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Leadership of Elite Coaches: The Relationship among Philosophy, Practice, and Effectiveness Criteria

Abstract

Coaching philosophy is an important topic in both coaching literature and education. However, there is little research regarding the way that coaches' philosophies translate into their practices. Additionally, there is very little information about the specific effectiveness criteria coaches use to evaluate their philosophies and practice. This study addresses the complex set of relationships among coaches' philosophies, perceptions of their practice, and effectiveness criteria. Ten elite coaches were selected for the study (9 males; 1 female), all of whom had successful careers in their respective sports. The coaches responded to an interview guide that addressed the topics of philosophy, practice, and effectiveness criteria. Deductive and inductive data analysis procedures were used to organize the collected information.

The results indicated four main themes: (a) the importance of athlete motivation, (b) the importance of building a relationship with athletes based on personal respect, (c) the presence of high levels of cohesion among the team, and (d) the need for formal and informal rules that regulate the team's functioning. There were several areas in which coaches did not establish a relationship linking philosophy, practice, and effectiveness criteria. The results suggest the need to educate coaches regarding methods of establishing a relationship among their philosophies, their practices, and the effectiveness criteria they use to evaluate their performance as coaches.

Keywords: *Coaching philosophy; Coaching behaviors; Coaching effectiveness; Sport leadership; Coaches.*

Leadership of Elite Coaches: The Relationship among Philosophy, Practice, and Effectiveness Criteria

The analysis of coaching philosophy is central to understanding coaches' leadership styles and actions (1, 2). In fact, coaching philosophy is addressed in the relevant literature (2-5) and represents a major aspect of coach education publications and training (1). Therefore, researchers have analyzed coaching philosophies and identified important values and beliefs that can guide coaches' work (6-10). However, there is a lack of literature explaining how a coach's philosophy may affect his or her practice when leading teams and athletes (11). As confirmed by Jacobs, Claringbould, and Knoppers (12), little attention has been paid to how coaches apply their coaching philosophies and how they try to achieve their ideals. For example, Lyle (13) analyzed the coaching philosophies of 43 senior coaches using content analysis and identified 24 values (e.g., "respect for others" and "partnership") that characterize a coach's philosophy. However, that study did not explain how values that sustain coaching philosophy influence coaching practice (13). Moreover, Callary, Werthner, and Trudel (14) analyzed the underlying values that influenced the actions of a female hockey coach and concluded that five core values guided her actions (equity, connectedness, holistic development, respect, and effort). Despite these interesting findings, the study did not explain how coaching philosophy is evaluated in terms of effectiveness criteria (14). There is substantial research that characterizes coaches' philosophy (see, for example, 6, 10, 12, 15, 16) and examines how a coach's philosophy relates to the coach's practice when leading teams and athletes (see, for example, 17), but research on the relationship among philosophy, practice, and effectiveness criteria is lacking.

In addition to this scarcity of findings, some studies rely on case studies and analysis of the experience of very successful coaches, which makes it difficult to contrast

perspectives and establish patterns of information between different coaches. For example, Gould, Pierce, Cowburn, and Driska (3) examined the coaching philosophy of J. Robinson, one of the most respected and successful NCAA wrestling coaches in the United States, but they limited the analysis to the link between coaching philosophy and coaching behavior.

Another factor that contributes to the difficulty of studying coaching philosophy is related to the way authors understand this topic. In fact, coaching philosophy has been defined differently, has been used interchangeably with other terms (e.g., coaching vision) and has been used in research without any explanation at all (11). To clarify these terms, Vallée and Bloom (10) conceptualized coaching philosophy as the specific principles that guide a coach's personal objectives and leadership style, while coaching vision is more closely related to setting a direction and goals for an entire organization (see also, 15).

In this study, we assume that coaching philosophy refers to a set of values, beliefs, assumptions, attitudes, principles, and priorities (4) that influence both the practice and effectiveness criteria assumed by coaches. Coaching practice refers to behaviors used by coaches to fulfill their coaching philosophy (18). Effectiveness criteria refers to personal and professional indicators that enable coaches to determine whether they are fulfilling their intentions (as related to their philosophy and practice). Determining how the relationships among coaches' philosophy, practice, and effectiveness criteria occur is the main purpose of this study. In other words, we attempted to understand the linear relations among the ideas and principles of coaches (philosophy of coaching), the way these ideas are translated into observable behaviors (practice of coaching), and the objective or subjective indicators that coaches use to evaluate the philosophy and practice of coaching (effectiveness criteria).

Method

To analyze the relationship among coaches' philosophies, practices, and effectiveness criteria, we interviewed 10 elite coaches. We used a qualitative methodology for the following three reasons. First, there is a lack of instruments, such as questionnaires, that cover the interconnections among coaches' philosophies, practices, and effectiveness criteria. Second, in-depth interviews allow us to better understand the specific principles and values that guide the coaches' practice. Third, due to our interest in detecting matches among the philosophy, practice, and effectiveness criteria of coaching, an interview was the best method to explore *if* and *where* these relationships occurred.

