

Note: This article will be published in a forthcoming issue of *The Sport Psychologist*. This article appears here in its accepted, peer-reviewed form, as it was provided by the submitting author. It has not been copy edited, proofed, or formatted by the publisher.

Article Title: The Impact of Athlete Leaders on Team Members’ Team Outcome Confidence: A Test of Mediation by Team Identification and Collective Efficacy

Authors: Katrien Fransen¹, Peter Coffee², Norbert Vanbeselaere³, Matthew J. Slater⁴, Bert De Cuyper¹, and Filip Boen¹

Affiliations: ¹Department of Kinesiology, KU Leuven, Leuven, Belgium. ²School of Sport, University of Stirling, Stirling, Scotland, United Kingdom. ³Center for Social and Cultural Psychology, KU Leuven, Leuven, Belgium. ⁴Centre for Sport, Health and Exercise Research, Staffordshire University, Stoke on Trent, Staffordshire, United Kingdom.

Journal: *The Sport Psychologist*

Acceptance Date: May 25, 2014

©2014 Human Kinetics, Inc.

DOI: <http://dx.doi.org/10.1123/tsp.2013-0141>

Abstract

Research on the effect of athlete leadership on pre-cursors of team performance such as team confidence is sparse. To explore the underlying mechanisms of how athlete leaders impact their team’s confidence, an online survey was completed by 2,867 players and coaches from nine different team sports in Flanders (Belgium). We distinguished between two types of team confidence: collective efficacy, assessed by the CEQS subscales of Effort, Persistence, Preparation, and Unity; and team outcome confidence, measured by the Ability subscale. The results demonstrated that the perceived quality of athlete leaders was positively related to participants’ team outcome confidence. The present findings are the first in sport settings to highlight the potential value of collective efficacy and team identification as underlying processes. Because high-quality leaders strengthen team members’ identification with the team, the current study also provides initial evidence for the applicability of the identity based leadership approach in sport settings.

Keywords: peer leaders, leadership, winning confidence, social identity approach, coaching, sport psychology

The most talented group of players does not always win a sports game. What matters is how well these players function as a team. In order to optimize this team functioning, effective leadership has been proposed as a crucial determinant (Cotterill, 2013). Although research in sport has typically focused on leadership of the coach (Chelladurai, 2007), recent research has established the importance of high-quality athlete leaders for the effective functioning of sports teams (Price & Weiss, 2011, 2013). In this regard, athletes are an important, but so far underinvestigated, source of leadership within sports teams.

Building upon earlier work (Carron, Hausenblas, & Eys, 2005; Kogler Hill, 2001), Loughead and colleagues (2006) proposed a three-factor classification of athlete leadership functions: (1) task functions, which help the team to achieve its goal (e.g., giving teammates tactical advice); (2) social functions, which foster positive interactions between team members (e.g., caring for a good atmosphere off the field); and (3) external functions, which facilitate communication with people outside the team (e.g., with club management, media, and sponsors). Recently, empirical evidence has been reported for a fourth function, namely the motivational function (Fransen, Vanbeselaere, De Cuyper, Vande Broek, & Boen, 2014). The motivational leader is the best motivator on the field. This leader encourages his/her teammates to do their utmost, and initiates fresh heart into players who are discouraged.

Although previous research on athlete leadership mainly focused on the team captain as the formal leader of the team, recent empirical evidence demonstrated that informal leaders rather than the captain take the lead, both on and off the field (Fransen, Vanbeselaere, et al., 2014). We will therefore focus on the leadership quality of the best athlete leader on each of the four leadership roles instead of investigating the leadership quality of the captain. The task leader and the motivational leader represent on-field leadership roles; the social leader and the external leader represent off-field roles. All these leadership roles can be

fulfilled by both formal and informal leaders. The exact descriptions of the four leadership roles (task, motivational, social, and external leader) are presented in Table 1.

Research has demonstrated that effective leaders can affect team members’ team confidence (Bandura, 1997; Hoyt, Murphy, Halverson, & Watson, 2003; Ronglan, 2007; Watson, Chemers, & Preiser, 2001). In turn, higher levels of team confidence have been found to be positively related to several performance-enhancing outcomes: athletes who were more confident in their team’s abilities set more challenging goals (Silver & Bufanio, 1996), exerted more effort (Greenlees, Graydon, & Maynard, 1999), and demonstrated higher resilience when facing adversities (Morgan, Fletcher, & Sarkar, 2013). In short, not only did higher team confidence lead to a better team functioning, highly confident teams typically performed better as well (Edmonds, Tenenbaum, Kamata, & Johnson, 2009; Stajkovic, Lee, & Nyberg, 2009). As such, by being able to affect team members’ team confidence, athlete leaders hold the key for an optimal team performance.

