

1 Running Header: ATHLETE LEADERS EMOTIONS

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6 Gender Differences in the Perceived Impact that Athlete Leaders have on Team

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Member Emotional States.

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20

Abstract

21

22 Emotional contagion has been recognized as a variable influencing individual
23 behaviour and team functioning. In particular, leaders within the team have been
24 suggested to have a significant impact on their teammates through the expression of
25 their emotions. As a result, the aim of this study was to provide greater insight into
26 how different athlete leaders impact the emotional state of their team members, and
27 whether gender differences existed in these relationships. Participants were 295
28 university student-athletes (200 male and 95 female) recruited from four universities
29 in the UK. Data were collected in a two-step process. First, a voting/rating procedure
30 was conducted within team to identify dominant task, motivational, social and
31 external leaders. Then, participants completed the emotional contagion subscale of
32 the Measure of Empathetic Tendency to rate the impact different athlete leaders had
33 upon their emotional state. A MANOVA was conducted to explore gender
34 differences in reported emotional susceptibility by leadership role. Subsequent
35 ANOVAs highlighted significant differences between leadership role scores for
36 female participants only. The results suggest that female athletes are more
37 susceptible to emotional influence than male athletes. Furthermore, female athletes
38 experienced a greater variation in the perceived emotional influence of different
39 leadership roles in the team.

40

41 *Keywords: emotional contagion, gender, athlete leadership, leadership roles, peer*
42 *leadership*

43 **Gender Differences in the Perceived Impact that Athlete Leaders have on Team**
44 **Member Emotional States.**

45 **Introduction**

46 Emotional contagion, or the spread of emotions from one individual to
47 another (Hatfield, Cacioppo, & Rapson, 1994), has been increasingly highlighted as
48 a variable influencing individual behaviour and team functioning (Vijayalakshmi &
49 Bhattachararyya, 2012). The transfer of positive emotions among adults in groups is
50 an important phenomenon as it has been associated with beneficial group outcomes
51 such as increased co-operation and decreased conflict (Barsade, 2002).

52 Leaders play a significant role in influencing their followers to achieve
53 positive group outcomes (Mallett & Lara-Bercial, 2016). However, there is
54 surprisingly little literature examining a leader's ability to influence the spread of
55 emotions in groups, especially given the emotional links that form between leaders
56 and their followers (For a review see, Clarkson, Wagstaff, Arthur, & Thelwell,
57 2019).

58 Furthermore, very few studies to date have directly investigated emotional
59 contagion in sport. Van Kleef, Cheshin, Koning, and Wolf (2019) conducted two
60 field studies in competitive sports teams and reported that coaches' expressions of
61 happiness and anger predicted players' experiences of both emotions. With respect to
62 the emotional contagion amongst athletes, Totterdell (2000) reported that
63 individuals' moods were transferred between teammates during a cricket match, with
64 greater mood convergence in those with a high susceptibility to emotional contagion.
65 In this study Totterdell collected mood and performance data from the players of two
66 cricket teams during one match. The results highlighted a link between the happy
67 mood of the team and subjective individual performance. Also, Moll, Jordet and

68 Pepping (2010), in a study of male soccer players' post-penalty emotional
69 expressions, further established that this emotional transfer (emotional contagion)
70 does not only occur between teammates but can also occur between opponents.
71 Building upon these few studies, the current study sought to expand the literature
72 examining emotional contagion in sport by drawing attention to emotional contagion
73 between athlete leaders and their followers.

74 Though the concept of emotional contagion is an area of increasing interest in
75 organisational settings (Barsade, Coutifaris, & Pillemer, 2018), the limited research
76 in this area so far in the context of sport has examined the effect of a leader's ability
77 to influence the spread of emotions from a charismatic and transformational
78 theoretical framework, and crucially has only explored the formal (i.e., the coach)
79 leader rather than leaders within the sports team (e.g., Johnson, 2008; Visser, van
80 Knippenberg, van Kleef, & Wisse, 2013). Attention has also yet to be paid to the
81 underlying affective mechanisms of how an athlete's leadership role (e.g. captain)
82 influences group outcomes in teams. This mechanism is particularly important in
83 sport (e.g., rugby, cricket) where the captain is a key decision maker on the pitch
84 during the game, and seeks to influence a group of team members to achieve a
85 common goal (Cotterill & Cheetham, 2017; Loughhead, Hardy, & Eys, 2006). There
86 is also a general finding within the broader emotional contagion literature that gender
87 differences exist in the degree to which individuals' emotional states are influenced
88 by others (Doherty, Orimoto, Singelis, Hatfield, & Hebb, 1995); though this has not
89 been explored within the context of sport. As a result, this study also explored
90 potential gender differences in perceived emotional contagency as well.

