UNIVERSITY OF AMSTERDAM

UvA-DARE (Digital Academic Repository)

Emotional games: How coaches' emotional expressions shape players' emotions, inferences, and team performance

van Kleef, G.A.; Cheshin, A.; Koning, L.F.; Wolf, S.A.

DOI
10.1016/j.psychsport.2018.11.004

Publication date
2019

Document Version
Final published version

Published in
Psychology of Sport and Exercise

Link to publication

Citation for published version (APA):
van Kleef, G. A., Cheshin, A., Koning, L. F., & Wolf, S. A. (2019). Emotional games: How coaches' emotional expressions shape players' emotions, inferences, and team performance. *Psychology of Sport and Exercise*, *41*, 1-11. https://doi.org/10.1016/j.psychsport.2018.11.004

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: https://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (https://dare.uva.nl)

Download date:09 Mar 2023

Psychology of Sport & Exercise 41 (2019) 1–11

Contents lists available at ScienceDirect

Psychology of Sport & Exercise

journal homepage: www.elsevier.com/locate/psychsport

Emotional games: How coaches' emotional expressions shape players' emotions, inferences, and team performance

Gerben A. van Kleef[a,*], Arik Cheshin[b], Lukas F. Koning[c], Svenja A. Wolf[a]

[a] University of Amsterdam, the Netherlands
[b] University of Haifa, Israel
[c] GoDataDriven, Amsterdam, the Netherlands

ARTICLE INFO

Keywords:
Emotions
Team sports
Coaching
Performance management
EASI theory

ABSTRACT

Objectives: Sports games are inherently emotional situations. Although a plethora of research has investigated how athletes' emotions influence their own performance, scant attention has been paid to how one person's emotional expressions influence others in the sports context. In particular, it remains unclear whether and how sports coaches' emotional expressions influence players. Drawing on emotions as social information (EASI) theory, we examined how coaches' emotional expressions influence players' affect, cognition, and behavior.
Design: We conducted two multi-level, multi-source field studies of sports coaches and players engaged in competitive team sports. Study 1 had a cross-sectional research design, and Study 2 had a cross-lagged design involving three measurement points (before, during, and after the game).
Method: Study 1 was set in the context of baseball/softball, and study 2 in the context of soccer. In both studies, coaches reported on their emotional expressions, players reported on their experienced emotions and inferences regarding team performance, and the team's actual performance was recorded.
Results: Coaches' expressions of happiness and anger predicted (1) players' experiences of happiness and anger, (2) players' inferences about the quality of their performance, and (3) objective team performance outcomes. Regarding team performance, results indicated that coaches' expressions of happiness were conducive to team performance, whereas expressions of anger were not.
Conclusions: The current results provide first-time quantitative evidence for the beneficial effects of coaches' positive emotional expressions on sports performance. The findings support key tenets of EASI theory and have implications for the broader literature on coaching and leadership.

Sports matches are a natural breeding ground for emotions. Besides the obvious emotional significance of winning and losing, athletes and coaches may experience intense positive or negative emotions stemming from dynamics within the team, such as success at jointly executing a tactical plan or failure to effectively coordinate efforts. Although a considerable body of research has illuminated the intricate effects of players' affective experiences on their own performance (e.g., Hanin, 2000; Jones, Meijen, McCarthy, & Sheffield, 2009; Morgan, 1980), the social dynamics and interpersonal effects of emotions in sports are poorly understood (Friesen, Devonport, Sellars, & Lane, 2013a). In particular, little is known about whether and how players are influenced by the emotional expressions of their coaches. In the current research, we aim to contribute to a better understanding of the social dynamics of emotions in sports by investigating the effects of sports coaches' emotional expressions on players' affect, cognition, and behavior.

1. Emotions in sports

The critical role of emotions in shaping sports performance has been acknowledged for quite some time. Initially, this work focused on the effects of (precompetitive) anxiety (e.g., Burton, 1988; Parfitt & Pates, 1999). Meanwhile, however, the focus has broadened to include a wider range of discrete emotions, such as excitement, happiness, and anger (e.g., Rathschlag & Memmert, 2013; Uphill, Groom, & Jones, 2014).

Empirical findings point to the influence of emotions on various aspects of sports performance. For example, studies found that anxiety prolonged response times (Vater, Roca, & Williams, 2015), impaired attention regulation (Englert, Zwermmer, Bertrams, & Oudejans, 2015),

* Corresponding author. University of Amsterdam, Department of Social Psychology, PO Box 15900, 1001 NK, Amsterdam, the Netherlands.
E-mail address: g.a.vankleef@uva.nl (G.A. van Kleef).

https://doi.org/10.1016/j.psychsport.2018.11.004
Received 7 August 2018; Received in revised form 19 October 2018; Accepted 6 November 2018
Available online 07 November 2018
1469-0292/ © 2018 Elsevier Ltd. All rights reserved.

and decreased perceptual-motor performance (i.e., dart throwing; Englert, Zwemmer, Bertrams, & Oudejans, 2015). In contrast, happiness improved power and speed performance (Rathschlag & Memmert, 2013, 2015) and predicted more successful game involvement (i.e., in basketball; Uphill et al., 2014). Anger, finally, increased reaction speed (Zur, Cooke, Woodman, Neil, & Udewitz, 2018) and power performance (Rathschlag & Memmert, 2013), but decreased movement precision and fine motor performance (i.e., fencing attacks; Zur et al., 2018).

So far, research on emotions in sports has focused primarily on the intrapersonal effects of emotions, that is, the effects of a person's emotions on his or her own functioning. Surprisingly little is known about the social dynamics of emotions in sports settings. In particular, it is unclear how sports teams respond to the emotional expressions of their coaches. Anecdotal observations suggest that sports coaches frequently express emotions towards their players, presumably in an attempt to influence them. It seems plausible that such emotional expressions have an impact on players (Tamminen et al., 2016; Vargas-Tonsing, 2009), but it remains unclear whether this is the case, and if so, what the effects look like.

2. An interpersonal approach to emotion

The past two decades have witnessed growing attention to the interpersonal effects of emotions, that is, how one person's emotional expressions influence others (for reviews, see Elfenbein, 2007; Van Kleef, Homan, & Cheshin, 2012). Researchers have increasingly come to acknowledge that emotions do not merely occur *within* individuals, but also *between* individuals. Although emotions can be experienced privately, they are often expressed in one way or another, whether deliberately or inadvertently. Such emotional expressions may be observed by others, who may in turn respond to them. This idea lies at the heart of social-functional approaches to emotion, which posit that emotional expressions help coordinate social interaction by influencing those who observe them (Fischer & Manstead, 2016; Frijda & Mesquita, 1994; Hareli & Rafaeli, 2008; Keltner & Haidt, 1999; Parkinson, 1996; Van Kleef, 2009). Key elements of these approaches are integrated in emotions as social information (EASI) theory (Van Kleef, 2009, 2016), which postulates that emotional expressions can elicit affective, cognitive, and behavioral responses in observers.

First, emotional expressions can elicit affective responses in observers, which may include reciprocal emotional experiences and/or sentiments about the expresser (Van Kleef, 2016). A particularly impactful field of inquiry in this respect pertains to so-called emotional contagion, the process by which people may non-consciously (e.g., through mimicry and afferent feedback) or consciously (e.g., through perspective taking) “catch” the emotions of others (Hatfield, Cacioppo, & Rapson, 1994). A large body of research attests to the existence of such emotional linkage as well as the various processes by which it may come about (Elfenbein, 2014). It stands to reason that sports coaches' emotional expressions can also evoke emotions in players, but this remains to be tested.

Second, a more recent line of inquiry speaks to the effects of emotional expressions on observers' cognition. The theoretical idea underlying this research is that people can derive important information from others' emotional expressions about the situation as well as the expresser by drawing inferences about the source, meaning, and implications of the expresser's emotion (Van Kleef, 2009). Emotions arise in response to individuals' appraisals of a situation (e.g., happiness as the response to goal progress; Frijda, 1986; Lazarus, 1991), and emotional expressions therefore provide insight into people's appraisal processes. Through a process of reverse appraisal, observers may thus derive useful information about how the expresser evaluates the situation (de Melo, Carnevale, & Gratch, 2011; Hareli & Hess, 2010; Van Kleef, 2009). It seems plausible that emotional expressions by sports coaches, as important reference points for athletes (Høigaard, De Cuyper, Fransen, Boen, & Peters, 2015), can also elicit such reverse appraisal processes in players, but evidence is lacking.

Third, emotional expressions have the capacity to influence observers' behavior. Social-functional approaches to emotions maintain that a critical function of emotional expressions is to regulate other people's behavior (Fischer & Manstead, 2016; Keltner & Haidt, 1999; Van Kleef, 2009). EASI theory posits that emotional expressions contribute to such interpersonal behavior regulation by eliciting affective reactions (e.g., emotional contagion) and/or inferential processes (e.g., reverse appraisal) in observers (Van Kleef, 2016). The idea that emotional expressions can thus influence players' behavior is obviously of great relevance to sports coaching, but this possibility has so far not been examined.

Although the above theoretical notions have not been the subject of systematic empirical investigation in sports settings, research in other areas provides support for the basic ideas. Indeed, the notion that emotional expressions can influence observers has been established in research on close relationships (Anderson, Keltner, & John, 2003), group decision making (Barsade, 2002; Bartel & Saavedra, 2000; Heerdink, Van Kleef, Homan, & Fischer, 2013), customer service (Cheshin, Amit, & Van Kleef, 2018; Grandey, 2003), conflict and negotiation (Friedman et al., 2004; Van Kleef, De Dreu, & Manstead, 2004), persuasion (Calanchini, Moons, & Mackie, 2016; Van Kleef, Van den Berg, & Heerdink, 2015), and leadership (Bono & Ilies, 2006; Sy, Côté, & Saavedra, 2005; Van Kleef et al., 2009). This fast-growing body of research shows that emotional expressions can have pervasive effects on observers' emotions, cognitions, and behaviors (for a comprehensive review, see Van Kleef, 2016). It stands to reason, then, that the emotional expressions of a coach can influence how athletes feel, think, and perform.

