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COACH AUTONOMY SUPPORT, BASIC PSYCHOLOGICAL NEEDS AND SELF-DETERMINED MOTIVATION IN KICKBOXERS: A CONCEPTUAL MODEL AND DIAGNOSTIC FRAMEWORK

Mamarakhimov Azim Karakulovich
Independent Researcher,
Uzbekistan State University of Physical Education and Sport
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Abstract. Kickboxing is a full-contact combat sport that places high physical, technical and psychological demands on athletes. While the physical preparation of kickboxers has been studied extensively, the psychological mechanisms that sustain long-term training engagement remain insufficiently explored, particularly in Central Asian contexts. This article aims to develop a theoretically grounded conceptual model explaining how the coaching climate influences the quality of kickboxers' motivation, and to propose a corresponding diagnostic framework. The study is based on an integrative review of the literature on self-determination theory (SDT), the hierarchical model of intrinsic and extrinsic motivation and the motivational model of the coach–athlete relationship. The proposed model describes a sequence in which coach autonomy support versus controlling coaching affects the satisfaction or thwarting of athletes' basic psychological needs for autonomy, competence and relatedness, which in turn determines autonomous or controlled motivation and its behavioural and affective outcomes. A diagnostic battery comprising four validated instruments (ASCQ, BNSSS, PNTS and SMS-II) is proposed, along with a four-stage assessment procedure and need-specific coaching recommendations. The model provides a basis for future empirical research and for the design of motivational interventions in kickboxing.

Keywords: kickboxing, self-determination theory, autonomy support, basic psychological needs, sport motivation, coach–athlete relationship, dropout, diagnostics.

1. Introduction

Kickboxing is a combat sport in which athletes use punching and kicking techniques under conditions of direct physical contact, time pressure and high competitive stress. Time-motion analyses of elite competition show that kickboxing bouts are characterised by an intermittent pattern of short, high-intensity actions interspersed with lower-intensity periods, which places considerable demands on both aerobic and anaerobic energy systems [15]. In addition to physical and technical-tactical preparation, the literature emphasises that psychological factors such as self-confidence, motivation and mental toughness distinguish successful kickboxers from less successful ones [14].

Among these psychological factors, motivation occupies a central position because it determines not only the intensity of effort in a particular training session but also whether an athlete will remain in

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the sport over many years. Long-term athlete development in kickboxing requires sustained engagement in monotonous and physically demanding training, repeated weight management and the regular experience of pain, fatigue and defeat. Under such conditions, the quantity of motivation is less important than its quality, that is, the reasons why an athlete trains and competes.

Recent evidence suggests that the motivational profile of kickboxers may be dominated by external motives. A survey of highly skilled martial arts athletes revealed that among kickboxers the motive of material gain ranked first [12]. From the perspective of self-determination theory (SDT), the predominance of externally regulated motives is a risk factor: such motivation tends to be unstable, depends on the continued presence of rewards and is associated with lower persistence and a higher likelihood of dropout [1; 11]. At the same time, domestic research in Uzbekistan has examined kickboxers' preparation predominantly from a physical perspective [16], whereas psychological preparation has received comparatively little attention [13].

A key question for coaching practice therefore arises: what features of the training environment can shift kickboxers' motivation from controlled to autonomous forms? SDT offers a well-developed answer to this question by identifying the coach's interpersonal style and the satisfaction of athletes' basic psychological needs as the main antecedents of motivational quality [3; 9]. However, these theoretical propositions have rarely been applied systematically to kickboxing.

The aim of this article is to develop a conceptual model explaining the relationship between coach autonomy support, basic psychological needs and self-determined motivation in kickboxers, and to propose a diagnostic framework for its practical assessment. To achieve this aim, the following objectives were set: (1) to summarise the key theoretical propositions of SDT relevant to sport; (2) to describe the specific features of kickboxing as a motivational context; (3) to construct a conceptual model of motivational processes in kickboxing; (4) to select valid diagnostic instruments and design an assessment procedure; and (5) to formulate practical recommendations for coaches.

