

NEED-SUPPORTIVE COACHING BEHAVIOUR,
SELF-EFFICACY, SUBJECTIVE TASK VALUE,
GOAL ORIENTATION AND ENGAGEMENT
AMONG CHINESE HIGH SCHOOL
FOOTBALL PLAYERS

JIANG CHUANTONG

UNIVERSITI PENDIDIKAN SULTAN IDRIS

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NEED-SUPPORTIVE COACHING BEHAVIOUR, SELF-EFFICACY,
SUBJECTIVE TASK VALUE, GOAL ORIENTATION AND ENGAGEMENT
AMONG CHINESE HIGH SCHOOL
FOOTBALL PLAYERS

JIANG CHUANTONG

THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR THE
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ABSTRACT

The purpose of this study was to investigate the relationship between need-supportive coaching behaviour, self-efficacy, subjective task value, goal orientation and engagement among Chinese high school football players, and the mediating role of self-efficacy, subjective task value, and goal orientation in the relationship between need-supportive coaching behaviour and athlete engagement, to better understand the determinants and mechanisms of athlete engagement. Participants were 385 Chinese high school football players (228 boys; 157 girls; $M_{age} = 16.07$ years; $SD = 1.15$; range = 14-19 years) on 20 teams from 45 high schools using a proportional stratified random sampling method. They completed a set of previously validated questionnaires, including the Interpersonal Behaviours Questionnaire (IBQ), Self-efficacy Questionnaire for Soccer (SEQ-S), Subjective Task Value (STV), The Task and Ego Orientations Questionnaire (TEOSQ) and Athlete Engagement Questionnaire (AEQ). A multivariate mediation model was tested using Structural Equation Modeling (SEM) in response to the research questions. Results showed that need-supportive coaching behaviour ($\beta = .097$), self-efficacy ($\beta = .246$), subjective task value ($\beta = .517$), and task orientation ($\beta = .246$) had positive effects on athlete engagement, while ego orientation ($\beta = .061$) had no significant effects. Additionally, the results also showed that self-efficacy ($\beta = .082$), subjective task value ($\beta = .114$), and task orientation ($\beta = .064$) mediated the relationship of need-supportive coaching behaviour on athlete engagement, while ego orientation ($\beta = .009$) did not contribute to the indirect effect. As a conclusion, these findings demonstrate that need-supportive coaching behaviour, self-efficacy, subjective task value, and task orientation are important factors in promoting athlete engagement. The study implicates that encouraging and guiding coaches to adopt need-supportive coaching style is an effective motivational strategy, which can not only directly predict athlete engagement, but also indirectly affect athlete engagement through self-efficacy, subjective task value and task orientation.

**TINGKAH LAKU JURULATIH YANG DIPERLUKAAN, SELF EFFICACY,
SUBJECTIVE TASK VALUE, ORIENTASI MATLAMAT DAN
PENGLIBATAN DALAM SUKAN BOLA SEPAK DALAM
KALANGAN PELAJAR SEKOLAH
MENENGAH DI CHINA**

ABSTRAK

Tujuan kajian ini adalah untuk mengenalpasti hubungan tingkah laku jurulatih yang diperlukan, *self efficacy*, *subjective task value*, orientasi matlamat dan penglibatan dalam sukan bola sepak dalam kalangan pelajar sekolah menengah di China. Kajian ini juga mengkaji kesan *mediator self-efficacy*, *subjective task value* dan orientasi matlamat dan hubungan di antara tingkah laku jurulatih yang diperlukan dan penglibatan atlet. Peserta kajian adalah seramai 385 pemain bola sepak sekolah menengah di Negeri China (228 lelaki; 157 perempuan; Umur = 16.07 tahun; SD = 1.15; julat = 14-19 tahun) dari 20 pasukan daripada 45 buah sekolah menengah. Kaedah pensampelan rawak berstrata berkadar digunakan dalam kajian ini. Peserta kajian dikehendaki menjawab soal selidik *Interpersonal Behaviours Questionnaire* (IBQ), *Self-efficacy Questionnaire for Soccer* (SEQ-S), *Subjective Task Values* (STV), *Task and Ego Orientations Questionnaire* (TEOSQ) and *Athlete Engagement Questionnaire* (AEQ). Satu model pengantaraan pelbagai pembolehubah diuji menggunakan *Structural Equation Modelling* (SEM) bagi menjawab persoalan kajian. Hasil kajian menunjukkan bahawa tingkahlaku jurulatih yang diperlukan, ($\beta = .097$), *self-efficacy* ($\beta = .246$), *subjective task value* ($\beta = .517$) dan orientasi tugas ($\beta = .246$) mempunyai kesan positif terhadap penglibatan sukan dalam kalangan pemain bola sepak sekolah menengah di China, sementara orientasi ego ($\beta = .061$) tidak mempunyai kesan yang signifikan. Selain itu, keputusan juga menunjukkan bahawa *self-efficacy* ($\beta = .082$), *subjective task value* ($\beta = .114$) dan orientasi tugas ($\beta = .064$) menjadi pengantara hubungan tingkah laku jurulatih yang diperlukan terhadap penglibatan atlet, walaupun bagaimanapun orientasi ego ($\beta = .009$) tidak menyumbang kepada kesan tidak langsung. Kesimpulannya, hasil kajian ini menunjukkan bahawa tingkah laku jurulatih yang diperlukan, *self-efficacy*, *subjective task value* dan orientasi tugas adalah faktor penting dalam mempromosikan penglibatan atlet. Kesimpulannya galakan dan bimbingan jurulatih untuk memberi penekanan kepada tingkah laku jurulatih yang diperlukan sebagai salah satu strategi motivasi yang efektif, dan secara langsung berupaya mempromosikan penglibatan atlet, malah secara tidak langsung mempengaruhi penglibatan atlet dengan meningkatkan *self-efficacy*, *subjective task value*, dan orientasi matlamat.

