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**Interpersonal emotion regulation in team sport:  
Mechanisms and reasons to regulate teammates' emotions examined**

11 **Abstract**

12 The interpersonal dimension of emotion regulation in the field of sport has lately received  
13 a burgeoning interest. Nevertheless, how and why athletes regulate their teammates'  
14 emotions in competitive setting remains unclear. Across two studies within a team sport  
15 context, we uncovered athletes' mechanisms for, and reasons to regulate teammates'  
16 emotions during competition. In Study 1, we investigated how rugby (n = 22 males)  
17 players' emotions were self- and interpersonally regulated during games. Findings revealed  
18 the emergence of a continuum of self-involvement in the regulatory processes, wherein two  
19 forms of emotion regulation co-existed: self-regulation (total self-involvement) and  
20 interpersonal regulation, which included co-regulation (partial self-involvement;  
21 regulation with others) and extrinsic regulation (no self-involvement; regulation by/of  
22 others). In Study 2, we examined the motives that lead rugby (n = 30 males) players to use  
23 interpersonal extrinsic regulation strategies during games. Interview data indicated that  
24 players regulated teammates' emotions for altruistic reasons (to help a teammate), egoistic  
25 reasons (for one's own benefits), or both. Overall, our findings further knowledge to better  
26 understand interpersonal emotion regulation within competitive team sport contexts. From  
27 an applied perspective, findings highlight the role that both individual goals and ego  
28 involvement may play in optimising efficient interpersonal regulation during competition  
29 at team level.

30 *Keywords:* affective states, coping, emotional contagion, emotion regulation, rugby  
31 union.

32

### 33 **Introduction**

34           Fear of injury, guilt after a mistake, pride following personal success, anger towards  
35 a referee's decision, happiness after a win... these are only a few of the many emotions  
36 athletes might need to manage during competition (e.g., Jones, 2012). In the last two  
37 decades, academics had been interested in the study of affective regulatory processes that  
38 facilitate attainment of optimal emotional states that, ultimately, facilitate best sport  
39 performances (Stanley, Lane, Beedie, Friesen, & Devonport, 2012). Recently, attention has  
40 been drawn to the need to study interpersonal regulation – emotions modulated and  
41 regulated by others (see Zaki & Williams, 2013) – within competitive team sport so as to  
42 better understand team emotions. However, to date, knowledge and understanding on this  
43 issue is relatively unexplored (Campo, Mellalieu, Ferrand, Martinent, & Rosnet, 2012;  
44 Uphill, McCarthy, & Jones, 2009) and “vague and imprecise” (Friesen, Devonport, Sellars,  
45 & Lane, 2013, p.1). The aim of the present two-study research was to investigate  
46 interpersonal emotion regulation within the context of team contact sport with particular  
47 attention directed to athletes' mechanisms and reasons to regulate teammates' emotions  
48 during competition.

49           Emotion regulation is defined as “the process by which individuals influence which  
50 emotion they have, when they have them, and how they experience and express these  
51 emotions” (Gross, 1998, p. 275). Within the process model of emotion regulation (Gross,  
52 1998; Gross & Thompson, 2007), it is stated that emotions can be self-regulated but also  
53 interpersonally regulated (Netzer, Van Kleef, & Tamir, 2015) – the latter as applying to an  
54 emotion regulated by others as well as the regulation of others' emotions (Zaki & Williams,  
55 2013). In mainstream (social) psychology, past research has shown the utility of  
56 understanding interpersonal regulation in other settings than sport (e.g., Niven,  
57 Totterdell, & Holman, 2009; Zaki & Williams, 2013). Within the broad domain of affective  
58 regulation in sport, strategies that imply social interactions have been identified, including

59 communal coping, talking to other players and seeking support from teammates. Within  
60 the sport context, emotion regulation research has predominantly focused on the study of  
61 self-regulation while the examination of its interpersonal dimension has been neglected  
62 (e.g., Balk, Adriaanse, Ridder & Evers. 2013); this has recently been highlighted as a  
63 limitation (Tamminen & Crocker, 2013).

64 To date, the process model of emotion regulation (Gross, 1998) has only partially  
65 been considered within the sport domain. For instance, Uphill, Lane and Jones (2012)  
66 tested the psychometric properties of Gross' Emotion Regulation Questionnaire with  
67 athletes (ERQ; Gross & John, 2003). Nonetheless, they considered only two (reappraisal  
68 [cognitive change] and suppression [a form of response modulation]) of the five emotion  
69 regulation families according to Gross' (1998) framework (see below for details). More  
70 recently, Balk et al. (2013) examined the strategies used by athletes under pressure in a  
71 golf putting task. Here, this research was also based on a partial view of the process model  
72 of emotion regulation; that is, only reappraisal (cognitive change) and distraction  
73 (attentional deployment) were manipulated.

74 According to Gross (1998), there are five different families of emotion regulation  
75 strategies: situation selection, situation modification, attentional deployment, cognitive  
76 change, and response modulation. The first four families are considered "antecedent-  
77 focused"; they occur before the emotional response. Situation selection involves taking  
78 actions to increase or decrease the likelihood of creating desirable or undesirable emotions.  
79 Thus, an athlete might avoid an opponent who often makes him/her feel angry. Situation  
80 modification is also based on the interaction between the features of a situation and the  
81 expected emotional responses, but it emphasizes the manipulation of situation  
82 characteristics. For example, if the aim of the regulation is to prompt functional emotions,  
83 an athlete might modify training in order to increase the likelihood of success. Attentional  
84 deployment refers to the use of specific attentional cues for particular situations. This

85 process may involve diverting attention away from unwanted feelings; for example, a  
86 player could listen to music to distract from the fatigue he/she is feeling (Stanley et al.,  
87 2012). Cognitive change refers to modifying how an individual appraises a situation to alter  
88 the situation's emotional significance; symptoms of physiological arousal before a  
89 competition may be interpreted either as facilitative or debilitating to performance  
90 (Martinent, Campo, & Ferrand, 2012). In contrast, the fifth family is defined "response-  
91 focused"; response modulation is used after an emotional response has occurred and refers  
92 to efforts to suppress, decrease or increase specific feelings after they emerge. For example,  
93 in the late minutes of a game when victory is imminent, an athlete might suppress joy to  
94 focus on the task at hand until the game actually finishes. Furthermore, while Gross (1998)  
95 initially focused on self-regulation, Gross and Thompson (2007) suggested that an  
96 individual could regulate the emotions of others by using all the five families of the process  
97 model. This latter regulatory process, labelled extrinsic regulation (Gross & Thompson,  
98 2007) or interpersonal regulation (Zaki & Williams, 2013), suggests that emotion  
99 regulation can be viewed, by extension, as an interpersonal process with sensitivity to  
100 group contexts, such as team sport (Tamminen & Crocker, 2013).