91 In summary, this study represents an investigation of the emotional processes
92 that in part explain the influence of athlete leadership on group outcomes in sports

93 teams. This study further builds upon research seeking to explore the role of athlete
94 leaders and their impact on the team, and by drawing on these insights investigating
95 how to maximise the leaders' influence (Cotterill & Cheetham, 2017; Cotterill &
96 Fransen, 2016). As a result, the aims of the current study were to: (1) Explore
97 differences in perceived emotional contagion between different leadership roles; (2)
98 to explore potential gender differences in susceptibility to emotional contagion; and
99 (3) to investigate whether different leadership roles had greater emotional influence
100 within gender.

101 **Materials and Method**

102 Ethical approval for the study was gained via the University Ethics
103 Committee at the Institution where the first two authors worked at the time of the
104 study. All of the participants opted to take part in the study by giving their informed
105 consent.

106 **Participants**

107 Participants were recruited from university sports teams across four
108 institutions located in the South of England. In total, 295 university athletes
109 participated in the study (i.e. 200 male and 95 female athletes). The male participants
110 were recruited from three sports: rugby union (n=96), football (n=76), and hockey
111 (n=28). The female participants were recruited from rugby union (n=46), netball
112 (n=35), and hockey (n=14). For further details see table 1.

113 ****Table 1. Here!****

114 **Measures**

115 **Identification of the athlete leaders.** The first step was to identify which
116 athletes were perceived by their teammates as best leaders in each of the four key
117 leadership roles that athletes can occupy. According to Fransen et al. (2014) these

118 leadership roles include the roles of task, motivational, social, and external leader
119 (for further details see table 2). To identify the best leaders, we sought the views of
120 the individual team members, an approach advocated by Fransen et al. (2015) in
121 their leadership study that adopted a social network analysis approach.

122 **Table 2 about here!**

123 To identify the individuals within each specific team that team members felt
124 best fulfilled each of the four specific leadership roles within their team. This was
125 achieved following guidance outlined by Fransen et al. (2015) in the first step of
126 their leadership study. To achieve this end, each player on a team rated each of their
127 teammates with respect to their leadership quality for each specific leadership role.
128 For each leadership role participants were presented with a clear description of the
129 role at hand (as presented in Table 2.), then were asked to rate each teammate with
130 respect to their leadership quality for this role on a 10-point Likert scale, ranging
131 from 0 (*very poor leader*) to 4 (*very good leader*). The names of all of the members
132 of the team were added to the questionnaire prior to participant completion. The
133 likert scale scores by the team members were added together to give a final total for
134 each member of the team rating the leadership ability across the four leadership
135 roles. The individual in the team with the highest score for each role was classified
136 as the designated role leader. Participants did not though rate themselves as leaders.

137 **Perceived Emotional Contagion.** The second step in this study then
138 required each team member to complete the 7-item emotional contagion subscale of
139 the Measure of Empathetic Tendency (MET: Mehrabian & Epstein, 1972) for each
140 of the four assigned athlete leaders in their team. This measure was adopted as some
141 concerns exist regarding the use of the Emotional Contagency Scale (ECS) in terms
142 of its applicability to sport (i.e., the inappropriate nature of some items), and some

143 concerns over factor structure (e.g., Lundqvist, 2006). The MET scale was chosen as
144 the nature of the items were appropriate for substituting the name of each athlete
145 leader within each item. A sample item is “I become nervous if the {leader} becomes
146 nervous”. Responses are measured using a 5-point Likert scale ranging from 1
147 (*strongly disagree*) to 5 (*strongly agree*). The higher the emotional contagion scale
148 score, the more susceptible to emotional contagion the individual is said to be to the
149 athlete leader in question. The names of the specific individuals for each leadership
150 role were included at the start of the second set of questionnaires given to
151 participants. Participants within the team scored the questionnaire separately for each
152 of the four individual athlete leaders. This second set of questionnaires was
153 completed during a second data collection point.