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LIST OF ABBREVIATIONS

AE	Athlete Engagement
AEQ	Athlete Engagement Questionnaire
AGFI	Adjusted Goodness of Fit Index
AGQ	Achievement Goals Questionnaire
AGT	Achievement Goal Theory
AMOS	Analysis of Moment Structures
AS	Autonomy Support
ASES	Athlete Self-Efficacy Scale
AV	Attainment Value
AVE	Average Variance Extracted
BC	Bias Corrected
BPN	Basic Psychological Need
BPNT	Basic Psychological Needs Theory
CB-SEM	Covariance-Based Structural Equation Modelling
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Composite Reliability
CS	Competence Support
EO	Ego Orientation
ESSES	Endurance Sport Self-Efficacy Scale
EVT	Expectancy-Value Theory

GFI	Goodness of Fit Index
GO	Goal Orientation
GSES	General Self-Efficacy Scale
IBQ	Interpersonal Behaviours Questionnaire
IV	Intrinsic Value
MLE	Maximum Likelihood Estimation
NFI	Normed Fit Index
NNFI	Non-Normed Fit Index
NSCB	Need-Supportive Coaching Behaviour
POSQ	Perceptions of Success Questionnaire
PSES	Physical Self-Efficacy Scale
RMSEA	Root-Mean-Square Error of Approximation
RO	Research Objectives
RQ	Research Questions
RS	Relatedness Support
SCT	Social Cognitive Theory
SDT	Self-Determination Theory
SE	Self-Efficacy
SEE	Self-Efficacy for Exercise
SEM	Structural Equation Modelling
SEQ	Self-Efficacy Questionnaire
SEQ-S	Self-Efficacy Questionnaire for Soccer
SMC	Squared Multiple Correlations
SOQ	Sport Orientation Questionnaire

SPSS	Statistical Package for Social Sciences
SRMR	Standardized Root Mean Residual
STV	Subjective Task Value
TEOSQ	Task and Ego Orientations Questionnaire
TLI	Tucker-Lewis Index
TO	Task Orientation
UV	Utility Value

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- F2 Chuantong Jiang, Norsilawati Abdul Razak, Nelfianty Mohd Rasyid (2023). The Relationship between Perceived Coach's Competence Support, Task Orientation, Self-Efficacy and Engagement of Chinese High School Football Players. *International Journal of Human Movement and Sports Sciences*, 11(6), 1266 – 1276. DOI:



CHAPTER 1

INTRODUCTION



1.1 Background of the Study

Over the years, the Chinese government has placed a great emphasis on the development of football, providing it with strong, sustained support. Since 2015, Chinese government has formulated a Mid - and Long-term Development Plan for Chinese football (2016-2050), expecting to increase the scale of youth football participation through the campus football model, so as to improve the popularization and competitive level of football (Wang & Fan, 2018). However, the reality is that



football is far less popular in Chinese schools than many other sports, such as basketball, table tennis, swimming and badminton (Chai & Lin, 2018).

In addition, it is found that teenagers, especially high school students, can maintain high enthusiasm in the early stage of participating in football, but such enthusiasm is not lasting, and a considerable number of high school students have the phenomenon of enthusiasm fading or even premature disengagement (Wu, 2016). Therefore, how to improve the engagement of campus football players is an urgent challenge.

Just as the participation of athletes in the Olympic spirit stated in the Olympic

Creed, the priority target of campus football in China is for adolescents to engage in and enjoy the fun of football. Coaches are increasingly emphasizing engagement to create optimal team dynamics and performance outcomes. However, Engagement is similar to Stephen Hawking's Brief History of Time, which is well known, studied, but not well understood by most people. This is due to the different contexts in which the term is used and the lack of a unified definition for the concept of engagement. Hence, comprehending the concept of engagement, its mechanics, and strategies to enhance athletes' engagement level is indispensable in attaining the desired level of achievement (De Francisco et al., 2018; Goldsmith, 2020).

Looking at it from a motivational standpoint, scholars have explored the engagement concept, which refers to the “energized, directed, and sustained action” of individuals (Skinner et al., 2009, p. 8), and how it reflects their beliefs, goals, and values (Eccles & Wang, 2012). They have also investigated the factors that lead to engagement and its effects in different areas of life (Podlog et al., 2015), such as learning engagement (Perkmann et al., 2020) and work (job) engagement (Hakanen & Schaufeli, 2012). The positive psychology movement has also had a significant impact on sport psychology, as noted by Hodge et al. (2009). In addition, Sports psychology scholars have suggested the idea of athletes’ engagement (Lonsdale, Hodge, & Jackson, 2007; Lonsdale, Hodge, & Raedeke, 2007).

