods such as correlation analysis and regression analysis, and according to the latest mediation effect test process, test research hypotheses. Notably, a literature review found that the Bootstrap method is more powerful when testing the significance of the mediating effect than the traditional Sobel test. Therefore, the authors used the Bootstrap method to test the significance of the mediating effect. In addition, the author explores basic psychological needs, the mediating effect between autonomic support and total score of mental fatigue, it is also necessary to study the basic psychological needs, the mediating effect between the three dimensions of self-support, and psychological fatigue, the weighting formula used for the total score of mental fatigue is:

$$Z_{\text{Mental fatigue}} = Z_{\text{Reduced sense of accomplishment}} \times 0.47 + Z_{\text{Emotional exhaustion}} \times 0.21 + Z_{\text{Negative evaluation of exercise}} \times 0.32 \quad (1)$$

Results

Correlation analysis of coaching autonomy support perception, basic psychological needs, and internal motivation

The study first used correlation analysis to explore the correlation between variables and support subsequent hypothetical model analysis (Table 1). Pearson correlation analysis shows that the correlation coefficient between the variables is significant at the 0.01 level.

Table 1

Correlation analysis matrix between variables

	M	SD	1	2	3	4	5
Autonomy Support Perception	4.2486	0.6016	1				
sense of autonomy	3.1271	0.8313	0.306				
Capability	3.6072	0.7698	0.392	0.454			
sense of belonging	4.0729	0.7484	0.674	0.398	0.518		
internal motivation	4.0996	0.6961	0.447	0.334	0.383	0.448	

Path Analysis and Fitting Test

The critical ratio (C.R.) and the significance probability value P are the criteria for determining if the path coefficient is significantly different from zero in the structural equation. When the absolute value of the critical ratio is more than 1.96, it implies that the estimated value reaches a significant probability, where the significant threshold of the P-value is 0.05, establishing the original path hypothesis relationship. The findings of the path analysis are depicted in Figure 2.

As shown in Figure 2, the path analysis results show that the coach's autonomy supports perception and satisfies 3

basic psychological needs. There were significant positive effects. At the same time, autonomy supports the formation of intrinsic motivation. It also has a positive predictive effect. Among the three basic psychological needs, the sense of autonomy has no significant effect on the formation of internal motivation, while the effect of competency is the most significant, and the second is a sense of belonging. The model fit test shows that  $\chi^2/df < 5$ , GFI, NFI, IFI, and CFI values are all greater than 0.89 and close to 1, and the RMSEA value is less than 0.1, indicating that the overall model fit is good. Assuming that the standardized regression coefficient of the model is shown

in Figure 3, the direct effect of coaches' perception of self-support on intrinsic motivation is 0.306; among the three basic psychological needs, competency and sense of belonging are between the coach's self-support and internal motivation, there is a partial mediating effect, and the mediating effect of competency is  $0.478 \times 0.206 = 0.098$ , the mediating effect of belonging is