3. The interpersonal effects of emotional expressions in sports

Sports settings provide an interesting real-life context within which the interpersonal effects of emotional expressions can be examined and linked to relevant outcomes, such as team performance in an actual game. Indeed, there is increasing interest in nonverbal behaviors and their consequences in the context of sports (e.g., Moesch, Kenttä, Bäckström, & Mattsson, 2015a; Moesch, Kenttä, & Mattsson, 2015b), and growing awareness of the social effects of emotional expressions in particular (Friesen, Lane et al., 2013b; Wagstaff, Fletcher, & Hanton, 2012).

The idea that emotional expressions can shape athletes' affect, cognition, and behavior is also supported by empirical evidence. First, some studies indicate that emotions can be transferred and become shared among teammates (Tamminen & Crocker, 2013; Totterdell, 2000; Wolf, Harenberg, Tamminen, & Schmitz, 2018). Second, players' nonverbal (and in some cases emotional) expressions have been found to predict observers' inferences regarding aspects of the match (e.g., current score, Furley & Schweizer, 2014a, 2014b; opponent performance, Buscombe, Greenlees, Holder, Thelwell, & Rimmer, 2006; game strategy, Cheshin, Heerdink, Kossakowski, & Van Kleef, 2016), their outcome expectancies (e.g., winning confidence, Buscombe et al., 2006, Furley & Schweizer, 2014a; collective efficacy, Fransen et al., 2012), and attributes of others (e.g., extent and motives of emotion regulation, Kalokerinos, Greenaway, Pedder, & Margetts, 2014; affective states and behavioral intentions, Friesen, Davonport et al., 2013a; team values, Tamminen et al., 2016). Third, athletes' emotional expressions have been linked with collaborative behavior (i.e., communal coping; Tamminen et al., 2016) as well as team performance (i.e., winning a penalty shootout; Moll, Jordet, & Pepping, 2010).

These studies provide preliminary evidence that emotional expressions can shape affective (emotional experiences), cognitive (inferential processes), and behavioral (performance) responses in sports settings. However, prior work has focused predominantly on emotional processes between players, paying comparatively little attention to the dynamics that may be instigated by coaches' emotional expressions. We

complement the emerging insights regarding emotional dynamics between athletes by investigating the effects of coaches' emotional expressions on players.

4. Coaches as influencing agents

Coaches are important figures in a sports environment, and their influence on athletes is substantial (Allan, Turnnidge, Vierimaa, Davis, & Côté, 2016; Høigaard et al., 2015). Coaches may impact athletes' motivation (De Backer, Boen, De Cuyper, Høigaard, & Vande Broek, 2015; Smith et al., 2016), team ties (De Backer et al., 2015), self-efficacy (Saville & Bray, 2016; Vargas-Tonsing, 2009), and emotions (Vargas-Tonsing, 2009). To regulate players' psychological states and performance prior to and during competitions, coaches rely strongly on verbal communication in the form of game directions, information provision, verbal encouragement (Trudel, Côté, & Bernard, 1996), and targeted (pre-game or half-time) speeches (e.g., Breakey, Jones, Cunningham, & Holt, 2009; Vargas-Tonsing, 2009). Coaches appear to rely relatively less on gestures (Mouchet, Harvey, & Light, 2014), despite growing insight that nonverbal displays, including emotional expressions, are powerful means to influence athletes (Allan et al., 2016; Wagstaff et al., 2012).

Indeed, there is emerging empirical evidence that coaches' nonverbal behaviors can influence players. Coaches' nonverbal behavior is an important source of athletes' confidence and efficacy beliefs (e.g., Buning & Thompson, 2015; Fransen, Vanbeselaere, De Cuyper, Vande Broek, & Boen, 2014; Høigaard et al., 2015; Saville & Bray, 2016) as well as their motivation (Buning & Thompson, 2015). Moreover, research found that coaches' inspirational (vs. instructional) speeches increased players' feelings of dominance and inspiration to perform (Gonzalez, Metzler, & Newton, 2011). Furthermore, players reported greater motivation when their coach expressed genuine activating affective states (i.e., intenseness) in his pre-game and intermission speeches and greater calmness when he displayed low activation, positive states (i.e., calmness, confidence), indicating affective transfer (Breakey et al., 2009). Finally, Stebbings, Taylor, and Spray (2016) found that coaches' greater positive affect at the beginning of a training session predicted greater positive affect in their athletes at the end of the session, whereas more negative coach affect predicted more negative athlete affect. Even though these studies do not speak to the effects of discrete emotional expressions (e.g., of happiness or anger), they do indicate that coaches' nonverbal behavior can have an appreciable impact on players.

Coaches and athletes are connected in an authority figure–subordinate relationship (Stebbings et al., 2016), and it is well established that the emotional expressions of powerful individuals have greater sway than the emotional expressions of less powerful individuals (Anderson et al., 2003; Keltner, Van Kleef, Chen, & Kraus, 2008). Especially in interactive team sports, where objective functioning and performance are often ambiguous, coaches' (emotional) reactions and the evaluations implied therein (Van Kleef, 2009) may be especially influential reference points for athletes (Høigaard et al., 2015; Saville & Bray, 2016). However, the effects of coaches' specific emotional expressions have not yet been systematically examined, and hence it remains unclear whether and how coaches' emotional expressions influence players and their performance.

5. The current research and hypotheses

The objective of the current research is to illuminate the effects of coaches' emotional expressions on players' affect, cognition, and behavior. We focus our investigation on two emotions that are prevalent in sports settings, namely happiness and anger. Happiness arises when people feel that they are making good progress towards the realization of their goals, whereas anger arises when people feel that their goals are being frustrated (Frijda, 1986; Lazarus, 1991). Given their intrinsic links with goal progress and success versus failure (Gaddis, Connelly, & Mumford, 2004), happiness and anger are particularly relevant in the context of sports, where success or failure in the attainment of goals tends to be highly salient. Both happiness and anger are high-arousal emotions, with happiness being considered a positive high-arousal emotion and anger a negative high-arousal emotion (Russell, 1980). As such, both happiness and anger expressions are particularly likely to instigate interpersonal effects (Barsade, 2002; Bartel & Saavedra, 2000). Moreover, anger and happiness are the most frequently investigated emotions in other social and organizational domains (see our review above), and a focus on anger and happiness therefore allows for comparisons and integration of the current findings into the broader literature.

5.1. Effects of coaches' emotional expressions on players' emotional experience

EASI theory posits that emotional expressions can elicit affective reactions in observers (Van Kleef, 2009). Indeed, as noted above, a long tradition of research has documented that emotional expressions can be "contagious" in that they tend to evoke mutual emotional experiences in others (e.g., Barsade, 2002; Cheshin, Rafaeli, & Bos, 2011; Elfenbein, 2014; Hatfield et al., 1994). Among many other settings, such effects have been demonstrated in interactions between leaders and followers (Bono & Ilies, 2006; Sy et al., 2005; Van Kleef et al., 2009) that bear conceptual resemblance to interactions between coaches and players (Smoll & Smith, 1989; Yukl, 2010). Furthermore, first evidence (Breakey et al., 2009; Stebbings et al., 2016; Tamminen et al., 2016) indicates that similar affective processes may occur in sports. Based on these arguments and findings, we propose:

Hypothesis 1. Coaches' emotional expressions predict players' emotional experiences, such that expressions of happiness by the coach are associated with feelings of happiness by the players (H1a), and expressions of anger by the coach are associated with feelings of anger by the players (H1b).

5.2. Effects of coaches' emotional expressions on players' inferences regarding the quality of their performance

EASI theory stipulates that emotional expressions can trigger inferential processes in observers (Van Kleef, 2009). As noted above, emotional expressions provide insight into the expresser's appraisals, which may be used by observers to derive information about how the expresser evaluates the situation (de Melo et al., 2011; Van Kleef, 2009). In a sports context, emotional expressions of a coach may thus reveal how he or she evaluates the performance of his or her team (Høigaard et al., 2015; Saville & Bray, 2016). Specifically, we predict:

Hypothesis 2. Coaches' emotional expressions predict players' inferences regarding the quality of their performance, such that expressions of happiness by the coach are associated with inferences of good performance (H2a), whereas expressions of anger by the coach are associated with inferences of poor performance (H2b).

5.3. Effects of coaches' emotional expressions on team performance

EASI theory posits that emotional expressions can influence observers' behavior by eliciting affective and/or inferential processes in them (Van Kleef, 2009). Our interest here is in the effects of coaches' emotional expressions on team performance. As laid out in EASI theory, in team performance settings expressions of happiness versus anger can have positive as well as negative consequences, depending on how the expressions are processed and construed by observers (Van Kleef, 2016). On the one hand, expressions of happiness may have beneficial effects on team performance because they help instill positive emotions

in team members that are conducive to within-team cooperation (Barsade, 2002; Sy et al., 2005). On the other hand, expressions of anger may enhance team performance because they signal unsatisfactory performance (Van Kleef et al., 2009) and a need for behavioral adjustment (Cacioppo & Gardner, 1999), thereby potentially engendering greater motivation and effort (Van Doorn, Van Kleef, & Van der Pligt, 2014; Van Kleef, Homan, Beersma, & Van Knippenberg, 2010). In light of these conflicting possibilities, we examined the effects of coaches' emotional expressions on team performance exploratively.

6. Study 1

Study 1 was a cross-sectional study among baseball and softball coaches and players. Coaches retrospectively reported after the game which emotions they had expressed during the game, and players retrospectively reported on their emotional experiences and inferences during the game.