In sports, athlete engagement (AE) refers to sustained, positive, cognitive-affective experiences, characterized by “confidence, dedication, enthusiasm, and vigour” (Hodge et al., 2009, p. 187). The importance of athlete engagement in achieving positive outcomes has been highlighted in previous studies. For instance, studies have shown that when athletes are engaged in their activities, they experience lower burnout levels, as demonstrated by DeFreese and Smith (2013). Additionally, athletes who are engaged have been found to have better self-regulation abilities, according to the study conducted by Martin and Malone (2013). Another benefit of athlete engagement is the

frequency of flow experiences, as reported by Hodge et al. (2009). Finally, athletes who strive for perfection have been shown to have a heightened sense of perfectionistic strivings, further emphasizing the importance of athlete engagement (Jowett et al., 2016). Therefore, athlete engagement is considered as a significant indicator of athletes' positive experiences, positively impacting their sports skills, performance, and personal development (De Muynck et al., 2020; Hodge et al., 2009; Martins et al., 2014).

Although athlete engagement is crucial, not all athletes are actively involved in campus football activities, and a large proportion of teenagers fail to gain extensive benefits from football (Xu, 2020). Therefore, exploring the internal mechanism and external conditions of promoting athlete engagement is a necessary prerequisite for realizing the current goals of Campus football in China. Over the years, educators and scholars have expressed an interest in recognizing and comprehending the factors that play a role in athlete engagement. Researchers have identified social and contextual factors as variables contributing to athlete engagement (Cai et al., 2020; Coutinho et al., 2018; De Muynck et al., 2020; Nicholls et al., 2016), including parental attitudes, the impact of peers, and the behavior of coaches. In addition, researchers also recognize key individual cognitive factors that directly or indirectly influence athlete engagement (Weiss et al., 2012). Therefore, a further review of these literatures can provide a conceptual framework for the research on campus football athlete engagement in China.

On the one hand, previous studies have found need-supportive coaching behaviour, as social and contextual factors, are related to athlete engagement. For the athlete, the coach holds the utmost significance as the primary social and contextual factor, playing the most direct role in shaping the sporting experience and motivating the athlete with a range of strategies (Vianney, 2020; Wang & Fan, 2018). Studies found that the traditional coaching behaviours, such as autocratic and controlling coaching leadership style, make the training process lack of humanistic care and ignore the importance of sports satisfaction, which lead to the withdrawal and disengagement of football participants (Wei et al., 2019; Xu, 2020). As a result, the way coaches interact with athletes is a crucial factor in determining their level of engagement, which is essential for the athletes' overall performance and success (Smith et al., 2016).

The influence of the psychological atmosphere in sports coaching created by coaches on athletes' motivation and behaviour can be interpreted from many theoretical perspectives. Previous studies have explored the motivational climate in sports context under the framework of achievement goal theory (AGT). However, recent studies have found that the social environmental dimension emphasized in self-determination theory is also related to athlete engagement (Tessier et al., 2013). Coaches' interpersonal behaviour styles significantly affect athletes' experiences in sport, and ultimately, their

performance. Athletes have three types of basic psychological needs (BPN) that have to be satisfied in order to thrive and achieve their goals. The coach's interpersonal behaviour styles can either support or thwart these needs, affecting athletes' experiences in sport (Deci & Ryan, 1985). Overall, coaches who adopt a need-supportive coaching behaviour are conducive to athletes' motivation and engagement (Aelterman et al., 2013; Reynders et al., 2019).

Moreover, previous research has provided that self-efficacy (SE), subjective task value (STV), and goal orientation (GO), as the individual internal motivation factors, are related to athlete engagement. The motivation of individuals to participate in sports is not only derived from the interaction with their environment, but also from the personal characteristic of their internal. Previous studies have provided that SE, STV, and GO are essential internal motivational processes to initiate, continue and sustain the motivation of sports participation (Çetinkalp & Turksoy, 2011; Liem & Martin, 2012; Smith et al., 2015). First, several studies have discussed self-efficacy and sports participation or athlete engagement. Specifically, high self-efficacy athletes tend to exhibit greater perseverance, enduring difficult challenges with a more positive attitude. They are more likely to put in sustained effort, with less anxiety and a greater sense of positivity towards their exertions (Çetinkalp & Turksoy, 2011; Liem & Martin, 2012; Ruiz-González et al., 2015).



Next, research on subjective task value and athlete engagement have shown that individual subjective judgment of task value can forecast their intentions and actual decisions to continue engaging in various activities, such as engaging in sports (Aunola et al., 2018; Pang & Ha, 2010; Wigfield & Eccles, 2020), which is the key components in promoting athlete engagement (Weiss et al., 2012). The results of a number of studies have indicated that children and adolescents tend to participate in physical activities that they consider to be engaging, significant, and beneficial, particularly within the realms of sports and physical education in schools. In other words, individuals tend to participate in tasks which are interesting, important and useful for their personal growth and development. This may significantly affect their motivation to stay interested and engaged in physical activities, leading to better overall physical and mental health (Gao, 2009; Wigfield & Eccles, 2020; Zhang et al., 2012).