Participants

The first task was to define which coaches could be included in the study. We were interested in recruiting elite coaches for this study under the assumption that they would be in a better position to provide useful information about the topics under study (philosophy, practice, and effectiveness criteria used in their activity). Our criteria were based on professional credibility, competency, and sport success, which seem to be important indicators assumed by elite coaches (3, 15, 19). More specifically, we established two inclusion criteria: (a) having more than one national title in the top division of their sports and (b) having at least five years of experience working in the top division of their sports.

The sample included 10 coaches (9 males; 1 female) aged between 31 and 54 years ($M = 44.7$; $SD = 6.8$). The coaches' professional experience ranged between 5 and 34 years ($M = 23.2$; $SD = 8.2$). Five coaches trained male athletes in team sports, two coaches trained male athletes in individual sports, one coach trained female athletes in team sports,

one coach trained female athletes in individual sports, and one coach trained both male and female athletes in individual sports. All the coaches had graduate degrees from universities, and they were all certified by their sport's national federation.

Interview Guide

To address the purpose of the study, we conducted interviews based on a previous instrument about leadership styles and sports team management (20). The instrument evaluates the coach's activity (e.g., the coach's philosophy, practice, and criteria; work conditions; career and professional commitment) that is initially used to characterize the practice of coaches and the way they develop and apply their skills in their daily work with athletes (21).

For this study, we were interested in understanding how coaches lead their teams. Thus, our questions can be categorized into three categories: (a) coach's philosophy: evaluates the most important values, beliefs, assumptions, attitudes, principles, and priorities that identify the professional activity of coaches (e.g., "Can you tell me what your philosophy of leadership is? What things do you value most as a coach?"); (b) coach's practice: evaluates the specific actions and behaviors adopted by coaches to implement their philosophies (e.g., "Can you tell me what specific behaviors you assume in order to implement your philosophy as coach?"); and (c) coach's effectiveness criteria: evaluates the personal and professional indicators used by coaches to evaluate the implementation of their philosophy and the practice of their coaching (e.g., "Can you tell me what indicators you use to evaluate your philosophy and actions as a coach? How do you know if you are successful as a coach?"). Before asking the coaches these questions, a brief definition of coaching philosophy (e.g., a set of beliefs or principles that helps coaches achieve their objectives), practice (e.g., specific and observable behaviors that

help coaches fulfill their philosophies), and effectiveness criteria (e.g., personal and professional indicators that coaches use to evaluate their own philosophies and behaviors as coaches) (22) was provided. The interview was conducted using general questions (e.g., "Could you tell me about your philosophy as a coach?") and specific questions (e.g., "Could you tell me what specific values and principles you consider important as a coach?"), followed by asking coaches to provide specific examples of the three topics (e.g., "Can you provide an example of the principle you just described from your coaching activities?"). This procedure allowed the interview to focus on the coach's opinions, thus preventing the interviewer's perspective from affecting the coach's perspective (23). Moreover, this procedure enabled the researcher to search for the existence of matches among the three topics of analysis.

Procedure

This study was approved by the ethics committee of the university that employs the first author of this paper (ref. SECSH 008/2016). Coaches were contacted, and upon their agreement to participate, a date and location for each interview was determined. Before the interview, coaches were informed of the goals of this study, and their informed consent was obtained. The interviews were conducted in quiet spaces to guarantee the quality of data collection. The interviews were audio-recorded and lasted between 45 minutes and 2 hours and 09 minutes (*M* = 1 h and 23 m).

Data Analysis

Data analysis was performed separately for the 10 interviews to keep each coach's discussion of philosophy, action, and effectiveness criteria together. That is, we were not interested in showing *if* and *how* all coaches had the same philosophy, actions, and

effectiveness criteria but rather how each coach did or did not connect these three components. To test these relations, we relied on an interpretational qualitative analysis of investigation (24) using a combination of deductive and inductive analyses (23) to analyze the subjective experiences of coaches while performing their activities.

The process was deductive because the three topics of discussion with the coaches were predetermined prior to data collection (i.e., philosophy, practice, and effectiveness criteria), which influenced the way the interviews were conducted as well as the final informational structure. However, final properties, categories, and components only emerged after using inductive data analysis. The specific types of data organization within the topics of philosophy, practice, and effectiveness criteria were not determined prior to the interviews. No conceptual or empirical structure was imposed on the data, meaning that the results were obtained only after we identified a structure of data organization that best reflected the phenomenon under study (i.e., that characterized interpretational analysis) (25).

