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Coaches' Speech in Regard to Score and Match Phase

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Abstract: The aim of this study was to analyse the rate and content of 10,430 messages, sent by 21 handball coaches in 21 matches, in relation to score and match phase. Three situations were defined as regards score: large victory, tight game, and large defeat; and four phases for match phase: part 1 and 2 of first half, and part 1 and 2 of second half. Message rates were calculated by dividing the number of messages sent at each level of score and match phase by the elapsed time. To calculate the content, messages were coded using Coach Analysis and Intervention System and percentages were calculated according to score and match phase. Chi-square analysis showed statistically significant differences for rate of messages by score ($\chi^2 = 211.06$, df = 2, sig < 0.001), and match phase ($\chi^2 = 23.704$, df = 3; sig < 0.001); and for percentage of content by score ($\chi^2 = 444.011$, df = 42, sig < 0.001) and match phase ($\chi^2 = 201.706$, df = 63, sig < 0.001). Results can help to establish guidelines to increase the quality of coaches' speech.

Key words: Coaching, situational variables, communicational skills, observational methodology.

1. Introduction

While the primary role of coaches is to facilitate the preparation and performance of athletes, they may also be considered performers, as they are expected to perform their coaching duties in a high-pressure environment [1]. Carrying out these functions is linked to optimal levels of emotional and psychological states, so it makes sense to conduct studies focused on coaches and their stressors [2]. Fletcher et al. [3] argued that coaches may experience a range of stressors from various sources, authors having identified as situational factors the level of the competition, previous results against a particular opponent, the current score of the match (winning, tying or losing), and the ongoing events [4-7].

Nevertheless, the literature to date still does not give a clear view of coaches' reactions during the competition. In fact, several studies [8-10] have shown that coaches are notoriously poor at describing their own behaviour, which would limit their ability to coach effectively. According to Mowat [7], given the acknowledged importance of coach behaviour for both the individual players and the team, it is critical to understand what affects coach behaviour. In this regard, Smith and Smoll [11] pointed out that a key for coaches to behave effectively involves awareness of one's own behaviour and its consequences.

An effective tool for a deeper understanding of these variables can be systematic observation. According to Lorenzo et al. [12], observational methodology has proved to be an effective method for data collection in the field of behaviour. In regard to coaching performance, several authors [13-15] suggested that the use of systematic observation instruments enables researchers to report objective findings on the frequencies or type of thoughts and behaviours of coaches, which can be used to evaluate their effectiveness. The Coaching Behaviour Assessment System (CBAS [16]) is a widely known and used scale to code coach behaviour during both training and matches (e.g. Refs. [12, 17-19]). However, the instrument chosen for this study was the Coach Analysis and Intervention System (CAIS [20]), which was considered more appropriate to the objectives of the study, gaining more insight into coaches' verbal behaviour. Additionally, recent studies have shown adequate reliability rates [21, 22]. The description of the selected instrument is presented in the methodology section.

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In recent years, several studies have attempted to shed light on the determinants of verbal behaviour of coaches in various team sports like soccer [23], basketball [5, 7, 12, 24], handball [21, 22, 25], hockey [26], and volleyball [27]. Their main contributions about coaches' behaviours according to score and match phase are shown in Table 1.

Sánchez et al. [23] studied soccer coaches and noted that in the first half of matches the number of messages sent was higher than in the second one. Authors explained this fact by the large differences in score. Other studies found different patterns. Montero et al. [6] obtained a greater number of messages at the beginning and the end of matches in a study conducted with seven basketball coaches, while Lorenzo et al. [12] showed that information was provided uniformly throughout the match after analysing an expert basketball coach.

Regarding the relationship between score and amount of information provided, the results are inconclusive. In several studies [6, 7, 12, 23], a decrease was observed in the frequency of verbal behaviour of the coach when the game's outcome was clear (large victory or defeat). However, Côté et al. [26] reported the opposite pattern, noticing an increase in coaches' behaviours per minute when their team won or lost by more than two goals. For his part, Gross [5] concluded that coaches of winning teams behave more frequently and spontaneously than their loser counterparts, who were more constrained and reactive.