2. Materials and Methods

The study is theoretical and methodological in nature and is based on an integrative literature review. Sources were selected according to three criteria: (a) foundational theoretical works on SDT and the hierarchical model of motivation; (b) studies that developed and validated psychometric instruments for measuring motivation, need satisfaction, need thwarting and coaching style in sport; and (c) empirical studies on kickboxing and martial arts athletes, including works published in Uzbekistan. Peer-reviewed articles in international journals were given priority.

Methods of theoretical analysis, comparison, synthesis and conceptual modelling were used. The selected sources were analysed in terms of their key constructs, the relationships between constructs and their applicability to the conditions of kickboxing. On this basis, a conceptual model was constructed and a set of diagnostic instruments was chosen according to their theoretical consistency with the model, the availability of validity evidence and their practicality for use by coaches and sport psychologists.

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3. Theoretical Background

3.1. The motivational continuum in self-determination theory

SDT distinguishes between different types of motivation according to the degree to which behaviour is experienced as self-determined [1; 2]. **Intrinsic motivation** refers to engaging in an activity for its own sake, for the pleasure and satisfaction inherent in it. Extrinsic motivation refers to engaging in an activity as a means to an end and comprises several forms of regulation that differ in their degree of autonomy. Integrated regulation occurs when the activity is fully consistent with the athlete's values and identity; identified regulation occurs when the athlete personally values the outcomes of the activity, for example improved skill or health; introjected regulation is driven by internal pressure such as guilt, shame or the desire to maintain self-esteem; and external regulation is driven by rewards, punishments or the demands of others. Finally, amotivation describes a state in which the athlete sees no meaningful reason to continue participating.

These types are commonly grouped into autonomous motivation (intrinsic, integrated and identified) and controlled motivation (introjected and external). A substantial body of research shows that autonomous motivation is associated with greater effort, persistence, enjoyment and well-being, whereas controlled motivation and amotivation are associated with anxiety, burnout and dropout [1; 3]. In a 21-month prospective study of female handball players, Sarrazin and colleagues found that athletes who later dropped out had reported lower self-determined motivation and lower perceived autonomy, competence and relatedness than those who persisted [11].

3.2. Basic psychological needs

A central proposition of SDT is that the quality of motivation depends on the satisfaction of three universal basic psychological needs [2; 3]. The need for autonomy is the need to experience one's behaviour as volitional and self-endorsed. The need for competence is the need to feel effective in interacting with the environment and to experience growth in mastery. The need for relatedness is the need to feel connected to, cared for and respected by significant others.

When these needs are satisfied, extrinsic motives are progressively internalised and become more autonomous; when they are thwarted, motivation shifts towards controlled forms and amotivation [2]. Importantly, research has shown that need thwarting is not simply the absence of need satisfaction. Bartholomew and colleagues demonstrated that the active frustration of needs, for example through coercion, rejection or repeated experiences of incompetence, is a distinct experience that predicts negative outcomes such as burnout, depressive symptoms and physical exhaustion [8]. Assessing both satisfaction and thwarting therefore provides a more complete picture of an athlete's psychological state.

3.3. The coach as a key social agent

Vallerand's hierarchical model specifies that motivation exists at global, contextual and situational levels and that social factors influence motivation through their effect on need satisfaction

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[10]. In sport, the coach is arguably the most influential social factor. Mageau and Vallerand proposed a motivational model of the coach–athlete relationship in which autonomy-supportive coaching fosters athletes' perceptions of autonomy, competence and relatedness, which in turn promote intrinsic and self-determined extrinsic motivation [9].

According to this model, autonomy-supportive coaches provide choice within specific rules and limits, offer a rationale for tasks and limits, acknowledge athletes' feelings and perspectives, give opportunities for initiative taking, provide non-controlling competence feedback, avoid controlling behaviours such as overt control, guilt-inducing criticism and controlling statements, and prevent ego-involvement [9]. Conversely, a **controlling coaching style** relies on pressure, intimidation, conditional regard and the excessive use of rewards, thereby undermining athletes' needs [8].