Recently, two types of team confidence have been distinguished (Collins & Parker, 2010; Fransen, Kleinert, Dithurbide, Vanbeselaere, & Boen, 2014; Myers & Feltz, 2007). The first type of team confidence is termed ‘collective efficacy’ and is defined as “the group’s shared belief in its conjoint capability to organize and execute the courses of action required to produce given levels of attainment” (Bandura, 1997, p. 477). In other words, this type of confidence comprises athletes’ confidence in the abilities of the own team to function effectively (e.g., “I am confident that my team will maintain effective communication during the upcoming game”).

The second type of team confidence is termed ‘team outcome confidence’ and has been defined as “the confidence in the team’s abilities to obtain a goal or to win a game” (Fransen, Kleinert, et al., 2014). In contrast to collective efficacy, team outcome confidence does not focus only on athletes’ own team, but also on outperforming the opponent (e.g., “I

believe that my team will outplay the opposing team”). In work teams, this construct was termed ‘team outcome efficacy’ (Collins & Parker, 2010), whereas, in sports teams, Myers and Feltz (2007) labeled the confidence in winning (or performing better than the opponent) ‘competitive efficacy’ or ‘comparative efficacy’. However, because this construct is outcome-oriented and does not capture the process-oriented nature of efficacy beliefs as defined by Bandura (1997), we will adopt the term ‘team outcome confidence’, used by Fransen and colleagues (Fransen, Kleinert, et al., 2014).

It has been demonstrated that athlete leaders influence both types of players’ team confidence. On the one hand, athlete leaders have been found to influence players’ process-oriented collective efficacy (Bandura, 1997; Hoyt et al., 2003; Price & Weiss, 2011; Ronglan, 2007). For example, Watson and colleagues (2001) demonstrated that perceptions of athlete leaders’ effectiveness are positively related to players’ collective efficacy. On the other hand, only a few studies have revealed a positive relationship between the behavior of athlete leaders and their teammates’ team outcome confidence. For example, the confidence expressed by the athlete leaders in the team emerged as the second most important source (out of 40 sources) of players’ and coaches’ confidence in winning the game (Fransen et al., 2012). Moreover, a study within a basketball setting experimentally confirmed this finding (Fransen, Haslam, et al., 2014). Teams of five basketball players, including one research confederate, participated in a free throw competition. The confederate was perceived as leader of the team and his behavior was manipulated following a standardized script: in half of the teams he had to express high confidence, and in the other half he had to express low confidence. The results revealed that the expression of high confidence by the leader positively affected teammates’ confidence in winning the game, while the expression of low confidence negatively affected their outcome confidence.

The current paper attempted to extend the already existing scientific knowledge on athlete leadership in three ways. First, we examined the quality of the four athlete leaders (i.e., the task, motivational, social, and external leader) rather than investigating only the quality of one general leader. Second, we explore the impact of athlete leaders’ quality on both types of group members’ team confidence; collective efficacy and team outcome confidence. Finally, the present study goes beyond mere description and sought to explain the underlying mechanisms through which these relations occur. Figure 1 presents an overview of the study’s hypotheses, which are explained in more detail below.

First, based on the arguments and evidence presented above, we expect that the perceived quality of the athlete leaders within the team (i.e., task, motivational, social, and external leader) is positively related to players’ collective efficacy (Hypothesis 1a) and to players’ team outcome confidence (Hypothesis 1b). Second, the few studies that have investigated the two types of team confidence merely focused on the conceptual distinction between them, but not on their interrelationship (Fransen, Kleinert, et al., 2014; Myers & Feltz, 2007). However, based on recent research, we suggest that collective efficacy is a precursor of team outcome confidence. Fransen and colleagues (2012) demonstrated that indicators of collective efficacy (e.g., the confidence in the team’s abilities to communicate tactically well and encourage each other) were perceived as the most important sources of team outcome confidence. Further, a recent experimental study in a basketball setting revealed that athlete leader’s behavior (i.e., the expression of team confidence) influenced players’ collective efficacy, which in turn strengthened players’ team outcome confidence (Fransen, Haslam, et al., 2014). In addition, a positive effect on players’ performance emerged. Moreover, Collins and Parker (2010) noted that collective efficacy explains a smaller amount of variance in performance than team outcome confidence does, because collective efficacy relates to processes that are more distinct to performance outcomes.