Turning now to the analysis of the content depending on match phase, Sánchez et al. [23] reported a behavioural pattern characterised by the predominance of prescriptive feedback in the first half of matches, while in the second half there was a prevalence of affective feedback. On the other hand, Mowat [7] pointed out that comparing quarters did not reveal

Table 1 Results of previous studies analysing coaches' verbal behaviour in regard to score and match phase.

Match phase	Studies
Progressive decrease of messages during the match	Sánchez & Viciana [28]; Sánchez et al. [23]
More messages at the beginning and the end of the match	Montero et al. [6]
Constant provision of information along the match	Lorenzo et al. [12]
More behaviours related to the intensity at the beginning of the match	Sánchez et al. [23]
More prescriptive feedback in the first half of the match	Sánchez et al. [23]
No differences in the content of messages depending on the match phase	Mowat [7]
Score	**Studies**
Fewer messages with large differences (positive or negative) in score	Lorenzo et al. [12]; Montero et al. [6]; Mowat [7]; Sánchez et al. [23]
More messages with large differences in score	Côté et al. [26]
More behaviours in winners than in losers	Gross [5]
Less criticism in large victory (during the match)	Calpe-Gómez et al. [21]; Côté et al. [26]
More instructions in large victory and tight game than in large defeat (during the match)	Calpe-Gómez et al. [21]
More questions in large defeat (during the match)	Calpe-Gómez et al. [21]
More general positive feedback in tight game (during the match)	Calpe-Gómez et al. [21]
More confer with assistant in large defeat (during the match)	Calpe-Gómez et al. [21]
More specific negative feedback and corrective feedback when losing (during the match)	Debanne & Chauvin [25]
No differences in content of messages according to score (during the match)	Mowat [7]
More general technical instruction, specific hustle and verbal reinforcement in winners	Gross [5]
More instructions and questions in losers	Lorenzo et al. [24]
More specific negative feedback and corrective feedback after losing a set (in pauses between sets)	Rodrigues and Pina (1999) [29]
No differences in content according score (in pauses between sets an time-outs)	Moreno et al. [27]; Zetou et al. [30]

substantial differences in coach behaviour or a difference in frequency for certain categories of behaviour at the start or the end of matches.

As to the relationship between the content of coach speech and the score, a study carried out with ice hockey coaches by Côté et al. [26] highlighted the tendency of coaches to show less disagreement with the referee when the score was favourable. In another study, Debanne and Chauvin [25] analysed an expert handball coach over four games, and concluded that coach speech more focused on creating interference with the behaviour of the players when the score was unfavourable. Moreover, Calpe-Gómez et al. [21] studied five handball coaches during a match each one. They found higher frequency of direct organization and lower frequency of instructions in large defeat versus more favourable situations. It was also found that the lowest level of criticism occurred in large victory situations compared to unfavourable situations. Finally, in this study positive feedback was more infrequent in large victory, and queries to assistant were more frequent in situations of large defeat.

Other groups of studies have focused on the relationship between content of speech and score (winning or losing the match) in specific parts of the game (e.g. time-outs or breaks between periods). Moreno et al. [27] and Zetou et al. [30] found no significant differences in verbal behaviour in volleyball coaches during the intervals between sets and time-outs regardless of the score. Conversely, Rodrigues and Pina [29] found that, after lost sets, the speech of coaches had more negative feedback, requirements, and information related to the other team than after won sets. In basketball, Lorenzo et al. [24] reported more instructions and questions after losing. Moreover, Gross [5] concluded that winning coaches usually produced more technical instructions, specific encouragement and verbal reinforcement than losing coaches, who gave more punitive technical instructions after a mistake, comments to officials and non-verbal reinforcement. Gross suggested that these behaviours were consistent with coaches being out of control and reflecting ineffectual attempts to change the course of the game.

In sum, previous studies have provided non-consistent results. Thus, the main objective of this study was to analyse differences in coaches' verbal behaviour according to score and match phase in a large sample of coaches using a recent and complete instrument of codification, CAIS, which has shown acceptable reliability.

2. Method

2.1 Participants

The study sample consisted of 10,430 messages given by 21 handball coaches (age M = 39.40, SD = 10.93; Max = 62; Min = 21), in 21 matches. Team ages were: 14-15 (N = 2), 16-17 (N = 3) and 18 and over (N = 16). The teams' competitive level was regional (N = 19) and national (N = 2).