101 As an opportunity to influence social interactions, Gross and Thompson (2007)  
102 pointed out that "one as-yet unresolved issue is whether emotion regulation refers to  
103 intrinsic processes (self-regulation), to extrinsic processes (extrinsic regulation) or both"  
104 (Gross & Thompson, 2007, p.8). For instance, an athlete may over-exaggerate expressions  
105 of serenity to increase his own positive emotions, to evoke anxiety in his opponents, or  
106 both. Recent findings by Stanley et al. (2012), showing that runners used regulation  
107 strategies such as "providing support" and "negativity directed toward others", illustrate  
108 such ambiguity. Indeed, their study focused on self-regulation and, therefore, the  
109 abovementioned strategies were considered as self-regulation strategies. However, it could  
110 be argued that these strategies had also been used to regulate other runners' emotions.

111 Research ~~on~~on the motives that lead athletes to regulate a teammate's emotions is scarce.  
112 One of the few examples is that of Friesen and colleagues, who showed that the motivation  
113 to regulate teammates' emotions depended upon whether regulation was taking place at an  
114 individual, dyadic, group, or cultural level (Friesen, Devonport, et al., 2013). Nevertheless,  
115 their in-depth analysis was limited to a sample of two ice hockey captains. Thus, research  
116 to better understand why players, whether with or without given roles, regulate their  
117 teammates' emotions remains warranted.

118         The aim of the present two-study research was to explore athletes' mechanisms and  
119 reasons to regulate the emotions of others within the context of team sport. Given its  
120 suitability to explore intra- and interpersonal dimensions of regulation in the context of  
121 social interactions in general (Gross & Thompson, 2007), and that of team sport in  
122 particular (Jones, 2012), in Study 1 we used Gross (1998) process model of emotion  
123 regulation to investigate how rugby players' emotions were self-regulated and  
124 interpersonally regulated during games. In line with Gross and Thompson (2007), we  
125 hypothesized that the five families of regulation strategies would be used in the regulation  
126 of teammates' emotions. In Study 2, building on the findings from Study 1, we investigated  
127 the reasons for which players use extrinsic regulation strategies. More precisely, we  
128 examined why players regulate their teammates' emotions.

129         Because social situations are inherently complex, qualitative methods have been  
130 suggested as appropriate to study interpersonal processes such as interpersonal emotion  
131 regulation (Keltner & Haidt, 1999). Similar to previous research in this area (e.g., Friesen,  
132 Devonport et al., 2013; Tamminen & Crocker, 2013), we adopted a qualitative  
133 methodology based on a post-positivist epistemological positioning (Weed, 2009). Such  
134 approach ensured appropriate identification and description of emotion regulation  
135 strategies used (Study 1) and motives associated with such extrinsic regulation (Study 2).

## 136 **Study 1**

137 **Method**

138 *Participants*

139 Twenty-two French male rugby union players took part in Study 1; ages ranged  
140 from 22 to 35 years ( $M = 27.59$ ,  $SD = 3.64$  years). All players, who had been competing at  
141 a professional level for 2 to 8 years ( $M = 5.00$ ,  $SD = 1.95$  years), were members of the  
142 same second professional French division team.

143 *Materials*

144 *Interview guide.* A semi-structured interview guide was developed to gather  
145 information on the regulation processes that occurred during rugby games. To ascertain  
146 participants' understanding of the different questions, the interviewer defined key  
147 terminology such as "emotion regulation, dealing/coping with emotions, and regulation  
148 strategies" at the beginning of the interview. The different definitions were based on the  
149 literature of coping and emotion regulation in sport (see Tamminen & Gaudreau, 2014).

150 For each interview, and because intense emotions (a) lead individuals to use more  
151 regulation strategies (Gross & Thompson, 2007) and (b) tend to be more readily recalled  
152 (Kensinger, Piquet, Krendl, & Corkin, 2005), we began by asking participants to identify  
153 salient parts (if any) of the game being watched where they experienced intense emotions  
154 (see Procedures below). Example questions included: "Could you identify a specific part  
155 of the game in which you experienced intense emotions?" and "Do you remember if you  
156 experienced intense emotions during the game, and if so, when?" Following this, players  
157 were asked to identify and describe what they thought caused these emotions. Related  
158 questions included: "Could you describe what you felt during this episode?" and "Do you  
159 know why you experienced this emotion?" Players were then asked about the consequences  
160 of each emotion experienced, and whether they tried to regulate these emotions. Related  
161 questions included: "At this moment, do you feel that this emotion influenced your  
162 behaviour or your thoughts?" and "Did you try to regulate your emotion? If so, then how?"



163 Elaboration (e.g., “Could you say something else about that?”) and clarification probes  
164 (e.g., “What do you mean by that? Could you give me an example?”) were used throughout  
165 the interview to allow participants the opportunity to explain their perceptions fully (Miles,  
166 Huberman, & Saldaña, 2014; Patton, 2002).

167 *Videos.* The video recordings of the games that we showed to the players during the  
168 interviews were obtained from the national TV channels that broadcasted them live.

### 169 *Procedures*

170 Permission to conduct Study 1 was granted by the Human Research Ethics  
171 Committee where the first author was affiliated. Following permission from the team staff,  
172 players were contacted by telephone. Written informed consent was given to all  
173 participants, and anonymity and confidentiality were assured (i.e., participant numbers  
174 from R1 to R22 were assigned).