154 **Data Analysis**

155 Data analysis took place in two parts. First, a multivariate analysis of
156 variance (MANOVA) was performed to explore gender differences in emotional
157 susceptibility for four separate types of leader: task, motivation, social and external.
158 A bonferroni adjustment was conducted dividing the original alpha level (0.05) by
159 the number of dependent variables (4) to produce a revised alpha level of 0.0125.

160 The second step in the data analysis process explored the within-gender
161 differences in emotional susceptibility across the four different leadership roles. To
162 achieve this outcome a one-way between groups analysis of variance (ANOVA) was
163 conducted for motivation, task, social and external leadership scores for each gender
164 type.

165 **Results**

166 The results section is split into three specific parts. The first focuses on the
167 impact of athlete leaders on the emotional state of team-members. The second

168 focuses on gender differences in the impact of athlete leader type on athlete
169 emotional state. The third focuses on within gender differences between athlete
170 leadership role.

171 **Impact of athlete leaders on the emotional state of team-members**

172 Table 3 shows that the mean values for emotional contagion within the athlete
173 population as a whole are relatively high for all four athlete leadership roles (task,
174 motivational, external and social). These scores were recorded by participants when
175 considering the impact that the individual role leaders in each team had in relation to
176 emotional contagion. The mean scores for all four leadership roles are between 3.0 –
177 3.2 on a scale of 0-4; which suggests that the athlete leaders within the sports teams
178 in this study do exert a perceived impact upon the emotional state of the rest of the
179 team-members.

180 **Table 3. About here!**

181 **Gender differences in susceptibility to emotional influence**

182 Preliminary assumption testing was conducted to check for normality,
183 linearity, univariate and multivariate outliers, homogeneity of variance-covariance
184 matrices, and multicollinearity, with no serious violations noted. There was a
185 statistically significant difference between males and females on the combined
186 dependent variables ($F(3,295) = 11.07, p < .05$; Wilks' Lambda = .87; $\eta_p^2 = .13$).
187 More specifically, data revealed that female athletes are more susceptible to
188 emotional influence than their male colleagues are. Mean values for both male and
189 female participants across the four leadership roles are presented in Table 4.

190 When the results for the dependent variables were considered separately,
191 using a bonferroni adjusted alpha level of .0125, statistically significant differences
192 were found between male and female scores for motivational leaders ($F(1,293) =$

193 9.33, $p = 0.002$; $\eta_p^2 = .03$); social leaders ($F(1,293) = 6.30, p = 0.01$; $\eta_p^2 = .02$); and
194 external leaders ($F(1,293) = 6.73, p = 0.01$; $\eta_p^2 = .02$). There was no statistically
195 significant difference found for task leaders.

196 **Table 4 about here**

197 **Perceived differences in the degree of emotional influence between leadership** 198 **roles.**

199 The one-way ANOVA for male participants found no significant effect
200 between leader type (Wilks' Lambda = 1.0 $F(1,200) = .28, p = .84$, multivariate $\eta_p^2 =$
201 $<.01$). This suggests that that all leadership roles have a similar influence on male
202 team-members.

203 There were significant differences reported following the one-way ANOVA
204 for female participants [Wilks' Lambda = .735, $F(1-95) = 11.04, p < 0.05$, multivariate
205 $\eta_p^2 = .265$]. This finding suggests that there are differences in the impact that different
206 leadership roles can have upon the emotional state of female team-members.

207 **Discussion**

208 The aims of the current study were to: (1) Explore differences in perceived
209 emotional contagion between different leadership roles; (2) to explore potential
210 gender differences in susceptibility to emotional contagion; and (3) to investigate
211 whether different leadership roles had greater emotional influence within gender.
212 Athletes in the current study reported being susceptible to the emotions of their
213 identified athlete leaders, showcasing the important role that athlete leaders have on
214 the emotions of their teammates.