2.2 Instruments

To analyse the content of the coaching speech, Coach Analysis and Intervention System (CAIS [20]) was used, which consists of a continuous encoding of six steps in which primary behaviours are identified first. These primary behaviours were analysed in this study. Two categories—"alert" and "inform"—were added to the 23 items proposed by CAIS in order to provide the instrument with further specificity, thus totalling 25 items, described in Table 2. The coding of verbal behaviour was conducted by three analysts. The reliability of their observations was adequate (inter-observer kappa coefficient mean = 0.84 and intra-observer kappa coefficient = 0.89). The reliability of the categories added to the CAIS was also adequate. For "alert", inter-observer and intra-observer kappa coefficients were 0.86 and 0.89 respectively, while for "inform" they were 0.83 and 0.87 respectively.

Table 2 Description of primary behaviours of CAIS, plus "alert" and "inform".

Primary behaviour	Description
1. Positive modelling	Skill demonstration—with or without verbal instruction—that shows performer the correct way to perform.
2. Negative modelling	Skill demonstration—with or without verbal instruction—that shows the performer the incorrect way to perform.
3. Physical assistance	Physically moving the performer's body to the proper position or through the correct range of movement.
4 & 5. Specific feedback (+/-)	Specific verbal statements (either positive or supportive OR negative or unsupportive) that specifically aim to provide information about the quality of performance (can be delivered concurrently or post).
6 & 7. General feedback (+/-)	General verbal statements OR non-verbal gestures (either positive or supportive OR negative or unsupportive) (can be delivered concurrently or post).
8. Corrective feedback	Corrective statements that contain information that specifically aim to improve the player(s) performance at the next skill attempt (can be delivered concurrently or post).
9. Instruction	Verbal cues, reminders or prompts to instruct/direct skill or play related to player(s) performance.
10. Humour	Jokes or content designed to make players laugh or smile.
11. Hustle	Verbal statements or gestures linked to effort to activate or intensify previously directed behaviour.
12. Praise	Positive or supportive verbal statements or non-verbal gestures which demonstrate the coach's general satisfaction or pleasure to a player(s) that DO NOT specifically aim to improve the player(s) performance at the next skill attempt.
13. Punishment	Specific punishment following a mistake.
14. Scold	Negative or unsupportive verbal statements or non-verbal gestures demonstrating displeasure at a player(s) that DO NOT specifically aim to improve the player(s) performance at the next skill attempt.
15. Alert (not in CAIS)	Verbal statements intended to warn players about an event that is happening at that moment or that may occur immediately after.
16. Inform (not in CAIS)	The coach emphasizes or communicates to players about some aspect of the game that considers relevant: score, time, most dangerous players or other team tactics.
17. Uncodable	Not clearly seen or heard, not belonging to any other category.
18. Silence	Coach is silent that can be on- or off-task.
19. Question	Coach asks a question about skill, strategy, procedure or score, the status of a player's injury, about the welfare of a player, to a match official, etc.
20. Response to a question	Coach responds to a question that may or may not be directly be related to practice or the match competition.
21. Management-direct	Management that is practice/match competition related coach behaviour contributing directly to practice/match competition or explaining how to execute the skill, drill or game.
22. Management-indirect	Management that is practice related coach behaviour, not contributing directly to practice/match competition.
23. Management-criticisms	Management that demonstrates displeasure at the player(s) behaviour or match official's decisions.
24. Verbal protocol analysis	Coach engaged in Verbal Protocol Analysis ("think aloud techniques", verbalizing their actions, communications, thoughts, and feelings).
25. Confer with assistants	Coach confers with assistants to talk about, manage or reflect on anything concerned with the practice.

2.3 Procedure

The recording of the coaches' verbal behaviour was performed using a digital recorder placed in the pocket of the coach. In addition, a video camera was fitted on the opposite side of the court, to record coach movements. To record the score during the game, a second video camera was placed at the centre line of the court, high enough so as to cover goals scored and conceded. For synchronization of data concerning verbal behaviour of coaches, score, and match phase, a second accuracy timeline coincident with the development of the match was used.

