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

Abstract

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

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

Introduction

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

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

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

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

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

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

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

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

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

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

Study 1

Method

Participants

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

Materials

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

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

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

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

Procedures

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

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

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

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

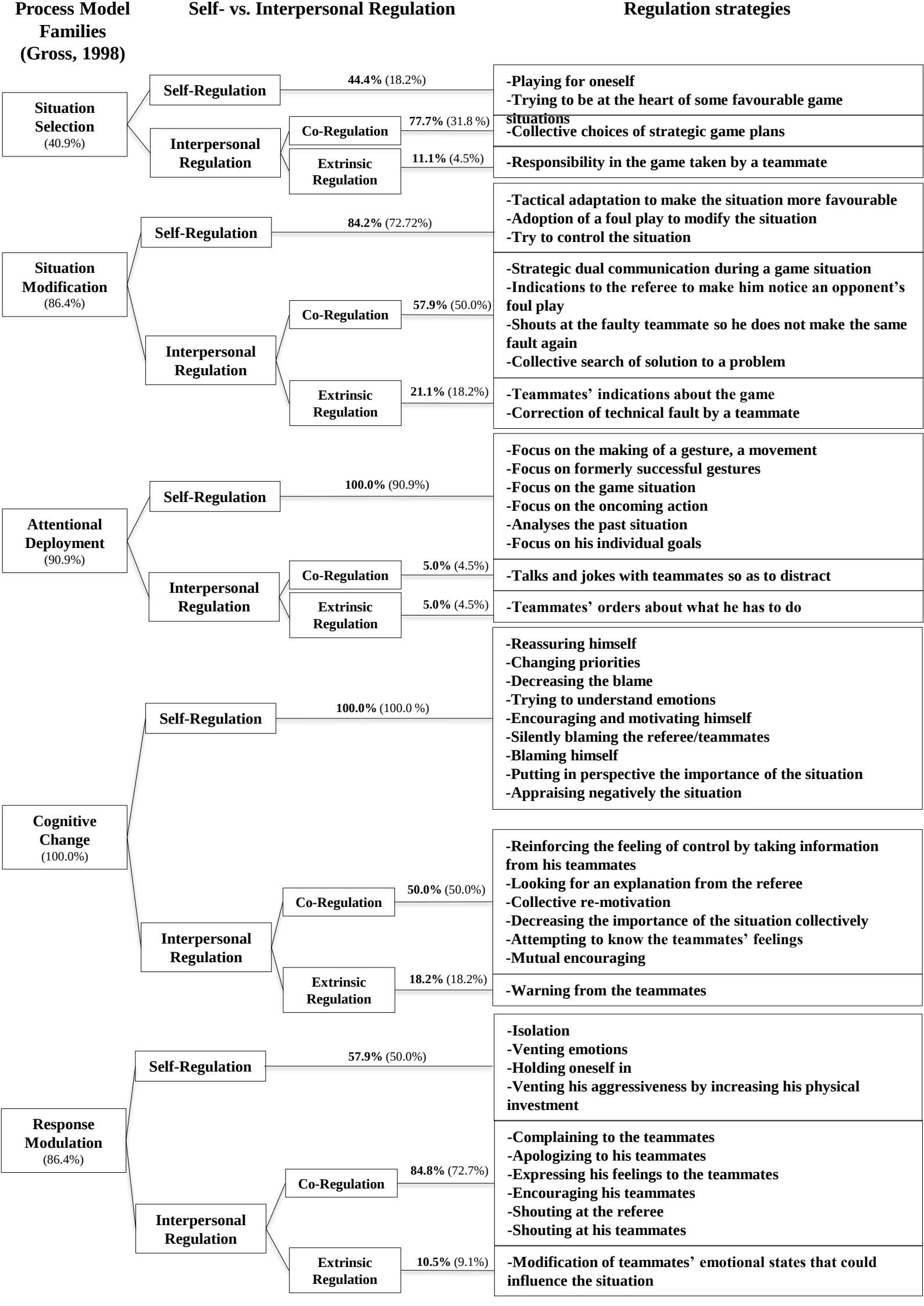
Throughout the content analysis, emerging themes (i.e., Gross [1998] emotion regulation families) and sub-themes (interpersonal regulation vs. self-regulation) were adjusted according to raw data. Following this process, an outside researcher served as a *devil's advocate* by challenging the coding and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

Results

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

As a result, athletes used self- as well as interpersonal emotion regulation strategies 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.


