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# **The half-time talk: A mixed-method examination of youth-elite football coaches' behaviours and team-management strategies**

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# **The half-time talk: A mixed-method examination of youth-elite football coaches' behaviours and team-management strategies**

## **Abstract**

Football, unlike some other team sports, include limited game interruptions for coaches to easily communicate with players and affect their performance. However, a reduced number of studies have explored how coaches attempt to influence players during half-time. This study examined football coaches' behaviours during half-time and their perceptions underpinning their talks' delivery. Five Spanish coaches ( $M_{age} = 32.2$ ,  $SD = 8.8$ ) working for a *La Liga* academy were systematically observed during half-time talks ( $n = 20$ ) and participated in a semi-structured interview each. Half-time talks were coded using a modified version of the Coach Analysis and Intervention System, and semi-structured interviews were analysed following thematic analysis procedures. Instruction and feedback were the most employed behaviours for four coaches, with younger age-group coaches employing greater divergent questioning and in-talk player participation. Furthermore, data suggested that coaches conferred with their staff, before entering the changing room and rapidly progressed from divergent to convergent questions and feedback and instruction. The team's 'level of play' was the most perceived relevant factor affecting the verbal and vocal strategies of coaches' messages, albeit the score gained importance for coaches of older age-groups. This study is pioneering, examining how coaches attempt to influence their players during half-time talks of competitive youth football.

**Keywords:** coach behaviour, player talk, half time, team management, soccer.

## 52 Introduction

53 The multiple stimuli existing within team-sport games do not provide coaches with  
54 enough time to communicate with players and affect their in-game performance.<sup>1</sup> Indeed,  
55 game-breaks inside competition (i.e., time-out, half-time, and end of quarter) appear more  
56 appropriate situations to intervene.<sup>2</sup> For example, Lorenzo et al.<sup>3</sup> identified that basketball  
57 coaches use more elaborate instructions and questions during these periods than during the  
58 game. Although the half-time interval in football is the only occasion enabling a prolonged  
59 interaction with players throughout the game,<sup>4</sup> previous studies have examined the type of  
60 messages provided during combined game-break types.<sup>5,6</sup> However, only a few have specif-  
61 ically addressed the perceived factors underpinning coaches' half-time delivery qualita-  
62 tively,<sup>7,8</sup> and no attempts have systematically observed the full spectrum of behaviours em-  
63 ployed by elite youth football coaches during half-time. Therefore, integrating systematic  
64 observations and qualitative interviews can provide more depth regarding the cognitive pro-  
65 cesses that guide coach behaviour<sup>9</sup> during half-time talks.

66 Contextual situations surrounding games (e.g., opposition quality and game type) are per-  
67 ceived as relevant factors for adjusting team-talks' content. For example, Vargas and Guan<sup>10</sup>  
68 identified nine different contextual pre-match scenarios and stated 'before beginning play in  
69 an important tournament' or 'when competing against a higher-ranked opponent' as coaches  
70 preferred situations for delivering more informational or emotional talks, respectively.  
71 Moreover, the game score has been highlighted as a potential influencing factor of coaches  
72 and their communication approach. In fact, the score appears to modulate coaches' amount  
73 and type of messages provided during game-breaks. Coaches have been observed employing  
74 a more positive approach during winning game-breaks,<sup>5,11</sup> and increasing and decreasing  
75 psychological units and tactical-content time during losing half-times.<sup>4</sup> In addition, coaches'  
76 non-verbal expressions can be an indicator of the current score during games. Indeed,

77 participants with varied football experience have accurately recognised far and close  
78 wins/loses based on coaches' non-verbal expressions during selected sequences of real elite  
79 games.<sup>12</sup> Hence, it is suggested that the match status at game-breaks can affect coaches'  
80 emotions and their communication approach, thus, having an impact on players.

81 Emotion as social information (EASI) theory suggests that an individual's non-verbal  
82 expressions can influence observers' emotions, cognitions, and behaviours.<sup>13,14</sup> For instance,  
83 coaches combining standardised verbal feedback and non-verbal expressions have been  
84 shown to influence junior football players' emotions and performance positively or nega-  
85 tively after completing soccer-specific tasks.<sup>15</sup> During half-time talks, Van Kleef et al.<sup>16</sup> ob-  
86 tained contradictory findings regarding coach-player emotional contagion. Whilst coaches'  
87 non-verbal anger expressions were associated with players' anger during half-time, a similar  
88 effect for happiness was only found during pre-match. It was argued that the numerous dy-  
89 namics occurring throughout a game could hinder the effects of coaches' happiness on play-  
90 ers experiencing the same emotion at half-time. Nevertheless, both coaches' happiness and  
91 anger expressions led players to perceive better and worse team performance, respectively.  
92 Thus, despite the insufficient evidence to claim a direct coach-player emotional contagion  
93 in the previous study, coaches' emotional expressions appear to condition players' infer-  
94 ences of first half performance.

95 Whilst the impact of half-time talks on players has recently been examined in basketball<sup>4</sup>,  
96 understanding of coaches' complete verbal activity during this period and with players of  
97 various development stages is still scarce. In fact, previous literature has claimed that leaders  
98 (i.e., coaches) are typically defined by the outcomes achieved on their followers (i.e., play-  
99 ers) rather than their actual behaviours.<sup>17</sup> Only Avugos et al.<sup>7</sup> and Madden<sup>5</sup> have referred to  
100 this coaching situation as a monologue where coaches mainly use solution messages (i.e.,  
101 instructions) and comments about performance (i.e., feedback) predominantly involving

102 criticism. However, these descriptions are vague and do not contribute to capture an accurate  
103 picture of what half-time coaching involves or its underlying cognitive processes.

104 These aspects are relevant to understand the context-specific intricacies of coaches' work-  
105 ing realities and encourage discussion and reflection upon practice. Therefore, this study  
106 aimed to explore the behaviours of elite youth football coaches and underpinning perceptions  
107 regarding their half-time talks. Specifically, it was sought to understand: 1) the behavioural  
108 profiles of coaches of different age-groups and their players' levels of involvement; and 2)  
109 coaches' cognitive processes determining their half-time talks' structure, contents, delivery  
110 approach, and factors affecting their team-management strategies.

111

## 112 **Materials and methods**

### 113 *Setting and context*

114 This study was conducted at a Spanish *La Liga Santander* football club academy. The  
115 academy was structured into a 7-a-side phase (under 9-12 age-groups); an 11-a-side devel-  
116 opment phase (under 13-15's); and a 11-a-side performance phase (under 16's, 18's, and  
117 19's), with all age-groups playing competitive home or away fixtures on a weekly basis. All  
118 games involved a first and second half, interspersed by a regulation half-time break, during  
119 which, players and staff returned to their allocated dressing room.

120

### 121 *Sampling and participants*

122 Sampling was restricted to participants from a single club, determined by the study design  
123 and facilitated by the club's accessibility. Lead coaches were invited to participate if they  
124 had responsibility for leading half-time team talks and technical and support staff were ex-  
125 cluded *a priori*. Thus, based on the academy size, a maximum of 10 coaches (one per age  
126 group) were eligible for participation in the study.