Data organization and interpretation followed recommendations from the relevant literature about qualitative data analysis (25-27). More specifically, we used the constant comparative method (28) to organize the information into a hierarchy of knowledge that allowed an understanding of the relations established among the predetermined topics of philosophy, practice, and effectiveness criteria. The data organization consisted of the following steps: (a) defining meaning units: parts of text that are comprehensible by themselves and contain ideas, episodes, or pieces of information; (b) creating tags: producing concepts that adequately represent the content of the interviews; (c) defining properties: identifying common features that some meaning units share and that allow them to cluster together; (d) defining categories: listing and comparing those tags that

have similar meaning units and properties, which can be gathered together to capture a larger category of information; and (e) defining components (or higher-order categories).

After analyzing the similarities and differences among categories, we created groups of categories that had internal homogeneity (i.e., information should cohere together meaningfully) and external heterogeneity (i.e., information should be clear and with obvious differences across individual categories) (23). In the final step, we examined the "dimensions" of each property by analyzing their similarities and differences in content (25, 26), allowing us to locate the property along a continuum. For example, two coaches may have both described a certain principle of action that may be considered an action to be "used often" by one of them and an action "to avoid" by the other. This method allows a better understanding of information provided by the coaches than simply describing the properties and their corresponding categories. In fact, the same topic may be mentioned by different coaches (e.g., the need to have scientific and technical updates on their sports), but the coaches may differ in terms of the importance they attribute to the information.

After determining the overall data organization from meaning units to components, we searched for matches among the topics of discussion with the coaches (e.g., philosophy, practice, and effectiveness criteria). The analysis was performed by looking for existing matches between properties and categories of information. These matches could assume three forms: full, partial, or null property matches.

A *full property match* represents a direct relationship between a principle of a coach's philosophy, a course of action that implements that principle, and an effectiveness criterion that enables an evaluation of that principle. For example, the coach may believe that it is important to promote athletes' autonomy in decision making during competition (philosophy). Therefore, the coach organizes training sessions in which athletes must

decide their specific options on their own to achieve success (practice). Finally, the coach records the number of correct and incorrect decisions made by the athletes and indicates the number (or percentage) of cases in which athletes should assume autonomous decisions (effectiveness criteria).

A *partial property match* represents a direct relationship between two of the topics of discussion (e.g., philosophy, practice, or effectiveness criteria) with the coaches. Following the previous example, this case can occur when coaches formulate a philosophy (e.g., promote athlete autonomy in decision making during competition) and establish specific behaviors to achieve the philosophy (e.g., organize training sessions), but they fail to provide a specific indicator of the implementation of both the philosophy and the practice (effectiveness criterion).

A *null property match* represents a case in which a direct relationship is identified with one of the topics of discussion with the coaches (e.g., philosophy, practice, or effectiveness criteria), but no match exists with the properties and categories of the other two topics involved in the discussion with the coaches. Using the same example, a null property match occurs when coaches provide an important idea for their activity (e.g., promote athlete autonomy in decision making during competition), but they do not have a specific plan of action or effectiveness criteria that can assure the implementation of the philosophy of coaching.

Establishing Trustworthiness

For consistency purposes, the research team reviewed the interview guide together to ensure a good understanding of the questions and how they should be used during the encounters with the coaches. The first interview was conducted by the first and fourth authors, while the following interviews were conducted in an alternating manner by only

one of the researchers based on the coaches' availability. Before the data collection, the coding scheme (cf. 29) was discussed by the research team. The main conclusion was that there was a need to clearly distinguish the information codes related to the philosophy of coaching, those related to the practice of coaches, and those related to the effectiveness criteria used by the coaches. Additionally, there was a need to clarify the information within these three areas, which effectively occurred in the final codification (by establishing the components of information that were related to the coach, the athletes, and the team). However, this information was not defined in the initial phase of data collection.

After data collection, the interviews were transcribed into a word processing program, and the data were entered into NVivo10 software to be coded and organized, generating the data codification structure. After the first data categorization, all the members of the research team analyzed the codification. We used triangulation to avoid (or at least minimize) bias in data analysis and to categorize properties, categories and components performed by researchers one and four due to their knowledge of the interviewees and the topics under study (30). Consistency in the coding process was ensured by using intercoder agreement during meetings with all the researchers involved (29, 31). The final codification of the information resulted from "negotiated agreement", comparing the initial coding with the opinions of authors two and, especially, three of the paper, who assumed the role of a "critical friend" (32). Team member three offered and encouraged further reflection on the data, promoting reflexivity about the categorization and challenging the "construction of knowledge" assumed by the other team members. The sport sciences academic and professional background of this team member helped to contextualize these categorizations into the specific realities of the coaches in this study. This procedure enabled a discussion of the initial data categorization, after which any

subsequent inconsistencies were resolved and a consensus regarding the final categorization was reached (22).