For encoding the score, three situations were defined on the basis of goals scored and conceded by the team: large victory (team ahead by three goals or

more), tight game (team winning or losing by two goals or less) and large defeat (team losing by three goals or more). With respect to the phase of the game, each half was split into two parts, 1 and 2, thereby obtaining four phases: part 1 of the first half (1-1), part 2 of the first half (2-1), part 1 of the second half (1-2), and part 2 of the second half (2-2). As handball is a sport with time-outs, total time for each half was divided into two to obtain two equal parts. The coding of the score and match phase was also performed by three analysts. The reliability of their observations was adequate, since in both categories intra and inter-observer agreement was 1.

3. Statistical Analysis

Statistical analysis was performed with SPSS (Statistical Package for the Social Sciences, Chicago, Illinois, United States) version 20.0. Rate of messages was calculated by dividing the total number of behaviours emitted in each of the levels proposed by the elapsed time variables. Regarding speech content, frequencies and percentages were calculated for primary behaviours in relation to score and match phase. To analyse differences, Pearson's Chi-Square (χ^2) test was performed, setting the significance level at $p < 0.05$.

4. Results

The results are presented in Table 3. A total of 10,420 behaviours were recorded, 4,342 in large victory, 3,984 in tight game, and 2,104 in large defeat. Since the time spent in each of the situations was different, rates were obtained dividing the number of messages by the time elapsed in each of the situations.

Thus, for large victory the rate was 8.37 messages per minute, for tight game 6.62 messages per minute, and for large defeat 6.10 messages per minute. Chi-square analysis revealed that differences were statistically significant ($\chi^2 = 211.055$, df = 2, sig < 0.001). More specifically, the number of messages was significantly higher in the situation of large victory than in tight game and large defeat and also in tight game in comparison with large defeat.

With regard to the match phase, the number of behaviours recorded in each phase was: 2,700 behaviours in phase 1-1, 2,639 behaviours in phase 2-1, 2,610 behaviours in phase 1-2, and 2,481 behaviours in phase 2-2. As in handball referees can stop the clock when deemed appropriate, the duration of each of the phases was not exactly the same, so rates were also calculated. Thus, the rate in phase 1-1 was 7.47 messages per minute, 7.33 in phase 1-2, 7.03 in phase 2-1, and 6.64 in phase 2-2. The average number of messages sent during the match by the coaches was 7.11 messages per minute. Chi-square analysis showed that differences by match phase were statistically significant ($\chi^2 = 23.704$, df = 3, sig < 0.001). Specifically, the rate of messages provided at the end of matches (2-2) was found to be significantly lower than that in the first half (1-1 and 2-1).

Chi-square analysis showed significant differences in the content of coaches' speech with regard to score ($\chi^2 = 444.011$, df = 42, sig < 0.001) and match phase ($\chi^2 = 201.706$, df = 63; sig < 0.001). As for the score, specific negative feedback and direct management appeared more frequently with large score differences (large victory and defeat); regarding direct management, prevalence also existed in large defeat compared to large victory. Therefore, direct management appeared more frequently in large defeat than in the other two situations, and that was also the case with questions and information.

Instructions, alert, and general positive feedback were more frequent in tight game and large victory than in large defeat, while in general positive feedback prevalence also existed in large victory in comparison with tight game, just as in confer with assistants and uncodable items. Hustle, scold, and management-criticism obtained higher percentages in tight game and large defeat than in large victory. Corrective feedback was more frequent in large defeat than in tight game.

Table 3 Rate of messages and percentages of primary behaviours by score and match phase. Chi-square and signification.