127 A two-week cooling off period was employed for coaches familiarising with the study's  
128 procedures and deciding their desire to participate. After this process, five male head  
129 coaches, with representation within the 7-a-side, 11-a-side development, and 11-a-side per-  
130 formance phases, agreed to participate. They had a mean age of 32.2 years (24-47,  $SD = 8.8$ )  
131 and mean coaching experience of 14.6 years (7-27,  $SD = 8.1$ ). Participant numbers between  
132 three and five have been deemed acceptable for enabling diversity and examining patterns  
133 and contrasts in coach behaviour and underpinning rationales.<sup>18</sup> In addition, it was intended  
134 to generate authentic and transferable context-dependent knowledge<sup>19</sup> rather than normative  
135 behaviour profiles. Therefore, considering the lower frequency of half-time breaks compared  
136 to training sessions and following previous mixed-method case studies (e.g., Stonebridge &  
137 Cushion<sup>20</sup>), each participants' half-time talks were captured on four occasions. Brief pen  
138 pictures of each participant can be seen in Table 1.

139

140 Table 1. Participants' profiles.

Characteristics	Participants Pseudonyms				
	Jacinto	Amador	Rogelio	Damián	Rafael
Age	24	47	28	31	34
Age-group coached	U10	U13	U14	U15	U18
Coaching qualification	UEFA A	UEFA Pro	UEFA A	UEFA Pro	UEFA Pro
University qualification	BSc	BSc	N/A	MSc	N/A
No. of years coaching	7	27	14	8	17
No. of years coaching youth	7	19	14	8	17
No. of years leading half-time talks	5	27	14	7	15
No. of years playing professionally	0	0	0	0	0

141

142

### 143 *Procedure*

144 This was a cross-sectional case study design, with data collected using systematic obser-  
145 vations and qualitative interviews. The study was approved by an institutional ethics com-  
146 mittee (ref: xxx/xxxx/xxxx). The first author (A1) approached the academy regarding their

147 potential involvement in the study. The academy manager agreed to facilitate the study and  
148 allowed the research team to contact coaches regarding their involvement.

149 Potential participants (i.e., coaches) were provided with the study information sheet and  
150 had the opportunity to ask any questions that they had about the study. Informed assent was  
151 obtained from those indirectly involved in observational data collection (i.e., players and  
152 staff) and all participants provided written informed consent for this project to take place.  
153 Coaches who consented to participate informed the research team about their upcoming  
154 home fixtures, including dates and kick-off times. It was decided to only include home-based  
155 half-time talks to avoid the potential contextual influence of match location on coaches'  
156 behavioural activity. Opposition quality (i.e., games vs higher/lower-ranked teams) was not  
157 controlled due to this data being collected at the start of the first leg of league competitions  
158 when not all teams have played against each other and, therefore, not being a fully reliable  
159 indicator of 'team quality'.

160

#### 161 *Systematic observations*

162 Half-time talks of home fixtures were filmed over a nine-week in-season period (27<sup>th</sup>  
163 September to 1<sup>st</sup> December 2019). A digital video camera (Sony HDR-CX900E, China) was  
164 mounted on a tripod and positioned in the changing rooms so it could capture all players and  
165 the coach. To capture all half-time interactions within the room, recording was set before  
166 anyone entered the changing room and stopped when all staff and players had left for the  
167 second half. A habituation process was followed, whereby an initial half-time talk for each  
168 coach would be recorded but not included in analyses.<sup>21</sup>

169 The Coach Analysis and Intervention System (CAIS),<sup>22</sup> which has been validated for ex-  
170 amining coach behaviour within non-performance states during the match competition (i.e.,  
171 timeout, half-time, end of quarter), was employed. However, during initial coding, high



172 volumes of ‘uncodable’ were obtained because a mixture of primary (i.e., ‘what’) and sec-  
 173 ondary (i.e., ‘where’ and ‘who’) behaviours occurred frequently but were not contemplated  
 174 by the original tool. These included coach feedback about players’ answers (i.e., positive  
 175 and negative reinforcement) and players’ game-related verbalisations (i.e., pre-talk player  
 176 participation and in-talk player participation: response or self-initiated).

177 Thus, we followed procedures adopted by Raya-Castellano et al.<sup>23</sup> to adapt the CAIS in-  
 178 strument including necessary additional behaviours. To ensure enhanced validity, the habit-  
 179 uation sessions were pilot coded to ensure agreement of new categories’ codes and associ-  
 180 ated definitions before these were operationalised. Additional amendments involved combi-  
 181 nation of the CAIS’ primary categories into the major categories of positive and negative  
 182 feedback, modelling, and management (see Table 2). Following habituation procedures, four  
 183 half-time talks per coach including various match outcomes (see table 3) and totalling 183.72  
 184 minutes, were analysed.

185

186 Table 2. Primary behaviour categories at half-time (Adapted from Cushion et al.<sup>22</sup>).

Behaviour	Description and examples
Instruction	Verbal cues, reminders or prompts provided by the coach that instruct the oppositions’ actions AND/OR direct the own players to skills or plays related to the second half performance or counteracting the oppositions’ strategy. e.g. ‘Be patient in possession. That doesn’t mean we move it slowly. Move it with tempo but be patient’; ‘Force the long ball. Don’t let them play short’.
Positive feedback	Positive or supportive statements OR non-verbal gestures provided by the coach (either general OR <i>specifically aiming to provide information about the quality of performance</i> ). e.g. ‘That’s brilliant, that’s exactly what I wanted’; ‘I really liked how you shaped your body before turning’; ‘I’m proud of the first half’; ‘Great no-touch turn on the right side, Scott’.
Negative feedback	Negative or unsupportive statements OR non-verbal gestures provided by the coach (either general OR <i>specifically aiming to provide information about the quality of performance</i> ). e.g., ‘That wasn’t good enough’; ‘You aren’t getting in the half turn’; ‘I’m disappointed with your attitude during the first half’.
Corrective feedback	Corrective verbal statements provided by the coach that contain information <i>that specifically aim to improve the player(s) first half performance at the next skill attempt</i> . e.g., ‘Try to get wider next time in that situation’; ‘You probably don’t want to be levelled with the wide player’; ‘When their right centre back gets it, make sure you force their play into the right-side next time’.
Modelling	Skill demonstration- with or without verbal instruction/feedback that shows performer the correct OR incorrect way to perform.
Physical assistance	Physically moving the performer’s body to the proper position or through the correct range of movement.