175 Similar to past research, stimulated recall interviewing techniques were used to  
176 facilitate the recalling and stimulate the reporting of emotions experienced (e.g., Martinent  
177 et al., 2012). Participants were shown video clips of given moments and situations they had  
178 chosen themselves from games they had recently played.

179 Previous studies have shown convergence of actual and retrospective reports of  
180 emotions within a delay of seven days (Tenenbaum & Elran, 2003). In the present study,  
181 all interviews took place within three days post-game ( $M = 2.14$ ,  $SD = 0.67$  days). More  
182 precisely, to multiply situations that could be analysed, we interviewed four to eight players  
183 per game during an eight-game period. Ultimately, each player was individually  
184 interviewed twice ( $N = 44$  interviews,  $M = 40.27$ ,  $SD = 13.41$  min); one for a home game  
185 and another for an away game. Participants were explicitly prompted to talk about how  
186 they were feeling and what they were doing in that moment shown on the screen – not to  
187 report how they were feeling whilst viewing themselves on the video. Players were able to  
188 stop and rewind the videotapes to allow them the opportunity to expand on their

189 explanations. Sessions were conducted in the players' first language (French). The first  
190 author, who conducted all face-to-face interviews, was trained in stimulated recall  
191 interviewing techniques and possessed expertise in qualitative methods.

### 192 *Content Analysis*

193 All interviews were transcribed verbatim and resulted in a data corpus of 412 pages  
194 (single-spaced, Times New Roman 12). We employed an inductive-deductive approach to  
195 analyse our qualitative data, as discussed by Uphill and Jones (2007). Initially, an inductive  
196 approach was used to allow a more grounded knowledge to emerge, as perceived by the  
197 participants (Weed, 2009). Data were processed by two researchers who divided transcripts  
198 into meaningful units according to thoughts and behaviours used to regulate participants'  
199 emotions. Then, similar elements were compared and categorized into labelled themes  
200 describing all different emotion regulation strategies.

201 We followed with a deductive approach to categorize the strategies previously  
202 identified. We based this categorization on Gross (1998) emotion regulation families, thus  
203 providing five themes (i.e., situational selection, situation modification, attentional  
204 deployment, cognitive change, and response modulation). As this study aimed at  
205 examining whether others might influence one's emotions, each emotion regulation  
206 strategy was then categorized into sub-themes according to whether the regulation involved  
207 others or not (i.e., interpersonal regulation vs. self-regulation). Three researchers with  
208 expertise in qualitative research and emotion theory examined the categories; any  
209 divergence when categorizing was discussed until agreement was reached.

210 *Trustworthiness.* Qualitative research should follow some criteria to ensure the  
211 trustworthiness of the coding process (Patton, 2002). According to Lincoln and Guba  
212 (1985), the credibility of qualitative results can be ensured through peer debriefing  
213 sessions, including direct meetings with other authors and other researchers who can be  
214 considered as "disinterested peers" (p. 308). This procedure was conducted to debate the

215 authors' interpretations of the overall findings. To that end, all of the transcripts were re-  
216 read to ensure that the categories were representative of the original material.

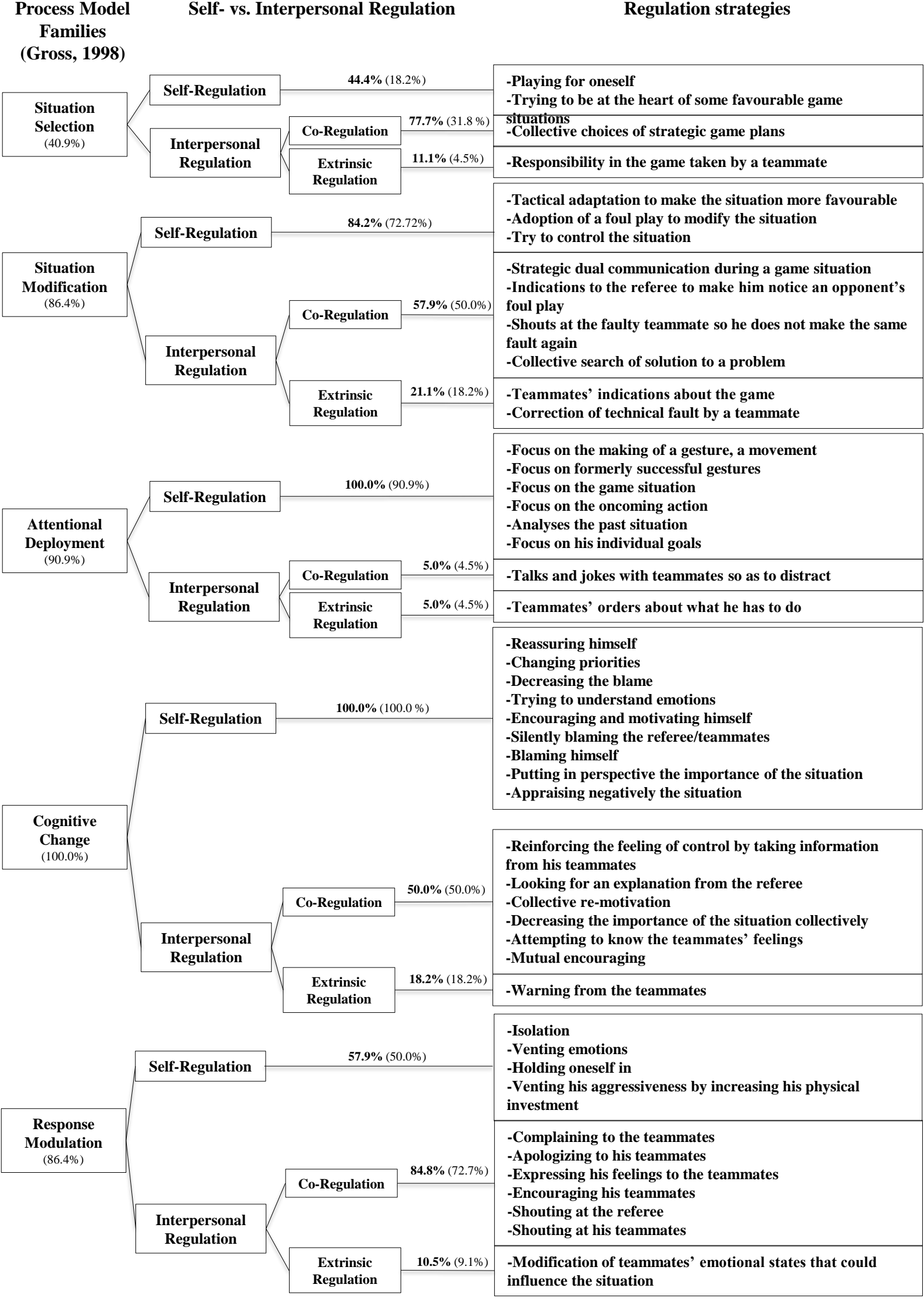
217 Throughout the content analysis, emerging themes (i.e., Gross [1998] emotion  
218 regulation families) and sub-themes (interpersonal regulation vs. self-regulation) were  
219 adjusted according to raw data. Following this process, an outside researcher served as a  
220 *devil's advocate* by challenging the coding and the subsequent interpretations (Krane,  
221 Andersen, & Streat, 1997). Following these different steps, some minor adjustments were  
222 made; the changes represented less than 1% of the 391 categorizations. Following Miles et  
223 al.'s (2014) procedures, we organized an additional meeting for participants to check  
224 researchers' interpretations (of their statements). Finally, we followed checking processes  
225 used in previous research by providing multiple quotes in the Results section that allow the  
226 "reader to judge for themselves the authors' interpretation of the data" (Uphill & Jones,  
227 2007, p.82).