Finally, there are both substantial empirical evidence and theoretical support that adopting a task-oriented approach can have significant benefits for athletes, including increased motivation, engagement (Kuczek, 2013). However, according to Rottensteiner et al. (2015), a noteworthy finding was that revealed that persistence in sport was significantly influenced by ego orientation, which had a positive direct effect. In contrast, task orientation had no significant direct effect on persistence. Furthermore,



multiple studies also have indicated that engagement in sports was related to both task and ego orientation (Chen et al., 2013; Domínguez-Escribano et al., 2015; Lower et al., 2014). In general, although several previous studies have analyzed how goal orientation influences athlete engagement, the results of the influence of task and ego orientation on athlete engagement are still controversial and need to be further studied and confirmed.

In conclusion, previous studies on athlete engagement have provided the concept of need-supportive coaching behaviour, which, as a social and contextual factor, refers to coach's autonomy, competence and relatedness support. Meanwhile, studies have also verified the contributions and roles of personal motivation factors on athlete engagement, and proposed that SE, STV, and GO are predictors of participation motivation in adolescent football players. Although most previous studies were conducted in Western societies and contexts, these studies provide the necessary theoretical foundation for discussing the coach factors and individual internal factors that influence athlete engagement and proposing a conceptual framework of the engagement of Chinese campus football players.



1.2 Problem Statement

The problem to be addressed was the lack of engagement among Chinese high school football players, which might lead to their premature disengagement from the sport. This is not conducive to the national strategy of improving the popularization and competitive level of football in China through the campus football model. Over the years, research on coaching behaviour, together with the accumulation of practitioner wisdom, have showed that athlete's sports experience can be significantly influenced by coaches who employ various strategies to inspire and encourage them (Jackson-Kersey & Spray, 2016).



Gaining knowledge about how coaches motivate athlete engagement can lead to a deeper comprehension of the intricacies of human behavior in sports, and establish a framework for promoting positive sports experiences, as well as provide empirical evidence and motivational strategies for coaches to create a positive coaching climate and intervention on athletes' motivation to participate. Ultimately, this will result in practical implications in terms of potential benefits resulting from enhanced athlete engagement (e.g., reduced burnout, improved fun and facilitated flow experience), which in turn contributes to the main goal of improving football participation for Chinese campus football development.



To date, researchers have discussed the antecedents of athlete engagement from different perspectives. According to self-determination theory, previous studies have provided that need-supportive coaching behaviour, as social and contextual factors, can affect athletes' autonomous motivation and engagement (Aelterman et al., 2013; Berntsen & Kristiansen, 2020; De Muynck et al., 2020; Reynders et al., 2019; Rottensteiner et al., 2015). Specifically, coaches have the ability to cultivate enduring motivation and engagement in athletes by providing assistance to satisfy their basic psychological needs. Meanwhile, from different theoretical perspectives, some researchers have proposed that self-efficacy, subjective task value, and goal orientation as personal factors are the key internal motivational processes to initiate, continue and sustain engagement in sports (Çetinkalp & Turksoy, 2011; Liem & Martin, 2012; Lower et al., 2014; Smith et al., 2015).

According to the reciprocal interaction model proposed by Bandura (1986) in social cognitive theory (SCT), there is a reciprocal relationship between behavioral processes and environmental and personal processes (Schunk & DiBenedetto, 2020). However, these previous studies have not paid attention to the interactive effects on athlete engagement between social context and personal factors, which do not have a simple influence but have an integrative influence on athlete engagement. Specifically,

while a few studies have investigated social context and personal factors that influence athlete engagement (De Muynck et al., 2020; Lower et al., 2014; Reynnders et al., 2019), little research has been conducted to investigate whether social-contextual factors (i.e., need-supportive coaching behaviour) have an indirect effect on athlete engagement mediated by personal factors (i.e., self-efficacy, subjective task value, and goal orientation). In other words, few studies investigating need-supportive coaching behaviour, self-efficacy, subjective task value, and goal orientation as antecedents of athlete engagement have been found within one study. In conjunction to this issue, more multi-dimensional studies need to be investigated the psychological factors influencing athlete engagement in football.

This study aims to extend this field of research by developing a contextual model that logically integrates social context, personal factors and engagement behaviour, so as to better comprehend the determinants and influencing mechanisms of athlete engagement. The social context factors in this study is need-supportive coaching behaviour. The personal factors influencing athlete engagement are self-efficacy, subjective task value, and goal orientation. Therefore, the purpose of this study is to investigate the relationship of: (1) need-supportive coaching behaviour, (2) self-efficacy, (3) subjective task value, (4) goal orientation, and (5) athlete engagement.

1.3 Objectives of the Study

The general objective of this research was to determine relationships between need-supportive coaching behaviour, self-efficacy, subjective task value, goal orientations and athlete engagement among Chinese high school football players.

Specifically, there are seven (7) aims of the current research. These are:

- (1) To determine relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players.
- (2) To identify relationship between self-efficacy and athlete engagement among Chinese high school football players.
- (3) To confirm relationship between subjective task value and athlete engagement among Chinese high school football players.
- (4) To clarify relationship between the task and ego orientation and athlete engagement among Chinese high school football players.
- (5) To know mediation effect of self-efficacy on the relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players.

- (6) To detect mediation effect of subjective task value on the relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players.
- (7) To identify mediation effect of the task and ego orientation on the relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players.

1.4 Research Questions

From the aforementioned research objectives, research questions to guide this study is, what is the relationship between need-supportive coaching behaviour, self-efficacy, subjective task value, goal orientation and athlete engagement? Table 1.1 provides an overview of the research questions that have been identified as crucial for achieving the research objectives. Specific questions to be answered include:

RQ1 : What is the relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players?