Positive & negative reinforcement	General statements agreeing or disagreeing with the intervention or response/s provided by one or more players, e.g., <u>Positive</u> : ‘Exactly’; ‘Liked that’. <u>Negative</u> : ‘No’; ‘I don’t agree with that’; ‘Not sure about that’.
Praise	Positive or supportive verbal statements or non-verbal gestures <u>which demonstrates the coach’s general satisfaction or pleasure to a player(s) that <i>DO NOT specifically aim to improve the player(s) performance at the next skill attempt.</i></u> e.g. ‘your work rate has been excellent before’; ‘good effort’; ‘Don’t worry about it’.
Scold	Negative or unsupportive verbal statements or non-verbal gestures demonstrating displeasure at a player(s) performance that <u><i>DO NOT specifically aim to improve the player(s) performance at the next skill attempt.</i></u> e.g. Shaking of the head, swearing at a player(s)
Humour	Jokes or content designed to make players laugh or smile, e.g., ‘Have you eaten a steak for lunch?’, ‘Brilliant pass that one’ (irony).
Hustle	Verbal statements or gestures <u>linked to effort</u> to activate or intensify previously directed behaviour. e.g., ‘You can do it’; ‘Keep working hard’; ‘I wanna see intensity and concentration from the start’.
Punishment	Specific punishment following a mistake or for disruptive behaviour, e.g., “Get out”, “Given your lack of attitude you’re being substituted”
Convergent questioning	Coach asks player(s) about skill, strategy, procedure, physical condition, welfare, etc. and the question includes limited number of correct answers/options – closed responses, e.g., ‘What is the right thing to do in this situation dribbling or passing?’, ‘Who’s the free man?’.
Divergent questioning	Coach asks player(s) about skill, strategy, procedure, physical condition, welfare, etc. and the question includes multiple responses/options – open to various responses, e.g., ‘What would you do in this situation?’, ‘Tell me what you think you need to do better in the second half’.
In-talk player participation: response	A player answers a question from the coach by verbalising and/or demonstrating the right or wrong decision or execution of a skill, technique, movement, positioning, etc. at any given point of the half-time talk.
In-talk player participation self-initiated	A player/group of players intervene(s) by asking a question or making a comment, different to the theme being currently talked. e.g., ‘What’s the best way to defend their striker?’; ‘The wide free kick worked out really well’.
Pre-talk player participation	A player/group of players praise/scold(s) a teammate, describe(s) a game situation that occurred in the first half AND/OR tell(s) how to solve the situation effectively before the coach starts the team talk. e.g., ‘Keep doing it Adam’; ‘I think you should press his right foot’; ‘When the ball gets wide, I need your support. I am always defending a 2 vs 1’.
Silence on-task	Coach is in silent and monitors the half-time talk without reacting verbally or non-verbally. e.g., pauses while presenting arguments, prolonged silences to emphasise points, etc.
Silence off-task	Coach is in silent within the changing room, not visibly engaged in the team talk. e.g., preparing the tactical board, talking individually to one player or member of staff, making notes, or performing any other action such as standing, walking, eating, etc.
Management	Management that contributes to organising turns allocations, the talks’ structure, content, or information presented; the equipment, the location where player sit; or demonstrates displeasure at a player(s) behaviour during the talk. e.g., ‘Today is about dealing with their transitions’; ‘Let’s see Paul’s thoughts’; ‘Has anyone seen the boards’ pencil?’; ‘Stop talking while I’m talking, Keenan’.
Confer with assistants	Coach confers with assistants to talk about, manage or reflect on anything concerned with the game which happens inside the changing room.
Uncodable	Any other behaviour not fitting any of the previous categories.

187 \*Feedback and instruction categories were coded when supported or not by visual tactical board aids.

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193 Table 3. First half outcomes for each coach/age group.

First half outcomes	Jacinto U10	Amador U13	Rogelio U14	Damián U15	Rafael U18
Large win	0	0	0	1	2
Close win	4	2	1	1	1
<b>Total wins</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Total draws</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>
<b>Total loss</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>
Close loss	0	0	1	0	1
Large loss	0	0	1	0	0

194 \*Close and large scores are defined as wins/loses of one and two-goal differences, respectively.

195

196 Cohen's Kappa was employed to determine inter- and intra-observer reliability for fre-  
 197 quency and duration (seconds) data. Inter-observer reliability was examined comparing A1  
 198 and an independent trained observer's (qualified coach) codes of the same four half-time  
 199 talks performed at two separate occasions. *K* values of .89 and .85 were obtained for fre-  
 200 quency and duration data, respectively. For intra-observer reliability, A1 coded the same two  
 201 half-time talks at three separate instances throughout the coding process. *K* values ranged  
 202 between .76 to .84 and .76 to .79 for frequency and duration data, respectively. All scores  
 203 were within the range of strong agreement ( $k = .75-1$ ).<sup>24</sup>

204

## 205 *Interviews*

206 Each participant was engaged in one digitally recorded individual interview during the  
 207 second week of December 2019 within a private office at the club's training ground. An  
 208 interview schedule was deductively developed and adjusted following a pilot interview with  
 209 an external qualified coach. This resulted in five questions' style and order being amended,  
 210 with the final interview schedule including: 1) biographical and profile questions; 2) consid-  
 211 erations about the structure and delivery of half-time talks; 3) questions regarding their uti-  
 212 lisation of different behaviours within this environment; and 4) video-stimulated recall about  
 213 actual behaviours utilised.

214 A flexible semi-structured approach was employed with open-ended and follow-up prob-  
215 ing questions being prepared for each interview section. A1 conducted all interviews by ac-  
216 tively listening and valuing participants' responses while maintaining a neutral attitude that  
217 did not lead coaches to their personal views or desirable answers.<sup>25</sup> This strategy was delib-  
218 erately employed to encourage participants to share their own thoughts and ideas about be-  
219 haviour adoption.<sup>26</sup>

220 Video-stimulated recall questions were deemed necessary to enable participants recalling  
221 their cognitive activity during original events and enhancing their 'think aloud' pro-  
222 cesses.<sup>27,28</sup> After participants had developed their thoughts underpinning the utilisation of  
223 behaviour (interview section 3), A1 showed them a video example involving an own previ-  
224 ous coaching event related to the topic they were describing.<sup>29</sup> Coaches were allowed to stop  
225 the video sequence at any point to verbalise their emerging thoughts<sup>30</sup>. When the passage  
226 had ended, A1 posed open-ended questions such as 'what were your thoughts at the time?'  
227 to promote recall of the original events and minimising the effects of retrospective reflec-  
228 tion.<sup>27</sup> Interviews ended offering participants the opportunity to seek clarification or ask any  
229 questions about the research project. They lasted between 46 minutes 18 seconds and 61  
230 minutes 43 seconds (average: 52 minutes and 25 seconds).

231

## 232 *Data Analysis*

233 Observational data were imported into Sportscode© Gamebreaker (version 10) and coded  
234 using the adapted bespoke coding panel. Coded data were manually checked for double  
235 counting and behaviour durations, and then exported to Microsoft Excel (2010) with final  
236 frequency counts and durations for each behaviour across each talk being calculated. Mean  
237 frequency counts for each coach were determined dividing the sum of each coach's behav-  
238 iour count by four (i.e., the total number of talks analysed per coach and excluding the initial

239 habituation talk). Behaviour durations were converted to seconds before calculations were  
240 conducted. Mean percentage time for each behaviour was estimated by dividing the mean  
241 behaviour duration by the total behaviour duration and multiplied by 100.