Process Model Families (Gross, 1998)
Self- vs. Interpersonal Regulation
Regulation strategies
Situation Selection (40.9%)
Self-Regulation
44.4% (18.2%)
-Playing for oneself
-Trying to be at the heart of some favourable game situations
Interpersonal Regulation
Co-Regulation
77.7% (31.8 %)
-Collective choices of strategic game plans
Extrinsic Regulation
11.1% (4.5%)
-Responsibility in the game taken by a teammate
Situation Modification (86.4%)
Self-Regulation
84.2% (72.72%)
-Tactical adaptation to make the situation more favourable
-Adoption of a foul play to modify the situation
-Try to control the situation
Interpersonal Regulation
Co-Regulation
57.9% (50.0%)
-Strategic dual communication during a game situation
-Indications to the referee to make him notice an opponent's foul play
-Shouts at the faulty teammate so he does not make the same fault again
-Collective search of solution to a problem
Extrinsic Regulation
21.1% (18.2%)
-Teammates' indications about the game
-Correction of technical fault by a teammate
Attentional Deployment (90.9%)
Self-Regulation
100.0% (90.9%)
-Focus on the making of a gesture, a movement
-Focus on formerly successful gestures
-Focus on the game situation
-Focus on the oncoming action
-Analyses the past situation
-Focus on his individual goals
Interpersonal Regulation
Co-Regulation
5.0% (4.5%)
-Talks and jokes with teammates so as to distract
Extrinsic Regulation
5.0% (4.5%)
-Teammates' orders about what he has to do
Cognitive Change (100.0%)
Self-Regulation
100.0% (100.0 %)
-Reassuring himself
-Changing priorities
-Decreasing the blame
-Trying to understand emotions
-Encouraging and motivating himself
-Silently blaming the referee/teammates
-Blaming himself
-Putting in perspective the importance of the situation
-Appraising negatively the situation
Interpersonal Regulation
Co-Regulation
50.0% (50.0%)
-Reinforcing the feeling of control by taking information from his teammates
-Looking for an explanation from the referee
-Collective re-motivation
-Decreasing the importance of the situation collectively
-Attempting to know the teammates' feelings
-Mutual encouraging
Extrinsic Regulation
18.2% (18.2%)
-Warning from the teammates
Response Modulation (86.4%)
Self-Regulation
57.9% (50.0%)
-Isolation
-Venting emotions
-Holding oneself in
-Venting his aggressiveness by increasing his physical investment
Interpersonal Regulation
Co-Regulation
84.8% (72.7%)
-Complaining to the teammates
-Apologizing to his teammates
-Expressing his feelings to the teammates
-Encouraging his teammates
-Shouting at the referee
-Shouting at his teammates
Extrinsic Regulation
10.5% (9.1%)
-Modification of teammates' emotional states that could influence the situation

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

[Figure 1 near here]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Discussion

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

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

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

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

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

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

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

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

Study 2

Method

Participants

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

Material

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

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

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

Procedures

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

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

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

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

Content Analysis

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

Results

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

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

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

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

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

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

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

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

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

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

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

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

Discussion

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

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

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

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

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

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

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

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

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

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

Final conclusion

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

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

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

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

References

Balk, Y. A., Adriaanse, M. A., de Ridder D. T. D., & Evers, C. (2013). Coping under pressure: employing emotion regulation strategies to enhance performance under pressure. *Journal of Sport & Exercise Psychology*, *35*(4), 408-418.