RQ2 : What is the relationship between self-efficacy and athlete engagement among Chinese high school football players?

RQ3 : What is the relationship between subjective task value and athlete engagement among Chinese high school football players?

RQ4 : What is the relationship between the task and ego orientation and athlete engagement among Chinese high school football players?

RQ5 : Does self-efficacy mediate relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players?

RQ6 : Does subjective task value mediate relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players?

RQ7 : Does the task and ego orientation mediate relationship between need-supportive coaching behaviour and athlete engagement among Chinese high school football players?

1.5 Conceptual Framework

This study aims to identify relationships between need-supportive coaching behaviour, self-efficacy, subjective task value, goal orientation and engagement among Chinese high school football athletes. The conceptual framework of the current study draws

from relevant theories and models. Figure 1.1 shows the theories used in this conceptual framework are the SDT (Deci & Ryan, 1985), SCT (Bandura, 1997), EVT (Eccles et al., 1983), and AGT (Nicholls, 1989). These theories lay the foundation for understanding the motivation and engagement of athletes.

As Deci and Ryan (1985) state, SDT emphasizes the importance of feeling satisfied with one's BPN in connection with intrinsic motivation, engagement, well-being, and engaging in behaviors in accordance with one's own values and goals (Berntsen & Kristiansen, 2019; Deci, 2017; Reynders et al., 2019). In the context of sports, when coaches provide support that satisfies these needs, athletes are more likely to experience greater satisfaction in their sport and be more motivated to continue participating. For instance, athletes who are offered autonomy support are more likely to feel in control of their sport and have a greater sense of ownership. Second, when coaches provide competence support to athletes, their sense of competence and confidence can increase. Last, providing relatedness support to athletes can increase their sense of belonging and connection to others. Therefore, SDT provides an adequate theoretical basis for understanding the positive effects of coaching.

Bandura's (1986) research highlights the crucial role of perceived self-efficacy in motivating individuals across various scenarios, a finding particularly relevant to the



study's aim of investigating the factors influencing athletes' participation in football. Self-efficacy, according to Bandura (1997), represents an individual's assessment of their capacity to accomplish specific tasks. Specifically, a person's subjective assessment of his or her self-efficacy determines how willing they are to engage in a given task. It is more likely that an individual will participate and exert effort if they feel confident in their ability to complete the task. However, if an individual doubts their capability to complete a task, they may choose to avoid it or put in less effort.

Eccles et al. (1983) proposed an achievement outcome prediction framework, emphasizing that a person's achievement outcomes are primarily determined by two factors: expectancy-related beliefs and subjective task value. In sports contexts, a person's subjective task value plays a significant role in their performance, effort, persistence, future participation willingness, and task selection. For example, those who place a high subjective value on sports activities are more likely to participate in them regularly. Overall, this theory provides a useful perspective for understanding factors that influence achievement outcomes, including sports behavior (Eccles et al., 1983; Gao et al., 2009; Gu et al., 2012; Gu et al., 2014; Xiang et al., 2004; Zhang et al., 2012).

Next, Nicholls' framework revolves around the concept of individual rational behavior, proposing that achievement goals determine achievement behavior and



decision-making processes. It emphasizes individuals' desire to demonstrate their abilities and how this desire influences their behavior. The framework also introduces two different ability concepts, differentiation and undifferentiation, which are related to orthogonal achievement goal orientations of task and ego. Task orientation focuses on improving skills and mastering tasks, while ego orientation focuses on demonstrating superiority and being better than others. Nicholls' achievement goal framework highlights the importance of the desire to demonstrate ability in shaping individual behavior (Lochbaum et al., 2016).

Independent variable used in this study is need-supportive coaching behaviour, which includes three sub-dimensions: coach autonomy, competence, and relatedness support behaviours. The need-supportive coaching behaviour has been defined as an interpersonal behaviour that promotes athletes' BPN satisfaction by supporting their "autonomy, competence, and relatedness" (Rocchi et al., 2016, p. 2). A coach's support for an athlete's BPN is directly associated with the motivation of athletes and their engagement in training and competitions.

According to Rocchi et al. (2017), autonomy support refers to giving the individual a choice, presenting rationale for the task, acknowledging the perspectives of others, allowing the individual to take initiative, and encouraging task engagement.



Competence support refers to fostering positive expectations, promoting learning efforts, giving positive feedback, acknowledging improvements, providing confidence in others to achieve their goals, and encouraging others to develop their skills. Relatedness support is described as being understanding, supportive, and caring, showing an interest in others' activities, and showing genuine affection for them.

Meanwhile, the dependent variable is athlete engagement. According to Lonsdale, Hodge and Raedeke (2007), athlete engagement can be defined as a long-term, stable, and positive experience of sport characterized by “confidence, dedication, enthusiasm, and vigour” (p. 472). Confidence refers to the belief that an individual is capable of attaining a high level of performance and achieving the goals he or she has set for themselves. Dedication signifies an intention to devote time and effort to the achievement of a goal that one deems to be of importance. Enthusiasm refers to the feeling of excitement and pleasure associated with an activity. Lastly, vigour was described as a feeling of vitality, both physically and mentally, which is crucial for sustained effort over the long term.