6.1. Method

Participants and recruitment. Participants were Dutch baseball and softball players and their coaches. We used the website of the Royal Dutch Baseball and Softball Organization (www.knbsb.nl) to locate regular in-season games in the higher recreational leagues (just below the professional league), which were played within a travelable distance from our university. Based on common recommendations for multi-level analysis (Kreft & De Leeuw, 1998), we aimed to get data from 30 teams. Prior to each game, we approached the head coaches of both teams to request their participation, in return for which the coach and all participating players would receive a lottery ticket that would give them a chance to win prizes ranging from 2 to 400 euros (approximately 2.30–460 USD). If the coach agreed to participate, we approached coaches and players again immediately after the game and asked them to complete a brief questionnaire. In this process, we only approached players who had recorded on-field playing time during the game. We offered coaches to send them an anonymized report of the study findings in case they were interested.

Ultimately, we managed to collect data from 30 teams involving a total of 268 players and 29 coaches (one coach returned an empty questionnaire). Of the players, 61.2% (164 athletes) were men and 34.6% (103 athletes) were women (one athlete did not disclose gender information). The players' mean age was 27.64 years (SD = 10.29) with an average team-tenure of 4.18 years (SD = 5.03). Of the coaches, 86% (25 individuals) were men and 14% (4 individuals) were women. Their mean age was 48.03 years (SD = 10.26), and they had been coaching the current team for an average of 5.72 years (SD = 10.46).

Procedure and materials. Immediately after each game the participating coaches and players provided informed consent and thereafter completed paper-and-pencil questionnaires, while we recorded objective outcome data. In the questionnaires, the focal emotion terms measuring anger and happiness were embedded in a longer list of emotions to obscure the focus of the research.

Coaches. Coaches indicated to what extent they had expressed various emotions during the game. Happiness and anger were measured with two adjectives each, *happiness* and *enthusiasm* (r = 0.85; M = 5.04, SD = 2.10) and *anger* and *frustration* (r = 0.85; M = 2.46, SD = 2.02), which were rated on 7-point Likert-type scales (1 = *not at all*, 7 = *very strongly*).

Players. We obtained four sets of data from the players. First, players indicated the extent to which they had experienced various emotions during the game. The focal emotions of happiness (r = 0.77; M = 4.45, SD = 1.89) and anger (r = 0.82; M = 2.41, SD = 1.73) were measured with the same adjectives as in the coaches' questionnaire, using the same rating scales. Second, we measured players' inferences regarding the coach's assessment of the team's performance by two items, “How do you think your coach found the performance of the team in this game?” (1 = *very bad*, 7 = *very good*) and “Do you think the coach is satisfied with how the game unfolded?” (1 = *definitely not*, 7 = *definitely*; r = 0.82; M = 4.56, SD = 1.67). Third, as a proxy of individual performance, players reported how many errors they had made during the game (M = 0.41, SD = 0.78). Fourth, to examine whether players had indeed perceived the emotional expressions coaches had reported, we asked players which emotions they thought the coach had expressed during the game, using the same scales for happiness (r = 0.81; M = 4.36, SD = 1.97) and anger (r = 0.78; M = 2.40, SD = 1.70) as described above.

Team performance. Team performance was operationalized as the difference between the number of points scored and the number of points conceded (M = 0.29, SD = 9.26), so that higher positive scores indicate a greater win and higher negative scores indicate a greater loss.

At the end of the study, coaches and players provided demographic information, were thanked for their participation, and received a lottery ticket.

6.2. Results

6.2.1. Analytical strategy and initial data treatment

Our interest was in examining the effects of coaches' emotional expressions on players' responses (player level) and team performance (team level). Given the nested structure of the data (players nested within teams), we analyzed outcome variables at the player level (experienced emotions, inferences regarding team performance, and errors made) using multi-level modeling, specifying coaches' emotional expressions as fixed predictors at level 2 and players' individual responses as outcomes at level 1 (Raudenbush & Bryk, 2002). We analyzed associations between coaches' emotional expressions and team performance (which are both level-2 variables) using regular OLS regression.

In our analyses involving outcome variables at the player level, we controlled for team performance to account for the fact that the outcome of the game (as a shared environmental stimulus; Totterdell, 2000) may have acted as an underlying influence on coaches' emotional expressions as well as players' (retrospective) responses.[1] We treated missing values (which were infrequent) as system missing; accordingly, degrees of freedom differ somewhat between analyses.

Before proceeding with our hypotheses tests, we examined whether players had indeed perceived the emotional expressions that their coaches had reported. We tested this by correlating coaches' self-reported expressions of happiness and anger with players' perceptions of their coaches' expressions of happiness and anger. We found that stronger expressions of happiness as reported by the coaches were associated with stronger perceptions of coaches' expressions of happiness (r = 0.56, p < .001) and weaker perceptions of coaches' expressions of anger (r = −0.47, p < .001) as reported by the players. Conversely, stronger expressions of anger as reported by the coaches coincided with stronger perceptions of expressed anger (r = 0.47, p < .001) and weaker perceptions of expressed happiness (r = −0.51, p < .001) as reported by the players. Correlations of 0.50 are considered “large” by Cohen (1988). Thus we conclude that there were sufficiently sizable associations between coaches' expressed emotions and players' perceptions of these emotions to proceed with our hypotheses testing.[2]

[1] We also conducted the analyses without controlling for team performance. These analyses yielded similar (typically somewhat stronger) effects. Details are available upon request.

[2] To further substantiate this conclusion, we reran the analyses reported below using players' perceptions of their coaches' emotional expressions as the predictor. These analyses generally yielded similar patterns, which are available upon request. We favor the analyses reported here because they involve data from different sources (i.e., coaches' self-reported emotional expressions predicting players' self-reported emotions and inferences), thus counteracting mono-source bias.

6.2.2. Hypotheses testing

H1: Coaches' emotional expressions and players' emotional experiences. Hypothesis 1a predicted a positive association between coaches' expressed happiness and players' experienced happiness. We tested this hypothesis using multi-level analysis, while controlling for team performance. This analysis revealed a significant positive relationship between team performance and players' experienced happiness, $B = 0.08$ ($SE = 0.02$), $t(26.72) = 3.64$, $p = .001$ (95% CI [0.03, 0.12]). More importantly, and in line with Hypothesis 1a, there was a significant positive association between coaches' expressed happiness and players' experienced happiness, $B = 0.22$ ($SE = 0.11$), $t(26.18) = 2.09$, $p = .046$ (95% CI [0.004, 0.44]).

Hypothesis 1b predicted a positive association between coaches' expressed anger and players' experienced anger. Multi-level analysis revealed a significant negative association between team performance and players' experienced anger, $B = -0.06$ ($SE = 0.02$), $t(23.62) = -3.66$, $p = .001$ (95% CI [-0.09, −0.25]). We also found a positive association between coaches' expressed anger and players' experienced anger consistent with Hypothesis 1b, but this effect did not reach statistical significance, $B = 0.12$ ($SE = 0.08$), $t(26.76) = 1.66$, $p = .108$ (95% CI [-0.03, 0.31]).

H2: Coaches' emotional expressions and players' performance inferences. Hypothesis 2a predicted a positive association between coaches' expressions of happiness and players' inferences regarding the quality of the team's performance. We tested this hypothesis using multilevel analysis, again controlling for team performance. The analysis revealed a significant positive association between actual team performance and players' performance inferences, $B = 0.07$ ($SE = 0.02$), $t(28.09) = 4.35$, $p < .001$ (95% CI [0.04, 0.12]). More importantly, and in line with Hypothesis 2a, there was a significant positive association between coaches' expressed happiness and players' performance inferences, $B = 0.32$ ($SE = 0.09$), $t(25.98) = 3.75$, $p = .001$ (95% CI [0.144, 0.49]), indicating that the more coaches expressed happiness, the better players thought coaches evaluated their performance.

Hypothesis 2b predicted a negative association between coaches' expressions of anger and players' inferences regarding the quality of the team's performance. Multi-level analysis revealed a negative association between team performance and players' performance inferences, $B = -0.09$ ($SE = 0.02$), $t(27.86) = -5.32$, $p < .001$ (95% CI [-0.06, −0.12]). More importantly, and in line with Hypothesis 2b, the analysis revealed a significant negative association between coaches' expressed anger and players' performance inferences, $B = -0.22$ ($SE = 0.09$), $t(25.70) = -2.47$, $p = .021$ (95% CI [-0.41, −0.04]), indicating that the more coaches expressed anger, the worse players thought coaches evaluated their performance.

6.2.3. Exploratory analyses

To explore possible relationships between coaches' emotional expressions and players' individual performance (i.e., number of errors made), we used the same analytical approach as for the other player-level outcome variables. A multi-level analysis with coaches' expressions of happiness as the predictor and team performance as a control variable revealed no significant effect of team performance, $B < -0.00$ ($SE = 0.01$), $t(20.97) = -0.61$, $p = .549$ (95% CI [-0.02, 0.01]). The analysis did reveal a significant negative association between coaches' expressions of happiness and players' self-reported errors, $B = -0.09$ ($SE = 0.04$), $t(23.68) = -2.42$, $p = .024$ (95% CI [-0.16, −0.01]). A multi-level analysis with coaches' expressions of anger as the predictor and team performance as a control variable similarly revealed no significant effect of team performance, $B = -0.01$ ($SE = 0.01$), $t(20.70) = -0.85$, $p = .406$ (95% CI [-0.02, 0.01]). The analysis did reveal a significant positive association between coaches' expressions of anger and players' self-reported errors, $B = 0.12$ ($SE = 0.03$), $t(30.31) = 3.75$, $p = .001$ (95% CI [0.05, 0.18]). These results indicate that coaches' expressions of happiness are associated with better individual performance than coaches' expressions of anger.

To explore possible associations between coaches' emotional expressions and team performance, we ran a set of regular OLS regression analyses. A regression analysis with coaches' expressed happiness as the predictor and team performance as the outcome revealed a significant positive association, $B = 3.08$ ($SE = 0.77$), $t(26) = 4.00$, $p < .001$ (95% CI [1.49, 4.67]). Conversely, a regression analysis with coaches' expressed anger as the predictor revealed a significant negative association with team performance, $B = -2.53$ ($SE = 0.89$), $t(26) = -2.84$, $p = .009$ (95% CI [-4.36, −0.70]). These results indicate that coaches' expressions of happiness are associated with better team performance than expressions of anger.