Variables	Score					Match phase					
	Large victory (LV)a	Tight game (AS)b	Large defeat (LD)c	χ^2	*p*	Part 1 Half 1 (1-1)a	Part 2 Half 1 (2-1)b	Part 1 Half 2 (1-2)c	Part 2 Half 2 (2-2)d	χ^2	*p*
Total time (min)	518.87	602.15	345.17			361.60	359.82	371.17	373.60		
No. of messages total (mess)	4,342	3,984	2,104			2,700	2,639	2,610	2,481		
Rate of messages (mess/min)	8.37_{bc}	6.62_{c}	6.10	211.055	< 0.05	7.47_{d}	7.33_{d}	7.03	6.64	23.704	< 0.05
Primary behaviour	%	%	%	444.011	< 0.05	%	%	%	%	201.706	< 0.05
1. Positive modelling	0.1	0.2	0.0		-	0.1	0.3	0.1	0.0		-
2. Negative modelling	0.1	0.0	0.0		-	0.0	0.1	0.1	0.0		-
3. Physical assistance	0.0	0.0	0.0		-	0.0	0.0	0.0	0.0		-
4. Specific positive feedback	1.2	1.1	0.8		-	1.1	1.2	1.1	0.9		-
5. Specific negative feedback	6.1_{b}	4.4	6.0_{b}		< 0.05	5.9	5.4	5.4	4.9		-
6. General positive feedback	8.8_{bc}	7.3_{c}	4.0		< 0.05	8.2_{d}	6.6	8.1_{d}	6.1		< 0.05
7. General negative feedback	0.3	0.4	0.4		-	0.4	0.4	0.2	0.3		-
8. Corrective feedback	7.6	6.7	8.6_{b}		-	9.3_{cd}	8.1_{d}	6.9	5.3		< 0.05
9. Instruction	28.4_{c}	27.0_{c}	16.8		< 0.05	27.0	25.2	26.2	23.5_{d}		-
10. Humour	0.6	0.2	0.2		-	0.3	0.2	0.7	0.4		-
11. Hustle	9.9	12.4_{a}	11.8_{a}		< 0.05	12.6_{c}	10.5	9.9	11.9		< 0.05
12. Praise	0.1	0.1	0.1		-	0.1	0.1	0.1	0.2		-
13. Punishment	0.0	0.0	0.2		-	0.0	0.0	0.1	0.1		-
14. Scold	0.8	1.7_{a}	1.6_{a}		< 0.05	1.2	2.0_{cd}	1.1	1.0		< 0.05
15. Alert (not in CAIS)	5.3_{c}	5.8_{c}	3.8		< 0.05	5.1	5.2	5.1	5.4		-
16. Inform (not in CAIS)	5.3	5.6	8.2_{ab}		< 0.05	4.5	6.3_{a}	6.0	7.4_{a}		< 0.05
17. Uncodable	1.7_{b}	1.0	1.2		< 0.05	1.3	1.0	1.6	1.5		-
18. Silence	0.0	0.0	0.0		-	0.0	0.0	0.0	0.0		-
19. Question	1.7	1.9	3.5_{ab}		< 0.05	1.6	2.2	2.5	2.3		-
20. Response to a question	2.2	1.8	2.4		-	1.8	2.2	2.4	2.0		-
21. Management-direct	10.5_{b}	8.8	16.8_{ab}		< 0.05	8.8	12.8_{ac}	9.7	13.1_{ac}		< 0.05
22. Management-indirect	0.0	0.0	0.0		-	0.0	0.0	0.0	0.0		-
23. Management-criticisms	2.0	5.9_{a}	5.0_{a}		< 0.05	2.9	3.8	4.5_{a}	5.4_{ab}		< 0.05
24. Confer with assistants	2.5_{b}	1.5	2.0		< 0.05	2.5_{b}	1.3	2.3_{b}	1.9		< 0.05
25. Verbal protocol analysis	5.0	6.0	6.4		-	5.3	5.2	5.9	6.4		-

As for the match phase, positive feedback was provided at the beginning of each half (1-1 and 2-1) to a greater extent than at the end of the match (2-2). Corrective feedback decreased progressively through the match, being provided more in the first half (1-1 and 2-1) than at the end of the match (2-2), while at the beginning of the match (1-1) prevalence existed over the entire second half (1-2 and 2-2). Hustle was more frequently used at the beginning of the match (1-1) than at the beginning of the second half (1-2). Scold was more frequent at the end of the first half (2 -1) than in the second half (1-2 and 2-2). Direct management was more frequent at the end of each half (2-1 and 2-2) than at the beginning of each one (1-1 and 1-2), whereas "inform" appeared more at the end of each of the halves (2-1 and 2-2) than at the beginning of the match (1-1). Management-criticism was more common in the second half (1-2 and 2-2) than at the beginning of the match (1-1); prevalence in the end of the match (2-2) existed over the entire first