Mediation variables employed in the present study are self-efficacy, subjective task value and goal orientation. Individual factors, such as athletes' self-efficacy, subjective task value and goal orientation, have been considered as important sources



of athletes' engagement motivation in previous studies. At the same time, the individual characteristics of the athletes may also be affected by the coaches.

Self-efficacy refers to a person's ability and confidence to achieve goals in a given domain (Bandura, 1997). In sports, when a person believes they can succeed, they are more likely to fully engage in physical activities and overcome challenges. Even when faced with difficulties or failures, they are more likely to persist. In other words, athletes with high self-efficacy tend to exhibit more positive behaviors and performances. They are more willing to choose bigger challenges and demonstrate more effort and determination to achieve their goals. Additionally, they are usually more focused on the task and enjoy the process of working towards their goals, rather than worrying about failure or other negative outcomes.

Subjective task value refers to different individuals assigning different values to the same task (Eccles et al., 1983). It consists of four components: "intrinsic value, utility value, attainment value, and cost" (Eccles & Wigfield, 2020, p. 4). Among them, attainment value refers to the significance and satisfaction that an individual derives from completing the task. Intrinsic value refers to the pleasure derived from completing the activity. Utility value describes how helpful and meaningful a task or activity is to its future plans. Cost refers to the cost of taking into account the effort and emotion

required to participate in an activity. Although all four components influence the evaluation of task value, research has shown that most researchers in this field focus only on the first three features while ignoring cost.

Goal orientation is categorized into task and ego orientations. According to Nicholls (1989), task orientation means defining an individual's abilities and skills as the factors necessary to be able to effectively complete a task. This tendency is often associated with an improvement and mastery oriented mentality, where individuals focus on constantly improving their skill levels and abilities in order to better perform tasks. In contrast, ego orientation emphasizes self-centered behavior, often in order to gain external approval and praise. In this case, athletes act primarily to demonstrate their abilities and skills in order to defeat opponents or show off their superior performance, rather than focusing on the task itself. This mindset often leads individuals to focus too much on their performance and lose sight of the nature and goal of the task.

The survey sample is 385 football players from 45 high school football in 8 Regions of Zhaoqing City, China. There are a total of 58 high schools in Zhaoqing City, including 39 regular high schools and 19 vocational high schools. Of these, 45 high schools set up school football teams, conduct regular or intensive training, and

participate in China campus football leagues. Samples will be drawn from a total population of approximately 1,800 using a proportional stratified random sampling method (refer to population and samples in Chapter 3 for details).

Instruments of this study included 5 scales of construct measurement and 1 demographic variable questionnaire, with a total of 59 items. The interpersonal behaviours questionnaire (IBQ) in sport (Rocchi et al., 2016), self-efficacy questionnaire for soccer (SEQ-S) (Munroe-Chandler et al., 2008), subjective task value (STV) questionnaire (Stuart, 2003), the task and ego orientations questionnaire (TEOSQ) (Chen & Si, 1999), and the athlete engagement questionnaire (AEQ) (Lonsdale, Hodge, & Raedeke, 2007) are employed to assess athletes' perceptions of need-supportive coaching behaviour, self-efficacy, subjective task value, and engagement, respectively. The demographic variables used to describe the sample, including age, sex, sports location, grade, and football experience, are merely used to describe the respondents.

This research's conceptual framework is visually depicted in Figure 1.1, which presents a graphical representation of the theoretical underpinnings and key constructs that guide the investigation.