Results

Data analysis produced 554 meaning units distributed across the three topics of discussion with coaches (i.e., coach philosophy, coach practice, and coach effectiveness criteria). More specifically, philosophy included 149 meaning units (26.9%), practice included 308 meaning units (55.6%), and effectiveness criteria included 97 meaning units (17.5%). These three topics of discussion with coaches were then aggregated into three components: (a) a coach component, referring to aspects of the coaches' personal and professional activity; (b) an athlete component, referring to aspects of the coaches' established personal and professional relationship with athletes; and (c) a team component, referring to aspects of the coaches' established personal and professional relationship with the team. These three components (coach, athlete, and team) generated 19 categories and 34 properties.

Considering this organization of data, we searched for property matches in the three topics of discussion with coaches among the three components of coach activity. Some quotations are included to exemplify the properties that generated stronger agreement among coaches.[1]

Full Property Matches

We established full property matches of information for cases in which there was a direct relationship among the three topics of discussion with coaches (i.e., coach

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[1] All quotations from the overall process of analysis are available via contact with the first author of this study.

philosophy, coach practice, and coach effectiveness criteria). A total of four full property matches were revealed, two related to the athlete component and two related to the team component. For the athlete component, aspects related to motivation (e.g., setting goals to improve performance, mentioned by eight coaches) and personal respect toward athletes (mentioned by nine coaches) generated more agreement among the coaches. For the team component, the aspects that produced stronger agreement among coaches were related to cohesion (mentioned by nine coaches) and to the rules that regulate team functioning (mentioned by eight coaches) (Table 1).

(a) The value of motivation (quotes collected from coach number two working with male athletes in team sports).

Coaching philosophy

The sacrifices we all make are much more difficult than the rewards we receive time to time. Therefore, it is essential to have motivated athletes because without motivation, it is very difficult to continue at this level of competition.

Coaching practice

It is a big challenge to keep athletes motivated across the sport season (…). I try to increase motivation by establishing goals about what I expect every athlete to do in training and competition. So, I define goals for athletes that are difficult but challenging, that must be possible to accomplish in order to improve their abilities.

Coaching effectiveness criteria

Feel that athletes have pleasure in what they do regardless of sporting results. Of course, if the sports results appear, it is even better. In this case, this will be an absolute success. (…) When I see they are trying hard to accomplish the goals that we have set, then I feel we did a good job coaching these athletes.

(b) The value of personal respect (quotes collected from coach number six, working with male athletes in individual sports).

Coaching philosophy

I have a very close and affective relationship with athletes. It is fundamental that there exists an enormous respect between the coach and athletes. (...) I believe that good performance in our sport also depends on personal positive relations between me and the athletes.

Coaching practice

I am very close to the athletes. I do not let people not related to our work approach them. Therefore, when athletes have a problem, they know they first have to talk with me before anyone else in the club. (...) I am always there to help athletes solve personal or sport problems. I set specific periods to speak with them if they want. That is why I feel they have a lot of respect for me.

Coaching effectiveness criteria

I have been able to keep positive and strong relationships with athletes for a long time. (...) I know my strategy is correct when I meet an athlete that worked with me in the past, and he says that our group was one of the best he worked with throughout his career. Also important, I have been able to work with many athletes for several sport seasons. Therefore, confidence and mutual respect are decisive for building sport success.

(c) The value of cohesion (quotes collected from coach number three, working with male athletes in team sports).

Coaching philosophy

It is essential to have a great team with a good team spirit (...); it can win a championship.

Coaching practice

We also perform training camps [periods of training outside the club] *to isolate athletes from their daily problems and to let them focus on the team.*

Coaching effectiveness criteria

One important aspect is to achieve a good team spirit with athletes, build at the end of the season a fully trusting relationship between all of us; this can be decisive. (...) I know I have this team spirit when athletes really like to be together at our social events.

For example, we have a team dinner every month. It is not obligatory to come, but when I see all of them coming to the dinner and enjoying these moments together, then I know we are on the right track. This is a signal of cohesion!

(d) The value of rules (quotes collected from coach number nine, working with male athletes in team sports).

Coaching philosophy

It is essential that athletes respect rules such as attendance and punctuality in trainings.

Coaching practice

I communicate the rules of the team to the athletes. Then, they have to comply with them.

Coaching effectiveness criteria

If the rules are really followed, it is successful. For example, if the training session should start at a given time, it is a success if I see that it really started on time throughout the season.

Partial Property Matches

We established partial property matches of information for cases with a direct relationship between two of the three topics of discussion with the coaches (i.e., coach philosophy, coach practice, and coach effectiveness criteria). We found six partial property matches. Four of these matches were related to the coach component (e.g., scientific and technical knowledge, decision making, role model, and adaptation to circumstances). One match was related to the athlete component (character), and the other was related to the team component (training with rigor and discipline) (Table 2).

