ABRJ
American Based Research Journal
ISSN Online (2304-7151)

https://www.abrj.org/
Impact Factor 2.30

Leading the Game: Coach Leadership and Athlete Motivation across Team and Individual Sports in Egypt

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Abstract
this study explores the impact of perceived coach leadership on athlete motivation, with a focus on how sport type may moderate this relationship. The study examines the overall effect of coach leadership on motivation, the influence of its various dimensions, and whether these effects differ between individual and team sports. A quantitative research design was employed, using an online survey to collect primary data from athletes in Egypt. Analysis revealed significant associations between coach leadership and athlete motivation, with notable differences based on sport type. Findings suggest that different leadership dimensions have varying degrees of influence, and that athletes in team sports may respond differently to leadership than those in individual sports. The study contributes to the growing body of literature on sports psychology and leadership, offering practical insights for coaches and sports organizations aiming to enhance athlete motivation through context-aware leadership approaches.

Key words: *Coach, leadership, athlete motivation, individual sports, team sports, leadership style, leadership dimensions, sport psychology*

Introduction

The concept of leadership has long been the focus of many studies for years, across a variety of domains, including management, politics, and sports, and its significance cannot be overstated. The importance of leadership stems from the fact that it is the main driver of direction, vision, and purpose within an organization or group. This study focuses on the role of coaches as leaders in the world of sports. Sport coaches can be viewed not only as strategists; but also, as mentors, motivators, and role models who influence the performance and development of athletes both on and off the field. Effective coach leadership fosters a positive team culture, enhances communication, and builds trust among athletes and teams. It is through the guidance and inspiration of a coach that athletes can realize their full potential, overcome challenges, and achieve both personal and collective goals (Castillo and Espinosa, 2014; Jowett, 2017).

A gap exists in the literature, calling for a model of leadership that accurately investigates the dynamics of the coach-athlete relationship across different sports. Comparative studies on coach leadership in different sports and its effect on motivation are important to better understand such dynamics. A coach, who deeply understands his team's identity, and how to lead and inspire, may prove to be an effective leader. Players with a lack of motivation may eventually feel burnout, losing interest in the sport they are playing, and this can eventually lead to quitting the sport altogether. Thus, an analysis of how this coach-athlete relationship differs from sport to sport and from individual to team sports needs to be further analysed and understood.

The main research question in this study is: “To what extent does coach leadership impact athlete motivation?”

This study aims to answer the following research questions:

1. RQ1: To what extent does coach leadership affect athlete motivation?
2. RQ2: To what extent do different dimensions of leadership impact athlete motivation?
3. RQ3: Is there a difference between how coach leadership impacts athlete motivation according to the nature of sport?

Theoretical Framework

Coach-Athlete Dynamics

The coach-athlete relationship is one of the most important in the sports ecosystem, significantly affecting athlete development, motivation, and success (Jowett and Shanmugam, 2016). Athletes' relationship with coaches can be described as task-focused since the primary objective of both coach and athlete is to achieve specific performance outcomes. However, it would be misleading to think of this relationship as purely task-focused, since it also encompasses significant human elements that are just as important for the overall success and wellbeing of both coach and athlete. Athletes often face times of high levels of stress and pressure, during which coaches are expected to provide emotional support, helping athletes manage anxiety, reduce stress, build confidence, and stay motivated. This support is critical for maintaining mental health and fostering resilience. These human elements of trust, support and respect create a safe environment where athletes feel valued and understood, which can enhance their commitment and willingness to push their limits. Over time, this unique coach-athlete centred relationship is mutually empowering to both, creating a meaningful connection that provides motivation, assurance, satisfaction, and consistent support towards improving not only the sport performance of the athletes, but also their holistic mental health and wellbeing (Jowett, 2017).

A conceptual model was developed by Chelladurai and Saleh (1980) to explain the different dimensions of leadership. They specifically focused on leadership in sports, defining it as the influence leaders have on team members to carry out tasks to achieve goals. This definition is suitable for sports teams, but they can also be considered appropriate for organisations (Chelladurai & Saleh, 1980). To operationalize this model, they constructed the Leadership Scale for Sports (LSS). The instrument aims to operationalise five dimensions of leadership behaviour; the first is related to group tasks (training and instruction), two factors are related to decision-making style (democratic and autocratic behaviours), and two factors are motivational (rewarding behaviour and social support).

Motivation

The concept of motivation has gained much attention in sport psychology (Roberts, 2001). Athlete motivation is crucial for success in sports, and the relationship between coach and athlete is one of the most significant factors that affect an athlete's motivation and performance (Mageau & Vallerand, 2003). Motivation is the reason why an athlete performs a certain action. There has been significant research on motivation, particularly athlete motivation, over the years. The Self Determination Theory by Ryan and Deci (2000) is an important theoretical framework that is associated with athlete motivation. Based on this theory, two primary types of motivation have been defined and frequently discussed in the literature; intrinsic and extrinsic motivation. Another theory that can be used to explain the coach-athlete relationship is the Goal Achievement Theory.