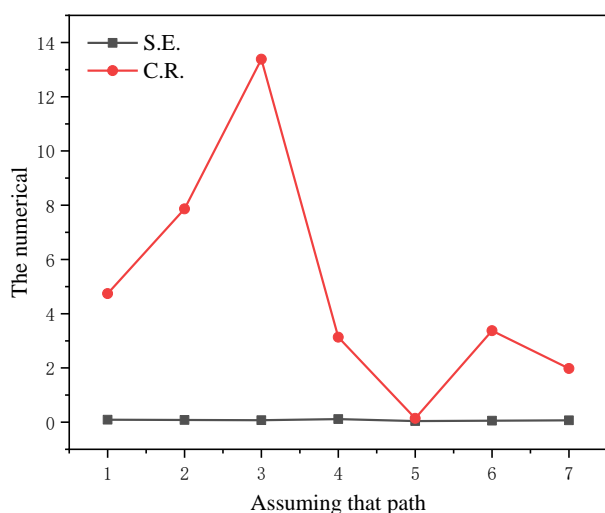


Figure 2 Path Hypothesis Testing

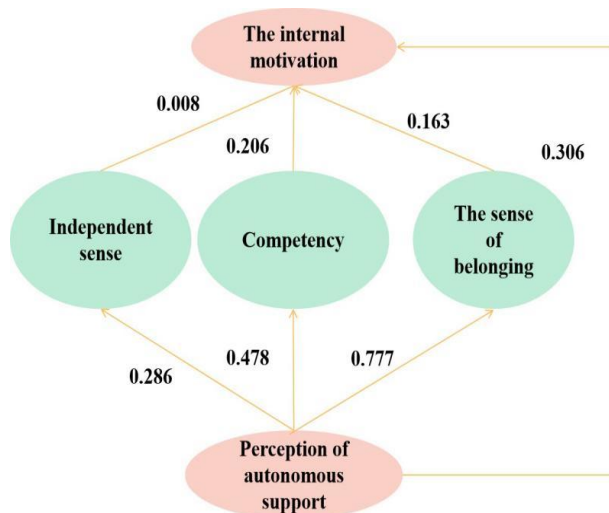


Figure 3 Path Analysis

## Discussion

The authors discovered that autonomy in coaching supports perceptions, influences intrinsic motivation through basic psychological needs, and that autonomy's mediating effect is insignificant. However, autonomy supports perception and can directly influence the formation of intrinsic motivation, so basic psychological needs partially mediate between the two. Self-determination theory asserts that basic psychological needs are the predetermined variables of motivation formation, that the satisfaction of basic needs can stimulate an individual's internal motivation, promote the

internalization and integration of external motivation, and that social situations support an individual's basic needs facilitate their self-determination behavior. Satisfaction of belonging needs, through value transmission, enables individuals to accept and integrate other people's beliefs or values, which is a necessary condition for the internalization of external motivation; When individuals feel the efficacy brought about by exercise, they are more willing to engage in it; an individual's perception of competence can promote both intrinsic motivation and the internalization of extrinsic motivation; Cognitive evaluation theory categorizes the external environment into control and information, with the external informational environment fostering an individual's internal motivation and subsequent conduct and the external controlling environment having the opposite impact (Gute et al., 2022). According to Ames' situation theory, informational contexts that promote choice and self-control foster the development of internal motivation directly. According to research Gao et al. (2020), autonomy supports perception, intrinsic motivation, and self-determination motivation can be predicted positively. Coaching autonomy support encourages athletes to develop themselves through training and competition, improves skills in cooperative learning, and promotes athletes' attribution of sport to their efforts, giving them the impression that their time and effort in the sport are worthwhile, thereby naturally fostering internal motivation.

### The direct effect of coaching support behavior on mental toughness

Previous quantitative studies have explored the formation mechanism of mental toughness from the perspective of coaches' autonomous support, and the author found that three types of coaching support behaviors (autonomy, competence, and relational support) can significantly and positively predict mental toughness, which is consistent with the view of many qualitative studies. As Grossi et al. (2021), believe that, in the process of building the mental toughness of athletes, coaches should not only impose strict requirements but also encourage athletes more, view them as an independent individual, and cultivate autonomy; Shannon et al. (2021) noted that coaches could effectively improve athletes' mental toughness through competition, training, and targeted feedback. At the same time, a harmonious and effective coach-athlete relationship can promote sports engagement, and sports investment is conducive to stimulating athletes' resistance to adversity. Resilience reflects an individual's capacity to recover from adversity and is a trait emphasized by mental toughness. Athletes experience trust, respect, and encouragement



under various supportive behaviors, view themselves as valuable individuals and form a strong sense of self-efficacy; at the same time, they have access to many resources for stress coping and emotional control, which help them overcome adversity and difficulties, and in the process to hone the will, enhance the mental toughness. This suggests that coaches should foster a positive coaching atmosphere and improve their athletes' mental toughness.

### **Basic psychological needs satisfaction, self-esteem, mediating role between coaching support behavior, and mental toughness**

#### **(1) The mediating role of the coach to satisfy the basic psychological needs**

Consistent with prior research, the supportive actions of coaches can be satisfied by basic psychological needs and increase athletes' mental toughness. Longitudinal research of coaches' interpersonal conduct using youth football players as subjects revealed that coaches' self-support behavior could satisfy the fundamental psychological needs of athletes and has a positive predictive effect. The study also found that the coach's ability support and relationship support have three basic psychological needs and varying degrees of predictive effect, indicating that coaches' autonomous support, relationship support, and ability support behaviors are significant factors in promoting athletes' basic psychological needs.