Within partial property matches, four themes were especially prevalent (three in the coach component and one in the team component). In the coach component, updating scientific and technical knowledge was mentioned by nine coaches; being a role model for athletes was mentioned by eight coaches; and adjusting behavior according to the

circumstances was mentioned by all the coaches. In the team component, the value of training with rigor and discipline was mentioned by seven coaches. These four themes will be described below. All of them have links between philosophy and practice but not effectiveness criteria.

(a) Updating scientific and technical knowledge (quotes collected from coach number one, working with both male and female athletes in individual sports).

Coaching philosophy

Currently, it is essential to talk with other coaches, attend some conferences and read about this sport. This is essential these days for me as a coach.

Coaching practice

I seek advice from experts in the field of biomechanics, psychology, and physiology to set the training sessions. (...) Athletes must understand why we are training this way.

(b) Acting as a role model for athletes (quotes collected from coach number five, working with male athletes in team sports).

Coaching philosophy

It is essential to act according the ideas I stand for the athletes. I usually say to athletes, "Look to what I say and look to what I do." My principle is simple: always act according the way I expect athletes to act.

Coaching practice

I am the first to arrive at the training ground and the last to leave. When athletes come to training, it is all set, and when the training is over, they do not have to worry about anything else. (...) It makes no sense if I ask athletes to arrive early to training and I am not the first to arrive.

(c) Adjusting behavior according to the circumstances (quotes collected from coach number seven, working with female athletes in team sports).

Coaching philosophy

I must be able to adapt my work to the goals of managers of this club and do my job according to material and logistical resources. These are aspects I have to consider and manage as a coach.

Coaching practice

Success does not depend only on me. What I do results from a close collaboration with the club managers, my assistant coach, and the athletes, especially the captain.

(d) The value of training with rigor and discipline (quotes collected from coach number five, working with male athletes in team sports).

Coaching philosophy

Athletes should demonstrate dedication in training. They should try to overcome their own limits.

Coaching practice

Some parts of the training sessions take athletes to the limit. We simulate games in the training sessions where athletes play like a real game.

Null Property Matches

We established null property matches of information for cases where there was no direct relationship across the three topics of discussion with coaches (i.e., coach's philosophy, coach's practice, and coach's effectiveness criteria) despite coaches having identified one of these topics during the interview. We found nine property matches, six related to the coach component (e.g., maintaining the athletes in the team, selecting the right athletes, developing athletes, achieving sport results, attracting financial investment, and obtaining social recognition), two related to the athlete component (giving feedback and conflict management), and one related to team component (organizing the training sessions) (Table 3).

Within null property matches, there were three themes that were especially prevalent: achieving the intended sport results (mentioned by all coaches), using positive and negative feedback to control athletes' behaviors (mentioned by all coaches), and organizing the team training sessions to develop the skills and performance of athletes (mentioned by nine coaches). These will be described below.

(a) Achieving the intended sport results (quotes collected from coach number two, working with male athletes in team sports).

Coaching effectiveness criteria

Of course, winning is good! Winning is ... everyone knows. That's why we work every day! (...) So, it is the number of medals, titles, finals, and personal records.

(b) Using positive and negative feedback (quotes collected from coach number one, working with both male and female athletes in individual sports).

Coaching practice

When athletes are fulfilling what is intended, I am always very positive with them, whether in training or in competition. But when I have to be hard, I know how to be hard. When I see that they do not meet the training discipline, I am rough with them.

(c) Organizing the team training sessions (quotes collected from coach number four, working with female athletes in individual sports).

Coaching practice

Some parts of the training are intended to improve the technique of athletes. Athletes have to be completely focused at these moments. So I call their attention to do their best.

The overall results include four full property matches (21%), six partial property matches (32%), and nine null property matches (47%). Figure 1 summarizes the relationships among the topics of discussion with coaches (philosophy, practice, and effectiveness criteria) and indicates the levels of agreement among coaches regarding the category of information.

Table 1

Full Property Matches Among Coaching Philosophy, Coaching Practice, and Coaching Effectiveness Criteria

	Topics of discussion with coaches			Property dimension
	Coaching philosophy	**Coaching practice**	**Coaching effectiveness criteria**	Number of coaches (N = 10)
Athlete component	The value of motivation 7/0/3 (a)	Setting goals to improve athletic skills 7/0/3 (b)	Increasing levels of motivation and athlete attitude toward sport activity 4/0/6 (b)	(a) Important/Not important/Not mentioned
		Setting goals to improve performance 8/0/2 (b)		
	The value of personal respect 8/0/2 (a)	Showing respect to build positive relationships with athletes 9/0/1 (a)	Building strong and stable positive relationships with athletes 3/0/7 (b)	
Team component	The value of cohesion 7/0/3 (a)	Defining social and athletic activities to develop teamwork and cohesion 9/0/1 (b)	Increasing feelings of cohesion among team members 8/0/2 (b)	(b) Yes/No/Not mentioned
	The value of rules 6/0/4 (a)	Setting formal and informal rules/norms for team functioning 8/0/2 (b)	Having effective and organized team functioning 4/0/6 (b)	
	Full property matches = 4 (21%)			

Note. The property dimension includes the number of coaches (left side) and the property continuum (last column).