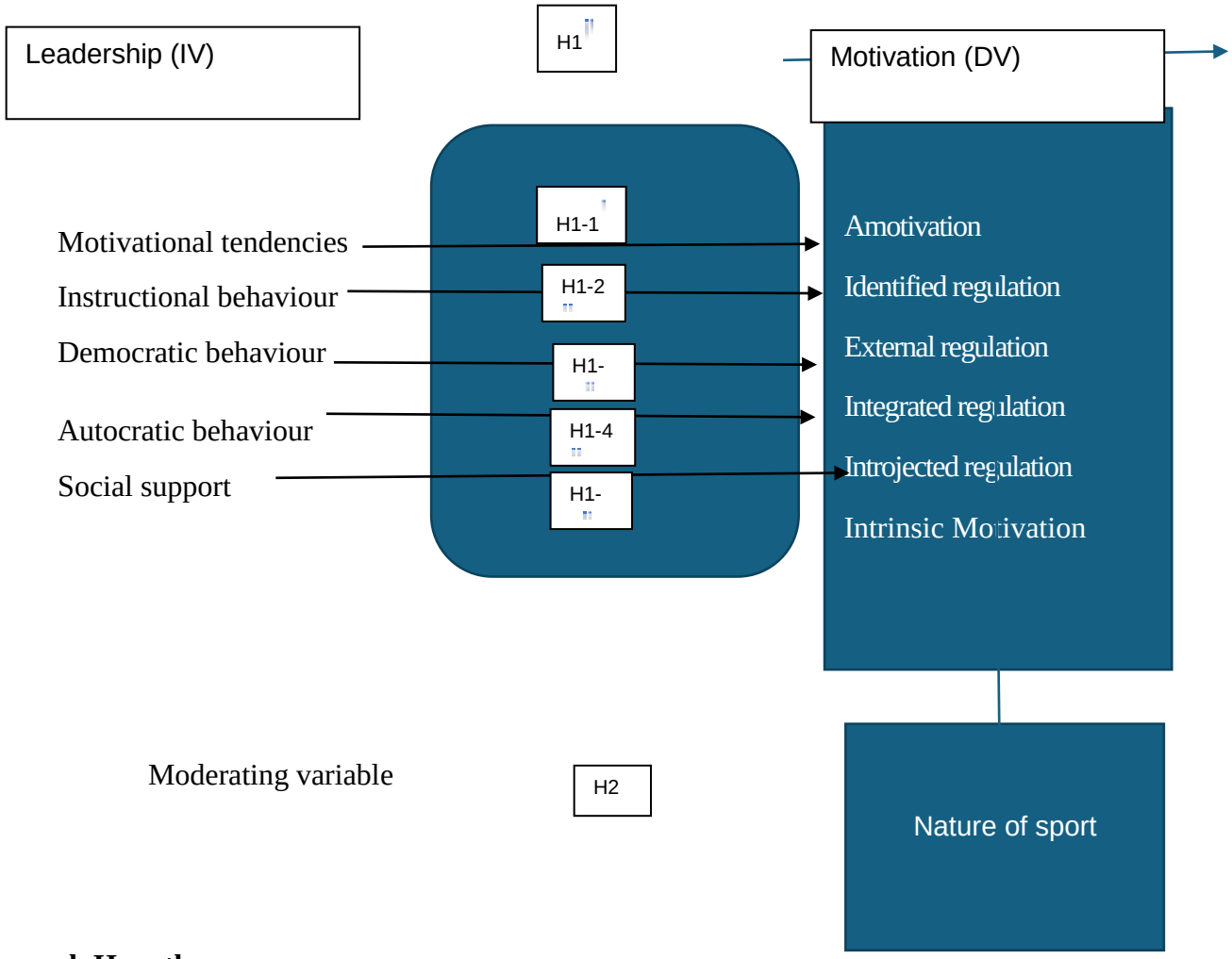
The relationship between the coach and his trainee is one of the most prominent factors affecting athlete motivation in sports (Mageau & Vallerand, 2003). Research has indicated that athletes, who are intrinsically motivated, have a higher level of self-determination than athletes who are extrinsically motivated and, thus, have a higher ability to meet their psychological needs (Ryan & Deci, 2000). Therefore, researchers have, continuously, aimed to identify behaviours that impact motivation positively or negatively. This knowledge is crucial for developing techniques to support athletes. Leadership behaviour is one of those significant factors that influence motivation (Mageau & Vallerand, 2003) and research has highlighted a relationship between coach leadership behaviours as perceived by athletes and athletes' motivation (Amorose, 2007). Mageau and Vallerand (2003) stated that coaches who prioritize autonomy support (e.g., provide feedback, acknowledge athlete's emotions, and consider the athlete's perspective) indirectly enhance athletes' intrinsic motivation. In contrast, coaches who exert more control (e.g., using pressure to dictate athletes' behaviours,

thoughts, and emotions) have a less favourable impact on athlete motivation. However, there are some situational factors that favour a more controlling style approach, such as intense level of competition, team sports and quick decision-making when required.

Based on the literature, the following research model is proposed, with leadership (as the independent variable), athlete motivation (as the dependent variable), and type of sport (as a moderating variable):

Figure 1

Proposed research model



Research Hypotheses

H1: Coach leadership has an impact on athlete motivation

Leadership consists of five main dimensions namely: motivational tendencies, instructional behaviour, democratic behaviour, autocratic behaviour and social support. Each dimension has an impact athlete motivation, leading to the following sub-hypotheses:

H1-1: Motivational tendencies have an impact on athlete motivation

H1-2: Instructional behaviour has an impact on athlete motivation

H1-3: Democratic behaviour has an impact on athlete motivation

H1-4: Autocratic behaviour has an impact on athlete motivation

H1-5: Social support has an impact on athlete motivation

Preferences for Different Coach Leadership Dimensions according to Sport

Each coaching style has positive and negative dimensions that impact athlete motivation and performance. It is essential to understand the behaviours associated with different coaching styles as they have a consequential effect on motivation. Autonomy supportive coaches are usually positive and pro-social. Preferences for different coaching styles may vary from sport to sport. Terry and Howe (1984), suggested that athletes in individual sports (such as diving) preferred more democratic behaviour than athletes in team sports (such as basketball).