Next we explored whether the association between coaches' expressions of happiness and team performance was mediated by players' experienced happiness, as would be suggested by EASI theory. Our test of Hypothesis 1 demonstrated that coaches' expressions of happiness significantly predicted players' experienced happiness. The exploratory analyses above revealed a positive association between coaches' expressions of happiness and team performance. Simultaneously entering coaches' expressed happiness and players' aggregated experienced happiness in a regression analysis predicting team performance yielded a significant effect of players' experienced happiness, $B = 4.65$ ($SE = 1.25$), $t(26) = 3.72$, $p = .001$ (95% CI [2.07, 7.24]), and rendered the previously significant effect of coaches' expressed happiness on team performance non-significant, $B = 0.91$ ($SE = 0.86$), $t(26) = 1.06$, $p = .298$ (95% CI [-0.86, 2.68]). Furthermore, a bootstrapped mediation analysis (PROCESS Model 4, 5000 samples) revealed a significant indirect effect of coaches' expressed happiness on team performance via players' experienced happiness, $B = 2.17$ ($SE = 0.64$), 95% CI [1.07, 3.61]). Similarly, simultaneously entering coaches' expressed anger and players' experienced anger in a regression analysis predicting team performance produced a significant effect of players' experienced anger, $B = -6.16$ ($SE = 1.74$), $t(26) = -3.55$, $p = .002$ (95% CI [-9.74, −2.57]), and rendered the previously significant effect of coaches' expressed anger on team performance non-significant, $B = -0.61$ ($SE = 0.91$), $t(26) = -0.67$, $p = .508$ (95% CI [-2.49, 1.27]). A bootstrapped mediation analysis (PROCESS Model 4, 5000 samples) revealed a significant indirect effect of coaches' expressed anger on team performance via players' experienced anger, $B = -1.91$ ($SE = 0.97$), 95% CI [-4.28, −0.50]).

6.3. Discussion

The results of Study 1 provide initial evidence that the emotional expressions of coaches are associated with players' affect, cognition, and behavior. First, we found that coaches' expressions of happiness predicted players' experienced happiness during the game (supporting Hypothesis 1a). We did not find reliable support for a link between coaches' expressions of anger and players' experiences of anger (not supporting Hypothesis 1b), although the pattern went in the predicted direction.

Second, evidencing that players use their coaches' emotional expressions to draw inferences about the quality of their performance, we found that expressions of happiness by coaches positively predicted players' inferences of team performance quality (supporting Hypothesis 2a), whereas expressions of anger negatively predicted inferences of team performance quality (supporting Hypothesis 2b). The fact that these effects held while controlling for actual team performance renders alternative explanations in terms of score-related third variables (e.g., an unfavorable game standing triggering negative emotions in coaches as well as players) less plausible.

Third, exploratory analyses revealed that coaches' expressions of happiness were associated with fewer individual errors and better team performance, whereas expressions of anger were associated with more errors and worse team performance. Mediation analyses further indicated that the positive association between coaches' expressions of

happiness and team performance was mediated by players' experienced happiness, and that the negative association between coaches' expressions of anger and team performance was mediated by players' experienced anger. These patterns should be interpreted with caution, however, given the possibility of reverse causality (i.e., better performance may have prompted coaches' expressions of happiness, and worse performance may have prompted expressions of anger).

Although Study 1 thus yielded initial evidence for the interpersonal effects of coaches' emotional expressions and provided support for key tenets of EASI theory, a number of limitations merit discussion. First, baseball and softball games involve frequent player substitution, and it was unfeasible to determine whether players had been within close enough proximity of their coaches to perceive their emotional expressions. The observed correlations between coaches' self-reported emotional expressions and players' perceived emotional expressions suggest that players did, on average, have sufficient access to their coach's emotional expressions. Nevertheless, it is conceivable that the strength of the relationships between coaches' emotional expressions and players' emotions, inferences, and performance was reduced by the relatively little visual contact some players may have had with their coach. Second, the cross-sectional and retrospective nature of the current data renders conclusions about the observed exploratory associations between coaches' emotional expressions and individual and team performance unclear. These correlations could reflect effects of coaches' emotions on performance, effects of performance on coaches' emotions, or both. We aimed to address these concerns and replicate our findings in a different sample in Study 2.

7. Study 2

We set out to replicate and extend the findings of Study 1 using a cross-lagged design in which we measured the variables of interest at different points in time. To achieve this, we shifted our attention from baseball and softball to soccer. During soccer matches there is a half-time break, which allowed us to ask questions also in the middle of the game and examine time-lagged effects of coaches' emotional expressions. An additional advantage of the soccer context was that players and coaches convene in the locker room before the game and during half-time, where the coach typically gives a speech to prepare the players for the second half. This ensured that players had close access to the coaches' emotional expressions. Moreover, such speeches may be particularly effective means for coaches to influence players' emotions and cognitions (Smith, Figgins, Jewiss, & Kearney, 2018; Vargas-Tonsing, 2009; Vargas and Short, 2011).

We tested the same hypotheses about the effects of coaches' emotional expressions on players' experienced emotions (Hypothesis 1) and performance inferences (Hypothesis 2) as in Study 1. In addition, based on the suggestive evidence obtained in Study 1, we expected that coaches' expressions of happiness would have a more favorable impact on team performance than coaches' expressions of anger:

Hypothesis 3. Coaches' expressions of happiness are more conducive to team performance than coaches' expressions of anger.

7.1. Method

Study 2 was a field study among soccer players and coaches involving three measurement points. Players and coaches completed short questionnaires just prior to the game (T1) and at the end of the half-time break (T2). We recorded objective team performance at the end of the game (T3). Figure 1 provides a schematic overview of the study design and the relationships we tested.

Participants and recruitment. Participants were Dutch soccer players and their coaches. Soccer teams were approached through contacts with the Royal Dutch Football Organization (www.knvb.nl). We targeted games at the top class as well as higher amateur levels. As in Study 1, we aimed to recruit 30 teams with as many players as possible per team. As soon as we received permission to approach a certain team, we contacted the respective coaches by phone with information about the study and the request to participate in the study. All coaches we approached were genuinely interested in the study and agreed to participate without remuneration. As in Study 1, we only invited head coaches and players who recorded on-field playing time to participate in the study. To thank them for their participation, we offered to send coaches a brief report of the study if they so desired.

Ultimately, we obtained data from 30 teams involving a total of 376 players and their 30 coaches. Of the players, 89.6% (337 athletes) were male and 10.4% (39 athletes) were female. The players' mean age was 21.05 years (SD = 5.50), with an average team-tenure of 2.86 years (SD = 2.74). All of the coaches were male, with a mean age of 41.17 years (SD = 11.67) and an average tenure of 2.72 years as coach of their current team (SD = 3.67).

Procedure and materials. Coaches and players completed paper-and-pencil questionnaires immediately after the coach's pre-game speech (T1) and immediately after the coach's half-time speech (T2). We recorded objective performance after the first half of the game (T2) and after the second half of the game (T3). As in Study 1, the focal emotion measures were embedded in a longer list of emotion items to obscure the focus of the study.

Coaches. At T1, coaches indicated to what extent they had expressed happiness and anger during their pre-game speech, using the same emotion scales as in Study 1 (happiness: r = 0.77, M = 5.30, SD = 1.26; anger: r = 0.67, M = 1.48, SD = 1.00). At T2, coaches reported on the emotions they had expressed during their half-time speech, again using the same scales (happiness: r = 0.75, M = 4.87, SD = 1.64; anger: r = 0.94, M = 1.73, SD = 1.30).

Players. At T1, players reported on the extent to which they experienced happiness (r = 0.77, M = 5.36, SD = 1.17) and anger (r = 0.79, M = 1.78, SD = 1.29) after hearing the coach's pre-game speech, using the same scales as in Study 1. At T2, players reported how much happiness (r = 0.84, M = 4.61, SD = 1.52) and anger (r = 0.74, M = 2.46, SD = 1.59) they experienced after hearing the coach's half-time speech. At T2, players also reported on their inferences regarding the coach's assessment of the team's performance, using the same items as in Study 1 (r = 0.86, M = 4.90, SD = 1.57). (We assessed performance inferences only at T2, because they were not applicable at T1, i.e., before the team had started to play.) Finally, at T3, players provided demographic information and were thanked for their participation. For the sake of questionnaire brevity, we did not include the measure of players' perceptions of their coaches' emotional expressions that was included in Study 1.

Team performance. Similar to Study 1, team performance was operationalized as the number of points scored minus the number of points conceded, so that higher positive scores indicate a higher win and higher negative scores a higher loss. We calculated separate indices for team performance in the first half (M = 0.17, SD = 1.68) and in the second half (M = 0.90, SD = 2.83) to allow testing for possible differential effects of coaches' pre-game and half-time emotional expressions.

Unlike in Study 1, we also recorded the teams' ranking prior to the game in order to control for these differences in our analyses.