## 228 **Results**

229 Forty-seven emotion regulation strategies emerged from data analysis. Both self-  
230 regulation and interpersonal emotion regulation strategies had been used during games.  
231 Amongst the latter, two dimensions emerged that appeared to be scaled to the relative  
232 amount of self-contribution in the regulatory process: interpersonal co-regulation and  
233 extrinsic regulation. The first dimension highlighted emotions regulated with the help of  
234 teammates (i.e., partial self-involvement; regulation with others). The second dimension  
235 showed that interpersonal extrinsic regulation was used by teammates to help athletes to  
236 regulate their own emotions (i.e., no self-involvement; regulation by others), suggesting  
237 that the nature of the support was enacted independently of the targeted athlete, and might  
238 fall under a specific type of emotion regulation.

239 As a result, athletes used self- as well as interpersonal emotion regulation strategies  
240 representing every family of Gross' (1998) process model. In Figure 1, we present every

Figure 1. Self- and interpersonal emotion regulation strategies used by rugby players during competition categorised from the process model of emotion regulation (Gross, 1998). Values in brackets express percentage of players from the total sample (N = 22) whereas values in bold express percentage of players with regards to the given emotion regulation family.



241 strategy (and frequencies) determined through the inductive analysis and classified  
242 according to (a) Gross (1998) five families, and (b) the three dimensions identified in this  
243 study (i.e., self-regulation, co-regulation, and extrinsic regulation). Note that all  
244 participants reported that, at least on one occasion, their emotions were interpersonally  
245 regulated.

246 [Figure 1 near here]

247 The following quotes illustrate the wide range of emotion regulation strategies  
248 reported by the athletes interviewed, as classified by Gross (1998). Concerning situation  
249 selection, R2 explained that he had chosen to go into the defence line to increase his  
250 serenity: “I felt good... confident, and I wanted to continue to be like this. So, I got into  
251 the line, and tried to tackle toughly while defending [...], a big hit is the best way to feel  
252 confident.” (R2).

253 Situation selection was also illustrated when R21 explained he was afraid of injury  
254 because he had a painful leg at the time he had to kick a kick-off, and at that moment, a  
255 teammate suggested to stand in for him (i.e., extrinsic regulation using situation selection):

256 I am frequently injured [...], I used to tear my hamstrings, and at this moment, I  
257 was really fatigued because of my latter action. So, when the opponents scored the  
258 3 points, I said to myself “Goddammit!”... not really because of the score..., we  
259 were winning..., but rather because of the coming kick-off. I was afraid of a re-tear.  
260 I think everybody could see it on my face and was at that moment that J came and  
261 took the ball. He looked at me and I understood he was going to do it. Well, the  
262 kick-off, it’s J who’s taking it. I was really relieved. (R21)

263 Also, anxious when he saw that the game was about to be lost, R12 explained that  
264 he tried to modify the situation: “I can see we are about to be defeated [...], I was  
265 worried...So, I tell myself that I’m going to try to intercept the ball.” (R12)

266 Situation modification was also used by teammates to regulate others' emotions.  
267 For instance, R1 (a prop) explained that during a scrum, he was anxious because the  
268 opponent was smaller than him. R1 said that a teammate reduced his anxiety by giving him  
269 technical instructions to deal with the specific situation (i.e., extrinsic regulation using  
270 situation modification). R1 described it as follows:

271 It was hard to perform well against him (the direct opponent in the scrum). He was  
272 too small. When you are smaller than your opponent, it is better from a technical  
273 perspective because, when you are taller, you cannot place yourself under him. So,  
274 I could not stabilize the scrum. It was terrible. I was feeling bad because he was  
275 pushing me upwards (and destabilising the scrum). At that time, V (a teammate)  
276 told me to move my feet backwards and press him down. This changed everything.  
277 The scrum became easier for me and I felt more confident. (R1)

278 Attentional deployment could be illustrated, for instance, by R1 who described that  
279 he tried to distract himself from what he judged to be a referee's mistake, which lead him  
280 to experience anger: "I was angry towards him (the referee) and I switched to something  
281 else. It helps me to shut up and keep away from taking a yellow card." (R1).