4. Kickboxing as a Specific Motivational Context

Although the propositions of SDT are considered universal, the way in which needs are satisfied or thwarted depends on the characteristics of a particular sport. Several features of kickboxing create specific motivational risks and opportunities. They are summarised in Table 1.

Table 1. Features of kickboxing and their potential impact on basic psychological needs

Feature of kickboxing	Need most affected	Potential risk	Potential resource
Full contact, pain and risk of injury	Competence	Fear of failure; perceived incompetence after knockouts or injuries	Experience of mastery when coping with difficult situations
Individual competition, clear winners and losers	Competence, autonomy	Ego-involvement; self-worth contingent on results	Objective feedback on progress
Hierarchical coach–athlete relationship typical of combat sports	Autonomy	Controlling coaching; lack of choice	Close mentoring relationship
Weight-category system and weight management	Autonomy, competence	Externally imposed pressure; exhaustion	Self-regulation skills
Prize money and professional career opportunities	Autonomy	Dominance of external regulation [12]	Clear long-term goals
Training in a club or team environment	Relatedness	Rivalry and social comparison	Peer support and a sense of belonging

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The analysis shows that kickboxing combines strong external incentives (titles, prize money, career opportunities) with a traditionally hierarchical, often authoritarian coaching culture. Both factors increase the likelihood of controlled motivation. At the same time, the sport offers rich opportunities for experiencing competence and relatedness, which can be used deliberately by the coach to support the internalisation of motivation.

5. Conceptual Model of Motivational Processes in Kickboxing

Based on SDT [1; 2; 3], the hierarchical model [10] and the coach–athlete motivational model [9], a conceptual model of motivational processes in kickboxing is proposed (Figure 1). The model consists of four interrelated levels.

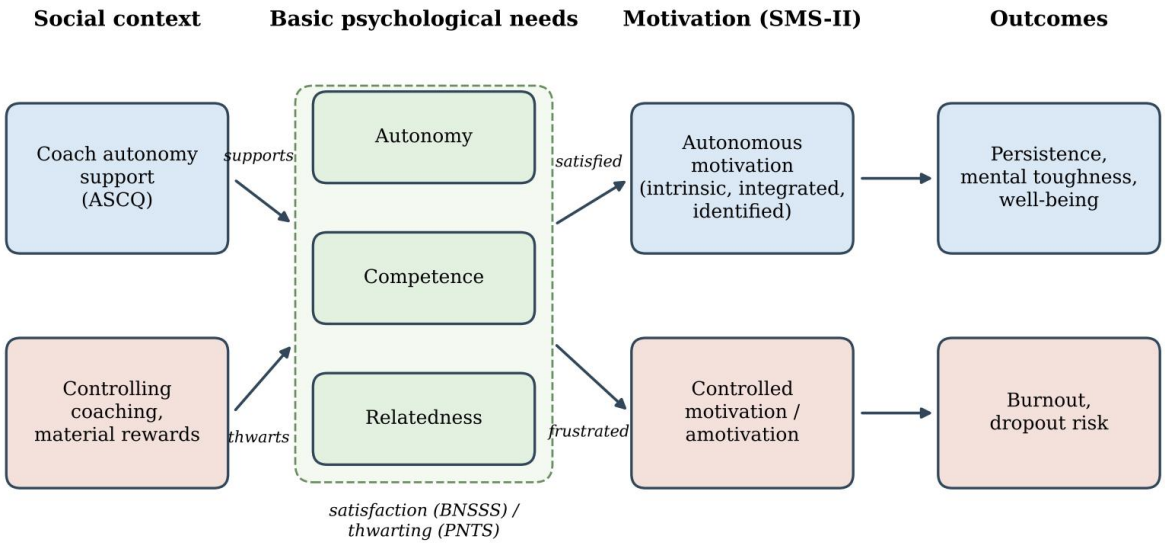


Figure 1. Conceptual model of motivational processes in kickboxing (developed by the author on the basis of [2; 8; 9; 10])

1. **Social context.** The coach's interpersonal style ranges from autonomy-supportive to controlling. Contextual incentives such as prize money and material rewards are included in this level because, when presented in a controlling manner, they can undermine autonomy.