7.2. Results

7.2.1. Analytical strategy and initial data treatment

As in Study 1, we analyzed data at the player level (experienced emotions and inferences regarding team performance) using multi-level modeling, specifying coaches' emotional expressions as a fixed factor at level 2 and players' individual responses as outcomes at level 1. In our analyses involving T2 and T3 data, we controlled for team performance to account for the fact that this may have acted as an underlying influence on coaches' emotional expressions as well as players' responses. We examined associations between coaches' emotional expressions and

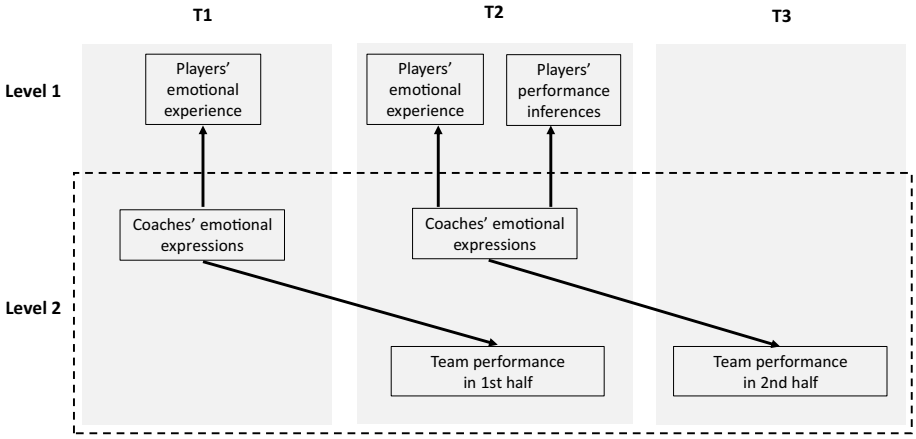

Figure 1. Schematic overview of research design and relationships tested in Study 2.

team performance (both of which are level-2 variables) using regular OLS regression, controlling for pre-game ranking differences between teams. We treated missing values (which were infrequent) as system missing. Accordingly, degrees of freedom differ somewhat between analyses.[3]

7.2.2. Hypotheses testing

H1: Coaches' emotional expressions and players' emotional experiences. Hypothesis 1a predicted a positive association between coaches' expressed happiness and players' experienced happiness. Consistent with this prediction, multilevel analysis revealed a significant positive association between coaches' expressed happiness and players' experienced happiness at T1, $B = 0.14$ ($SE = 0.06$), $t(27.37) = 2.33$, $p = .027$ (95% CI [0.02, 0.26]). A similar analysis at T2 controlling for team performance showed a significant positive effect of team performance, $B = 0.23$ ($SE = 0.09$), $t(29.30) = 2.44$, $p = .021$ (95% CI [0.04, 0.42]). Contrary to Hypothesis 1a, there was no significant relationship between coaches' expressed happiness and players' experienced happiness at T2, although the effect went in the expected direction, $B = 0.14$ ($SE = 0.10$), $t(27.22) = 1.43$, $p = .166$ (95% CI [-0.06, 0.34]). Thus Hypothesis 1a is supported at T1, but not at T2.

Hypothesis 1b predicted a positive association between coaches' expressed anger and players' experienced anger. Contrary to Hypothesis 1b, multi-level analysis revealed no relationship between coaches' expressed anger and players' experienced anger at T1, $B = 0.003$ ($SE = 0.12$), $t(32.03) = 0.02$, $p = .982$ (95% CI [-0.24, 0.25]). Multilevel analysis at T2 controlling for team performance showed a significant negative effect of team performance, $B = -0.21$ ($SE = 0.08$), $t(28.88) = -2.80$, $p = .009$ (95% CI [-0.37, −0.06]). Moreover, consistent with Hypothesis 1b, we observed a significant positive relationship between coaches' expressed anger and players' experienced anger, $B = 0.26$ ($SE = 0.10$), $t(27.97) = 2.62$, $p = .014$ (95% CI [0.06, 0.47]). Thus Hypothesis 1b is supported at T2, but not at T1.

H2: Coaches' emotional expressions and players' performance inferences. Hypothesis 2a predicted a positive association between coaches' expressions of happiness and players' inferences regarding the quality of the team's performance. We tested this hypothesis using the T2 (half-time) data in multi-level analysis controlling for team performance. This revealed no significant effect of team performance, $B = 0.13$ ($SE = 0.12$), $t(35.32) = 1.09$, $p = .281$ (95% CI [-0.11, 0.37]). The analysis did show the predicted positive association between coaches' expressed happiness and players' performance inferences, $B = 0.42$ ($SE = 0.13$), $t(28.76) = 3.22$, $p = .003$ (95% CI [0.15, 0.68]), indicating that the more coaches expressed happiness, the better players thought coaches evaluated their performance – supporting Hypothesis 2a.

Hypothesis 2b predicted a negative relationship between coaches' expressions of anger and players' inferences regarding the quality of the team's performance. Multi-level analysis using T2 data and controlling for team performance revealed no significant effect of team performance, $B = 0.18$ ($SE = 0.12$), $t(36.08) = 1.49$, $p = .145$ (95% CI [-0.07, 0.43]). The analysis did show the predicted negative association between coaches' expressed anger and players' performance inferences, $B = -0.42$ ($SE = 0.17$), $t(28.71) = -2.50$, $p = .018$ (95% CI [-0.77, −0.08]), indicating that the more coaches expressed anger, the worse players thought coaches evaluated their performance – supporting Hypothesis 2b.

H3: Coaches' emotional expressions and team performance. Hypothesis 3 predicted that coaches' expressions of happiness are more conducive to team performance than expressions of anger. We tested this hypothesis using regular OLS regression analyses.

First, a regression analysis involving coaches' expressions of happiness prior to the game (assessed at T1) as a predictor, pre-game ranking difference as a control variable, and team performance in the first half (assessed at T2) as the outcome variable revealed no significant effect of pre-game ranking difference, $B = 0.05$ ($SE = 0.07$), $t(27) = 0.65$, $p = .520$ (95% CI [-0.10, 0.19]). We did observe a positive effect of coaches' expressions of happiness prior to the game on team performance in the first half, $B = 0.51$ ($SE = 0.24$), $t(27) = 2.15$, $p = .041$ (95% CI [0.02, 0.99]). A separate analysis with coaches' expressions of happiness during half time (assessed at T2) as the predictor, pre-game ranking difference as a control variable, and team performance in the second half (assessed at T3) as the outcome yielded a marginally significant effect of pre-game ranking difference, $B = 0.24$ ($SE = 0.11$), $t(27) = 1.98$, $p = .058$ (95% CI [-0.01, 0.49]), but no effect of coaches' expressions of happiness, $B = -0.19$ ($SE = 0.31$), $t(27) = -0.60$, $p = .554$ (95% CI [-0.82, 0.45]). Thus we obtained evidence that coaches' expressions of happiness prior to the game positively predicted team performance, whereas expressions of happiness half-way through the game did not.

Second, a regression analysis with coaches' expressions of anger prior to the game (assessed at T1), pre-game ranking difference as a control variable, and team performance in the first half (assessed at T2) as the outcome revealed no effect of pre-game ranking difference, $B = 0.07$ ($SE = 0.08$), $t(27) = 0.95$, $p = .349$ (95% CI [-0.09, 0.24]), and no effect of coaches' expressions of anger, $B = -0.24$ ($SE = 0.33$), $t(27) = -0.73$, $p = .469$ (95% CI [-0.91, 0.43]). A separate analysis with coaches' expressions of anger during half time (assessed at T2) as a predictor, pre-game ranking difference as a control, and team performance in the second half (assessed at T3) as the outcome also yielded

[3] We also conducted the analyses without controlling for team performance or pre-game ranking differences. These analyses yielded similar (typically somewhat stronger) effects. Details are available upon request.

no effect of pre-game ranking difference, $B = 0.24$ ($SE = 0.12$), $t(27) = 1.94$, $p = .063$ (95% CI [-0.01, 0.49]), and no effect of coaches' expressed anger, $B = 0.02$ ($SE = 0.40$), $t(27) = 0.04$, $p = .969$ (95% CI [-0.80, 0.83]). Thus we obtained no evidence that coaches' expressions of anger predicted team performance.

Given that coaches' expressions of happiness prior to the game (assessed at T1) significantly predicted both players' experienced happiness prior to the game (assessed at T1) and team performance in the first half (assessed at T2), we explored whether players' experienced happiness mediated the effect of coaches' expressed happiness on performance in the first half. Simultaneously entering coaches' expressed happiness and players' aggregated experienced happiness in a regression analysis predicting team performance while controlling for pre-game ranking difference yielded no effect of players' experienced happiness, $B = -0.10$ ($SE = 0.76$), $t(26) = -0.13$, $p = .899$ (95% CI [-1.65, 1.46]), while the effect of coaches' expressed happiness on team performance remained, $B = 0.52$ ($SE = 0.26$), $t(26) = 1.99$, $p = .057$ (95% CI [-0.02, 1.06]). Accordingly, a bootstrapped mediation analysis (PROCESS Model 4, 5000 samples) revealed no indirect effect of coaches' expressed happiness on team performance via players' experienced happiness, $B = -0.01$ ($SE = 0.11$), 95% CI [-0.19, 0.26]).

7.3. Discussion

The results of Study 2 provide additional insight into the hypothesized relationships between coaches' emotional expressions and players' affect, cognition, and behavior. First, we obtained further evidence that coaches' emotional expressions are associated with players' emotional experiences. Study 2 included measurement points immediately after the coaches' pre-game speeches and again after the coaches' half-time speeches, painting a somewhat more complex picture than Study 1. Notably, coaches' expressions of happiness were associated with players' experienced happiness prior to the game, but not at half-time; conversely, coaches' expressions of anger were associated with players' experienced anger at half-time, but not prior to the game. Study 2 thus provided partial support for Hypothesis 1.

Second, we found additional support for the idea that coaches' emotional expressions are associated with players' inferences regarding the quality of the team's performance. In particular, coaches' expressions of happiness during the half-time break were associated with players' inferences of better team performance, whereas coaches' expressions of anger were associated with inferences of worse team performance. Study 2 thus fully supported Hypothesis 2.

Third, we obtained further evidence that coaches' emotional expressions are associated with team performance. Specifically, time-lagged analyses revealed that coaches' expressions of happiness prior to the game predicted better team performance during the first half (while controlling for pre-game ranking differences between teams). Contrary to Study 1, we obtained no evidence that the favorable effects of coaches' expressions of happiness were mediated by players' experienced happiness. Neither coaches' happiness expressions half-way through the game nor coaches' expressions of anger at any time point predicted team performance. Thus we obtained partial support for Hypothesis 3.