215 The results in the current study also highlighted significant differences
216 between male and female participants in the perceived emotional contagion for
217 social, motivation, and external leaders. These results suggest that for these three

218 types of athlete leaders, female athletes appeared to have a higher susceptibility to
219 emotional contagion than their male counterparts did. This finding is similar to the
220 few studies that have previously explored gender differences in emotional expression
221 and transfer. There is some existing research that suggests that females can be
222 influenced more emotionally by the behaviour of others (e.g., Sonny-Borgstrom &
223 Svensson, 2008). Indeed, gender differences have been highlighted more broadly in
224 relation to emotional contagion, with women reported to be more susceptible to
225 emotional contagion than men (Doherty et al., 1995). This finding is supported by
226 recent experimental and facial reactivity research in psychology, where gender
227 differences in the expression of emotions during social interactions (*expresser* side)
228 have highlighted a female susceptibility to emotional expressions (Wiggert, Wihelm,
229 Derntl, & Blechert, 2015). It is also interesting to note that women also rate
230 themselves as emotionally more expressive than males (Simon & Narth, 2004).

231 The current study is, to our knowledge, the first to explore how athlete
232 leaders affect the emotional state of team-members, and differences that exist
233 between different leadership roles. The study is also the first to analyze these gender
234 differences in the context of sport, and the first time that the ability of the leader to
235 impact upon the emotions of their followers has been explored in a sporting context.
236 One of the reasons articulated more broadly within the psychology literature
237 regarding this increased contagency for females relates to greater emotional
238 awareness, often referred to as emotional intelligence (Sánchez-Núñez et al., 2008);
239 with women reported to pay more attention to the emotions of others, which in turn
240 increased their emotional susceptibility (Hatfield, Bensman, Thornton, & Rapson,
241 2014). The type of emotional contagion that takes place could also be crucial. It has
242 been suggested that increased susceptibility to negative emotions can have a

243 damaging impact upon individual team members and the team collectively.
244 However, increased susceptibility to positive emotions has been reported to have a
245 positive impact upon cooperativeness, conflict, and perceptions of task performance
246 (Barsade, 2002). Positive emotion contagion has also been linked to enhanced team
247 effectiveness (Vijayalakshmi & Bhattacharyya, 2012). This suggests that future
248 research within the domain of sport should seek to explore emotional contagion in
249 greater detail and seek to explore the impact of different types (e.g., positive and
250 negative) of emotions can have regarding emotional influence.

251 It is also important to note that the current study highlights a link between the
252 susceptibility of individual members to the emotions of the individuals in specific
253 leadership roles. This link might reflect a tendency for female team-members to be
254 influenced more by their leaders compared to male athletes. It could however, also
255 be true that athlete leaders in female sports teams are more emotionally expressive
256 (Tamminen & Bennett, 2017) and better transmitters of emotion, so it is the sender
257 rather than the receiver of the emotion-inducing messages that is the real point of
258 difference. This aspect of the leader-follower relationship was not explored in the
259 current study. Future research though could seek to explore both athlete emotional
260 susceptibility and leader emotional influence ability (Cheng, Yen & Chen, 2012).
261 Especially as there is evidence to suggest that the greater the congruence between a
262 sender's and receiver's affective states, the greater the contagion effect (Clarkson et
263 al., 2019).

264 One limitation of the current study was the imbalance in the number of male
265 versus female participants. It proved to be more difficult to recruit female university
266 sports teams compared with male teams, but these differences could have impacted
267 upon the observed results and outcomes. It could also be argued that this fact also

268 shows the strength of the results, that significant differences were found despite
269 more male participants than female. Also, the current study focused on emotional
270 contagion, but this was only at a global emotional level. It would be interesting to
271 explore differences in positive and negative emotional contagion, but at present there
272 is not a validated tool appropriate for the sporting context that differentiates between
273 different types of emotions.