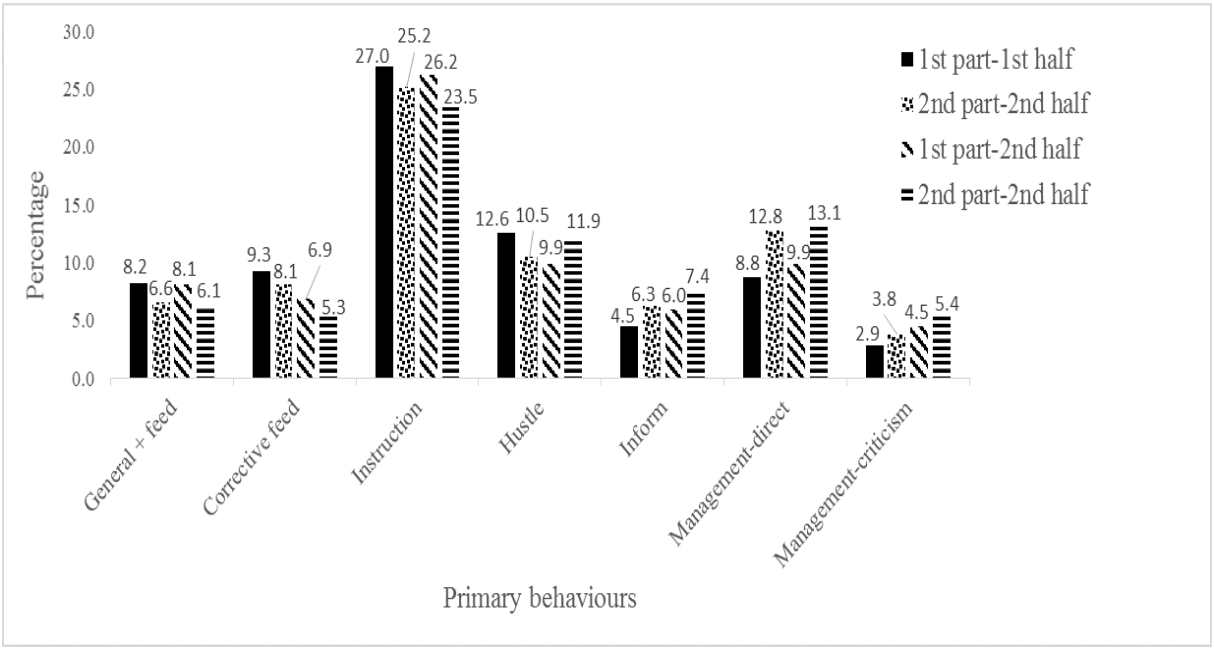

Fig. 1 Differences in primary behaviour according to match phase.