Bargh, J. A., & Williams, L. E. (2007). The Nonconscious Regulation of Emotion. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 429-445). New York, NY US: Guilford Press.

Batson, C. D., Ahmad, N., & Tsang, J. (2002). Four motives for community involvement. *Journal of Social Issues*, *58*(3), 429-445. doi:10.1111/1540-4560.00269

Campo, M., Laborde, S., & Weckemann, S. (2015). Emotional Intelligence training: implications for performance and health. In A.M. Colombus (Ed.), *Advances in Psychology Research* (pp. 75-92). New York: Nova Publishers.

Campo, M., Mellalieu, S., Ferrand, C., Martinent, G., & Rosnet, E. (2012). Emotions in team contact sports: a systematic review. *Sport Psychologist*, *26*(1), 62-97.

Folkman, S., & Lazarus, R. S. (1988). The relationship between coping and emotion: Implications for theory and research. *Social Science & Medicine*, *26*(3), 309-317. doi:10.1016/0277-9536(88)90395-4

Friesen, A. P., Devonport, T. J., Sellars, C. N., & Lane, A. M. (2013). A narrative account of decision-making and interpersonal emotion regulation using a social-functional approach to emotions. *International Journal of Sport and Exercise Psychology*, *11*(2), 203-214. doi:10.1080/1612197X.2013.773664

Friesen, A. P., Lane, A. M., Devonport, T. J., Sellars, C. N., Stanley, D. N., & Beedie, C. J. (2013). Emotion in sport: considering interpersonal regulation strategies. *International Review of Sport and Exercise Psychology*, *6*(1), 139-154. doi:10.1080/1750984X.2012.742921

Gardner F, Moore Z. (2012). Mindfulness and acceptance models in sport psychology: A

~~decade of basic and applied scientific advancements. *Canadian Psychology, 53*(4), 309-318.~~

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*(3), 271-299. doi:10.1037/1089-2680.2.3.271

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348-362. doi:10.1037/0022-3514.85.2.348

Gross, J. J., & Thompson, R. A. (2007). Emotion Regulation: Conceptual Foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3-24). New York, NY US: Guilford Press.

Hanin, Y. L. (2000). *Emotions in sport,* United States: Human Kinetics,.

Harmon-Jones, E., Amodio, D. M., & Zinner, L. R. (2007). Social psychological methods of emotion elicitation. In J. A. Coan & J. J. B. Allen (Eds.), *Handbook of emotion elicitation and assessment* (pp. 91-105). New York, NY US: Oxford University Press.

Jones, M. V. (2012). Emotion Regulation and Performance. In S. Murphy (Ed.). *The Oxford Handbook of sport and performance psychology* (pp. 154-172). New York, NY: Oxford University Press.

Keltner, D., & Haidt, J. (1999). Social Functions of Emotions at Four Levels of Analysis. *Cognition & Emotion, 13*(5), 505-521. doi:10.1080/026999399379168

Kensinger, E. A., Piguet, O., Krendl, A. C., & Corkin, S. (2005). Memory for Contextual Details: Effects of Emotion and Aging. *Psychology and Aging, 20*(2), 241-250. doi:10.1037/0882-7974.20.2.241

Krane, V., Andersen, M. B., & Strean, W. B. (1997). Issues in qualitative research methods and presentation. *Journal of Sport & Exercise Psychology, 19*, 213-218.

Lazarus, R. S. (1999). *Stress and emotion: A new synthesis.* New York, NY US: Springer Publishing Co.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry* (1st ed.). Newbury Park, CA: Sage.

Martinent, G., Campo, M., & Ferrand, C. (2012). A descriptive study of emotional process during competition: Nature, frequency, direction, duration and co-occurrence of discrete emotions. *Psychology of Sport and Exercise*, *13*(2), 142-151. doi:10.1016/j.psychsport.2011.10.006

Martinent, G., Nicolas, M., Gaudreau, P., & Campo, M. (2013). A cluster analysis of affective states before and during competition. *Journal of Sport & Exercise Psychology*, *35*(6), 600-611.