Motivational Tendencies

Athletes in individual sports may respond more strongly to leadership styles that emphasize personalized motivational strategies, as their performance is often self-directed and closely tied to personal goals. Leaders in individual sports tend to tailor motivational approaches to suit each athlete's personality, confidence levels, and performance cycles (Horn, 2002). In contrast, leaders in team sports are expected to maintain morale across the group and encourage motivation through shared goals, peer reinforcement, and group unity (Vella, Oades, & Crowe, 2013).

Instructional Behaviour

Instructional behaviour also diverges in its impact depending on the sport context. In individual sports, athletes may prefer highly detailed, technically focused instruction that directly addresses their unique strengths and weaknesses (Jowett & Cockerill, 2003). Conversely, in team sports, instructional behaviour is often directed at the group, emphasizing tactical awareness, team coordination, and role clarity. Athletes in these settings may value leaders who balance personal instruction with strategies that help the team function as a cohesive unit (Chelladurai, 1993).

Democratic Behaviour

Preferences for democratic behaviour—where athletes are involved in decision-making—tend to be more pronounced in individual sports. These athletes often value autonomy and personal agency in planning training schedules, setting goals, and managing performance routines (Amorose, 2007). On the other hand, team sport athletes may appreciate democratic behaviour in contexts that affect group dynamics—such as agreeing on strategies or resolving conflicts—but may rely more on the leader to make timely decisions during competitive play.

Autocratic Behaviour

Autocratic leadership—characterized by unilateral decision-making and high control—may be less favoured in individual sports, where athletes often expect autonomy and a sense of ownership over their progress. However, in some cases, especially among younger or less experienced individual athletes, autocratic behaviour can provide structure and direction (Chelladurai & Saleh, 1980). In team sports, autocratic leadership can be more situationally accepted, particularly during high-pressure moments or when rapid decisions are required.

Social Support

Social support is vital across all sports, but the need and form it takes can differ between individual and team sport contexts. Athletes in individual sports often experience higher levels of psychological pressure due to the personal nature of performance and thus may highly value emotional support and one-on-one attention from their coaches (Reinboth, Duda, & Ntoumanis, 2004). In contrast, team athletes often derive social support not only from their coaches but also from their teammates, creating a shared emotional buffer.

These findings suggest that the relationship between sport type and preferred leadership dimensions is both complex and context dependent. Coaches must consider not only whether their athletes compete individually or as part of a team, but also the nature of the sport, the performance context, and the athletes' psychological profiles.

This review leads us to formulate the second hypothesis as follows:

H2: There is a moderating role for the nature of sport on the relationship between leadership and motivation

Research Methodology

This research followed a quantitative (positivist) approach. Data was collected using online surveys (primary data). The research population consisted of young athletes in Egypt across the governorates of Cairo, Giza and Alexandria. This study employed a two-stage non-probability sampling technique. First, convenience sampling was used to identify initial participants based on accessibility. Subsequently, snowball sampling was employed, allowing participants to refer other eligible individuals. The unit of analysis, in the research, include athletes playing any of the following individual or team sports in Egypt: swimming, gymnastics, tennis, squash, football, basketball, volleyball, and handball.

Measure of Perceived Coaches' Leadership Style

The Leadership Scale for Sports (LSS), developed by Chelladurai and Saleh (1980), was used to measure coaches' perceived leadership style. Athletes reported their coaches' leadership style using the LSS; a 40-item questionnaire that measures five dimensions of leadership behaviour: motivational tendencies, instructions and coordinating athletes' activities, democratic behaviour, autocratic behaviour, and social support. Responses are provided on a five-point Likert scale anchored at the extremes by 'never' (1) and 'always' (5) (Härkönen & Klicznik, 2014). Studies showed that a 15-item version of the Leadership Scale for Sports (LSS-15) provided a better fit to the data than the original long version. The LSS-15 demonstrated strong factorial validity, convergent validity, and discriminant validity as well as acceptable levels of reliability. Overall, findings support the LSS-15 as a valid and reliable alternative to the full version, particularly useful in practical contexts where a shorter tool is needed or when studies involve numerous variables (Teques, Silva, Rosado, Calmeiro, & Serpa, 2020).

Measure of Motivation

The Sport Motivation Scale-6 (SMS-6) was used to measure athlete motivation. The SMS-6 is a six-factor measure with 24 items (4 items per construct). The scales assess six constructs: amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation of athletes (Mallett et al., 2007).

Athletes who participated in the study were asked to choose from a scale the extent where each of the items corresponds to one of the motives for which they are practicing their sport. Responses are given on 7-point Likert scale, ranging from 1 (does not correspond at all) to 7 (corresponds exactly) (Mallett & Hanrahan, 2004).

Data Collection

Data was collected using a self-administered questionnaire sent to respondents by email or as a link on their mobile phones. The questionnaire was formulated on SurveyMonkey, and questions were written in both English and Arabic. Before participating in the survey, all participants were presented with a written informed consent form outlining the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without consequence. The form also assured participants of the confidentiality and anonymity of their responses. Only those who provided their consent by the agreement option were granted access to the questionnaire. This procedure ensured that all data was collected ethically and in accordance with research guidelines. Prior to the main data collection, a pilot study was conducted with a small group of 30 athletes and faculty members to ensure the clarity, coherence, and logical flow of the survey questions.

Data Analysis

To analyse the data, MS Excel was used in data preparation, Statistical Package for the Social Sciences (SPSS) software was used for statistical analysis, and AMOS (Analysis of Moment Structures) was used to study the effect of the moderating variable (sport type "individual vs. team sports"), on the relationship between the independent and dependent variables.