Hypothesis 2 builds upon these relationships in that we expect players’ collective efficacy (i.e., confidence in the process) to mediate the relation between players’ perceptions of athlete leaders’ quality and players’ team outcome confidence (i.e., confidence in the outcome).

Third, we also seek to explain the underlying mechanism through which leaders affect the collective efficacy, and in turn, the team outcome confidence of the other team members. In this regard, the recently proposed social identity approach to leadership focuses on team identification as the essential key to influence followers (Haslam, Reicher, & Platow, 2011). Team identification refers to the extent in which we define ourselves in terms of our group membership. It is precisely individuals’ internalized sense of a shared identity (their sense of themselves as part of ‘us’) that “makes group behavior possible” (Steffens et al., 2014; Turner, 1982, p. 21). The social identity approach to leadership encompasses the notion that effective leaders are able to create a shared sense of “we” and “us” within the group; they make different people feel that they are part of the same group, and they clarify their understanding of what the group stands for. In other words, effective leaders strengthen members’ identification with the group (Haslam et al., 2011; Steffens et al., 2014). A quote from Drucker (1992, p. 14) nicely illustrates this leadership theory in a sports context: “The leaders who work most effectively, it seems to me, never say ‘I’. And that’s not because they have trained themselves not to say ‘I’. They don’t think ‘I’. They think ‘team’.” Although the social identity approach to leadership originated in organizational settings, recent findings in sport settings also demonstrated that effective athlete leaders strengthen their teammates’ identification with their team (Steffens et al., 2014). This approach thus offers a promising theoretical framework that underpins our expectation of a positive relation between the perceived quality of athlete leaders and players’ identification with their team (Hypothesis 3a).

Furthermore, strong group identification provides the foundation for various individual and group-level outcomes in organizational settings (Haslam, 2004). In this regard, a positive correlation between team identification and collective efficacy has been established in various studies on collective action tendencies (van Zomeren, Leach, & Spears, 2010; van Zomeren, Postmes, & Spears, 2008). Furthermore, Wang and Howell (2012) demonstrated in an organizational setting that group identification positively affected group members’ collective efficacy. In line with the abovementioned findings, we expect that players’ identification with their sports team will strengthen their collective efficacy beliefs (Hypothesis 3b).

Building on Hypothesis 3a and Hypothesis 3b, we propose that identification with a sports team will mediate the relation between perceived quality of athlete leadership and players’ collective efficacy. The expected mediation of team identification can be underpinned by previous research in organizational settings, showing that team identification mediated the relation between leader’s behavior and the team’s collective efficacy (Wang & Howell, 2012). Furthermore, a recent experimental study in basketball teams revealed that players’ team identification partly mediated the relation between the confidence expressed by the athlete leader and players’ collective efficacy (Fransen, Haslam, et al., 2014). However, we expect that, besides strengthening players’ team identification, also other mechanisms exist through which athlete leaders can affect their teammates’ collective efficacy. In this regard, verbal persuasion and modeling were proposed as likely avenues for leaders’ influence on players’ collective efficacy (Zaccaro, Rittman, & Marks, 2001). Consequently, we predict that team identification will only partly mediate the relation between perceived quality of athlete leadership and players’ collective efficacy (Hypothesis 3c).

Previous researchers have provided abundant evidence for the influence that coaches have on the mental condition of their athletes. For example, based on a qualitative

investigation, Gould and colleagues (2002) concluded that coaches have a crucial influence in the development of psychological characteristics of Olympic champions. Furthermore, the confidence of the coach in the team’s abilities was demonstrated to affect athletes’ team confidence (Vargas-Tonsing, Myers, & Feltz, 2004) and the team’s performance (Chase, Lirgg, & Feltz, 1997). For an optimal team functioning, it is thus not only important to attain and maintain a high team confidence of the players, but also of the coach. To increase the team confidence of the coach, an important role might also be reserved for the athlete leaders.

Therefore, we also examined whether perceptions of the athlete leaders’ quality were positively related to coaches’ collective efficacy (Hypothesis 1a), and to coaches’ team outcome confidence (Hypothesis 1b). Given the fact that the coach can be seen as a member of the in-group (i.e., the sports team), we assume that the same hypotheses will also hold for coaches. More specifically, we expect that the collective efficacy of the coach will mediate the relation between his/her perceived athlete leadership quality and his/her team outcome confidence (Hypothesis 2). In line with the social identity approach for leadership, we expect that the perceived quality of athlete leaders will be positively associated with the identification of the coach with his/her team (Hypothesis 3a). Furthermore, we propose that this strengthened team identification of the coach will be positively related with his/her collective efficacy (Hypothesis 3b). In short, also for coaches, we expect team identification to function as a mediator between perceived athlete leadership quality and collective efficacy (Hypothesis 3c).