282 Teammates also used attentional deployment to regulate the emotions of other  
283 players. For instance, after having scored a try, R20 explained that he felt happy, which  
284 seemed to worry his teammates who told him to stay focused on the game (i.e., extrinsic  
285 regulation using attentional deployment):

286 I scored a try. Okay...for this one, C did most of the work... but still, this was my  
287 first one this season. I was really proud... I could not think of anything else...  
288 Teammates warned me and L told me to keep focused on the match rather than keep  
289 daydreaming about the try. (R20)

290 The fourth family determined by the process model of emotion regulation (i.e.,  
291 cognitive change) can be illustrated by R9's discourse, when explaining that he tried to

292 decrease his guilt after a mistake in the following way: “I told to myself that’s not my fault,  
293 well, it’s my fault, but I told myself that I’ve got nothing to do with it, that it is the referee  
294 who does.” (R9)

295 The players also mentioned that their emotions had been regulated by their  
296 teammates, who used strategies illustrating cognitive change. For instance, R20 explained  
297 that, after the opponents had scored a try, he felt guilty and anxious, but that these  
298 unpleasant emotions decreased when teammates told him that he had no responsibility in  
299 this given action (i.e., extrinsic regulation using cognitive change). This was explained in  
300 the following manner: “I did not really know. I thought that it was because of me [...] but  
301 later they said that it was not my fault, so it felt better.” (R20)

302 Lastly, following a personal mistake, R3 noted that he sought to decrease the  
303 intensity of his guilt and anger applying a response modulation strategy – the fifth family  
304 as defined by Gross (1998): “I feel down, guilty... At that moment in time, I was angry  
305 with myself for missing that tackle. What I was feeling at that time was so strong that I  
306 yelled to vent my anger and control my breathing. If I had not done that, I would have  
307 burst!” (R3)

308 Also, the participants mentioned that their emotions were directly regulated by  
309 teammates through response modulation strategies. For instance, R14, a young player,  
310 explained that his pleasant emotions were directly regulated by an experienced teammate  
311 who thought that it could be, ultimately, dysfunctional for the team (i.e., extrinsic  
312 regulation using response modulation):

313 I’ve scored a try. Watch me jumping of joy! I look like a big rabbit! I jumped in  
314 every direction. But this seemed to worry G! At that time, he (G) told me “stop it  
315 now, we hadn’t won as yet!” He also told me that he didn’t want to lose me and that  
316 I needed to calm down because the match had not finished. I can tell you that it  
317 calms you down immediately! (R14)



## 318 *Discussion*

319           The purpose of Study 1 was to identify emotion regulation strategies used by rugby  
320 union players during competition, and to examine the extent to which players' emotions  
321 were self- or interpersonally regulated. To that end, Gross (1998) process model of emotion  
322 regulation was adopted. Some of the emotion regulation strategies identified in this study  
323 had already been reported in team contact sports (see Campo et al., 2012, for a review). In  
324 addition, in the present study we identified other emotion regulation strategies that had not  
325 been found thus far, such as "modification of the teammates' emotional states that could  
326 influence the situation", "playing for oneself", "trying to be at the heart of some favourable  
327 game situations", and "adoption of a foul play to modify the situation" (Figure 1). In this  
328 way, we argue that our findings provide a more comprehensive identification of emotion  
329 regulation strategies taking place within rugby, and suggest applying such methodology to  
330 other team sports in general to further knowledge and understanding of interpersonal  
331 emotion regulation in sport.

332           The need to examine the influence of others in the regulation of one's own emotions  
333 had recently been highlighted (e.g., Friesen, Lane et al., 2013; Stanley et al., 2012;  
334 Tamminen & Crocker, 2013). In the present study, players' emotions appeared to be not  
335 only self-regulated but, critically, interpersonally regulated via co-regulation and extrinsic  
336 regulation – and this through the five families of Gross' (1988) process model. The  
337 suitability of this model to study affective regulatory processes in team sports is supported  
338 by our findings, which highlight the determinant role teammates play in the way emotions  
339 are regulated during rugby games.

340           While current knowledge in regulatory processes in the field of sport is mainly  
341 based on the study of self-regulation (e.g., Jones, 2012; Tamminen & Crocker, 2013), our  
342 findings offer other perspectives to generate knowledge and understanding on the entire  
343 scope of strategies that are actually used by individuals in team sport context. From an

344 applied perspective, this will open the development of new avenues to optimize team sport  
345 performance. For instance, a coach might consider training players in regulating others'  
346 emotions with the aim of facilitating functional emotional contagion within the entire team,  
347 or to influence opponent's emotional states.

348 Study 1 examined the strategies athletes used to regulate their own emotions,  
349 regardless as to whether this was achieved by self- or interpersonal regulation. This  
350 approach naturally incited the participants to recall more strategies in which they had a  
351 self-involvement (self- and co-regulation) rather than those in which they had no self-  
352 involvement (extrinsic regulation). This may, therefore, be considered as a limitation,  
353 which could explain the difference in the amount of self- and co-regulation strategies  
354 players reported to have used (n = 43) compared to the amount of extrinsic strategies  
355 players reported to have been the target of (n = 6).

356 Moreover, this approach precluded the exploration of the behaviours that  
357 participants might have adopted to regulate their teammates' emotions. In that sense,  
358 Stanley et al. (2012) stated that, athletes "reported the altruistic provision of support to  
359 others with no indication of this needing to be reciprocated" (p.167). However, it is also  
360 worth noting that, while participants did not mention that they were looking for reciprocity,  
361 this does not mean that this intention was absent. When a participant reported that his  
362 emotions were regulated by a teammate, we do not know whether that teammate used such  
363 extrinsic regulation for the purpose of regulating, actually, his own emotions too. That is,  
364 it is unclear whether, when a player apparently regulates his teammate's emotion, his  
365 behaviour is adopted by the teammate or by the player himself, too. This illustrates the  
366 complexity of interpersonal regulation as athletes often might regulate their own and  
367 others' emotions without fully appreciating the emotional state of their teammate.