Internal Consistency Validity

Assessing internal consistency involves examining the items within a questionnaire. This process is to ensure that the items included in the test do in fact test the same content. The validity of the internal consistency of the study tool was confirmed by calculating the Pearson correlation coefficient between the degree of each parameter with the total degree of the dimension to which the parameter belongs, through application of an exploratory pilot consisting of 30 people, and the following was obtained:

Figure 2

Internal consistency validity for training and instruction dimension

Parameter	Correlation
a. My coach explains to each athlete the techniques and tactics of the sport.	0.68*
b. My coach pays special attention to correcting athlete's mistakes.	0.68*
c. My coach gives specific instructions to each athlete as to what he should do in every situation.	0.71*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the training and instruction dimension has internal consistency validity.

Figure 3

Internal consistency validity for democratic behaviour dimension

Parameter	Correlation
a. My coach asks for the opinion of the athletes on strategies for specific competition.	0.69*
b. My coach lets his/her athletes share in decision making.	0.70*
c. My coach asks for the opinion of the athletes on important coaching matters	0.68*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the democratic behaviour dimension has internal consistency validity.

Figure 4

Internal consistency validity for autocratic behaviour dimension

Parameter	Correlation
a. My coach does not explain his/her actions	0.66*
b. My coach refuses to compromise on a point	0.70*
c. My coach speaks in a manner not to be questioned	0.68*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the autocratic behaviour dimension has internal consistency validity.

Figure 5

Internal consistency validity for social support dimension

Parameter	Correlation
a. My coach helps members of the team settle their conflicts with each other	0.66*
b. My coach expresses affection he/she feels for his/her athletes	0.66*

Parameter	Correlation
c. My coach encourages close and friendly relations with athletes	0.70*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the social support dimension has internal consistency validity.

Figure 6

Internal consistency validity for positive feedback dimension

Parameter	Correlation
a. My coach tells an athlete when he does a particularly good job	0.68*
b. My coach expresses appreciation when an athlete performs well	0.69*
c. My coach gives credit when credit is due	0.67*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the positive feedback dimension has internal consistency validity.

Figure 7

Internal consistency validity for amotivation dimension

Parameter	Correlation
I don't know any more why I practice my sport. I have the impression of being incapable of succeeding in this sport 5	0.66*
I do not know if I want to continue to invest my time and effort as much in my sport anymore 12	0.65*
It is not clear to me anymore why I practice my sport. I don't really think my place is in sport 17	0.70*
I don't seem to be enjoying my sport as much as I previously did 22	0.65*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the amotivation dimension has internal consistency validity.

Figure 8

Internal consistency validity for identified regulation dimension

Parameter	Correlation
I practice my sport because it is a good way to learn lots of things which could be useful to me in other areas of my life 3	0.66*
I practice my sport because it is one of the best ways I have chosen to develop other aspects of my life 8	0.69*
I practice my sport because it is one of the best ways to maintain good relationships with my 15	0.70*
I practice my sport because training hard will improve my performance 20	0.69*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the identified regulation dimension has internal consistency validity.

Figure 9

Internal consistency validity for external regulation dimension

Parameter	Correlation
I practice my sport because it allows me to be well regarded by people that I know 4	0.66*
I practice my sport for the prestige of being an athlete11	0.72*
I practice my sport for the material and/or social benefits of being an athlete 19	0.70*
I practice my sport to show others how good I am at my sport 24	0.64*

*Significance at (0.05**)** level

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the external regulation dimension has internal consistency validity.

Figure 10

Internal consistency validity for introjected regulation dimension

Parameter	Correlation
I practice my sport because it is part of the way in which I have chosen to live my life 2	0.65*
I practice my sport because it is an extension of me 9	0.65*
I practice my sport because participation in my sport is consistent with my deepest principles 13	0.69*
I practice my sport because participation in my sport is an integral part of my life 21	0.68*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the introjected regulation dimension has internal consistency validity.

Figure 11

Internal consistency validity for integrated regulation dimension

Parameter	Correlation
I practice my sport because it is absolutely necessary to do sports if one wants to be in shape 7	0.65*
I practice my sport to feel good about myself 10	0.69*
I practice my sport because I would feel bad if I was not dedicating time to do it 16	0.64*
I practice my sport because I must do sports regularly 23	0.71*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the integrated regulation dimension has internal consistency validity.

Figure 12

Internal consistency validity for intrinsic motivation dimension

Parameter	Correlation
I practice my sport for the excitement I feel when I am really involved in the activity 1	0.66*
I practice my sport because I feel a lot of personal satisfaction while mastering certain difficult training techniques 6	0.69*
I practice my sport for the satisfaction I experience while I am perfecting my	0.70*

Parameter	Correlation
abilities 14	
I practice my sport for the pleasure of discovering new performance strategies 18	0.69*

***Significance at (0.05) level**

These results indicate a strong internal consistency between each item's score and the total score of the dimension. Therefore, it can be concluded that the intrinsic motivation dimension has internal consistency validity.

Reliability Analysis

The reliability analysis measures the questionnaire's stability, to make sure that each participant answered each group of questions for each variable in the same way.