2. **Basic psychological needs.** The social context influences the satisfaction or thwarting of the needs for autonomy, competence and relatedness. Need satisfaction and need thwarting are considered as two separate dimensions [8].

3. **Motivation.** Need satisfaction promotes autonomous motivation (intrinsic, integrated and identified regulation), whereas need thwarting promotes controlled motivation (introjected and external regulation) and amotivation.

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4. **Outcomes.** Autonomous motivation is expected to lead to positive outcomes such as persistence, mental toughness and well-being, whereas controlled motivation and amotivation are expected to lead to burnout and an increased risk of dropout [11].

The model allows several hypotheses to be formulated for future empirical testing: H1 – perceived coach autonomy support is positively associated with need satisfaction and negatively associated with need thwarting in kickboxers; H2 – need satisfaction mediates the relationship between coach autonomy support and autonomous motivation; H3 – need thwarting mediates the relationship between controlling coaching and controlled motivation and amotivation; H4 – autonomous motivation predicts intentions to continue participating in kickboxing, whereas amotivation predicts dropout intentions.

6. Diagnostic Framework

To operationalise each level of the model, a diagnostic battery of four internationally validated instruments is proposed (Table 2). All instruments are self-report questionnaires that are completed by the athlete and are suitable for use in both research and coaching practice.

Table 2. Diagnostic battery for assessing motivational processes in kickboxers

Model level	Instrument	Structure	What it reveals
Social context	Autonomy-Supportive Coaching Questionnaire (ASCQ) [7]	Two subscales: interest in athletes' input and praise for autonomous behaviour	Athletes' perception of how autonomy-supportive their coach is
Need satisfaction	Basic Needs Satisfaction in Sport Scale (BNSSS) [6]	Subscales for competence, relatedness and several facets of autonomy (choice, volition, internal perceived locus of causality)	Degree to which each need is satisfied in sport
Need thwarting	Psychological Need Thwarting Scale (PNTS) [8]	Three subscales: autonomy, competence and relatedness thwarting	Active frustration of needs ("darker side" of sport experience)
Motivation	Revised Sport Motivation Scale (SMS-II) [5]	18 items, six subscales: intrinsic, integrated, identified, introjected, external regulation and amotivation; 7-point scale	Motivational profile along the SDT continuum

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The SMS-II was chosen in preference to the original SMS-28 [4] because it is shorter, includes the integrated regulation subscale and was developed to address psychometric limitations of the original scale [5]. However, the SMS-28 remains a valid alternative where comparability with earlier studies is required. Before use with Uzbek-speaking kickboxers, all instruments require careful translation and back-translation, cultural adaptation and confirmation of their factor structure and internal consistency in the target population.

The following **four-stage assessment procedure** is proposed:

1. **Screening of motivational profile.** The SMS-II is administered at the beginning of the training macrocycle. Scores on the six subscales are calculated, and autonomous and controlled motivation composites are formed. A relative autonomy index may be computed to obtain a single indicator of motivational quality.

2. **Analysis of need satisfaction and thwarting.** The BNSSS and PNTS are used to identify which specific need is insufficiently satisfied or actively thwarted for each athlete. This step explains why a particular motivational profile has emerged.

3. **Assessment of the coaching climate.** The ASCQ is administered anonymously at the group level. Its results serve as feedback for the coach and help to identify which aspects of coaching behaviour should be modified.

4. **Individual interview and grouping.** The questionnaire data are complemented by a semi-structured interview about the athlete's reasons for starting and continuing kickboxing [12]. Athletes are then assigned to one of three groups: "predominantly autonomous motivation", "predominantly controlled motivation" or "at risk of amotivation". Repeated assessment is recommended at the end of each macrocycle in order to monitor changes.