242 Interview data were transcribed verbatim immediately after the interview process and  
243 yielded 52 pages of single-line-spaced text. Thematic analysis was conducted following  
244 Braun's et al.<sup>31</sup> six-phase procedure. Initially, A1 familiarised with data and labelled codes  
245 within the data set. This process started deductively with inspection of text fragments that  
246 contained information about the half-time talk's structure, contents, and coach behaviours  
247 then followed by inductive analysis. Codes with shared meanings around a core concept  
248 were grouped into similar candidate themes. These were then developed, reviewed, and re-  
249 fined ensuring they matched both data and coded extracts, until a final structure of higher  
250 and first order themes were decided (figure 1). Once the refined themes had been defined  
251 and named, they were exported into a matrix that enabled comparison of the coded categories  
252 between coaches.<sup>32</sup> To enhance rigour, the thematic structure, theme definitions and names,  
253 associated codes, and quotations examples were presented to co-authors.<sup>33</sup> They acted as  
254 critical friends appraising A1's analytical decisions and promoting reflective discussions.  
255 This resulted in two higher-order theme names and definitions being changed and the col-  
256 lapsing of two former first-order themes into one ("Adapting your feedback valence and  
257 interventions to the context"). This process addressed the first author's isolation within the  
258 analysis and data overload.<sup>34</sup>

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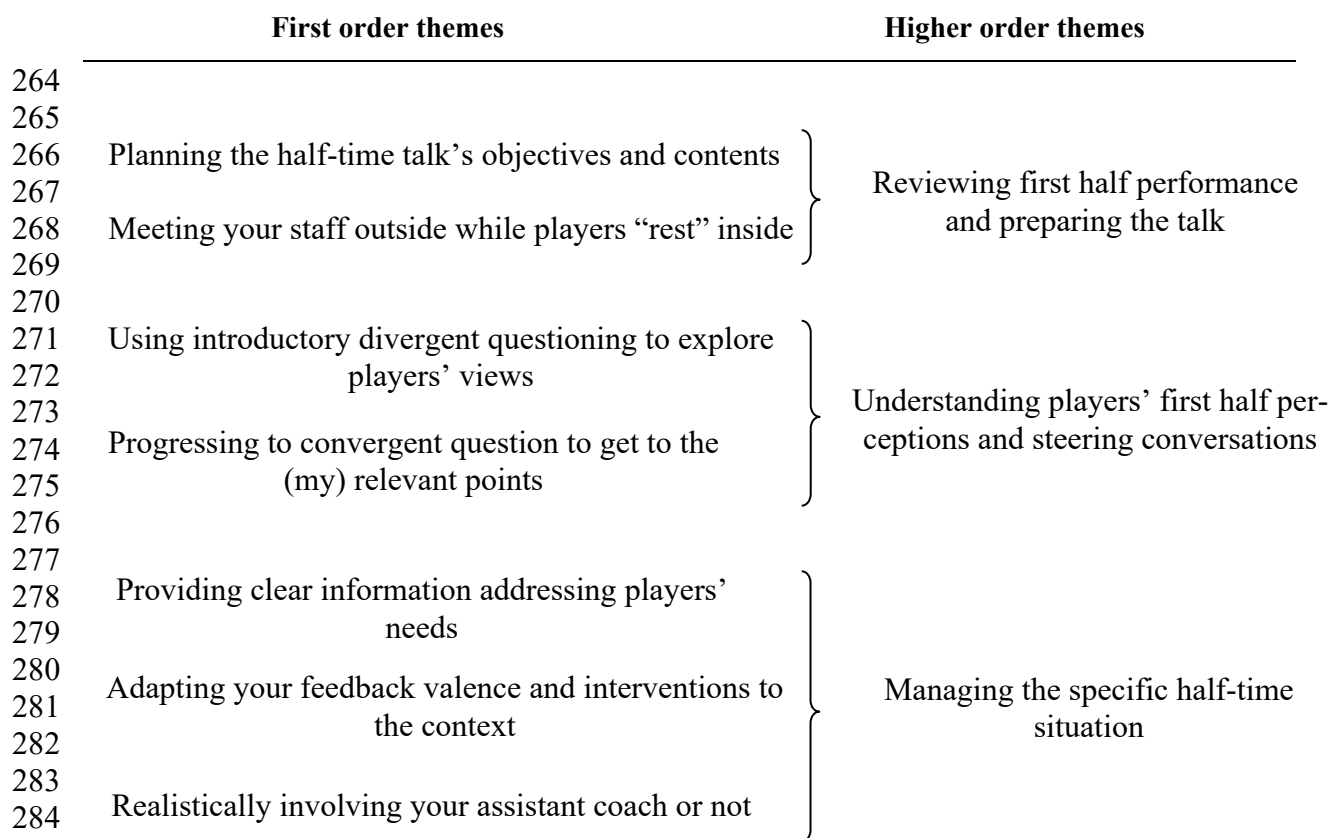


Figure 1. Higher and first order themes of interviews.

## Results

Results demonstrate that coaches mainly provided instruction and feedback. Only Jacinto (U10's) employed fewer of these behaviours, whilst also demonstrating increased management, use of questioning, reinforcement, and in-talk player participation compared to the other coaches. Moreover, in-talk player participation decreased as a function of age-group coached – that is, older age groups presented lower levels of in-talk player participation (Table 4).

Table 4. Mean % time and standard deviations of total behaviours during half-time.

Total Behaviours	Jacinto U10	Amador U13	Rogelio U14	Damián U15	Rafael U18
Pre-talk player participation	0 (0)	3.29 (2.99)	13.80 (8.85)	13.93 (6.44)	5.46 (3.99)

Silence	5.79 (2.21)	7.75 (3.88)	9.80 (3.70)	6.54 (1.71)	14.61 (6.61)
Questioning	10.92 (4.43)	7.75 (2.00)	5.08 (1.44)	5.62 (2.16)	7 (2.35)
In-talk player participation	27.17 (11.70)	10 (2.66)	4.21 (1.71)	3.40 (2.80)	2.43 (1.05)
Reinforcement	5.42 (3.42)	1.07 (0.47)	2.11 (1.19)	1.31 (0.86)	0.55 (0.33)
Instruction	23.52 (15.51)	35.72 (5.24)	29.90 (11.98)	36.33 (11.07)	45.58 (7.35)
Feedback	7.85 (2.67)	16.93 (3.43)	19.31 (3.83)	17.98 (2.09)	12.76 (5.20)
Modelling	0.38 (0.38)	1.65 (0.74)	1.86 (1.11)	0.12 (0.17)	0 (0)
Physical assistance	0 (0)	0 (0)	0.07 (0.15)	0 (0)	0 (0)
Management	15.82 (6.76)	6.32 (3.32)	6.93 (3.54)	7.75 (3.60)	4.01 (2.17)
Un/supportive behaviour	0.49 (0.20)	4.02 (1.05)	3.12 (1.42)	6.15 (0.74)	5,70 (1,03)
Confer with assistant	0 (0)	0.94 (1.04)	0.12 (0.25)	0.36 (0.71)	0 (0)
Uncodable	2.63 (2.11)	4.58 (1.54)	3.68 (4.01)	0.52 (0.85)	1.90 (2.46)

299 \*Un/supportive behaviour is composed by praise, scold, humour, hustle, and punishment.