368 As a result, an apparent extrinsic regulation could, in fact, be a behaviour adopted  
369 by the teammate to self-regulate her/his own emotions. Several authors in social

370 psychology (e.g., Gross and Thompson, 2007) as well as sport psychology (e.g., Friesen,  
371 Devonport et al., 2013) have stressed the need to shed light onto such ambiguity. In this  
372 line, Batson and colleagues (Batson, Ahmad, & Tsang, 2002) suggested the “importance  
373 of focusing one’s attention on motives rather than on behaviour” (p. 431-432). That is,  
374 studies on interpersonal emotion regulation should also examine the motives associated  
375 with extrinsic regulation in team sport contexts. This would allow researchers to understand  
376 the emergence of interpersonal strategies during a game so as to suggest more effective  
377 applied interventions to optimise performance in (team) sports. Therefore, the aim of Study  
378 2 was to investigate the motives of rugby union players to regulate their teammates’  
379 emotions during competition.

## 380 **Study 2**

### 381 *Method*

#### 382 *Participants*

383 To maintain consistency with Study 1, we purposely recruited rugby union players  
384 from a professional club for Study 2 (N = 30); their age ranged from 18 to 21 years ( $M =$   
385 19.06,  $SD = 0.78$  years). All players were members of a team playing in U23 first French  
386 division – note that none had participated in Study 1. These players had been competing at  
387 this level for 1 to 4 years ( $M = 2.53$ ,  $SD = 1.2$  years).

#### 388 *Material*

389 *Interview guide.* Similar to Study 1, a semi-structured interview guide was  
390 developed and key terms were defined to players prior the interview, to ensure full  
391 understanding of the questions. The same questions from Study 1 were used to help players  
392 identifying parts (if any) of the game during which they experienced intense emotions. In  
393 addition, this interview guide sought to produce information about the motives associated  
394 with the use of interpersonal extrinsic regulation (i.e., regulation of other’s emotions).  
395 Related example questions included: “Did you try to regulate your teammate’s emotion? If

396 yes, how? If you did not, why?"; "Did you communicate with your teammate at this  
397 moment? If yes, what did you say?"; "Why did you communicate or behave in that way?";  
398 "Did you try to modify the situation such as correcting a teammate's technical fault or  
399 provide technical information about the game to your teammates?". As per Study 1, we  
400 used both elaboration and clarification to increase the quality of probes.

401 *Videos.* The game was recorded with three synchronized cameras that provided  
402 views from different angles (narrow, medium and wide). Likewise, we captured the  
403 players' movements, even when players would not be directly involved in the main action  
404 (i.e., far from where the ball was being played).

#### 405 *Procedures*

406 Permission to conduct Study 2 was granted by the Human Research Ethics  
407 Committee of the first author's University. Following a meeting with the sporting director  
408 of the club, the research team met with the teams' head coach to organize a competitive  
409 game for the purpose of Study 2. Written informed consent was obtained from all  
410 participants, and anonymity and confidentiality were guaranteed (i.e., participant numbers  
411 from P1 to P30 were assigned).

412 *Step 1.* Following the coach's agreement, we organized a competitive game.  
413 Conditions were similar to those of any official competitive game; that is, team captains  
414 and a medical doctor were present, officials refereed the game, and an audience (of 97  
415 people) was present. To help generate genuine emotional experiences as they might in any  
416 competitive game, the head coach had previously explained to the players that the team  
417 staff had scheduled that game "to select the players for the starting team in the forthcoming  
418 championship game". Following experimental social psychology procedures (Harmon-  
419 Jones, Amodio, & Zinner, 2007), we scheduled time to debrief athletes about the purpose  
420 of the study.

421 *Step 2.* Each player was individually interviewed ( $N = 30$  interviews,  $M = 49.10$ ,  $SD = 9.12$

422 min) on the intense emotional episodes they mentioned they had experienced during that  
423 game. The first author conducted all interviews within three days after the game ( $M = 1.81$   
424 days,  $SD = 0.86$ ). Similar to Study 1, video footage of the game was used to facilitate the  
425 recall process during the interviews. Sessions were conducted in the players' first language  
426 (French).

#### 427 *Content Analysis*

428 Interviews were transcribed verbatim resulting in a data corpus of 607 pages (single-  
429 spaced, Times New Roman 12). An inductive content data analysis was used as coding  
430 procedure to identify the motives associated with the use of extrinsic regulation (Lincoln  
431 & Guba, 1985; Patton, 2002). The issues of trustworthiness were similar to Study 1.

#### 432 **Results**

433 Interview data showed that all players attempted to regulate their teammates'  
434 emotions during the game. Three main categories emerged from the data, highlighting the  
435 reasons why the players have used interpersonal extrinsic regulation: altruistic, egoistic, or  
436 both.

437 Altruistic motives – extrinsic regulation carried out in the perceived best interest of  
438 the teammate – were reported by 73.33% of the participants and accounted for 26.6% of  
439 all the motives reported. The following statements illustrate this point: “I do this intuitively.  
440 Telling the guys ‘is ok, it’s useless to panic!’ I think it’s a positive reaction, not a negative  
441 one. (...) I do this because it brings something to the team” (P27). Another player (P30),  
442 for instance, explained that he regulated a faulty teammate so as he would feel less guilty:  
443 “Why I did this? I want to increase his motivation [...], I tried to make him feel better”.  
444 P19 also illustrated altruistic motives behind the use of extrinsic regulation when he  
445 explained that regulating his teammate’s emotion does not bring anything personally: “I  
446 encouraged him. Telling him to move his a\*\* [sic], I think it could modify his emotions. It  
447 didn’t bring me anything personally, but I think it brought him a lot” (P19).

448            Yet, results also indicate that 40% of the players adopted concomitant motives on  
449 17.15% of all the motives reported. For instance, a player explained that he encouraged his  
450 teammates to help them to experience functional emotions, though he said that he behaved  
451 that way to help himself too: “Well, that was... to reassure, encourage my friends to  
452 continue in the same direction. It does cost nothing to encourage (a teammate). It shows  
453 that I'm happy... I think it helps, it helps me and it helps the team” (P13).