Table 2
Partial Property Matches Among Coaching Philosophy, Coaching Practice, and Coaching Effectiveness Criteria

	Topics of discussion with coaches			Property dimension
	Coaching philosophy	**Coaching practice**	**Coaching effectiveness criteria**	Number of coaches (N = 10)
Coach component	The value of scientific and technical knowledge 7/0/3 (a)	Updating scientific and technical knowledge 9/0/1 (c)	X	(a) Important/Not important/Not mentioned
Coach component	The value of decision making 3/2/5 (d)	Assuming decisions as a coach (more or less open to athletes) 3/2/5 (e)	X	(a) Important/Not important/Not mentioned
Coach component	The value of a role model 7/0/3 (a)	Being a personal example for athletes 8/0/2 (a)	X	(b) Yes/No/Not mentioned
Coach component	The need to adapt to circumstances 4/0/6 (a)	Adjusting behavior according the demands of the situation 10/0/0 (a)	X	(c) Necessary/Not necessary/Not mentioned
Athlete component	The value of character 6/0/4 (a)	Adopting fair-play behaviors and refusing unacceptable actions 1/0/9 (a)	X	(d) Democratic/Autocratic/Not mentioned
Team component	The value of training with rigor and discipline 7/0/3 (a)	Setting intense and demanding training sessions to prepare the team for competition 4/0/6 (b)	X	(e) Democratic/Autocratic/Both types
	Partial property matches = 6 (32%)			

Note. The property dimension includes the number of coaches (left side) and the property continuum (last column).

Table 3

Null Property Matches Among Coaching Philosophy, Coaching Practice, and Coaching Effectiveness Criteria

	Topics of discussion with coaches			Property dimension
	Coaching philosophy	**Coaching practice**	**Coaching effectiveness criteria**	Number of coaches (N = 10)
Coach component	X	X	Maintaining the athletes on the team 2/0/8 (b)	
	X	X	Selecting the appropriate athletes for the team 4/0/6 (b)	
	X	X	Contributing to the development and excellence of athletes 6/0/4 (b)	(a) Important/Not important/Not mentioned
	X	X	Achieving the intended sport results 10/0/0 (b)	
	X	X	Attracting financial investment for the club/team 2/0/8 (b)	(b) Yes/No/Not mentioned
	X	X	Obtaining social recognition of the team and club 1/0/9 (b)	
Athlete component	X	Using positive and negative feedback to control athletes' behaviors 5/5/0 (f)	X	(f) Positive/Negative/Not mentioned
	X	Using constructive approaches to resolve conflict management 6/0/4 (a)	X	(g) Autonomy/Control/Not mentioned
Team component	X	Organization the team training sessions to develop the skills and performance of athletes 1/9/0 (g)	X	
Null property match = 9 (47%)				

Note. The property dimension includes the number of coaches (left side) and the property continuum (last column).

		Topics of discussion with coaches		
		Coaching philosophy	**Coaching practice**	**Coaching effectiveness criteria**
Components of coaches' activity	**Coach**	Scientific and technical knowledge (7) ⇨	Yes (9)	No
		Decision making (3) ⇨	Yes (5)	No
		Role model (7) ⇨	Yes (8)	No
		Adapt to circumstances (4) ⇨	Yes (10)	No
		No	No	Stability of athletes on the team (2)
		No	No	Selection of the appropriate athletes for the team (4)
		No	No	Development and excellence of athletes (6)
		No	No	Sport results (10)
		No	No	Financial investment for the club/team (2)
		No	No	Social recognition of the team and club (1)
	Athletes	Character (6) ⇨	Yes (1)	No
		Motivation (7) ⇨	Yes (8) ⇨	Yes (4)
		Personal respect (8) ⇨	Yes (9) ⇨	Yes (3)
		No	Positive and negative feedback (5)	No
		No	Constructive approaches to resolve conflict management (6)	No
	Team	Cohesion (7) ⇨	Yes (9) ⇨	Yes (8)
		Rules (6) ⇨	Yes (8) ⇨	Yes (4)
		Training with rigor and discipline (7) ⇨	Yes (4)	No
		No	Develop the skills and performance of athletes (9)	No

Figure 1

The Relationships Among Philosophy, Practice, and Effectiveness Criteria

Legend: We indicated in parentheses the number of coaches that referred to each dimension. No = not mentioned by coaches; Yes = mentioned by coaches.