Notably, the three support behaviors influence mental toughness via the ability need factor in the fundamental psychological requirements, indicating that fulfilling ability needs is necessary for Chinese athletes to develop mental toughness. Coaches' acknowledgment of athletes' capacity to attain their goals, assistance enhancing their competitive level, and helpful feedback more accurately represent athletes' skill requirements. Athletes will feel they have strength and advantages in sports if their ability needs are met, and their self-efficacy will improve appropriately. Self-efficacy is also an essential component of mental toughness; it is a person's high confidence in his capacity to achieve a certain objective. The great majority of athletes with high mental toughness exhibit high self-efficacy in sports, according to a study. Lou Hu et al. also noted that athletic ability is a significant element influencing mental toughness; it is considered that athletic ability comprises both physical-related endurance capacity and technical level, as well as training situation. If an athlete is technically proficient and has much experience, his coping mechanisms will be more appropriate and successful. If an athlete accomplishes considerable training gains, his confidence and motivation will be enhanced. This suggests that coaches should focus more on assisting athletes in the areas mentioned above to satisfy the needs

of athletes' talents and enhance their self-efficacy, which leads to mental toughness.

#### **(2) The sequential mediating effect of satisfaction of basic psychological needs and self-esteem**

According to the research, self-esteem is favorably correlated with fulfilling three fundamental psychological demands. Consequently, the relevance of self-esteem in the chain mediation model is not only represented in its beneficial influence on mental toughness, but it also increases the satisfaction of individual autonomy needs and connection needs, which has a favorable effect on the mental toughness of athletes. "Titleism" has been prevalent in competitive sports in China for a very long time, the training of professional athletes is guided by sports performance, and paternalistic and authoritative management often appears in sports teams. This also makes the coaches focus on giving the athletes ability support in pursuit of performance. It inhibits the cultivation and development of an athlete's autonomy and ignores the concern for the athlete's life. This can also lead to a misalignment of the athlete's values. In contrast to Western countries, coaches in Eastern countries frequently provide full support to athletes in training, competition, and life, emphasize openness and independence, advocate encouragement and praise, adhere to the rational philosophy of "seeking common ground while reserving differences," and foster a positive sports environment. This shows that coaches cannot overlook self-support and relational support despite emphasizing ability support.

From the perspective of the effect of the study, the direct effect of coach support behavior on athletes' mental toughness is medium to small, and the mediating effect of ability is even smaller. On the other hand, the variable of self-esteem showed a tendency for a large effect, indicating that coach support increases the athlete's self-esteem by improving the athlete's basic needs (autonomy, competence, and relationships), ultimately leading to greater mental toughness. Self-esteem is a key personality feature that not only improves mental wellness but also substantially impacts the growth of human potential. According to Maslow's theory of the hierarchy of needs, satisfying self-esteem requirements is a prerequisite for achieving self-actualization. Mental toughness emphasizes the "peak experience" process of self-actualization. Self-actualization is related to the satisfaction of a person's high-level psychological needs and the development of their potential. Athletes with high self-esteem are adept at discovering their own positive ideals, but also have high self-esteem, are more confident in the face of losses and adversity, and can deal with a variety of situations with composure, demonstrating psychological resilience.

Overall, the supportive behavior of coaches may fully address the three basic psychological demands of athletes, increasing the athlete's self-esteem gain and playing a favorable role in the development of mental toughness. Visible, building mental resilience requires not only the tempering of adversity but also the support of the external environment and the cultivation of the individual's internal resources.