454            Lastly, egoistic motives were reported by 80% of the participants, which accounted  
455 for 56.25% of all the motives reported. There, extrinsic regulation was used selfishly; that  
456 is, actions to regulate teammates’ emotions were performed to achieve own personal  
457 benefits only. P13’s statements illustrate egoistic motives behind the use of extrinsic  
458 regulation: “I tried to control how he was feeling after the scrum. I don’t know if it was  
459 needed, but I, I needed to do it. That makes me more confident”. Thus, extrinsic regulation  
460 was directly used to modify the intensity of one’s own (un)pleasant emotions, regardless  
461 of the effects that, by doing so, it might have on teammates’ emotions. Another example is  
462 found when a player described to have influenced his teammates’ emotional states by  
463 encouraging them in order to increase the intensity of his own positive emotions: “I  
464 encourage my teammates. This is to show the others that... maybe this reinforced their  
465 confidence but... I do not know what it is. It is firstly to help myself, maybe to encourage  
466 me. It helps me” (P2).

467            Moreover, within the egoistic motives, participants expected to receive the same  
468 strategies back from their teammates. One of the participants described as follows: "Yeah,  
469 I expect he will do the same for me later. It happens sometimes that you fail. It's good if  
470 the guys are behind (you) and tell you "it's okay, we're going to back you up, this is not  
471 important” (P3). Similarly, participants revealed that they tried to regulate the emotions of  
472 others to avoid future negative consequences of others’ emotional states on team  
473 performance. For instance, a player explained that he tried to decrease the intensity of his

474 teammate's anxiety in order to avoid any negative emotional contagion within the team:

475 I say "It's not useful to panic!" I think this is a positive reaction. We must not  
 476 panic. I don't want everybody panicking. It can make us lose the game, [...], so,  
 477 it must bring something to the team performance. So, I say, "come on guys, let's  
 478 keep focused! (P27).

479 Finally, we explored the motives that might have led participants to forego using  
 480 extrinsic emotion regulation. The three main reasons given were that (a) it was useless;  
 481 ~~(that-b)~~ that it was as a consequence of the sport norms and values, and ~~that~~-(c) that it was  
 482 impossible to do because the player was self-regulating his own emotions. The following  
 483 two statements illustrate the first reason: "I did not communicate with him because it's of  
 484 no avail. I don't think it was useful. He knows well what he did" (P1); "Well, it annoys me  
 485 and then, I say that if you have to chafe during the entire game against your teammate, it is  
 486 useless, it will not help to move forward the situation" (P27).

487 As per the role of accepting/respecting team norms and values, two principles were  
 488 identified: humility and solidarity. For instance, P7 said that when he would have wished  
 489 to influence his teammates' emotional states after the opponents scored a try, he did not  
 490 behave in such a way because it was not his role, but that of the captain: "I wanted to  
 491 encourage the guys. Everybody looked at his feet! But no, it's not my role! There is a  
 492 captain, and it's him who must refocus the troops. I have to shut up" (P7). Similarly, P11  
 493 stated that it was impossible to make a teammate feel guilty after a mistake: "I had hatred  
 494 towards him, yes. I was angry but I did not insult him! It is not a proper thing to do in  
 495 rugby. I cannot blame him just because he had made a mistake" (P11).

496 Participants also explained that they were not able, at times, to use extrinsic  
 497 regulation because they were focussed on self-regulating their own emotions. The  
 498 following two quotes illustrate this point:

499 I did not regulate the emotions of anyone. I could not do it because I made efforts

500 to stay focused” (P17). “Maybe I’m too individualistic because I was more thinking  
501 about me rather than about others at this time, but I knew that I was really angry  
502 and so, I did not want to make anyone feel better. Primarily I had to take care of  
503 myself. (R13)

#### 504 *Discussion*

505 The purpose of Study 2 was to investigate the motives of rugby union players to  
506 regulate their teammates’ emotions during competition. Findings showed that players  
507 regulated their teammates’ emotions for altruistic reasons (i.e., to help others) egoistic  
508 reasons (i.e., to help oneself) or both. This finding is consistent with literature supporting  
509 that emotion regulation requires the activation of a goal, both intra- and interpersonally  
510 (Gross & Thompson, 2007).

511 In line with the view that extrinsic regulation might be driven by the willingness to  
512 help others, our findings show that players could regulate their teammates’ emotions to  
513 bring them (the teammates) in a better emotional state as perceived by the player who was  
514 regulating. This finding is consistent with research by Niven, ~~Totterdell and Holman~~  
515 ~~(2009)~~[et al.](#), who reported that extrinsic regulation was used altruistically (i.e. to help  
516 others) to regulate pleasant and unpleasant emotions experienced by others. However,  
517 players’ identifications of their teammates’ emotions might not always be accurate, and the  
518 effect of such extrinsic regulation could end up becoming dysfunctional. Given the  
519 idiographic characteristic of the emotion-performance relationship (Hanin, 2000), for a  
520 player to know how to regulate each individual teammate’s emotions may be an arduous  
521 endeavour – there are 15 players in a rugby union team.

522 Furthermore, some of the behaviours displayed by athletes (e.g., encouraging a  
523 teammate) may appear altruistic even though, originally, they could have been driven by  
524 egoistic motives (e.g., encouraging a teammate to increase his own positive emotions). In  
525 line with the notion that helping oneself drives extrinsic regulation, our findings suggest



526 that a self-oriented approach to emotion regulation is at the core of interpersonal emotion  
527 regulation strategies. Indeed, participants in Study 2 reported trying to regulate emotions  
528 of their teammates to regulate their own emotions and/or to control the influence of others'  
529 emotions that were (in)congruent with their personal goals. This suggests that helping  
530 behaviours such as extrinsic regulation could potentially be viewed as egoistic. In our  
531 study, when a player tried to regulate his teammates' emotions, approximately three times  
532 out of four did so to modify his own feelings, or to avoid negative consequences of the  
533 teammate's emotion on performance. This adds to findings from Friesen, Devonport et al.  
534 (2013), who found that the affective states of the two captains they interviewed influenced  
535 their decision to regulate their teammates' emotions. This highlights therefore the intricacy  
536 of the motivational processes behind interpersonal emotion regulation.