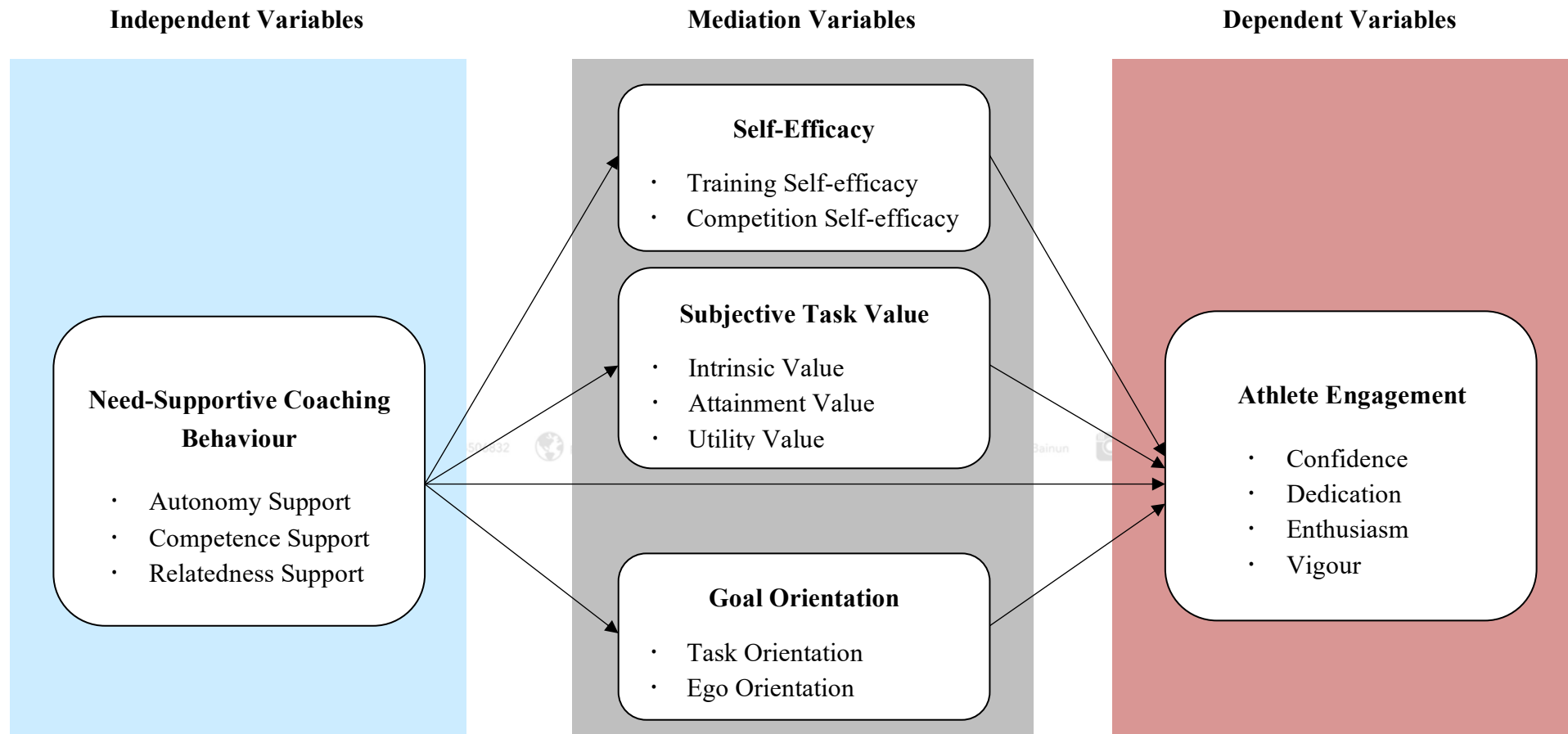


Figure 1. 1. Conceptual Framework



1.6 Importance of the Study

The results of this research would be used as information to practitioners and also can contribute to the theory. Investigated the relationship of need-supportive coaching behaviour and athlete self-efficacy, subjective task value, goal orientation and athlete engagement will extend the current body of information within sports literature regarding the determinant factors of athlete engagement. Further investigation into the influence mechanism of need-supportive coaching behaviour on athletes' engagement can help us understand how need-supportive coaching behaviour affects athletes' engagement and motivation process, as well as the mechanism behind such influence.

In addition, such research can provide a framework for promoting positive sports experiences and, in practice, have a practical implications on increasing athlete engagement.

The theoretical significance of this research is that it advances the research progress of engagement behaviour in sports context, and provides additional evidence of empirical research on the effect of need-supportive coaching behaviour to individual motivation on athlete engagement. The integration of these concepts of individual motivation from other theories with self-determination theory further expands the application of SDT in sports context. Moreover, this newly constructed conceptual

model has certain theoretical significance for promoting coaches' effective leadership and athlete motivation, and can provide theoretical reference for future research.

From a practical perspective, this research can offer more valuable information for the decision-making to organizations and personnel of Chinese campus football in order to promote the engagement of high school football players. For athletes, improving their engagement in training or competition is conducive to better athletic performance. Specifically, it can provide strategies for coaches to create a positive incentive atmosphere to satisfy the BPN of athletes, as well as a comprehensive multi-intervention framework for athlete engagement. When viewed at the national level, this study can provide reference for the formulation of campus football policies and guidelines, coach training and other aspects, which is of great practical significance for the realization of the main goal of improving football participation in Chinese campus football.

1.7 Study Limitations

In the context of Chinese sports, the theoretical and practical importance of investigating the relationship between need-supportive coaching behaviour and athletes'



self-efficacy, subjective task value, goal orientation and athlete engagement has been described in the previous section. However, due to the limitations of subjective and objective conditions, there are some limitations to this study. This study exclusively focuses on high school football players from 45 schools in 8 districts of Zhaoqing City, located in the Guangdong Province of China. The research employs an athlete self-report method to collect data, utilizing only questionnaires distributed among the participants. No other research instruments, such as interview protocols, were utilized in this study. Need-supportive coaching behaviour, self-efficacy, subjective task value, goal orientation, and athlete engagement levels are measured based only on respondents' perceptions rather than their true ability. Therefore, the data is obtained through the perception of interviewees.



Moreover, some aspects of the study are beyond the control of the investigator, such as factors that may be influenced by environment, time, individual participant differences, etc., which may negatively impact the reliability and validity of the research. Therefore, researchers need to carefully consider and describe these influencing factors when analyzing data and interpreting results, so as to ensure the accuracy and reliability of research conclusions. Specifically, the study participants may have suffered from mental fatigue, which is the effect commonly experienced by people after prolonged cogitative activity. Boksem et al. (2005) mentioned that “when



people become fatigued, they usually report difficulties in concentrating and focusing their attention on the tasks they are required to perform” (p. 107).

1.8 Operational Definitions

A solid quantitative research study must begin with the correct conceptualization of the variables. Understanding of operational definitions will help conceptualization (Onen, 2016). This study utilized relevant terms are defined below for clarity and understanding.

Football Player

A football player is an individual who has received training or possesses skills in the sport of football, and participates regularly in organized events and competitions.