Figure 13

Reliability Analysis for each variable

Type of variable	Variables	Number of Questions	Cronbach's Alpha	Test Result
Independent Variable:	Perceived Coach Leadership Style	15 (1-15)	0.94	Excellent Reliability
Dimension 1	Training and instruction	3 (1 - 3)	0.91	Excellent Reliability
Dimension 2	Democratic behaviour	3(4 – 6)	0.94	Excellent Reliability
Dimension 3	Autocratic behaviour	3 (7 - 9)	0.93	Excellent Reliability
Dimension 4	Social support	3 (10 - 12)	0.87	High Reliability
Dimension 5	Positive Feedback	3 (13 - 15)	0.92	Excellent Reliability
Dependent Variable:	Athlete Motivation	24 (1 - 24)	0.93	Excellent Reliability
Dimension 1	Amotivation	4 (5-12-17-22)	0.90	High Reliability
Dimension 2	Identified regulation	4 (3-8-15-20)	0.92	Excellent Reliability
Dimension 3	External regulation	4 (4-11-19-24)	0.93	Excellent Reliability
Dimension 4	Introjected regulation	4 (2-9-13-21)	0.88	High Reliability
Dimension 5	Integrated regulation	4 (7-10-16-23)	0.92	Excellent Reliability
Dimension 6	Intrinsic motivation	4 (1-6-14-18)	0.91	Excellent Reliability

According to Cronbach's alpha test, all the variables acquired an alpha value between 0.87 and 0.94, which indicates high reliability.

Descriptive Data Analysis

Demographics Analysis

The following is a description of the research sample according to demographic variables:

Figure 14

Distribution of Participants by Age

Age Group	**Frequency (Fre.)**	**Percentage (%)**
11–14 years	149	38.5%
15–19 years	116	30.0%
20–24 years	46	11.9%
25 years and over	76	19.6%

Figure 15

Distribution of Participants by Gender

Gender	**Frequency (Freq.)**	**Percentage (%)**
Male	202	52.2%

Female	185	47.8%

Figure 16

Distribution of Participants by Sport Type

Sport Type	Frequency (Freq.)	Percentage (%)
Individual Sport	180	46.5%
Team Sport	207	53.5%

Central Tendency, and Dispersion Analysis

Figure 17

Descriptive statistics for all independent variable statements (Perceived Coach Leadership Style)

Var.	Statement	Center Tendency			Dispersion			
		Mean	Median	Mode	ST.D	Range	Min	Max
Training and instruction	a. My coach explains to each athlete the techniques and tactics of the sport	4.03	4	4	0.93	4	1	5
	b. My coach pays special attention to correcting athlete's mistakes	4.10	4	4	0.89	4	1	5
	c. My coach gives specific instructions to each athlete as to what he should do in every situation	3.87	4	4	1.00	4	1	5
Democratic behaviour	a. My coach asks for the opinion of the athletes on strategies for specific competition	2.52	2	1	1.32	4	1	5
	b. My coach lets his/her athletes share in decision making	2.74	3	2	1.33	4	1	5
	c. My coach asks for the opinion of the athletes on important coaching matters	2.33	2	1	1.33	4	1	5
Autocratic behaviour	a. My coach does not explain his/her actions	2.75	3	2	1.27	4	1	5
	b. My coach refuses to compromise on a point	2.86	3	3	1.23	4	1	5
	c. My coach speaks in a manner not to be questioned	3.36	4	5	1.36	4	1	5
Social support	a. My coach helps members of the team settle their conflicts with each other	3.49	4	5	1.39	4	1	5
	b. My coach expresses affection he/she feels for his/her athletes	3.32	3	5	1.41	4	1	5
	c. My coach encourages close and friendly relations with athletes	3.71	4	5	1.26	4	1	5
Positive Feedback	a. My coach tells an athlete when he does a particularly good job	4.16	4	5	0.99	4	1	5
	b. My coach expresses appreciation when an athlete performs well	4.15	5	5	1.05	4	1	5
	c. My coach gives credit when credit is due	3.94	4	5	1.11	4	1	5

Among the dimensions, Positive Feedback received the highest overall mean scores, with statements such as "My coach tells an athlete when he does a particularly good job" (M = 4.16, SD = 0.99) and "My coach expresses appreciation when an athlete performs well" (M = 4.15, SD = 1.05) indicating a strong presence of this leadership behaviour. Similarly, the Training and Instruction dimension also showed high average scores across all three items (M ranging from 3.87 to 4.10), suggesting that athletes perceived their coaches as highly involved in skill development and performance guidance.

In contrast, Democratic Behaviour received the lowest mean values, particularly on items like "My coach asks for the opinion of the athletes on important coaching matters" (M = 2.33, SD = 1.33) and "My coach

asks for the opinion of the athletes on strategies for specific competition" (M = 2.52, SD = 1.32). These findings suggest a limited perception of shared decision-making between coaches and athletes.

Autocratic Behaviour demonstrated moderate means, with the highest being "My coach speaks in a manner not to be questioned" (M = 3.36, SD = 1.36), indicating that some participants viewed their coaches as authoritative. Meanwhile, Social Support was perceived relatively positively, with all items scoring above the midpoint (M = 3.32 to 3.71), particularly for "My coach encourages close and friendly relations with athletes".

The standard deviation values across items indicate a moderate to high level of variability in responses, suggesting individual differences in the perception of coach behaviour. All items spanned the full response scale (1–5), further supporting a diverse range of participant experiences.