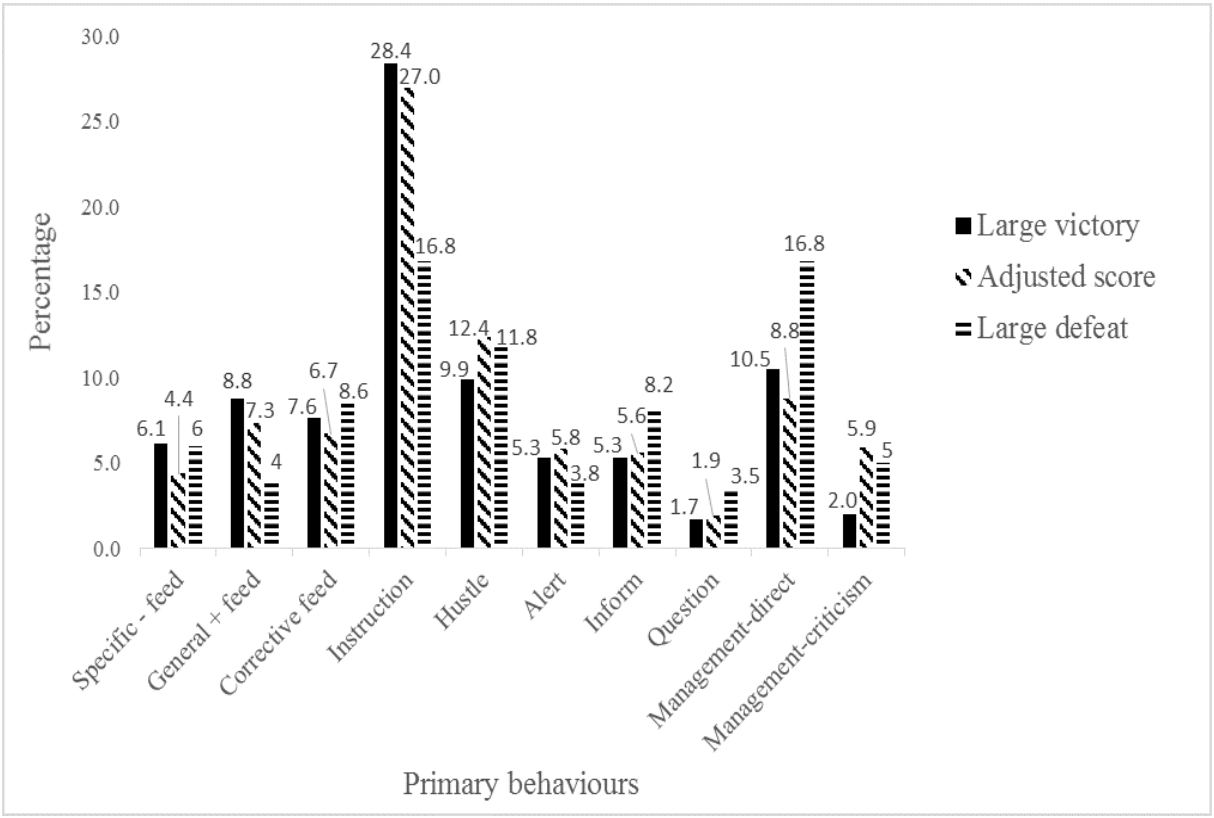

Fig. 2 Differences in primary behaviour according to score.

half (1-1 and 2-1). Finally, queries to assistant were more frequently recorded at the beginning of each half (1-1 and 1-2) than at the end of the first half (2-1).

In order to facilitate the understanding of the results, Figs. 1 and 2 show primary behaviours with statistically significant differences.

5. Discussion

One of the most important findings of the study is the decrease in the rate of messages sent throughout the matches. These results are in line with those obtained by Sánchez et al. [23], and Sánchez and Viciana [28], who studied soccer coaches, noting that in the first half the number of messages given was higher than in the second half. To explain this pattern, Mowat [27] pointed out that at the beginning of the match perceived uncertainty of outcome and of team performance would be relatively high. Consequently, several changes in tactics and organization may be performed by the coach who would need to send a high number of messages. With the development of the match, tactics and expectations would be established. This, coupled with deterioration of information-processing mechanisms associated to fatigue in maintaining high levels of concentration over a period of time, could explain the decrease in the number of messages along the match observed in this study. Nevertheless, the amount of information, as Claxton [31] explained, is not indicative of the quality of the coaching intervention, while Guzmán et al. [22] and Sánchez and Viciana [28] agreed on the importance of not saturating the athlete with too much information.

In respect to the relationship between score and amount of information provided by coaches, the results of this study showed that the rate of transmission of messages was directly proportional to the situation on the score, so that when teams were winning, coaches sent more messages and vice versa. These results are opposite to those provided by Lorenzo et al. [12], Montero et al. [6], Mowat [7], and Sánchez et al. [23], and are partially coincident with results obtained by Côté el al. [26], differing from the latter in that in this case coaches did not provide more messages when the team was in large defeat. The results of the study are in line with the proposal by Gross [5], who suggested that coaches of winning teams behave more frequently and spontaneously than their loser counterparts.

Turning now to the analysis of the content with regard to match phase, the most important findings from this study are the progressive decrease in corrective feedback, and increased gradual criticism. Most behaviours related to direct organization were recorded at the end of each half versus the beginning, and the opposite pattern was obtained in confer with assistant. On the other hand, the prevalence of behaviours related to hustle at the beginning and the end of the game was also relevant. Thus, the use of information intended to motivate, encourage, praise and give psychological support seemed to show the coaches' tendency to create a suitable atmosphere during the game rather than influence the play. Therefore, the motivation and encouragement might simply reflect the nervousness of the coach himself/herself [7, 32]. In the same vein, Piltz [33] noted that uncertainty about knowing what to look for in the game limits the process of in-game analysis and restricts feedback to general comments pertaining to effort, reinforcement or inspiration.