274 Future research should look to explore the impact of athlete leader emotions
275 at different levels of performance and professional sport status to see if there are
276 differences in the perceived impact of different types of athlete leader on team
277 member emotional state. As the participants in the current study were university
278 students, where there is often a higher turnover of players, it would be worth
279 exploring non student-athlete teams as well. There is also a need to explore whether
280 different athlete leadership roles have the same impact when explored within
281 different cultural contexts, especially as cross-cultural differences in contagion have
282 been highlighted in organizational contexts (Hatfield, Rapson, & Narine, 2018). It
283 would also be interesting to see if gender differences in the impact of athlete leaders
284 on emotional state are repeated in different samples at different levels. Another focus
285 of future research could be to explore objective measures of emotionality and
286 emotional contagion in team members rather than perceived impacts. Especially as
287 there is evidence that suggests that gender stereotypes can bias participant self-
288 reports (Brody & Hall, 2008). Finally, it is important to note that the study draws
289 together emotions and leadership themes as recently advocated by authors including
290 Humphreys, Birch, and Adams (2016).

291

Conclusion

292 The current study builds on a range of previous studies that have highlighted
293 the impacts (both positive and negative) that leaders in teams can have upon
294 teammates. This study though highlighted crucial gender differences in the impact
295 that different types of leaders can have. These findings reinforce the importance of
296 getting the right people in the right leadership positions in the team, and also to
297 ensure that there is the involvement of team members in the selection of relevant
298 team leaders. Finally, the results from this study suggest that emotional contagion is
299 one of the underlying affective mechanisms through which athlete leaders influence
300 the team and team outcomes.

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Table 1.

Demographic data for participants in the study (by sport)

Sport	No of Teams	M _{age}	Age Range (years)	Years playing sport	Years on team
Men					
Rugby Union (n=96)	7	22.17	18-28	11.89	2.10
Football (n=76)	6	19.85	18-25	11.57	1.87
Hockey (n=28)	1	19.90	18-22	7.72	1.91
Women					
Rugby Union (n=46)	3	19.93	18-24	2.10	1.43
Netball (n=35)	2	19.59	18-22	9.50	2.01
Hockey (n=14)	1	19.78	18-23	8.54	1.75

Table 2.

The definition of the four leadership roles, as presented to the participants, based on the research of Fransen et al. (2014).

Leadership role	Definition
Task leader	A task leader is in charge on the field; this person helps the team to focus on our goals and helps in tactical decision-making. Furthermore the task leader gives his/her teammates tactical advice during the game and adjusts them if necessary.
Motivational leader	The motivational leader is the biggest motivator on the field; this person can encourage his/her teammates to go to any extreme; this leader also puts fresh heart into players who are discouraged. In short, this leader steers all the emotions on the field in the right direction in order to perform optimally as a team.
Social leader	The social leader has a leading role besides the field; this person promotes good relations within the team and cares for a good team atmosphere, e.g. in the dressing room, in the cafeteria or on social team activities. Furthermore, this leader helps to deal with conflicts between teammates besides the field. He/She is a good listener and is trusted by his/her teammates.
External leader	The external leader is the link between our team and the people outside; this leader is the representative of our team towards the club management. If communication is needed with media or sponsors, this person will take the lead. This leader will also communicate the guidelines of the club management to the team regarding club activities for sponsoring.

Table 3.

Mean scores across leadership role for all participants (Total, male, and female).

	Total		Male		Female	
	Mean	N	Mean	N	Mean	N
TASK	3.12	295	3.15	200	3.06	95
MOTIVATIONAL	3.24	295	3.19	200	3.34	95
SOCIAL	3.22	295	3.08	200	3.52	95
EXTERNAL	3.04	295	3.08	200	2.95	95

Table 4.

Descriptive statistics for emotional susceptibility for task, motivation, social and external leaders

	GENDER	Mean	Std. Deviation	N
TASK	MALE	3.14	.49	200
	FEMALE	3.09	.44	95
	Total	3.13	.48	295
MOTIVATIONAL	MALE*	3.15	.49	200
	FEMALE*	3.34	.53	95
	Total	3.21	.51	295
SOCIAL	MALE*	3.14	.49	200
	FEMALE*	3.30	.51	95
	Total	3.19	.50	295
EXTERNAL	MALE*	3.12	.52	200
	FEMALE*	2.95	.56	95
	Total	3.07	.51	295

** Indicates dependent variables where significant differences were reported.*