In summary, the data indicates that athletes perceive their coaches most strongly in terms of Positive Feedback and Training and Instruction, while Democratic Behaviour is the least observed. These patterns provide a valuable foundation for further inferential analysis and may offer practical insights into areas where coaching practices can be enhanced

Figure 18

Descriptive statistics of dependent variable statements (Athlete Motivation)

Var.	Statement	Center Tendency			Dispersion			
		Mean	Median	Mode	ST.D	Range	Min	Max
Amotivation	I don't know why I practice my sport. I have the impression of being incapable of succeeding in this sport 5	5.97	0.06	6	7.00	1.26	1.58	5
	I do not know if I want to continue to invest my time and effort as much in my sport anymore 12	5.86	0.07	7	7.00	1.45	2.10	6
	It is not clear to me anymore why I practice my sport. I don't really think my place is in sport 17	5.43	0.09	6	7.00	1.68	2.83	6
	I don't seem to be enjoying my sport as much as I previously did 22	4.65	0.09	4	7.00	1.83	3.36	6
Identified regulation	I practice my sport because it is a good way to learn lots of things which could be useful to me in other areas of my life 3	3.04	0.09	2	2.00	1.83	3.37	6
	I practice my sport because it is one of the best ways I have chosen to develop other aspects of my life 8	5.84	0.08	7	7.00	1.51	2.29	6
	I practice my sport because it is one of the best ways to maintain good relationships with my 15	5.56	0.09	6	7.00	1.68	2.83	6
	I practice my sport because training hard will improve my performance 20	5.12	0.09	5	7.00	1.77	3.15	6
External regulation	I practice my sport because it allows me to be well regarded by people that I know 4	5.43	0.09	6	7.00	1.77	3.15	6
	I practice my sport for the prestige of being an athlete11	5.23	0.09	6	7.00	1.84	3.39	6
	I practice my sport for the material and/or social benefits of being an athlete 19	4.50	0.10	4	4.00	1.88	3.55	6
	I practice my sport to show others how good I am at my sport 24	3.14	0.09	3	4.00	1.78	3.18	6
Introjected regulation	I practice my sport because it is part of the way in which I have chosen to live my life 2	4.50	0.09	4	4.00	1.77	3.13	6

Var.	Statement	Center Tendency			Dispersion			
		Mean	Median	Mode	ST.D	Range	Min	Max
	I practice my sport because it is an extension of me 9	5.62	0.08	6	7.00	1.51	2.27	6
	I practice my sport because participation in my sport is consistent with my deepest principles 13	4.88	0.10	5	7.00	1.99	3.96	6
	I practice my sport because participation in my sport is an integral part of my life 21	4.94	0.10	5	7.00	1.93	3.73	6
Integrated regulation	I practice my sport because it is absolutely necessary to do sports if one wants to be in 7	2.57	0.09	2	1.00	1.78	3.17	6
	I practice my sport to feel good about myself 10	4.70	0.10	5	7.00	1.99	3.98	6
	I practice my sport because I would feel bad if I was not dedicating time to do 16	3.97	0.09	4	4.00	1.86	3.45	6
	I practice my sport because I must do sports regularly 23	5.73	0.08	7	7.00	1.60	2.57	6
Intrinsic motivation	I practice my sport for the excitement I feel when I am really involved in the activity 1	5.51	0.09	6	7.00	1.67	2.80	6
	I practice my sport because I feel a lot of personal satisfaction while mastering certain difficult training techniques 6	3.71	0.10	4	4.00	2.03	4.10	6
	I practice my sport for the satisfaction I experience while I am perfecting my abilities 14	4.42	0.11	4	7.00	2.19	4.80	6
	I practice my sport for the pleasure of discovering new performance strategies 18	3.79	0.10	4	4.00	1.98	3.91	6

Figure 18 presents the descriptive statistics for the dependent variable, Athlete Motivation, categorized by motivational regulations based on the Self-Determination Theory (SDT).

The amotivation items recorded relatively high mean scores, with values ranging from 4.65 to 5.97, suggesting that some athletes may experience a lack of clear purpose or declining enjoyment in sport. For instance, the item “I don't know why I practice my sport” had the highest mean (M = 5.97, SD = 1.26), indicating a strong presence of motivational decline among certain participants. While unexpected in highly engaged athletic populations, these findings may reflect burnout, overtraining, or shifting personal priorities.

Identified regulation, which reflects personal values and internal goals tied to sport participation, showed high mean values for most items (M = 5.12 to 5.84), except for one notably lower score (M = 3.04), suggesting strong internalization of the importance of sport in life development and relationship-building. These findings imply that athletes largely perceive their sport as personally meaningful and beneficial beyond performance alone.

The external regulation dimension showed moderate-to-high endorsement (M = 3.14 to 5.43), with higher scores for prestige and social approval, and lower scores for material benefits. This variation suggests that while some athletes are externally motivated by recognition or validation, this is not the primary driver for most participants.

Introjected motivation, reflecting internal pressures like guilt or obligation, showed moderate-to-high means (M = 4.50 to 5.62). This indicates that while athletes may feel compelled to practice due to internalized expectations, it coexists with stronger autonomous motives in most cases.

Integrated regulation presented the widest variation across items. The highest mean (M = 5.73, SD = 1.60) came from the item “I practice my sport because I must do sports regularly”, reflecting a strong sense of alignment between sport and self-identity. However, the lowest score (M = 2.57) suggests that not all

participants fully integrate sport into their identity, indicating potential differences in how deeply sport is embedded in one's life philosophy.

Intrinsic motivation showed moderate scores, with means ranging from 3.71 to 5.51. The highest scoring item was "I practice my sport for the excitement I feel when I am really involved in the activity" (M = 5.51, SD = 1.67), highlighting that many athletes continue to derive enjoyment and personal satisfaction from participation. However, the relatively lower scores on other items suggest that not all athletes experience intrinsic motivation uniformly across dimensions.