300

301 Primary and secondary behaviour analysis revealed that almost all coaches asked a higher  
302 number of convergent questions than divergent questions. Only Jacinto (U10's) exhibited  
303 higher divergent than convergent questions, and Amador (U13's) presented balanced ques-  
304 tion type ratios. Both Jacinto and Amador also engaged players in greater time of in-talk  
305 player participation response and self-initiated than the other participants. Furthermore,  
306 Jacinto, Rogelio (U14's), and Damián (U15's) were more balanced between positive and  
307 negative/corrective feedback values than the other coaches; with four coaches providing  
308 higher negative feedback compared to corrective. The highest pre-talk player participation  
309 before coaches entered the changing room was amongst the U14 and U15 age-groups,  
310 whereas lower values were found amongst all other age groups (Table 5).

311 Qualitative findings were grouped into three higher-order themes which were subdivided  
312 into further first-order themes. Higher-order themes included: 1) reviewing first half perfor-  
313 mance and preparing the talk, 2) understanding players' first half perceptions and steering  
314 conversations, and 3) managing the specific half-time situation (see figure 1). Considering  
315 the mixed-method study design, qualitative findings are presented in the following section  
316 and integrated with discussions and quantitative results.

317 Table 5. Mean frequency count (FC), % Time, and standard deviations of primary and secondary behaviours during half-time talks.

Behaviours	Jacinto		Amador		Rogelio		Damián		Rafael	
	FC	% Time	FC	% Time	FC	% Time	FC	% Time	FC	% Time
Pre-talk player participation	0(00)	0(00)	2.75(2.06)	3.29(2.99)	9(6.06)	13.80(8.85)	10(2.00)	13.93(6.44)	3.75(2.63)	5.46(3.99)
Silence off-task	1(1.41)	1.50(2.24)	2.50(2.38)	4.56(5.64)	1.50(1.00)	2.45(1.17)	3.75(0.50)	2.62(1.62)	3.25(3.30)	9.04(9.50)
Silence on-task	10.75(4.3)	4.29(1.11)	17.25(5.50)	3.19(1.16)	35(7.62)	7.36(3.81)	23.25(7.14)	3.92(1.37)	24.25(2.06)	5.57(1.90)
Convergent questioning	5(3.65)	3.90(3.19)	6.25(4.72)	3.43(1.67)	11(6.00)	3.52(1.06)	10.25(6.13)	3.16(1.97)	8.75(4.35)	3.89(2.37)
Divergent questioning	8(6.88)	7.02(5.40)	5.25(3.95)	4.32(1.56)	4.75(2.99)	1.56(1.07)	5(4.24)	2.46(2.40)	3.75(2.99)	3.11(2.61)
In-talk player participation: response	19(13.93)	22.70(9.32)	9(5.03)	7.28(3.12)	15.50(4.65)	3.58(0.66)	12.50(4.43)	3.40(0.70)	5.75(2.99)	1.65(0.79)
In-talk player participation: self-initiated	3.25(0.96)	4.47(3.35)	3.75(1.71)	2.72(1.69)	1.75(2.36)	0.63(0.79)	0(0)	0(0)	1.25(1.26)	0.78(1.20)
Positive reinforcement	8.25(5.12)	4.98(3.62)	2.25(2.22)	0.81(0.42)	7(4.97)	1.73(1.40)	2.25(0.96)	1.11(1.02)	2(0.82)	0.55(0.22)
Negative reinforcement	1.25(1.89)	0.44(0.60)	0.50(0.58)	0.25(0.36)	1(0.82)	0.38(0.38)	0.75(0.96)	0.20(0.24)	0(0)	0(0)
Positive feedback	2.75(1.30)	3.20(1.82)	6.25(2.64)	4.68(2.39)	11.50(6.07)	9.29(5.23)	10(2.88)	8.70(3.16)	3.25(1.19)	3.10(2.28)
Negative feedback	0.25(0.30)	0.24(0.34)	11(6.32)	8.94(4.71)	7.50(3.15)	5.10(2.30)	5.25(2.39)	6.25(2.60)	5(2.51)	4.87(2.70)
Corrective feedback	2.50(1.91)	4.41(4.57)	4.25(1.50)	3.31(1.77)	7.25(1.71)	4.92(3.02)	3.25(2.50)	3.03(2.59)	4.25(4.03)	4.79(2.06)
Instruction	13.25(5.4)	23.52(15.51)	32.75(15.95)	35.72(5.24)	31.75(10.31)	29.90(11.98)	34(6.63)	36.33 (11.07)	36.75(1.89)	45.58(7.35)
Modelling	0.50(0.46)	0.38(0.38)	2.25(0.83)	1.65(0.74)	2(0.93)	1.86(1.11)	0.25(0.35)	0.12(0.17)	0(0)	0(0)
Physical assistance	0(0)	0(0)	0(0)	0(0)	0.25(0.50)	0.07(0.15)	0(0)	0(0)	0(0)	0(0)
Management	11.50(3.8)	15.82(6.76)	5.25(3.25)	6.32(3.32)	11.25(5.03)	6.93(3.54)	8.75(3.90)	7.75(3.60)	8.50(4.53)	4.01(2.17)
Praise	0.25(0.50)	0.12(0.24)	3.25 (4.57)	1(1.25)	3(3.46)	2.22(2.74)	4.50(3.32)	2.97(3.04)	2.75(1.89)	2.61(2.24)
Scold	0(0)	0(0)	0.75(1.50)	0.48(0.96)	0.75(1.50)	0.46(0.92)	0(0)	0(0)	1.25(1.89)	1.30(2.09)
Humour	0.75(0.50)	0.37(0.25)	2.50(2.38)	1.74(1.34)	1.25(1.26)	0.34(0.32)	2.25(2.06)	1.63(1.27)	0.75(0.96)	0.35(0.52)
Hustle	0(0)	0(0)	2(1.41)	0.79(0.70)	0.75(0.50)	0.11(0.08)	2.50(1.73)	1.55(1.64)	1.50(1.73)	1.44(1.07)
Punishment	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)
Confer with assistant	0(0)	0(0)	1.50(1.73)	0.94(1.04)	0.25(0.50)	0.12(0.25)	0.25(0.50)	0.36(0.71)	0(0)	0(0)
Uncodable	2.25(1.26)	2.63(2.11)	4(0.82)	4.58(1.54)	4.75(3.77)	3.68(4.01)	0.50(1.00)	0.52(0.85)	1(1.41)	1.90(2.46)



319

## 320 Findings and discussion

### 321 *Reviewing first half performance and preparing the talk*

322 Football half-time talks have been suggested to be centred on informational (i.e., game-  
323 strategy) content and including minor emotional messages.<sup>7</sup> However, hockey coaches have  
324 highlighted context as a relevant factor for varying the content of their talks during intermis-  
325 sion speeches.<sup>6</sup> Here, participants viewed their talks to be focussed on both ‘technical-tacti-  
326 cal’ and ‘emotional’ aspects of the game and reliant on ‘the surrounding situation’. Specifi-  
327 cally, these talks were intended to understand and manage players’ feelings, analyse own  
328 and opponents’ performance, prepare players for the expected second-half scenario or cor-  
329 recting improvable aspects of the first half:

330 *The main thing is understanding how the player feels during those 40 minutes and his prob-*  
331 *lems...You already know what you’ve seen and got to learn from what they see. There is also*  
332 *an emotional part that you’ve got to touch. There’ll be times that one last 8 and the other 2*  
333 *and vice versa... (Rogelio, U14)*

334

335 *My main aim is trying to rectify those things that haven’t come up as you wanted... (Amador,*  
336 *U13)*

337

338 Coaches agreed that their half-time talks were typically composed of routines outside and  
339 inside the changing room, with the four older age-group coaches allowing players to return  
340 into the changing room while the staff gathered outside initiating preparation. Previous stud-  
341 ies have found various levels of half-time planning. Whilst Alex Ferguson (former Man-  
342 chester United Football Club Manager) prepared the information to be provided during the  
343 last minutes of the first half,<sup>35</sup> some senior coaches have affirmed writing notes during the  
344 first half or deciding their messages on their way to the dressing room<sup>7</sup>. It is argued that  
345 planning in this context is relevant because of the limited time to analyse immediate game

346 events and address players,<sup>6</sup> in addition to athletes having depreciated leaders/coaches'  
347 speeches that are not sufficiently fluent.<sup>36,37</sup>

348 In this study, apart from Jacinto (U10's), participants confirmed that they conferred with  
349 staff outside the changing room about the first half performance and the messages to include  
350 in their talk.<sup>8</sup> Meanwhile, observational data show that older players generally exchanged  
351 more comments about the first half between themselves whilst waiting for coaches to lead  
352 the team talk (see table 5). This observation was confirmed by Rogelio (U14's) and Rafael  
353 (U18's), who went on to suggest that these conversations can provide meaningful infor-  
354 mation to the coach. Indeed, after preparing the talk outside, coaches affirmed overhearing  
355 discussions *en route* to the changing room and enabling these to continue when entering the  
356 dressing room (i.e., hearing players' interactions or providing individual feedback privately).  
357 However, Rafael spent more time in silence off-task (9.04 %) within the changing room and,  
358 interestingly, his players exhibited lower pre-talk player participation (5.46 %) than the un-  
359 der 14 and 15 coaches (Rogelio: 13.80 %; Damián: 13.93 %). These routines and their ra-  
360 tionales were explained as follow:

361 *Before getting in, I always meet my staff...They are focused on other aspects. We see what we*  
362 *are doing well, what we can improve and how to do that... I come in and say have a rest,*  
363 *drink, eat and we will talk. In the meantime, I might take individually someone and congratu-*  
364 *late or tell him about the man he's been dealing with. (Damián, U15)*

365

366 *...when you get to the dressing room, I can be in silence when they are talking and drinking*  
367 *water to see what you can hear from them... (Jacinto, U10)*

368

369 *If I knew these conversations are happening, I'd take more time to get in the dressing room...*  
370 *(Rogelio, U14)*

371

### 372 ***Understanding players' first half perceptions and steering conversations***

373 All coaches stated they started the team talk by asking a general divergent question about  
374 the first halves' positive and improvable aspects of performance. Coaching literature has

375 emphasised the benefits of divergent questions for facilitating players' higher-order cognitive activities compared to convergent questions.<sup>23,38</sup> At half-time, it has been suggested that 376 the first question posed can be a useful tool for capturing players' attention.<sup>8</sup> Our participants 377 indicated that they usually started with this behaviour to compare players' perceptions of the 378 first half with their own, and to understand players' emotions. Such approaches were presented as appropriate for 'letting players express themselves'; with one participant, highlighting how this approach had made him aware of some difficulties players were experiencing: 382

383 *Mainly, seeing what reality they're living. Because it might be a different reality of what I am*  
384 *living. I wanna know what reality they live...I think they [questions] help me more than them.*  
385 *They help me to understand them... (Rogelio, U14)*

386  
387 *The highest you get, sometimes players might have problems that you haven't seen and you've*  
388 *got to give a solution shortly...Coach, I've got this problem and you realise you hadn't notice.*  
389 *(Amador, U13)*

390  
391 Previous studies insinuate that longer player participation might relate to a greater use of  
392 divergent questions.<sup>39</sup> However, participants expressed that time pressures meant divergent  
393 questioning was difficult to incorporate within the context of half-time, because of the confined time to cover all perceived necessary aspects.<sup>8</sup> Indeed, in-talk player participation decreased for higher age-groups (Rogelio-U14: 4.21 %, Damián-U15: 3.40 %, and Rafael-U18: 2.43 %), with only the values of Jacinto (U10's) and Amador (U13's) constituting at least 10 % of their talks' total time. This behaviour was particularly high for Jacinto, who engaged players talking for 27.17 % of his talks and who presented the highest values of divergent questioning among all participants.

400 While convergent questioning has been criticised for coaches positioning themselves as  
401 knowledge gatekeepers,<sup>40</sup> participants justified adopting this approach to prevent delivering  
402 a rushed and unclear message towards the end of the talk.<sup>41</sup> Indeed, four participants used

403 convergent questions (i.e., Amador-U13: 6.25, Rogelio-U14: 11, Damián-U15: 10.25, and  
404 Rafael-U18: 8.75 mean times) more frequently than divergent (i.e., Amador: 5.25, Rogelio:  
405 4.75, Damián: 5, and Rafael: 3.75 mean times). Rafael explained that his lower use of diver-  
406 gent questioning was necessary to reduce “excessive” number of opinions from players that  
407 could cause division within the group. Indeed, under 14, 15, and 18’s coaches recognised  
408 rapidly progressing from an initial divergent question to convergent questions that steered  
409 players towards the coach desired response. Furthermore, under 10 and 18’s coaches sug-  
410 gested that their questions typically required players to describe the performance environ-  
411 ment rather than offering solutions to specific problems:

412 *At the start, I’m more divergent and I progressively convert questions in convergent. I wanna*  
413 *see what they perceive and then I wanna help them in the game. Obviously, we’ve got to have*  
414 *clear what we are going to do in the second half... (Jacinto, U10)*

415  
416 *I ask them what’s happening. Some answer. I might have a conversation with him. They can*  
417 *give their opinion. When they tell me the problem, I tell them how to solve it... The player is*  
418 *not prepared to be answering all the time...They need someone telling them that’s right. So*  
419 *it’s reinforced. That’s why we are coaches and players. (Rafael, U18)*

420

421 Such approaches appear to confirm findings from previous work within different contexts  
422 (e.g., during training; Cope et al.<sup>38</sup>), and have implications for inhibiting players’ problem-  
423 solving and critical thinking about their in-competition performance. In this study of half-  
424 time, introductory divergent questions appeared to be a tool to understand players’ realities  
425 more than facilitating players’ thinking. Nonetheless, medium-term development of superior  
426 tactical knowledge and in-game decision-making has been shown to be assisted by adopting  
427 open questioning.<sup>42</sup> Therefore, it is argued that the same might be true during in-competition  
428 breaks, albeit its implementation might reduce time to cover further aspects.