Discussion

The first, and probably the most significant, conclusion of this study is that coaches do not have a linear and fully organized discourse about their activity in terms of philosophy, practice, and effectiveness criteria. In fact, 79% of the matches corresponded to null or partial properties of information among philosophy, practice, and effectiveness criteria. Identifying the reasons for these mismatches was not the goal of this study, but they certainly suggest a significant number of situations in which coaches demonstrate a lack of logical and consistent ways of thinking in terms of leading athletes and teams. Interestingly, this absence of a linear relationship has been reported in the literature (16), and it is similar to the phenomenon that Light (33) calls an *epistemological gap* or cognitive dissonance between the "official" discourse of coaches and the "intended or desired" discourse of coaches. Our results extend this idea by providing specific indications about the magnitude and areas in which this lack of linear relations occurs.

Based on a more detailed analysis of these areas of cognitive dissonance, the second conclusion of this study relates to the absence of full properties for the coach component. This result is somewhat surprising because among the components analyzed in this study (coach, athletes, and team), the coach component is the component over which coaches exert the most control because it is based on the way they understand their activity. For example, the partial match from the coach component "being a role model for athletes" seems much more dependent on the coaches' abilities and competence than on the full matches of motivating athletes (from the athlete component) and promoting cohesion (from the team component). Both of these certainly depend on the coaches' skills, but they also depend on the athletes' personal and athletic characteristics. Thus, coaches may achieve better control over their activities if they assume organized coaching discourses in areas controlled by their behaviors and courses of actions.

The third conclusion of this study addresses the effectiveness criteria used by coaches to evaluate their efficacy. Once again, we observe a significant mismatch among areas of coaches' activity (i.e., coach, athletes, and team components), with coaches describing a set of indicators that do not depend entirely on their control. This mismatch is seen with regard to the stability of the athletes on the team, the selection of appropriate athletes for the team, the contribution to the development and excellence of the athletes, and the achievement of the intended sport results, which is considered by all the coaches the "golden indicator" of success. These effectiveness criteria are in agreement with those of previous research (6, 19, 34, 35), particularly the achievement of the intended sport results, which was also reported by other elite coaches (15). Despite this consonance, whether there are alternative effectiveness criteria upon which coaches can rely to evaluate their activity remains unknown. Our data suggest that there are alternative effectiveness criteria that coaches can use. In fact, when investigating the coach component, we can observe some controllable areas of activity, such as scientific and technical knowledge, the ability to adapt decision making according to demands, the need to be a role model for athletes, and even the need to adapt to different circumstances. However, our data suggest that coaches formulate these values (coaching philosophy) with corresponding behaviors (coaching practice) but do not establish the final correspondence with indicators of success (coaching effectiveness criteria). For example, scientific and technical knowledge was valued by the majority of coaches, and almost all of them mentioned specific actions that were undertaken to fulfill this principle; nevertheless, none of the coaches described effectiveness criteria to evaluate this principle of coaching. A possible explanation for relying on less controllable indicators of effectiveness relates to the way coaches are evaluated by others in terms of competence and success. As recognized by all the coaches and confirmed by the literature (9, 14, 16),

from the perspective of managers, sponsors, and fans, success is equivalent to the achievement of desired sport results (i.e., the "golden indicator" of success). Thus, even when coaches elaborate a philosophy that seems to be more dependent on their abilities, they are aware that less controllable factors are prevalent in terms of evaluating their effectiveness as coaches, which represents a very narrow perspective from which to judge the broad impact of coaches on athletes, teams, and sport organizations.

Additionally, the data from this study indicate that the variety and complexity of the areas of activity mentioned by coaches are more organized when coaches discuss their influence on athletes and teams than when they talk about themselves as coaches. In fact, the full property matches found in this study referred to athlete and team components, producing a variety and complexity of areas of coaching influence that should be discussed in more detail.

For the athlete component, our results indicate that most coaches value motivation and personal respect among team members (both represented full property matches). Research regarding the psychological skills of athletes suggests a set of distinct abilities, such as concentration, confidence, motivation, and determination (for a review, see 36). However, our data indicate that coaches most value athletes who are highly motivated to achieve success (seven coaches noted this characteristic) along with the characteristics of emotional stability and a willingness to sacrifice for the team.