### **There are differences in the influence of the satisfaction of basic psychological needs on the formation of internal motivation**

Compared to competence and a sense of belonging, the predictive power of autonomous support perception to the sense of autonomy was shown to be weak. Although self-determination theory asserts that self-satisfaction is the most important of the three basic psychological needs, it has a moderating effect on competency and sense of belonging, and the content of choice and self-decision contained in the sense of autonomy, with content such as democratic behavior and positive feedback in coaching autonomous support, has a natural consistency. However, in the context of oriental culture, this influence is restrained and diminished. The cultural background of East Asia promotes social harmony and significance; nevertheless, this collectivism does not appreciate autonomy or independence (2022). Moreover, collective sports projects emphasize participation and collaboration (such as volleyball). In these highly social activities, belonging becomes crucial in developing intrinsic motivation for self-determination motivation. Although competence is also an important antecedent variable in the formation of intrinsic motivation and self-determination motivation, when individuals have a strong sense of efficacy for an activity, they are more willing to engage in it. The internalization of intrinsic and extrinsic motivation follows, but this study found that its effect is less than belonging (2022). This phenomenon can be explained by the fact that a professional athlete's perception of their ability is formed during the early stages of training. As the competition level and level increase, their skill progress decreases with the boundary.

### **Conclusion**

Significantly negative correlations exist between coaches' autonomous support and athletes' psychological tiredness, indicating that coaches' autonomous support can block athletes' psychological fatigue. Coaches' autonomous support can not only directly influence athletes' psychological fatigue, but also indirectly influence psychological fatigue and its various dimensions (reduced sense of achievement, emotional/physical exhaustion, and

negative evaluation of sports) via the mediating effect of fundamental psychological needs. The authors investigate coaching autonomy support, the process and mechanism of the construction of the internal motivation of professional athletes, and the differences in the formation processes of intrinsic motivation of the three fundamental psychological demands. According to research, basic psychological requirements somewhat mediate the relationship between perceptions of autonomy support and intrinsic motivation. However, the influence of autonomy was insignificant concerning belonging and competence. The findings are useful for guiding the training and competition of elite athletes, maximizing their potential, and preventing psychological fatigue. The coach should follow the staged goals and tasks, provide more personalized coaching for athletes, and provide timely and effective information feedback so that athletes can clarify their tasks and roles in the team, improving the team project's sense of belonging and cohesion.

### **Theoretical Implications**

This study has important theoretical ramifications because, previously, very few studies examined the effects of good coaching behavior on students' intrinsic motivation. In this sense, this study offers a substantial theoretical foundation for understanding the relationship between coaching behavior and student intrinsic motivation. In addition, this study demonstrates that with effective measurement and adequate responsibility management, coaches can enhance the learning materials and methods for the athletes' improved and advanced learning and positive attitude development. This study demonstrates a considerable association between students' mental health and learning ability. Similarly, the study gives a comprehensive understanding of the relationships between the various elements that influence the performance of individual athletes and enhance their mental capacity for supportive and successful coaching behavior.

### **Practical Implications**

This study also gives important practical implications that must be considered to increase pupils' intrinsic motivation. This study begins by emphasizing that coaches must be effective and adjust and inspire students to foster the growth of intrinsic motivation. When kids are presented with external incentives, they will have a greater potential to absorb them and achieve advanced levels of internal motivation. Trainers can alleviate their students' mental strain and tiredness by inspiring their students. As a result, the positive

development enhances athletes' intrinsic desire and facilitates optimal learning. These aspects must be taken into account because the internal motivation of athletes aids in developing their mental capacity and performance for advanced development. The study does not focus on school- and club-level athletes, but its findings can be generalized to other national and international-level athletes. It is because effective performance and realistic management enhance the athletic performance of athletes by stimulating their intrinsic motivation. In this way, it is also the athletes' responsibility to increase their motivation level through positive thinking, and it is the job of coaches to create a happy working atmosphere.