Inferential Data Analysis

Normality Test

The normality test is the first test in the inferential analysis to find out which group of test cases are to be performed on the collected sample size. The tests used in the normality analysis were Kolmogorov-Smirnov and Shapiro-Wilk tests (Sekaran, 2003). The significance value as a decision point for the Kolmogorov-Smirnov and Shapiro-Wilk tests indicated that all the constructed independent and dependent variables are normally distributed as their significance value was greater than 0.05. Based on this, a parametric analysis was used for the inferential data analysis.

Regression Analysis

Regression analysis measures the relationship between one (simple) or a group (multiple) of independent variables and one dependent variable. This analysis is used for normally distributed variables, as this test is a parametric test.

H_1. Perceived coach leadership style has an impact on athlete motivation

To test the above hypothesis, multiple regression analysis was used, and the following results were obtained:

Figure 19

Multiple regression analysis for the impact of perceived coach leadership style on athlete motivation

Regression Model	F	Sig.	R^2	ß	Std. Error	t	P Value
	99.03**	< 0.05	0.57				< 0.05
Training and instruction				.16	0.08	2.05	< 0.05
Democratic behaviour				.26	0.07	3.64	< 0.05
Autocratic behaviour							< 0.05
Social support							< 0.05
Positive Feedback							< 0.05

The multiple regression analysis Figure 16 reveals a statistically significant model ($F = 99.03$, $p < 0.05$, $R^2 = 0.57$), indicating that perceived coach leadership styles explain 57% of the variance in athlete motivation. Among the predictors, positive feedback (ß = .29, $p < 0.05$) and democratic behaviour (ß = .26, $p < 0.05$) showed the strongest positive influences on motivation. Training and instruction (ß = .16, $p < 0.05$) and social support (ß = .11, $p < 0.05$) also contributed positively, while autocratic behaviour demonstrated a significant negative effect (ß = –.16, $p < 0.05$). These results highlight the importance of supportive and participative coaching styles in enhancing athlete motivation. Therefore, the hypothesis H1. "Perceived coach leadership style has an impact on athlete motivation" is accepted.

Moderating Analysis

The conceptual framework was constructed using one moderating variable which includes the moderating role of Sport Type. This variable may affect the relationship between the independent and dependent variables.

H_2. Sport Type moderates the relationship between Perceived Coach Leadership Style and Athlete Motivation.

To test the role of the moderating variable, Sport Type, in influencing the relationship between the independent variable (Perceived Coach Leadership Style) and the dependent variable (Athlete Motivation), the moderating analysis method was used through the regression interaction, and the results were as follows:

Figure 20

Moderating analysis for the role of sport type in influencing the relationship between the Perceived Coach Leadership Style and Athlete Motivation

Variables	ß	t	Sig.	F	Sig.	r	R2
Constant	3.54**	11.15	< 0.05	33.79 **	< 0.05	0.46**	0.21
Ind. (Perceived Coach Leadership Style)	0.24**	3.88	< 0.05				
Mod. (Sport Type)	0.21**	4.37	< 0.05				
(Z independent) *(Z moderating) variables	0.17**	4.24	< 0.05				

***Interaction between Z independent and Z moderator variables**
****means significant at ($\alpha \leq 0.05$)**

The moderating analysis demonstrates that sport type significantly moderates the relationship between perceived coach leadership style and athlete motivation. The model is statistically significant ($F = 33.79$, $p < 0.05$) with a moderate effect size ($R^2 = 0.21$, $r = 0.46$). All predictors—including the independent variable (ß = 0.24), the moderator (ß = 0.21), and their interaction term (ß = 0.17)—were statistically significant ($p < 0.05$). These findings suggest that the impact of coach leadership style on athlete motivation varies depending on the type of sport, so we accept the hypothesis (H_2): " Sport Type moderates the relationship between Perceived Coach Leadership Style and Athlete Motivation.".

Research Implications

The model proposed in this research portrays the relationship between coach leadership style and athlete motivation across different individual and team sports in Egypt. The results of this study are beneficial to the development of literature in the field of leadership styles and sport psychology. The study contributes to the theoretical understanding of leadership and motivation in sport by extending the applicability of well-established Western leadership models—such as Chelladurai and Saleh's (1980) Multidimensional Model of Leadership and Self-Determination Theory (Ryan & Deci, 1985)—to the Egyptian sports context. Overall, the study strengthens the cross-cultural validity of leadership and motivation theories while emphasizing the need for locally informed models in sport psychology research.

The coach-athlete relationship is an important relationship to understand for all industry stakeholders in the sport ecosystem including club managers, coaches, and athletes since they are all affected by this relationship. Training specialists can benefit from the findings of such research to customize a training/coaching plan that works best for both coach and athlete. Sports clubs can institutionalize training plans that are in accordance with each sport's needs and athlete preferences when it comes to their coaches' leadership style. Embedding these insights into national youth development strategies may help reduce dropout rates, improve athletic performance, and promote long-term engagement in sport.

Limitations and Future Research

The sampling strategy used in this study limits the generalizability of the findings. Participants were selected based on availability and ease of access, which may not accurately represent the broader population of athletes in Egypt. Furthermore, data was collected from athletes in Cairo, Giza, and Alexandria. These urban governorates may differ significantly from rural or less-developed areas in terms of access to coaching, facilities, athletic support, and leadership preference, which may influence both leadership style and motivation. Cultural differences that exist across regions may shape athletes' expectations, interpretations,

and responses to different leadership styles. Exploring these variations can provide deeper insights into how culturally embedded values and norms influence the coach-athlete relationship and motivational processes.

Additionally, longitudinal studies would allow researchers to assess how coach leadership style influences athlete motivation over time, accounting for performance phases, training cycles, or career transitions.