These data suggest that coaches do not represent "merely technicians involved in the transfer of knowledge" (37), extending their influence to the personal abilities of athletes and interactions established with them. This finding is supported by previous research specifying the importance of coaches building positive relations with team members in both the athletic and personal domains (8, 16, 38). Nonetheless, reinforcing these positive relations is complex, as indicated by the way coaches use feedback in their

relationship with athletes. Although feedback represented null property matches, we highlight the use of positive and negative feedback, which seem to be applied interchangeably depending on the situation. Positive feedback is used to reinforce athletes' efforts and performance in training and competition, thus enhancing their confidence. This strategy is also evident in other studies of elite coaches (17, 38). Despite the undesirable effects of negative feedback (39), the results indicate that this behavior is used and preferred by half of our coaches when they are confronted with an athlete's unacceptable behaviors. This finding raises the question of whether coaches should be educated about the careful and correct utilization of this strategy. Additionally, when facing conflicts with athletes, six coaches in this study cited constructive approaches to address different points of view. This seems to be associated with the maintenance of positive relations between coaches and athletes and suggests the importance of a coach's relational expertise in dealing with conflicts (40). Overall, most coaches valued athletes who had strong motivation and character. These characteristics were closely related to establishing relationships based mainly on positive communication and personal respect.

For the team component, our results highlighted the value of cohesion and rules (both represented full property matches). Notably, research regarding the social factors of high performance teams suggests distinct characteristics, divided into situational (e.g., normative pressures and group size), personal (e.g., social cognitions and affective relationships), leadership (e.g., leader decision style and coach-athlete relationship), and team (e.g., collective efficacy and team performance) levels (for a review, see 41). However, our data indicate that most coaches valued the need to have a cohesive and well-structured team. More specifically, seven coaches agreed on the importance of strong cohesiveness among athletes to support teamwork, and six coaches agreed on the importance of having formal and informal rules that can also facilitate team functioning.

Both cases can indeed facilitate the efficacy and performance of teams (42). Nevertheless, our data extend the existing knowledge by indicating that these coaches paid particular attention to setting the formal rules of team functioning and then put forth their best efforts to promote team spirit at both the social and task levels.

Importantly, training with rigor and discipline (partial property match), which is achieved by designing well-defined training sessions that effectively prepare athletes for competition, was mentioned by most of the coaches of our study. Interestingly, this idea can also be applied to the null property of developing the skills and performance of athletes (mentioned by nine coaches). Coaches stressed the role of the team as the most important context to develop the individual abilities of each athlete. In both cases (training with rigor and developing the skills of athletes), coaches gave more importance to the athletes' intensity and involvement in training sessions than to the quantity of training. Previous research has reinforced that coaches prioritize quality over quantity in their athletes' training sessions (8, 15, 16).

Although there is value in all of these findings, our study involved an imbalance between male and female coaches, reinforcing the need to recruit more female coaches in future studies because male and female coaches seem to interact differently with athletes (43). Additionally, it would be important for future studies to analyze the property matches by considering the coaches' perspective as well as including the athletes' perspective to confirm the congruency among philosophy, practice, and effectiveness criteria according to both perspectives.

Concluding Remarks

Our results revealed a significant number of areas that coaches consider in their work (34 properties) and showed direct relationships among philosophy, practice, and

effectiveness criteria for only four properties, corresponding to 21% of the established matches. Notably, no full match was found for the coach component, while two full matches were found for the athlete component (motivation and personal respect), and two full matches were found for the team component (cohesion and rules). Importantly, coaches seem to produce more prolific discourses when discussing their specific actions as coaches (308 meaning units; 55.6%) than they do when discussing their philosophy (149 meaning units; 26.9%) and effectiveness criteria (97 meaning units; 17.5%). Considering the description of coaching values proposed by Jenkins (2), the self-centered or intrapersonal values that characterized coaches' philosophies did not produce an organized discourse, while the interpersonal (e.g., athlete component) and social (e.g., team component) values corresponded to more organized forms of thinking and acting.

Implications for Coaching Education and Practice

Debate about how to design useful coaching education programs and the relevance of topics that coaches learn in these formal contexts is ongoing (for a review, see 2, 11, 12, 44). Coaches prefer an education oriented toward practical strategies that can be applied in their specific contexts (1). They also prefer courses in which they can explore and share ideas, practices, and problems with others (45, 46). Nevertheless, there is no 'one size fits all' in coaching education (47). Therefore, assuming that a solution to a specific problem can be directly applied to other situations is erroneous (48).

Thus, the alternative is to educate coaches not to prioritize specific coaching knowledge but instead to reflect on their own practices (16, 47, 49) through continual critical reflection (12). One method of achieving this goal would be to educate coaches regarding methods for establishing relationships among their ideas/principles/goals as coaches (philosophy of leadership), the behaviors they use to accomplish their valued

ideas/principles/goals (practice of leadership), and the indicators they use to evaluate the implementation of their philosophy and practice of coaching (effectiveness leadership criteria; 22). Establishing linear relations among the philosophy of coaches, their subsequent practice, and the effectiveness indicators of leadership can provide consistency and improve the positive impact of coaches on athletes and teams, especially if it occurs at different levels of coaches' values (intrapersonal, interpersonal, and social).

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