## References

- Chamarro, A., Oberst, U., Cladellas, R., & Fuster, H. (2020). Effect of the frustration of psychological needs on addictive behaviors in mobile videogamers—the mediating role of use expectancies and time spent gaming. *International journal of environmental research and public health*, 17(17), 6429. <https://doi.org/10.3390/ijerph17176429>
- Coterón, J., Franco, E., Ocete, C., & Pérez-Tejero, J. (2020). Teachers' psychological needs satisfaction and thwarting: Can they explain students' behavioural engagement in physical education? A multi-level analysis. *International journal of environmental research and public health*, 17(22), 8573. <https://doi.org/10.3390/ijerph17228573>
- Gao, J., Wang, J., & Wang, J. (2020). The impact of pro-environmental preference on consumers' perceived well-being: The mediating role of self-determination need satisfaction. *Sustainability*, 12(1), 436. <https://doi.org/10.3390/su12010436>
- Grossi, N. R., Batinic, B., & Moharitsch, S. (2021). Sleep and health: examining the relation of sleep to burnout and well-being using a consumer fitness tracker. *Health and Technology*, 11(6), 1247-1257. <https://doi.org/10.1007/s12553-021-00603-0>
- Guo, L., Hu, X., Wei, X., & Cai, X. (2020). The influence of personal motivation and environmental stimuli on customer participation and engagement behavior: the mediating role of experience evaluation. *Journal of Hospitality and Tourism Technology*, 11(4), 643-666. <https://doi.org/10.1108/JHTT-02-2020-0043>
- Gute, D., Schlögl, S., & Groth, A. (2022). Keep on Running! An Analysis of Running Tracking Application Features and Their Potential Impact on Recreational Runner's Intrinsic Motivation. In *International Conference on Human-Computer Interaction* (pp. 359-373). Springer. [https://doi.org/10.1007/978-3-031-05412-9\\_25](https://doi.org/10.1007/978-3-031-05412-9_25)
- Howladar, M. H. R., & Rahman, M. S. (2021). The influence of servant leadership on organizational citizenship behavior: the mediating effect of organizational commitment. *The South East European Journal of Economics and Business*, 16(1), 70-83. <https://doi.org/10.2478/jeb-2021-0006>
- Hoxha, S., & Çetin, F. (2020). The effect of psychological needs on task performance with the mediating role of work engagement: A sample from a public organization in Kosovo. *İş ve İnsan Dergisi*, 7(1), 1-11. <http://doi.org/10.18394/iid.686542>
- Kim, B., & Lee, Y. (2020). The moderation effect of self-determined motivation in the relationship between basic psychological needs and continued behavior of participants of rhythmic exercises. *Korean Journal of Leisure Recreation & Park*, 44(4), 49-61. <https://doi.org/10.26446/kjlrp.2020.12.44.4.49>
- Liu, Z., Li, T., & Diao, H. (2020). The Influence of Multi-assessment Model on the Motivation of Adults' English Listening and Speaking Learning. *Theory and Practice in Language Studies*, 10(9), 1086-1093. <https://doi.org/10.17507/tpls.1009.11>
- Selvi, K., & Bozo, Ö. (2020). The dark side of bodybuilding: the role of bodybuilding activities in compensation of frustrated basic psychological needs. *Motivation and Emotion*, 44(2), 190-208. <https://doi.org/10.1007/s11031-019-09805-6>
- Seyedi, M., Mohammadi, F., Dana, A., & Esmaili, M. (2022). A Comparison Between Sports Motivation and Social Physique Anxiety between Blind and Visually Impaired Elite Athletes in Individual and Team Sports. *International Journal of Motor Control and Learning*, 4(2), 26-30. <https://doi.org/10.52547/ijmcl.4.2.26>

## Future Directions

This study aimed to determine the association between coaching behavior and athletes' intrinsic drive. Future research must comprehend the moderating effect of student learning behavior on the relationship between coaching behavior and athletes' intrinsic motivation. Future research must also examine the moderating effect of student mental development on the relationship between coaching behavior and the intrinsic drive of athletes. Lastly, future research must examine the moderating effect of teaching effectiveness on the relationship between coaching conduct and players' intrinsic drive.

- Shannon, S., Prentice, G., & Breslin, G. (2021). Athletes' psychological needs and coaches' interpersonal behaviors: A within-person latent profile analysis. *Journal of Sport and Exercise Psychology*, 43(1), 71-82. <https://doi.org/10.1123/jsep.2019-0295>
- Stieler, E., Costa, V. T. d., Lôbo, I. L. B., Noce, F., Esteves, A. M., Mello, M. T. d., & Silva, A. (2022). Training load, stress, recovery, mood, and motivation of athletes with spinal cord injury in wheelchair rugby during a competitive preseason. *Motriz: Revista de Educação Física*, 28, 1-7. <https://doi.org/10.1590/s1980-657420220006821>