We see two possible reasons for why Hypotheses 1 and 3 received only partial support. First, coaches generally expressed rather low levels of anger prior to the game ($M = 1.48$, $SD = 1.00$), and players generally experienced low levels of anger prior to the game ($M = 1.78$, $SD = 1.29$). Restriction of range in T1 anger scores might account for the lack of significant associations between coaches' expressions of anger and players' experienced anger at T1. Second, developments in the game or in the team may have trumped effects of coaches' emotional expressions at T2. Prior to the game coaches' emotion expressions may have stronger potential to exert effects given that at this point there is little competition with other forces. Half-way through the game many dynamics within and between teams are likely to be at play, which may overshadow any effects of coaches' emotional expressions at T2. These factors could account for the absence of significant effects of coaches' expressions of happiness at half-time on players' experienced happiness at that time-point as well as team performance during the second half.

These caveats aside, Study 2 provides additional evidence for the effects of coaches' emotional expressions on players' affect, cognition, and behavior, which are largely consistent with the results observed in Study 1.

8. General discussion

The current findings provide insight into the relationships between sports coaches' emotional expressions and the functioning of their teams. Data from a cross-sectional field study of baseball and softball teams and their coaches (Study 1) and a time-lagged field study of soccer teams and their coaches (Study 2) provide evidence that coaches' emotional expressions are associated with players' affect, cognition, and behavior. First, we obtained partial support for our hypothesis that coaches' expressions of happiness positively predict players' experienced happiness, whereas coaches' expressions of anger positively predict players' experienced anger. Second, we obtained full support for our hypothesis that coaches' expressions of happiness predict players' inferences that they are performing well, whereas coaches' expressions of anger predict inferences of performing badly. Third, exploratory (Study 1) and confirmatory (Study 2) analyses indicated that coaches' expressions of happiness are more conducive to individual and team performance than expressions of anger. Importantly, cross-level effects of coaches' emotional expressions on players' emotions and performance inferences held when controlling for current team performance, rendering alternative explanations in terms of score-related third-variables less plausible.

8.1. Theoretical and practical implications

Building on EASI theory (Van Kleef, 2016) as well as previous insights regarding the importance of emotional expressions (e.g., Friesen, Lane et al., 2013b; Wagstaff et al., 2012) and the pivotal role of the coach (e.g., Allan et al., 2016; Høigaard et al., 2015) in shaping sports performance, the current research provides empirical evidence for links between coaches' discrete emotional expressions and players' emotions, inferences, and performance.

First, results pertaining to players' emotions add to an extensive body of research on affective linkage (for a review, see Elfenbein, 2014). Our finding that coaches' expressions of happiness and anger predict players' experiences of happiness and anger extends previous work on affective linkage in sports teams (Totterdell, 2000; Wolf et al., 2018) by shifting the focus to the role of coaches' discrete emotional expressions. Although our designs do not allow for definitive conclusions regarding directionality and causality, our results are consistent with findings from experimental work in the related fields of team decision making (e.g., Barsade, 2002; Heerdink et al., 2013) and leadership (e.g., Sy et al., 2005; Van Kleef et al., 2009). Our findings suggest a possible explanation for the occurrence of collective emotions in sports teams (e.g., Tamminen et al., 2016; Totterdell, 2000), in that coaches' emotional expressions constitute a shared stimulus for all team members.

Second, the observed associations between coaches' emotional expressions and players' inferences regarding the quality of their performance add to a growing body of work on inferential processes that may be triggered in observers by others' emotional expressions (for a review, see Van Kleef, 2016). To date, most support for such inferential processes stemmed from carefully controlled yet somewhat contrived laboratory studies. The present data indicate that coaches' emotional expressions can serve as sources of information that may help players gauge the quality of their current performance in actual sports games. As such, our findings provide support for a key tenet of Emotions as Social Information (EASI) theory (Van Kleef, 2009) within the real-life

context of competitive sports. Furthermore, the fact that we obtained more robust support for such inferential processes (i.e., full support for Hypothesis 2 across both studies) than for affective linkage between coaches and players (i.e., partial support for Hypothesis 1 in both studies) suggests that there is a stronger cognitive component to the interpersonal effects of emotions than is typically recognized in the literature.

Third, our finding that coaches' expressions of happiness are more conducive to team performance than coaches' expressions of anger contributes to the growing literature on the effects of emotional expressions on performance, in particular within the broader context of leadership and coaching. This literature is inconclusive in that some work suggests that expressions of happiness are conducive to performance because they help instill a positive atmosphere that facilitates coordination and cooperation in teams (Barsade, 2002; Sy et al., 2005), whereas other work suggests that expressions of anger benefit performance by signaling that current functioning is unsatisfactory (Lewis, 2000) and thereby engendering greater motivation (Van Kleef et al., 2010), effort (Sy et al., 2005), and performance (Van Doorn et al., 2014). It is increasingly clear that the intricate effects of emotional expressions on performance are subject to various moderating influences (Van Kleef, 2016), but the current data do suggest that expressions of happiness and enthusiasm by coaches can promote sports performance. In conjunction with previous studies suggesting that coaches' activated (Breakey et al., 2009) and inspirational (Gonzalez et al., 2011) nonverbal behaviors can have motivating effects on players, our findings point to the favorable effects of coaches' expressions of high-activation positive emotions.

A more applied implication of the current findings is that coaches need to be aware of the various ways in which their emotional expressions may influence their players' affect, cognition, and behavior. Successful coaches will be able to monitor their own emotions, understand the effects their emotions have on players, and regulate their emotional expressions accordingly so as to enhance performance. In other words, successful sports coaching requires emotional intelligence (O'Neil, 2011), and in particular, emotion regulation skills (Donoso-Morales, Bloom, & Caron, 2017; Hodgson, Butt, & Maynard, 2017). Besides managing their emotional expressions, successful coaches may engage in other interpersonal emotion regulation strategies (Friesen, Lane et al., 2013b; Niven, Totterdell, & Holman, 2009; Zaki & Williams, 2013) to evoke emotions in players that will help them perform well. Thus far, interpersonal emotion regulation in sports has been investigated mostly at the athlete-to-athlete level (Campo et al., 2017; Palmateer & Tamminen, 2018; Wolf et al., 2018), without considering the role of the coach. Our data highlight the important role of the coach as a manager of players' emotions. To effectively influence players by means of interpersonal emotion regulation, coaches must know which emotions are (individually) conducive to sports performance (Friesen et al., 2018) as well as be able to manage players' emotions during their speeches or through other means, such as playing emotionally evocative music prior to a game (Netzer, Van Kleef, & Tamir, 2015).

8.2. Strengths, limitations, and future directions

We believe the current work has a number of notable strengths. First, we employed different research designs in our two studies, both of which involved actual team performance outcomes. The fact that the key effects emerged both in a cross-sectional study relying on retrospective reports and in a time-lagged study involving in-the-moment measures speaks to the robustness of the findings. Second, the effects emerged in the context of real teams engaged in competition, despite the likely impact of numerous extraneous influences on players' affect, cognition, and behavior in such circumstances. This suggests that coaches' emotional expressions have a meaningful impact on players above and beyond other relevant factors, such as qualitative differences between teams and developments in the game. Third, the effects largely replicated across two different sports settings (baseball/softball and soccer) that involve different means of interaction between coaches and players, which attests to the potential generalizability of the findings.

Nonetheless, the current work also has a number of limitations. First and foremost, the data do not allow for firm causal conclusions. Even though we controlled for obvious third variables such as pre-game ranking and current team performance, it is conceivable that other third variables were at play in the present studies for which we could not control (e.g., the shared emotional history of players and coaches). Concerns about reverse causality are alleviated by the fact that we collected data from multiple timepoints in Study 2, which enabled us to test time-lagged effects of coaches' emotional expressions on team performance. Nevertheless, more research is needed to further establish the internal validity of the effects. Ideally such research would employ experimental methods, although the challenges of such an approach in the context of team sports are significant. In this respect it is encouraging that the current findings show conceptual parallels with experimental work on leadership, particularly when it comes to the effects of coaches' emotional expressions on players' emotions and performance inferences (see Van Kleef et al., 2009).

Another shortcoming of the current studies is that they shed little light on the performance processes that underlie the observed team performance outcomes. Even though Study 1 provided some evidence that coaches' emotional expressions are associated with errors made by individual players, it remains unclear how coaches' emotional expressions are related to individual effort, decision-making, reaction times, pass accuracy, and other process-related performance indicators. Future studies could focus on these and other process measures to gain a more thorough understanding of the ways in which coaches' emotional expressions may contribute to team performance, for instance by incorporating behavioral observation and measures of (collective) efficacy and confidence (Hoigaard et al., 2015; Vargas-Tonsing, 2009).

Furthermore, it is increasingly clear that the interpersonal effects of emotional expressions are subject to moderating influences (Van Kleef, 2016). In particular, EASI theory predicts that inferential processes triggered by others' emotional expressions become relatively more important in shaping (performance) outcomes to the degree that people are more motivated and able to engage in thorough information processing and perceive the emotional expressions as appropriate for the situation, whereas affective processes become relatively more potent to the degree that people's motivation and ability to engage in thorough information processing are reduced and/or they perceive the emotional expressions as inappropriate. This suggests that the effects of coaches' emotional expressions on (team) performance depend on players' information-processing as well as on the perceived appropriateness of the coaches' emotional expressions for the given situation. Indeed, research in the related fields of leadership and group decision making indicates that the effects of emotional expressions on performance outcomes in teams are moderated by individual differences and situational characteristics that impinge on information processing (Heerdink et al., 2013; Van Kleef et al., 2009) and the perceived appropriateness of emotional displays (Koning & Van Kleef, 2015; Van Kleef et al., 2010). Initial qualitative evidence suggests that similar processes may be at play in sports settings (Friesen, Devonport, Sellars, & Lane, 2015). Future research could examine the moderating influences of information processing and perceived appropriateness in greater depth, for instance by considering factors like stress and cognitive load, which may undermine the processing of coaches' emotional expressions (Van Kleef et al., 2015), or social-contextual variables such as culture, which may shape the perceived appropriateness of coaches' emotional expressions (Adam, Shirako, & Maddux, 2010).