In this study, content of coaches' verbal behaviour changed with score. Questions and direct management were higher in large defeat, and criticism was lower in large victory. These results were coincident with those obtained by Calpe-Gómez et al. [21]. A similar analysis to that conducted in this study was carried out by Côté et al. [26] with ice hockey coaches. In their study, the trend showing less disagreement with the referee when the score is favourable was corroborated. Frustration-aggression hypothesis [34] may help to explain this. The hypothesis postulates that, when a coach is frustrated by losing, he is more prone to show aggressive behaviour toward the referee in the form of verbal hostility. Conversely, when the goal of winning a game is more obtainable, such as tight game or when the team is winning, the coach is more likely to express less hostility toward the referee [26].

Thus, the results of this study support Calpe-Gómez

and Guzmán [22], who pointed out that an unfavourable score leads to a decrease in quality in verbal behaviour by the coach. This decrease is reflected in a focus on aspects that are beyond their control (criticism to the referee), authoritarian attempts to change the course of the game (direct management), and increase doubts and insecurity (confer with assistant). This profile could be due to what Côté et al. [26] define as "psychological performance crisis", that is, a state in which the ability to cope adequately with the competition requirements substantially deteriorates because of an extreme arousal state.

On the other hand, favourable score situations seem to result in an increase in the quality of coaches' verbal behaviour [22], which is reflected in the increase in instructions and positive general feedback, and the shortage of management criticism. In this sense, Piltz [33] claims that coaches should avoid presenting a running description of what happened but rather present information that directs future action for both the individual and the group in a positive way. Gross [5] adds that a coach needs to be aware, when responding to player behaviour in a losing situation, that their particular behaviour is positive and designed to encourage a specific playing response from the player, rather than negative and having the effect of inhibiting the player. Regarding the explanation of this pattern of behaviour, Moreno et al. [27] and Mowat [7] state that when the score is favourable it helps the coach to feel more relaxed, without the feeling of having to solve certain problems, which allows a more adapted and varied intervention.

6. Conclusions

Overall, Cushion [9] notes that there is no set formula for successful coach behaviour, which should be shaped around individual athletes' progress and responses, and also the context at any given moment. On this basis, we can say that the better the understanding of the variables that affect coaches' behaviour, the more precise and effective the guidelines to increase the quality of their speech. Several authors share the importance given to this approach.

Thus, Teipel [35] states that coaches must learn to perceive, evaluate, appraise, and attribute stressors adequately and to act in specific game situations effectively to prevent long-lasting overload or destabilisation of their behaviour. Gross [5] suggests that the challenge for coaches is to become aware of their idiosyncratic patterns of behaviour under varying competitive conditions. Finally, Mowat [7] emphasizes that it would be helpful for coaches to be better equipped to recognize when their behaviour is becoming more intense or repetitive than required, and to be able to take steps to rectify it.

Mowat [7] adds that, to understand what process underpins the behaviour of a coach, it is important to know the game context that exists at a particular moment in time and what the goals of the individual coach are in relation to that context. Linking with the previous idea, he argues that the complexity of coaches' behaviour is far greater than has been conceptualised by coach education in the past. New curricula need to be developed for the preparation of future generations of coaches, in which coach goals and intentions should be primary considerations. Moreover, Thelwell et al. [2] claim that practitioners need to consider the methods of developing coping strategies with coaches, given that little is known about the use of psychological skills by coaches for their own performance.

The results of this study confirm the importance of score and match phase as determinants of coaches' verbal behaviour, noting that the course of the game and an unfavourable score reduce speech quality so that there is a decline in the rate of information and a transfer of attentional focus from variables of player performance (instructions and positive feedback) to more irrational and uncontrollable variables (intensity and criticism to the organization). The study results

may help to implement programmes intended to improve verbal behaviour in coaches during matches.

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