7. Practical Recommendations for Coaches

On the basis of the model and the literature on autonomy-supportive coaching [7; 9], specific coaching strategies aimed at each basic psychological need in kickboxing are recommended (Table 3).

Table 3. Need-supportive coaching strategies in kickboxing

Need	Need-supportive coaching behaviour	Example in kickboxing training
Autonomy	Offering choice within limits; explaining the rationale for tasks; acknowledging athletes' feelings; involving athletes in planning	Allowing the athlete to choose between two combinations to work on in sparring; explaining why a conditioning block is necessary before a competition
Competence	Setting optimally challenging tasks; giving specific, informational feedback focused on	Video analysis of the athlete's own bouts showing technical progress; individual mastery goals for each

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	improvement rather than comparison with others	training cycle
Relatedness	Showing genuine interest in the athlete as a person; creating a supportive group climate; encouraging cooperation	Regular individual conversations; partner drills with rotating pairs; team discussions after competitions regardless of results

Particular attention should be given to athletes in the "predominantly controlled motivation" group. For these athletes, material rewards should not be eliminated but rather framed in an informational rather than controlling manner, that is, as recognition of competence rather than as a means of pressure. The coach should help athletes to discover personal meaning in training, for example by linking technical improvement to their own long-term goals. For athletes "at risk of amotivation", individual conversations to identify the causes, short-term achievable goals and the use of psychological support and preparation methods [13] are recommended.

Finally, since a controlling coaching style is often rooted in the traditional culture of combat sports, it is advisable to include modules on autonomy-supportive coaching in professional development programmes for kickboxing coaches. Evidence from youth sport indicates that autonomy-supportive coaching behaviours can be reliably assessed [7] and thus monitored over the course of such programmes.

8. Discussion

The proposed model extends previous work on kickboxers' motivation [12] by moving from a description of motives to an explanation of the mechanisms through which motivation is formed. Unlike approaches that classify motives according to their content (material, social, enjoyment), the SDT-based approach evaluates motivation according to its degree of self-determination. This distinction is important for kickboxing: the same goal, for example winning a championship, may be pursued for autonomous reasons (personal growth, self-realisation) or for controlled reasons (pressure from the coach, fear of losing status), with markedly different consequences for persistence and well-being [1; 2].

The model also highlights the dual role of the coach. On the one hand, the coach is the main source of need satisfaction; on the other hand, controlling behaviours can actively thwart athletes' needs [8; 9]. This implies that improving the motivational climate in kickboxing requires not only adding positive behaviours but also reducing controlling practices that may be perceived as normal in combat sports.

Several limitations should be acknowledged. First, the model is conceptual and has not yet been tested empirically on kickboxers. Second, the proposed instruments were developed in Western contexts, and their validity for Uzbek-speaking athletes requires confirmation. Third, the model focuses on the coach and does not explicitly include other social agents such as parents, peers and

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sponsors, whose influence may be significant, particularly for young athletes. Finally, the role of contextual factors such as competition level, age and gender requires further investigation.

9. Conclusion

The quality of kickboxers' motivation is determined not only by individual characteristics but also by the social environment created by the coach. Based on self-determination theory, a four-level conceptual model was developed that links coach autonomy support, the satisfaction and thwarting of basic psychological needs, the type of motivation and its outcomes. A diagnostic battery (ASCQ, BNSSS, PNTS and SMS-II), a four-stage assessment procedure and need-specific coaching strategies were proposed for its practical application.

The model can be used by coaches and sport psychologists to identify athletes with controlled motivation or at risk of amotivation at an early stage, to analyse the causes of motivational problems and to adjust the coaching style accordingly. Future research will focus on the cultural adaptation of the diagnostic instruments and on the empirical testing of the proposed hypotheses through cross-sectional and longitudinal studies of kickboxers of different ages and skill levels.

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