While the quantitative approach allows for statistical analysis, it limits the depth of understanding regarding the context of the coach-athlete relationship. Combining quantitative surveys with qualitative interviews or focus groups would provide richer insights into the dynamics of the coach-athlete relationship, including emotional and contextual factors that may not be captured through surveys alone.

Finally, the study captures athletes' perceptions of their coach's leadership style, which may not reflect the coach's actual behaviour. These perceptions can be influenced by personal biases or recent experiences. Data collected from coaches to compare their self-perceived leadership style with how it is perceived by their athletes, can help to identify gaps or alignments that may affect motivational outcomes. This could be implemented through 360-degree surveys which gather feedback from multiple sources, including athletes, assistant coaches, and peers, providing a more comprehensive and balanced assessment of coaching behaviour and its impact on athletes.

Declarations

I would like to acknowledge the use of the artificial intelligence (AI) tool, ChatGPT developed by OpenAI, which was employed during the writing process to support language editing, improve clarity, and enhance the overall readability of the text. The use of AI was limited to editorial assistance, and all content, analysis, and conclusions presented in this research remain the result of my own work.

All participants provided written informed consent prior to completing the survey.

All authors declare that they have no conflicts of interest.

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Appendix

The original LSS questionnaire (Chelladurai & Saleh, 1978):

1. Coach's motivational tendencies which include giving positive feedback to athletes (13 items).

i. See to it that every athlete is working to his capacity
ii. Explain to each athlete the techniques and tactics of the sport
iii. Pay special attention to correcting athletes' mistakes
iv. Make sure that his part in the team is understood by all the athletes
v. Instruct every athlete individually in the skills of the sport
vi. Figure ahead on what should be done
vii. Explain to every athlete what he should and should not do
viii. Expect every athlete to carry out his assignment to the last detail
ix. Point out each athlete's strengths & weaknesses
x. Give specific instructions to each athlete as to what he should do in every situation
xi. See to it that the efforts are coordinated

xii. Explain how each athlete's contribution fits into the whole picture
xiii. Specify in detail what is expected of each athlete

a. Coach's instructional behaviour which includes training and instructions aimed at improving athlete performance (5 items).
   i. Compliment an athlete on his performance in front of others
   ii. Tell an athlete when he does a particularly good job
   iii. See that an athlete is rewarded for a good performance
   iv. Express appreciation when an athlete performs well
   v. Give credit when credit is due
b. Coach's democratic behaviour which includes coaching behaviour that allows greater participation by athletes in making decisions related to group goals, practice methods and game strategies (9 items).
   i. Ask for the opinion of the athletes on strategies for specific competitions
   ii. Get group approval on important matters before going ahead
   iii. Let his athletes share in decision making
   iv. Encourage athletes to make suggestions for ways of conducting practices
   v. Let the group set its own goals
   vi. Let the athletes try their own way even if they make mistakes
   vii. Ask for the opinion of athletes on important coaching matters
   viii. Let athletes work at their own speed
   ix. Let the athletes decide on the plays to be used in the game
c. Coach's autocratic behaviour which covers coaches' independent decision making and personal authority (5 items).
   i. Work relatively independent of the athletes
   ii. Not explain his action
   iii. Refuse to compromise a point
   iv. Keep to himself
   v. Speak in a manner not to be questioned
d. Coach's social support which covers coaches' concern for the welfare of the athletes and teams' positive interpersonal relations (8 items).
   i. Help the athletes with their personal problems
   ii. Help members of the group settle their conflicts
   iii. Look out for the personal welfare of the athletes
   iv. Do personal favours to the athletes
   v. Express affection he feels for his athletes
   vi. Encourage the athlete to confide in him
   vii. Encourage close and informal relations
   viii. Invite athletes to his home

The Sport Motivation Scale-6 (SMS-6) (Mallett et al., 2007):

Using the scale below, respondents are asked to indicate to what extent each of the following items corresponds to one of the reasons for which they are presently practising your sport.

Why do you practice your sport?

1. For the excitement I feel when I am really involved in the activity
2. Because it's part of the way in which I've chosen to live my life
3. Because it is a good way to learn lots of things which could be useful to me in other areas of my life
4. Because it allows me to be well regarded by people that I know
5. I don't know anymore; I have the impression of being incapable of succeeding in this sport
6. Because I feel a lot of personal satisfaction while mastering certain difficult training techniques
7. Because it is absolutely necessary to do sports if one wants to be in shape

8. Because it is one of the best ways I have chosen to develop other aspects of my life
9. Because it is an extension of me
10. Because I must do sports to feel good about myself
11. For the prestige of being an athlete
12. I don't know if I want to continue to invest my time and effort as much in my sport anymore
13. Because participation in my sport is consistent with my deepest principles
14. For the satisfaction I experience while I am perfecting my abilities
15. Because it is one of the best ways to maintain good relationships with my friends
16. Because I would feel bad if I was not taking time to do it
17. It is not clear to me anymore; I don't really think my place is in sport
18. For the pleasure of discovering new performance strategies
19. For the material and/or social benefits of being an athlete
20. Because training hard will improve my performance
21. Because participation in my sport is an integral part of my life
22. I don't seem to be enjoying my sport as much as I previously did
23. Because I must do sports regularly
24. To show others how good I am at my sport

Key:

Amotivation is measured by statements 5, 12, 17, 22

Identified Regulation is measured by statements 3, 8, 15, 20

External Regulation is measured by statements 4, 11, 19, 24

Integrated Regulation is measured by statements 2, 9, 13, 21

Introjected Regulation is measured by statements 7, 10, 16, 23

Intrinsic Motivation is measured by statements 1, 6, 14, 18