537         Despite a growing interest in the topic of interpersonal emotion regulation, little is  
538 known about the question of what motivates athletes to regulate teammates' emotions.  
539 Moreover, findings are contradictory. While some authors have reported that a person  
540 might try to regulate other's emotions to make her/him feel better (e.g., Gable & Reis,  
541 2010), others have shown that interpersonal regulation is employed to achieve hedonic  
542 personal benefits (e.g., Zaki & Williams, 2013). The same ambiguity has also been reported  
543 for instrumental motives (Netzer et al., 2015). In our study, players reported such  
544 ambivalence within the sport context.

545         Furthermore, the present findings inform us that regulating teammates' emotions  
546 may be mainly driven by individual goals and values. Thus, both individual goals and ego  
547 involvement would be critical when addressing interpersonal regulation in team sports.  
548 Lazarus (1999) argued that three components should be considered to understand emotions:  
549 goal relevance, goal congruence, and ego-involvement (i.e., individual's values). While  
550 individual emotional states might drive players to use extrinsic regulation (Friesen,  
551 Devonport, et al., 2013), our findings also indicate that cognitive and motivational

552 processes behind the emotional experience are similar to those behind interpersonal  
553 affective regulatory processes. In that sense, our findings hint at the importance of shared  
554 team goals and values, and how these might influence motives to regulate other's emotions.  
555 This is in line with previous research that has examined the influence of social cognitions  
556 in the emotion–regulation process outside the sport context (e.g., Tamir & Mauss, 2011).  
557 Our findings provide a more complete picture to Friesen, Devonport et al.'s (2013)  
558 findings; cultural values and ideologies also influence the decision to regulate the emotion  
559 of others. Thus, according to a self-oriented approach of the use of extrinsic regulation, it  
560 could also be suggested that if a player shares the team's goals and values, and acts in  
561 accordance with these, her/his behaviours are in accordance with what it is important for  
562 her/him. Therefore, we believe that the use of extrinsic regulation is potentially driven,  
563 ultimately, by individual motives and is, at least partly, unconsciously egoistic.

564         An important topic addressed by the literature is the notion that emotion regulation  
565 occurs both consciously and non-consciously. Different authors have tackled the question  
566 of non-conscious emotional regulation, which could explain why emotion regulation  
567 occurs in concert with several psychological processes (see Bargh & Williams, 2007, for a  
568 discussion). One could argue that, in the present study, when a player said to regulate a  
569 teammate's emotions, whether it was with the intention to increase or decrease his  
570 emotional intensity, in fact, such strategy was used unconsciously to regulate his own  
571 emotional state. Thus, future research examining the continuum between conscious and  
572 non-conscious emotional regulation in competitive team sport context would be warranted.

573         From an applied perspective, interventions targeting emotion regulation motives  
574 need to be developed and tested. Our findings show that self-interests could be at the origin  
575 of extrinsic regulation, which highlights the need to understand athletes' motives first  
576 before being able to modify their behaviours. While interpersonal relationships and  
577 emotion regulation are intertwined in team sport (Tamminen & Crocker, 2013), coaches

578 may also wish to stimulate extrinsic emotion regulation within their teams. In that sense,  
579 teaching how to communicate well between teammates during critical moments may be a  
580 strategy to control emotional contagion phenomena and avoid collective dysfunctional  
581 effects of extrinsic regulation. Having found that egoistic motives could be at the origin of  
582 the use of extrinsic regulation, it appears necessary for coaches and sport psychologists to  
583 ensure that each team member adheres to the group's goals and values.

#### 584 **Final conclusion**

585 This two-study research aimed at better understanding emotion regulation in team  
586 contact sport. Findings showed that interpersonal processes are at the core of emotion  
587 regulation strategies used by players in competitive setting. Furthermore, whereas the  
588 context of a contrived match with a young elite population has to be considered in the  
589 interpretation of the current results, findings indicated that both individual goals and ego  
590 involvement are critical in interpersonal regulation. Leading to an ambiguity between  
591 egoistic and altruistic motives, this could, ultimately, result in players using dysfunctional  
592 extrinsic emotion regulation strategies. Consider a player who regulates a teammate's  
593 emotion to vent her/his anxiety, for instance, by over-encouraging the teammate. This  
594 extrinsic regulation may make the teammate over-aggressive and lead to counter-  
595 performances (Campo et al., 2012).

596 From a more applied perspective, we suggest that coaches increase their players'  
597 awareness of the risks associated with self-oriented motives and with the ignorance of  
598 reciprocal knowledge between teammates about their own emotional functioning.  
599 Accordingly, emotional intelligence reflects how people deal with their own emotions and  
600 those of others (Mayer, Caruso, & Salovey, 1999). That appears, therefore, to be a relevant  
601 way to optimise emotional relationships within a sport team. Thus, we suggest that future  
602 research examines the participants' interpersonal emotion regulation skills, which may  
603 ultimately help coaches to build new ways to optimise performance (Campo, Laborde, &

604 Weckemann, 2015). Also, matching team interests to those of their members could be an  
605 effective way to achieve team optimal performance levels and avoid critical moments  
606 during games such as negative psychological momentum. Thus, we suggest that future  
607 research examines the relationship between extrinsic regulation and emotional contagion  
608 in team sport.

609         Lastly, some researchers have shown that interpersonal emotion regulation may be  
610 driven by the achievement of hedonic and instrumental goals (Netzer, et al., 2015; Tamir  
611 & Mauss, 2013). This highlights the need to disentangle emotion regulation efficacy from  
612 emotion regulation efficiency. A strategy might be adapted to make a teammate feel better  
613 (efficacy: effect of emotion regulation on emotional states) but also might be ineffective to  
614 optimise performance (efficiency: effects of emotion regulation on performance). In this  
615 two-study research we did not distinguish between these two dimensions, which we  
616 acknowledge it is a limitation. Thus, further studies shall consider the influence of  
617 interpersonal extrinsic strategies on actual performance for both *regulator*-players and  
618 *regulated*-players.

619

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