429

430

431 *Managing the specific half-time situation*

432 The notion that coaches' half-time talks are transformative to players' performance is  
433 somehow dubious because of athletes' limited capabilities for retaining talks' infor-  
434 mation.<sup>43,44</sup> Our data show that participants perceived their views and knowledge necessary  
435 to transfer to players, which is further emphasised through the prominence of instruction and  
436 feedback behaviours during half-time. This supports the preliminary findings of Madden<sup>5</sup>  
437 whose coaches' solution messages (i.e., instructions) and performance commentaries (i.e.,  
438 feedback) were most frequently employed. However, the total frequency of instruction and  
439 feedback observed in the present study was considerably higher, and, excluding Jacinto  
440 (U10's), ranged from 29.90 to 45.58 and 12.76 to 19.31, respectively.

441 Instructions associated with potential successful outcomes have been perceived by ath-  
442 letes as more effective and inspirational.<sup>37,45</sup> Indeed, participants outlined the perceived im-  
443 portance of providing clear second half instructions that defined players' roles rather than  
444 contributing with very detailed feedback about the first half. In the words of Damián, "play-  
445 ers get in the dressing room expecting your solutions to their problems" and some coaches  
446 considered a more effective approach threading these messages to issues brought up by play-  
447 ers during the interactive introduction. Even if a player provided a correct solution to a game  
448 situation, Jacinto (U10's) would be keen to reinforce the response with an instruction to  
449 enhance the other players' reception:

450 *...when the talk finishes, they've got to know what you want from them in the second half.*  
451 *That's your job...more than giving feedback is talking about it quickly and switch to the second*  
452 *half plan. (Rogelio, U14)*

453

454 *I ask because I want them to tell me. So, they get to a point and then, I reinforce their an-*  
455 *swers...I think with my words, the message gets better to the rest of players than if a player*  
456 *says it... (Jacinto, U10)*

457

458 A balance between positive and negative feedback has been proposed in coaching to  
459 avoid the possible shortcomings of excessive negative feedback on player confidence.<sup>46</sup> At  
460 half-time, players and assistant coaches who took part in Zach et al.<sup>4</sup> have suggested that the  
461 lead coach's emotional intelligence, positive attitude, and emotional support are relevant to  
462 enhance players' second half performance. Nonetheless, under 21 football coaches have  
463 been shown to adopt an absence of positive comments and a predominance of criticism.<sup>7</sup>  
464 Here, only two participants failed to demonstrate a balanced ratio in their frequencies of  
465 positive (Amador-U13: 6.25 and Rafael-U18: 3.25) and negative (Amador: 11 and Rafael:  
466 5) feedback. Furthermore, when considering tied first halves, only the rugby coaches taking  
467 part in Mouchet and Maso<sup>8</sup> have been shown to include balanced positive and negative feed-  
468 back.

469 Considering the small sample of losing half-times collected (see table 3), coaches high-  
470 lighted two main contextual factors that could influence their talks' positivity. First, Jacinto  
471 (U10's) and Amador (U13's) indicated that they would provide greater positive or nega-  
472 tive/corrective feedback purely depending on whether their teams were playing well or bad.  
473 Conversely, the other participants also considered the score as an influential factor.<sup>8</sup> For  
474 example, Rogelio (U14's) recognised that a losing score negatively influenced the valence  
475 of his half-time message. Moreover, under 14, 15, and 18's coaches highlighted that even  
476 when playing well and winning or playing bad and losing, opposite feedback types were  
477 required to reverse the situation or prevent overconfidence:

478 *I'm more worried about the how we've done more than the score. Even if we are winning 7-0,*  
479 *if the team does not do things how we planned or how I know they can do, this affects me much*  
480 *more... (Amador, U13)*

481

482 *Winning counts as one action more... We've played great games and we've lost. We've got to*  
483 *be able to be above the score...playing well and winning, I'm more negative. I don't want them*

484        *to relax. When playing bad and winning I'm not as aggressive because the score supports us.*  
485        *When we are playing bad and losing, I am obviously aggressive [smile]. (Rogelio, U14)*  
486

487        Positive messages have been suggested to increase athletes' feelings of competence<sup>47</sup> and  
488 belief in teammates.<sup>37</sup> Indeed, participants were keen to reinforce good performances with  
489 Rafael (U18's) and Rogelio (U14's) acknowledging provision of intentional positive verbal-  
490 isations to individuals that had made mistakes during the first half. Similarly, all coaches  
491 avoided transmitting individual negative messages within group scenarios, where possible.  
492 For example, Rafael suggested providing corrections to individuals or in small groups when  
493 the team talk ended, if the present circumstances enabled this strategy to be adopted:

494        *I didn't want they won the second balls... It was more specific of them two...Manuel and Fer-*  
495        *nando (pseudonyms) stood up and were looking at me. It was like come here I'll explain to*  
496        *you two now... (Rafael, U18)*  
497

498        However, under 14 and 18's coaches also recalled having utilised individual negative/cor-  
499 rective messages during team half-time talks that would potentially maximise the collec-  
500 tive's performance. Although there is some evidence for increased skill performance in bad-  
501 minton after negative or positive-negative-corrective cues,<sup>48</sup> athlete inspiration is likely to  
502 decrease when positive messages are followed by negatively framed messages (i.e., infor-  
503 mation about "what players should not be doing").<sup>37(p.219)</sup> Thus, Amador's strategy of pro-  
504 gressing from negative (i.e., error) to corrective (i.e., solution) feedback at half-time with  
505 their U13's players might be appropriate, though his overall frequency of negative feedback  
506 (11) was considerably higher than his corrective statements (4.25):

507        *...it's true that I often start with the negative and then the corrective. Sometimes, I skip the*  
508        *negative and go straight into the corrective...The idea is first explaining where we are mis-*  
509        *taking and then giving a solution to overcome it. (Amador, U13)*  
510

511 Changes in coach tone and volume during talks have been perceived as powerful tools  
512 for affecting emotions amongst male and female team-sport athletes.<sup>4,41</sup> In this study, all  
513 participants described their approach of regulating volumes and tones to strengthen or atten-  
514 uate the meaning of the same message, which is expected to avoid speeches' monotony.<sup>37</sup>  
515 Likewise, Rafael (U18's) suggested that tactical instructions required pauses for facilitating  
516 player understanding<sup>36</sup> and Rogelio (U14's) affirmed varying his discourse's speed to hide  
517 or expose negative feedback to the group or selected individuals. Similarly, Damián and  
518 Rafael emphasised the importance of employing different approaches to manage similar cir-  
519 cumstances with Rogelio rationalising his different interventions for managing two similar  
520 past scenarios (i.e., playing bad and losing):