In addition, future research could zoom in more closely on the role of the intensity of coaches' emotional expressions. Recent evidence outside the sports domain points to curvilinear effects, with moderately intense emotional expressions of service workers having more favorable consequences for customer satisfaction than weak or intense emotional

expressions (Cheshin et al., 2018). These findings resonate with theoretical arguments that emotional expressions need to cross an "expression threshold" in order to have effects, while staying below a "propriety threshold" so as not be perceived as inappropriate (Geddes & Callister, 2007), because emotional expressions that are perceived as inappropriate tend to evoke negative reactions in observers (Van Kleef et al., 2012). Another possible direction is to compare the effects of coaches' emotional expressions on amateur versus professional sports players. Professional sports players may be more skilled at regulating their own emotions in ways that benefit their performance, thereby reducing the impact of their coaches' emotional expressions. Investigating these and other possibilities promises to further our understanding of the effects of coaches' emotional expressions on players.

9. Conclusion

The current findings provide systematic quantitative evidence for the role of coaches' emotional expressions in shaping players' affect, cognition, and behavior. Data from two studies involving different sports and different research designs converge to show that coaches' emotional expressions are associated with players' emotional experiences, inferences about the quality of their performance, and actual team performance. These findings inform a preliminary understanding of the team dynamics that may be triggered by sports coaches' emotional expressions. In addition to their roles as personnel managers and tacticians, coaches face the important task of managing their own and their players' emotions to enhance performance.

Author note

We thank Mara Goedegebuure and Annemiek Pater for their invaluable assistance with data collection.

Acknowledgement

This research was funded by a grant from the Netherlands Organisation for Scientific Research (NWO) awarded to the first author (grant number 452-09-010).

References

Adam, H., Shirako, A., & Maddux, W. W. (2010). Cultural variance in the interpersonal effects of anger in negotiations. *Psychological Science, 21*, 882–889.
Allan, V., Turnnidge, J., Vierimaa, M., Davis, P., & Côté, J. (2016). Development of the assessment of coach emotions systematic observation instrument: A tool to evaluate coaches' emotions in the youth sport context. *International Journal of Sports Science & Coaching, 11*, 859–871.
Anderson, C., Keltner, D., & John, O. P. (2003). Emotional convergence between people over time. *Journal of Personality and Social Psychology, 84*, 1054–1068.
Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly, 47*, 644–675.
Bartel, C. A., & Saavedra, R. (2000). The collective construction of work group moods. *Administrative Science Quarterly, 45*, 197–231.
Bono, J. E., & Ilies, R. (2006). Charisma, positive emotions, and mood contagion. *The Leadership Quarterly, 17*, 317–334.
Breakey, C., Jones, M., Cunningham, C.-T., & Holt, N. (2009). Female athletes' perceptions of a coach's speeches. *International Journal of Sports Science & Coaching, 4*, 489–504.
Buning, M. M., & Thompson, M. A. (2015). Coaching behaviors and athlete motivation: Female softball athletes' perspectives. *Sport Science Review, 24*, 345–370.
Burton, D. (1988). Do anxious swimmers swim slower? Reexamining the elusive anxiety-performance relationship. *Journal of Sport & Exercise Psychology, 10*, 45–61.
Buscombe, R., Greenlees, I., Holder, T., Thelwell, R., & Rimmer, M. (2006). Expectancy effects in tennis: The impact of opponents' pre-match non-verbal behaviour on male tennis players. *Journal of Sports Sciences, 24*, 1265–1272.
Cacioppo, J. T., & Gardner, W. L. (1999). Emotion. *Annual Review of Psychology, 50*, 191–214.
Calanchini, J., Moons, W. G., & Mackie, D. M. (2016). Angry expressions induce extensive processing of persuasive appeals. *Journal of Experimental Social Psychology, 64*, 88–98.
Campo, M., Sanchez, X., Ferrand, C., Rosnet, E., Friesen, A., & Lane, A. M. (2017). Interpersonal emotion regulation in team sport: Mechanisms and reasons to regulate teammates' emotions examined. *International Journal of Sport and Exercise Psychology, 15*, 379–394.
Cheshin, A., Amit, A., & van Kleef, G. A. (2018). The interpersonal effects of emotion intensity in customer service: Perceived appropriateness and authenticity of attendants' emotional displays shape customer trust and satisfaction. *Organizational Behavior and Human Decision Processes, 144*, 97–111.
Cheshin, A., Heerdink, M. W., Kossakowski, J. J., & Van Kleef, G. A. (2016). Pitching emotions: The interpersonal effects of emotions in professional baseball. *Frontiers in Psychology, 7*, 178.
Cheshin, A., Rafaeli, A., & Bos, N. (2011). Anger and happiness in virtual teams: Emotional influences of text and behavior on others' affect in the absence of non-verbal cues. *Organizational Behavior and Human Decision Processes, 116*, 2–16.
Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
De Backer, M., Boen, F., De Cuyper, B., Høigaard, R., & Vande Broek, G. (2015). A team fares well with a fair coach: Predictors of social loafing in interactive female sport teams. *Scandinavian Journal of Medicine & Science in Sports, 25*, 897–908.
Donoso-Morales, D., Bloom, G. A., & Caron, J. G. (2017). Creating and sustaining a culture of excellence: Insights from accomplished university team-sport coaches. *Research Quarterly for Exercise & Sport, 88*, 503–512.
Elfenbein, H. A. (2007). Emotion in organizations: A review and theoretical integration. *The Academy of Management Annals, 1*, 315–386.
Elfenbein, H. A. (2014). The many faces of emotional contagion: An affective process theory of affective linkage. *Organizational Psychology Review, 4*, 326–362.
Englert, C., Zwemmer, K., Bertrams, A., & Oudejans, R. R. D. (2015). Ego depletion and attention regulation under pressure: Is a temporary loss of self-control strength indeed related to impaired attention regulation? *Journal of Sport & Exercise Psychology, 37*, 127–137.
Fischer, A. H., & Manstead, A. S. R. (2016). Social functions of emotion and emotion regulation. In M. Lewis, J. Haviland, & L. Feldman Barrett (Eds.). *Handbook of emotion* (pp. 456–469). (4th ed.). New York: Guilford.
Fransen, K., Vanbeselaere, N., De Cuyper, B., Vande Broek, G., & Boen, F. (2014). Perceived sources of team confidence in soccer and basketball. *Medicine & Science in Sports & Exercise, 47*, 1470–1484.
Fransen, K., Vanbeselaere, N., Exadaktylos, V., Vande Broek, G., De Cuyper, B., Berckmans, D., ... Boen, F. (2012). "Yes, we can!": Perceptions of collective efficacy sources in volleyball. *Journal of Sports Sciences, 30*, 641–649.
Friedman, R., Anderson, C., Brett, J., Olekalns, M., Goates, N., & Lisco, C. C. (2004). The positive and negative effects of anger on dispute resolution: Evidence from electronically mediated disputes. *Journal of Applied Psychology, 89*, 369–376.
Friesen, A. P., Devonport, T. J., Sellars, C. N., & Lane, A. M. (2013a). 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*, 203–214.
Friesen, A. P., Devonport, T. J., Sellars, C. N., & Lane, A. M. (2015). Examining interpersonal emotion regulation strategies and moderating factors in ice hockey. *Athletic Insight, 7*, 143–160.
Friesen, A. P., Lane, A. M., Devonport, T. J., Sellars, C. N., Stanley, D. N., & Beedie, C. J. (2013b). Emotion in sport: Considering interpersonal regulation strategies. *International Review of Sport and Exercise Psychology, 6*, 139–154.
Friesen, A. P., Lane, A., Galloway, S., Stanley, D., Nevill, A., & Ruiz, M. C. (2018). Coach–athlete perceived congruence between actual and desired emotions in karate competition and training. *Journal of Applied Sport Psychology, 30*, 288–299.
Frijda, N. H. (1986). *The emotions.* Cambridge, UK: Cambridge University Press.
Frijda, N. H., & Mesquita, B. (1994). The social roles and functions of emotions. In S. Kitayama, & H. S. Markus (Eds.). *Emotion and culture: Empirical studies of mutual influence* (pp. 51–87). Washington, D.C.: American Psychological Association.
Furley, P., & Schweizer, G. (2014a). I'm pretty sure that we will win!": The influence of score-related nonverbal behavioral changes on the confidence in winning a basketball game. *Journal of Sport & Exercise Psychology, 36*, 316–320.
Furley, P., & Schweizer, G. (2014b). The expression of victory and loss: Estimating who's leading or trailing from nonverbal cues in sports. *Journal of Nonverbal Behavior, 38*, 13–29.
Gaddis, B., Connelly, S., & Mumford, M. D. (2004). Failure feedback as an affective event: Influences of leader affect on subordinate attitudes an performance. *The Leadership Quarterly, 15*, 663–686.
Geddes, D., & Callister, R. R. (2007). Crossing the line(s): A dual threshold model of anger in organizations. *Academy of Management Review, 32*, 721–746.
Gonzalez, S. P., Metzler, J. N., & Newton, M. (2011). The influence of a simulated "pep talk" on athlete inspiration, situational motivation, and emotion. *International Journal of Sports Science & Coaching, 6*, 445–459.
Grandey, A. (2003). When 'the show must go on': Surface and deep acting as determinants of emotional exhaustion and peer-rated service delivery. *Academy of Management Journal, 46*, 86–96.
Hanin, Y. L. (2000). Successful and poor performance emotions. In Y. L. Hanin (Ed.). *Emotions in sport* (pp. 157–187). Champaign, IL: Human Kinetics.
Hareli, S., & Hess, U. (2010). What emotional reactions can tell us about the nature of others: An appraisal perspective on person perception. *Cognition & Emotion, 24*, 128–140.
Hareli, S., & Rafaeli, A. (2008). Emotion cycles: On the social influence of emotion. *Research in Organizational Behavior, 28*, 35–59.
Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). *Emotional contagion.* New York, NY: Cambridge University Press.
Heerdink, M. W., Van Kleef, G. A., Homan, A. C., & Fischer, A. H. (2013). On the social influence of emotions in groups: Interpersonal effects of anger and happiness on conformity versus deviance. *Journal of Personality and Social Psychology, 105*, 262–284.
Hodgson, L., Butt, J., & Maynard, I. (2017). Exploring the psychological attributes