Need-Supportive Coaching Behaviour

Berntsen and Kristiansen (2020) defined that need-supportive coaching behaviour is “as autonomy support accompanied by structure and interpersonal involvement” (p. 5).

Autonomy support accompanied by competence support (also known as structure) and relatedness support (also known as involvement) makes up the need-supportive



coaching style (Reynders et al., 2020; Reynders et al., 2019). In this study, need-supportive coaching behaviours refer to coach autonomy, competence, and relatedness support, and will be measured using the IBQ in sport (Rocchi et al., 2016).

Autonomy Support

According to Berntsen and Kristiansen (2020), autonomy support refers to a person's ability to take others' perspectives into consideration, acknowledge others' feelings, facilitate decision-making, and provide an appropriate rationale while minimizing external pressures. Mageau et al. (2015) defined that autonomy support was operationalized as acknowledging the feelings of others, explaining rules and demands, and providing the opportunity for initiative and choice (Deci, 2017; Reynders et al., 2019; Rocchi et al., 2016). In this study, autonomy support refers to the coaches' encouragement and support of athletes' decisions, and will be measured using the IBQ in sport (Rocchi et al., 2016).

Competence Support

Based on Smith et al. (2015), competence support provides guidance, instructions, and organization by the significant other regarding how to achieve success in the activity. Rocchi et al. (2016) defined that competence support refers to coaches recognize the growth of athletes, have positive expectations for them, believe that they have the



competence to achieve their goals, give positive feedback to athletes, and encourage them to learn to improve their skills (Reynders et al., 2019). In this study, competence support refers to coaches encourage athletes to promote abilities, provide feedback, recognize athletes' achievements, and will be measured using the IBQ in sport (Rocchi et al., 2016).

Relatedness Support

According to Rocchi et al. (2016), relatedness support is defined as being kind to athletes, taking an interest in their activities, liking them from the bottom of your heart, caring for them, and supporting them (Reynders et al., 2019). Relatedness support means an individual's perception that they are genuinely cared for and supported by an important other (Markland, Ryan, Tobin, & Rollnick, 2005, p. 820). In this study, relatedness support is defined as coaches' interest in athletes' activities, their desire to know athletes, and their willingness to take time with athletes, and will be measured using the IBQ in sport (Rocchi et al., 2016).

Self-Efficacy

According to Bandura (1997), self-efficacy refers to the belief that one has the ability to plan and carry out the actions required to achieve a desired goal. In sports, Wei et al. (2008) defined that self-efficacy is one's subjective evaluation of an individual's ability



to control their behavior and performance. Mouloud (2017) defines self-efficacy as the belief that an athlete will be able to perform the necessary behaviors to achieve their desired goals. In this study, the self-efficacy of athletes refers to how confident they are when faced with difficult situations, how focused they are during a difficult situation, how mentally tough they are throughout a competition, and how confident they appear in front of others, which will be measured using the SEQ-S (Munroe-Chandler et al., 2008).

Subjective Task Value

Eccles et al. (1983) defined subjective task value as the value assigned to different tasks based on their quality and how that influences the desire for them. According to different individuals' motivations and subjective opinions, the same activity may have a different value to them (Xiang et al., 2004). In a study by Gao et al. (2009), task values were defined as incentives for engaging in various activities. Based on Zhang et al. (2012), subjective task values are a means of motivating individuals to meet their goals, namely, meeting the needs of the individual through achievement tasks. In this study, subjective task values refer to how much athlete value a particular task, how much they enjoy completing it, how it fits in with their further planning, and will be measured using the STV questionnaire (Stuart, 2003).





Goal Orientation

An athlete's goal orientation is determined by how they perceive their abilities and accomplishments in terms of their task and ego orientations (Duda, 1989; Duda, 2001; Nicholls, 1989). According to Rottensteiner et al. (2015), task orientation implies that individuals define success and construe their abilities in a way that focuses on improvement and mastery of their abilities. According to Lochbaum, Kazak Çetinkalp, et al. (2016), ego orientation refers to an individual whose primary motivation is to demonstrate superior capabilities. In this study, ego orientation refers to an athlete's belief that he or she is the best relative to others, while task orientation refers to the fact that athletes work harder to gain knowledge and master skills, and have fun in the process, and will be measured using the TEOSQ (Chen & Si, 1999).

Athlete Engagement

According to Hodge et al. (2009), the term athlete engagement refers to a generalized positive attitude and cognition about one's sport as a whole, which is an enduring, relatively stable experience of sports. According to its definition, it is "characterized by confidence, dedication, enthusiasm, and vigour" (Hodge et al., 2009, p. 187). In this study, athlete engagement refers to an athlete who feels energized, excited, confident that he or she has the skills and ability to accomplish a goal and is willing to work hard for it, and will be measured using the AEQ (Lonsdale, Hodge, & Raedeke, 2007).



1.9 Summary

The study of athlete engagement is of utmost importance in sport settings due to its role in determining achievement level. So far, the theory and related research of athlete engagement, as well as the practical experience in sports, show the important role of athlete engagement. Therefore, it is extremely necessary to further investigate the mechanism of athlete engagement. In essence, this chapter gives a lead-in to the general objective of this study which is to investigate the relationship between need-supportive coaching behaviour, athletes' self-efficacy, subjective task value, goal orientation and athlete engagement among Chinese high school football players. The next chapter will look at the literature which explores the variables.