Mayer, J. D., Caruso, D. R., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence, 27*, 267-298. doi: 10.1016/S0160-2896(99)00016-1

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: a methods sourcebook* (SAGE.). Los Angeles.

Netzer, L., Van Kleef, A., Tamir,M. (2015). Interpersonal instrumental emotion regulation. *Journal of Experimental Social Psychology, 58*, 124-135. doi: 10.1016/j.jesp.2015.01.006

Nicholls, A. R., Jones, C. R., Polman, R. C. J., & Borkoles, E. (2009). Acute sport-related stressors, coping, and emotion among professional rugby union players during training and matches. *Scandinavian Journal of Medicine & Science in Sports*, *19*(1), 113-120.

Niven, K., Totterdell, P., & Holman, D. (2009). A classification of controlled interpersonal affect regulation strategies. *Emotion*, *9*(4), 498-509. doi:10.1037/a0015962

Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods* (3rd revised edition). Thousand Oaks, CA US: SAGE.

Schwarzer, R., & Knoll, N. (2003). Positive coping: Mastering demands and searching

for meaning. In S. J. Lopez & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (p. 393-409). Washington, DC, US: American Psychological Association.

~~Smith, E. R., Seger, C. R., & Mackie, D. M. (2007). Can emotions be truly group level? Evidence regarding four conceptual criteria. Journal of Personality and Social Psychology, 3, 431-446. doi: 10.1037/0022-3514.93.3.431~~

Stanley, D. M., Lane, A. M., Beedie, C. J., Friesen, A. P., & Devonport, T. J. (2012). Emotion regulation strategies used in the hour before running. *International Journal of Sport and Exercise Psychology*, *10*(3), 159-171. doi:10.1080/1612197X.2012.671910

Tamir, M., & Mauss, I. B. (2011). Social cognitive factors in emotion regulation: Implications for well-being. In I. Nykliček, A. Vingerhoets, & M. Zeelenberg (Eds.), *Emotion regulation and well-being* (pp. 31-47). New York, NY US: Springer Science.

Tamminen, K. A., & Crocker, P. R. E. (2013). « I control my own emotions for the sake of the team »: Emotional self-regulation and interpersonal emotion regulation among female high-performance curlers. *Psychology of Sport and Exercise*, *14*(5), 737-747. doi:10.1016/j.psychsport.2013.05.002

Tamminen, K., & Gaudreau, P. (2014). Coping, social support, and emotion regulation in teams. In M. Beauchamps & M. Eys. (Eds). *Group dynamics in sport and exercise psychology: Contemporary themes (2nd ed.)* (pp. 222-239). New York, US: Routledge.

Tenenbaum, G., & Elran, E. (2003). Congruence between actual and retrospective reports of emotions for pre- and postcompetition states. *Journal of Sport & Exercise Psychology*, *25*(3), 323-340.

Uphill, M. A., & Jones, M. V. (2007). Antecedents of Emotions in Elite Athletes: A Cognitive Motivational Relational Theory Perspective. *Research Quarterly for Exercise & Sport*, *78*(2), 79-89.

723 Uphill, M. A., Lane, A. M., & Jones, M. V. (2012). Emotion Regulation Questionnaire
724 for use with athletes. *Psychology of Sport & Exercise*, *13*(6), 761-770.
725 Uphill, M. A, McCarthy, P. J., & Jones, M. V.(2009). Getting a grip on emotion
726 regulation in sport: Conceptual foundations and practical application. In S. Mellalieu
727 & S. Hanton, (Eds.), *Advances in applied sport psychology* (pp.162-194). London:
728 Routledge.
729 Weed, M. (2009). Research quality in sport & exercise psychology: Introduction to the
730 collection. *Psychology of Sport & Exercise*, *10*(5), 489-490.
731 Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion, 13*(5),
732 803-810. doi:10.1037/a0033839