underpinning elite sports coaching. *International Journal of Sports Science & Coaching, 12*, 439–451.
Høigaard, R., De Cuyper, B., Fransen, K., Boen, F., & Peters, D. M. (2015). Perceived coach behavior in training and competition predicts collective efficacy in female elite handball players. *International Journal of Sport Psychology, 46*, 321–336.
Jones, M., Meijen, C., McCarthy, P. J., & Sheffield, D. (2009). A theory of challenge and threat states in athletes. *International Review of Sport and Exercise Psychology, 2*, 161–180.
Kalokerinos, E. K., Greenaway, K. H., Pedder, D. J., & Margetts, E. A. (2014). Don't grin when you win: The social costs of positive emotion expression in performance situations. *Emotion, 14*, 180–186.
Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition & Emotion, 13*, 505–521.
Keltner, D., Van Kleef, G. A., Chen, S., & Kraus, M. W. (2008). A reciprocal influence model of social power: Emerging principles and lines of inquiry. *Advances in Experimental Social Psychology, 40*, 151–192.
Koning, L. F., & Van Kleef, G. A. (2015). How leaders' emotional displays shape followers' organizational citizenship behavior. *The Leadership Quarterly, 26*, 489–501.
Kreft, I., & De Leeuw, J. (1998). *Introducing multilevel modeling.* London, UK: Sage.
Lazarus, R. S. (1991). *Emotion and adaptation.* New York, NY: Oxford University Press.
Lewis, K. M. (2000). When leaders display emotion: How followers respond to negative emotional expression of male and female leaders. *Journal of Organizational Behavior, 21*, 221–234.
de Melo, C., Carnevale, P., & Gratch, J. (2011, July). Reverse appraisal: Inferring from emotion displays who is the cooperator and the competitor in a social dilemma. *Proceedings of the 33rd Annual Meeting of the Cognitive Science Society,* 396–401.
Moesch, K., Kenttä, G., Bäckström, M., & Mattsson, C. M. (2015a). Exploring nonverbal behaviors in elite handball: How and when do players celebrate? *Journal of Applied Sport Psychology, 27*, 94–109.
Moesch, K., Kenttä, G., & Mattsson, C. M. (2015b). Exploring nonverbal behavior in elite handball players: Development of the handball post-shot behavior coding scheme (H-PSB-CS). *Journal of Sport Behavior, 38*, 52–79.
Moll, T., Jordet, G., & Pepping, G.-J. (2010). Emotional contagion in soccer penalty shootouts: Celebration of individual success is associated with ultimate team success. *Journal of Sports Sciences, 28*, 983–992.
Morgan, W. P. (1980). Test of champions: The iceberg profile. *Psychology Today, 14*, 92–108.
Mouchet, A., Harvey, S., & Light, R. (2014). A study on in-match rugby coaches' communications with players: A holistic approach. *Physical Education and Sport Pedagogy, 19*, 320–336.
Netzer, L., Van Kleef, G. A., & Tamir, M. (2015). Interpersonal instrumental emotion regulation. *Journal of Experimental Social Psychology, 58*, 124–135.
Niven, K., Totterdell, P., & Holman, D. (2009). A classification of controlled interpersonal affect regulation strategies. *Emotion, 9*, 498–509.
O'Neil, D. A. (2011). The value of emotional intelligence for high performance coaching: A commentary. *International Journal of Sports Science & Coaching, 6*, 329–332.
Palmateer, T., & Tamminen, K. (2018). A case study of interpersonal emotion regulation within a Varsity volleyball team. *Journal of Applied Sport Psychology, 30*, 321–340.
Parfitt, G., & Pates, J. (1999). The effects of cognitive and somatic anxiety and self-confidence on components of performance during competition. *Journal of Sports Sciences, 17*, 351–356.
Parkinson, B. (1996). Emotions are social. *British Journal of Psychology, 87*, 663–683.
Rathschlag, M., & Memmert, D. (2013). The influence of self-generated emotions on physical performance: An investigation of happiness, anger, anxiety, and sadness. *Journal of Sport & Exercise Psychology, 35*, 197–210.
Rathschlag, M., & Memmert, D. (2015). Self-generated emotions and their influence on sprint performance: An investigation of happiness and anxiety. *Journal of Applied Sport Psychology, 27*, 186–199.
Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Newbury Park, CA: Sage.
Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology, 39*, 1161–1178.
Saville, P. D., & Bray, S. R. (2016). Athletes' perceptions of coaching behavior, relation-inferred self-efficacy (RISE), and self-efficacy in youth sport. *Journal of Applied Sport Psychology, 28*, 1–13.
Smith, M. J., Figgins, S. G., Jewiss, M., & Kearney, P. E. (2018). Investigating inspirational leader communication in an elite team sport context. *International Journal of Sports Science & Coaching, 13*, 213–224.
Smith, N., Tessier, D., Tzioumakis, Y., Fabra, P., Quested, E., Appleton, P., ... Duda, J. L. (2016). The relationship between observed and perceived assessments of the coach-created motivational environment and links to athlete motivation. *Psychology of Sport and Exercise, 23*, 51–63.
Smoll, F. L., & Smith, R. E. (1989). Leadership behaviors in sport: A theoretical model and research paradigm. *Journal of Applied Social Psychology, 19*, 1522–1551.
Stebbings, J., Taylor, I. M., & Spray, C. M. (2016). Interpersonal mechanisms explaining the transfer of well- and ill-being in coach-athlete dyads. *Journal of Sport & Exercise Psychology, 38*, 292–304.
Sy, T., Côté, S., & Saavedra, R. (2005). The contagious leader: Impact of the leader's mood on the mood of group members, group affective tone, and group processes. *Journal of Applied Psychology, 90*, 295–305.
Tamminen, K. A., & Crocker, P. R. (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*, 737–747.
Tamminen, K. A., Palmateer, T. M., Denton, M., Sabiston, C., Crocker, P. R., Eys, M., & Smith, B. (2016). Exploring emotions as social phenomena among Canadian varsity athletes. *Psychology of Sport and Exercise, 27*, 28–38.
Totterdell, P. (2000). Catching moods and hitting runs: Mood linkage and subjective performance in professional sport teams. *Journal of Applied Psychology, 85*, 848–859.
Trudel, P., Côté, J., & Bernard, D. (1996). Systematic observation of youth ice hockey coaches during games. *Journal of Sport Behavior, 19*, 50–65.
Uphill, M., Groom, R., & Jones, M. (2014). The influence of in-game emotions on basketball performance. *European Journal of Sport Science, 14*, 76–83.
Van Doorn, E. A., Van Kleef, G. A., & Van der Pligt, J. (2014). How instructors' emotional expressions shape students' learning performance: The roles of anger, happiness, and regulatory focus. *Journal of Experimental Psychology: General, 143*, 980–984.
Van Kleef, G. A. (2009). How emotions regulate social life: The emotions as social information (EASI) model. *Current Directions in Psychological Science, 18*, 184–188.
Van Kleef, G. A. (2016). *The interpersonal dynamics of emotion: Toward an integrative theory of emotions as social information.* Cambridge, UK: Cambridge University Press.
Van Kleef, G. A., De Dreu, C. K. W., & Manstead, A. S. R. (2004). The interpersonal effects of anger and happiness in negotiations. *Journal of Personality and Social Psychology, 86*, 57–76.
Van Kleef, G. A., Homan, A. C., Beersma, B., & Van Knippenberg, D. (2010). On angry leaders and agreeable followers: How leaders' emotions and followers' personalities shape motivation and team performance. *Psychological Science, 21*, 1827–1834.
Van Kleef, G. A., Homan, A. C., Beersma, B., Van Knippenberg, D., Van Knippenberg, B., & Damen, F. (2009). Searing sentiment or cold calculation? The effects of leader emotional displays on team performance depend on follower epistemic motivation. *Academy of Management Journal, 52*, 562–580.
Van Kleef, G. A., Homan, A. C., & Cheshin, A. (2012). Emotional influence at work: Take it EASI. *Organizational Psychology Review, 2*, 311–339.
Van Kleef, G. A., Van den Berg, H., & Heerdink, M. W. (2015). The persuasive power of emotions: Effects of emotional expressions on attitude formation and change. *Journal of Applied Psychology, 100*, 1124–1142.
Vargas-Tonsing, T. M. (2009). An exploratory examination of the effects of coaches' pre-game speeches on athletes' perceptions of self-efficacy and emotion. *Journal of Sport Behavior, 32*, 92–111.
Vargas, T. M., & Short, S. E. (2011). Athletes' perceptions of the psychological, emotional, and performance effects of coaches' pre-game speeches. *International Journal of Coaching Science, 5*, 27–43.
Vater, C., Roca, A., & Williams, A. M. (2015). Effects of anxiety on anticipation and visual search in dynamic, time-constrained situations. *Sport, Exercise, & Performance Psychology, 5*, 179–192.
Wagstaff, C. R. D., Fletcher, D., & Hanton, S. (2012). Exploring emotion abilities and regulation strategies in sport organizations. *Sport, Exercise, & Performance Psychology, 1*, 268–282.
Wolf, S. A., Harenberg, S., Tamminen, K., & Schmitz, H. (2018). "Cause you can't play this by yourself": Athletes' perceptions of team influence on their precompetitive psychological states. *Journal of Applied Sport Psychology, 30*, 185–203.
Yukl, G. A. (2010). *Leadership in organizations* (7th ed.). Upper Saddle River, NJ: Pearson.
Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion, 13*, 803–810.
Zur, I., Cooke, A., Woodman, T., Neil, R., & Udewitz, R. (2018). Don't make me angry! A psychophysiological examination of the anger–performance relationship in intermediate and elite fencers. *Journal of Applied Sport Psychology,* 1–18. https://doi.org/10.1080/10413200.2018.1464079.