521 *Against Team A, it [the half-time talk] was aggressive but emotional. The typical of kicking*  
522 *the bottle...Against Team B, it was fully emotional. I did not say anything tactically and we*  
523 *were able to score five goals...I talked about the formula Knowledge + Ability x Attitude...in*  
524 *the world of half-times and people...if I kick a bottle every day, it loses its effect... (Rogelio,*  
525 *U14)*

526

527 *...Drawing, it'd be softer to be more patient. Things are being done well. Very similar to the*  
528 *previous one but perhaps the tone of voice more calmed. Showing faith in the team because*  
529 *we haven't been lucky in front of the goal. (Damián, U15)*

530

531 *...if the team's performance hasn't been good and I'm visibly annoyed, my tone of voice can*  
532 *be more aggressive...Sometimes, I do as if the tone was disappointed. It'll be more calmed but*  
533 *with a tone of not recognising the team I am seeing. (Rafael, U18)*

534

535 Although assistant coaches were not recruited, each participant indicated the roles their  
536 assistants played during half-time. First, Jacinto (U10's) and Rafael (U18's) emphasised  
537 their preference for "the same voice transmitting the message, so it is ordered and concise",  
538 despite recent calls suggesting more effective leadership when this is shared.<sup>49</sup> In addition,  
539 Rogelio (U14's) explained that his assistants provided some individual information to



540 players once the team talk had finished before players left. Following Mouchet and Maso<sup>8</sup>,  
541 Damián (U15's) occasionally asked his assistant to summarise key points for the second  
542 half. Only Amador's (U13's) assistant appeared to be fully involved with both arranging  
543 informational responsibilities during their outside staff meeting to "avoid repetition". He  
544 detailed how both worked together complementing each other's messages to ultimately max-  
545 imise the players' understanding of second half requirements. This is particularly relevant  
546 due to evidence pointing to athletes' dislike of two leaders talking simultaneously.<sup>37</sup> For an  
547 effective collaboration between head and assistant coaches, Zakrajsek et al.<sup>50</sup> suggested that  
548 a shared vision and strong communication are required. The benefit and procedure of this  
549 approach were noted by Amador as follow:

550 *...the focus is not always on the same coach...Also, I like talking to my assistant before going*  
551 *inside. I'll be responsible of this and here you'll take the lead on this...Something else we do*  
552 *is while I'm talking, he intervenes or if he talks, I intervene. It's not predetermined and the*  
553 *player see much more...how to call it? Familiarity. Our understanding, we bring it into the*  
554 *dressing room. (Amador, U13)*  
555

## 556 **Practical implications**

557 This study provides some practical considerations for coaching practice. First, because  
558 coaches have limited ability to accurately recall game events,<sup>51</sup> conferring their views with  
559 their staff before entering the changing room might enable a more accurate revision of the  
560 first half and planning the talk. This meeting could potentially remove some emotion from  
561 coaches<sup>4,8</sup> and enable them to prepare a more objective message that meets the player  
562 needs,<sup>41,52</sup> regardless of the score.

563 Second, the initial questioning introduction seem to be essential to read the athletes' emo-  
564 tions<sup>41</sup> and enable coaches to adapt their messages<sup>7</sup> to players. Previous studies (García-  
565 González et al.<sup>42</sup>) have demonstrated players' superior knowledge and decision-making  
566 when combining post-match footage with open questioning. At half-time, most participants

567 affirmed employing reduced divergent questions and facilitating limited in-talk player par-  
568 ticipation due to time constraints and a need to cover all (perceived) relevant aspects of per-  
569 formance. In fact, only the under 10's and 13's coaches included superior number of diver-  
570 gent questions and enabled higher in-talk player participation than older age-group coaches.  
571 Thus, setting routines of pre-talk player participation while staff meets outside<sup>52</sup> enabling  
572 enough player-led discussions might facilitate their knowledge development, while max-  
573 imising the total time to address players.

574 Finally, participants working with older age-groups affirmed rapidly progressing to  
575 providing information to players and included higher levels of instruction and feedback re-  
576 gardless of players having demonstrated preference for short but meaningful talks.<sup>41</sup> More-  
577 over, when observing positively or negatively framed messages during leader's speeches,  
578 athletes' have reported feelings of belief in teammates or inspiration decrease, respectively.<sup>37</sup>  
579 However, participants generally included higher negative feedback compared to corrective  
580 and only the under 10, 14, and 15's coaches provided greater positive than negative. There-  
581 fore, there might be a benefit in balancing the valence of feedback and considering a less-is-  
582 more approach to instruction. Specifically, the use of less verbal messages combined with  
583 more eloquent vocal factors and non-verbal expressions might be critical for players per-  
584 ceiving these as more meaningful,<sup>41</sup> persuasive about first half performance,<sup>16</sup> or inspira-  
585 tional.<sup>37</sup>

586

## 587 **Limitations and future research**

588 The design restricted the number and gender of recruitable participants to the study and,  
589 thus, the generalisability of results and findings is limited to the study context. In addition,  
590 all half-time talks were home-based, and the mean values of coaches' behaviours were cal-  
591 culated at half-time with various outcomes. Moreover, the singularity of participants meant

592 that qualitative findings are limited in the exploration and understanding of the breadth and  
593 scope of this context with alignment between quantitative and qualitative data not always  
594 being possible. Finally, the inclusion of assistant coaches, technical staff, or players would  
595 have undoubtedly enhanced the data set.

596 Thus, assessing players' subjective perceptions of talks could increase our understanding  
597 of how athletes interpret coaches' behaviours<sup>41</sup> and future studies involving (quasi)experi-  
598 mental designs could also compare various half-time coaching strategies and determine their  
599 effectiveness. Furthermore, considering the emotional nature of half-time<sup>16</sup>, it is also recom-  
600 mended to explore male and female coaches' behaviours at home and away venues during  
601 this situation. Additionally, whilst recent coach development research<sup>53</sup> has managed to  
602 align coaches' intentions and behaviours after engaging them in video-based reflection and  
603 discovery tasks, it would be interesting to verify the impact of these activities on coaches'  
604 behaviours during more 'emotional' situations such as half-time.

605

## 606 **Conclusion**

607 This study has facilitated the understanding of five youth coaches' behaviours and per-  
608 ceptions about their half-time talks and suggests similarities and differences attributable to  
609 their individual beliefs and phases of development coached. Most coaches mainly employed  
610 instruction and feedback during half-time except the under 10's coach, who enabled players  
611 to express themselves for greater time compared to any other behaviour. In addition, only  
612 the under 10 and 15's coaches presented balanced values between positive and negative/cor-  
613 rective feedback, with all participants highlighting their tones and volumes as essential mod-  
614 ulators of their messages' meaning. Moreover, only the under 13's assistant coach appeared  
615 to be fully involved planning and complementing the lead coach's half-time talk. Hence, it  
616 is suggested that the amount, valence, vocal factors, and transmitter of messages in addition

617 to facilitating players with opportunities for thinking and discussing are relevant aspects for  
618 delivering half-time talks in youth team sports.

619

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622

## 623 **Declaration of interest statement**

624 The author(s) report there are no competing interests to declare.

625

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