Method

Procedure

Upon a request directed to the Flemish Trainer’s School (i.e., the organization responsible for sport-specific education of coaches in Flanders), we obtained access to their

database of all licensed coaches in Flanders. We invited 5,535 qualified coaches from nine different team sports (i.e., basketball, volleyball, soccer, handball, netball, hockey, rugby, water polo, and ice hockey) to participate in this study. These coaches were asked to complete a web-based questionnaire and to encourage their players to complete the questionnaire as well. To access participants outside of the Flemish Trainer’s School, we also contacted non-qualified coaches and their teams through all the Flemish sport federations. In total, 8,509 players and 7,977 coaches were invited to participate during the last months of the season (i.e. March – May, 2012). The coaches and players who did not respond were sent an email reminder two weeks later. The doctoral research project was approved by the institutional review board and the APA ethical standards were followed in the conduct of the study. No rewards were given for participation, informed consent was obtained from all participants, and anonymity was guaranteed.

Participants

In total, 4,451 participants completed our questionnaire. Our original sample included players ($n = 3,193$) and coaches ($n = 1,258$) from 2,366 different teams. It is important to note that participants rated the quality of the athlete leaders in their team. Players who perceived themselves as an athlete leader could exhibit self-perception biases while assessing leader quality (Alicke & Govorun, 2005). Therefore, we included only the players who did not perceive themselves as a task, motivational, social, or external leader ($n = 1,609$). The large number of players who perceived themselves as a leader is partly due to the fact that leadership is spread throughout the team and different players within the team occupy the four leadership roles (Fransen, Vanbeselaere, et al., 2014). The 2,867 participants that were used for the present study (i.e., 1,609 players and 1,258 coaches) played in 1,893 different teams. In 68% of these teams, only one player of that specific team participated in our study.

In respectively 20% and 7%, two or three players of the same team were included in our sample. As a consequence, the interdependency in the data, due to the nesting of players within teams, is very limited. Considering the small number of athletes per team, multilevel analyses were not possible.

Separate analyses were performed for players and coaches. Participants were from nine team sports in Flanders (Belgium), details of which are displayed in Table 2. Data from this sample have been used in other research (Fransen, Kleinert, et al., 2014; Fransen, Vanbeselaere, et al., 2014); these articles examined different variables and research questions¹.

Measures

Athlete leader identification. The exact descriptions of the four leadership roles, as outlined in previous research (Fransen, Vanbeselaere, et al., 2014) and displayed in Table 1, were presented to the participants. Based on these descriptions, players and coaches were asked to indicate one player in their team who corresponded best to the description of each of the four leadership functions (i.e., task, motivational, social, and external). If multiple players fulfilled a specific leadership role, participants were asked to indicate the best leader. They could also indicate that a specific leadership role was not present in their team. This type of assessment allowed for the different leadership roles to be held by one player or by different players. In addition, for each of the four different leadership roles, players were asked whether they indicated themselves as a leader.

¹ The first manuscript (Fransen, Vanbeselaere, et al., 2014) developed a new athlete leadership classification and explored the importance of the team captain as a formal leader. The second manuscript (Fransen, Kleinert, et al., 2014) investigated the validity of previous measures used to assess collective efficacy, thereby distinguishing between collective efficacy and team outcome confidence. Furthermore, a new collective efficacy scale has been developed that provides a first step towards more dynamic measurements of collective efficacy based on observations; the Observational Collective Efficacy Scale for Sports (OCESS).

Perceived athlete leadership quality. Next, we assessed the quality of the four athlete leaders, as perceived by players and coaches. The existing leadership research, however, is characterized by different approaches to assess athlete leaders’ quality or effectiveness. Price and Weiss (2011) assessed the quality of athlete leadership via perceptions of particular athlete leader characteristics (e.g., being skilled, confident, motivated). Watson and colleagues (2001) used different items to assess the quality of their team captain (e.g., “my captain’s behavior is very motivating to me”). Other studies used the Multifactor Leadership Questionnaire (MLQ, Bass & Avolio, 1995), which combines various aspects of transformational and transactional leadership (Paradis & Loughead, 2010; Price & Weiss, 2013). This measurement inconsistency poses serious problems regarding the interpretation of the observed correlates of athlete leaders’ quality. A possible alternative was provided by Chemers and colleagues (2000), who used a one-item measure to assess participants’ overall leadership ability (i.e., “rate the cadets on their overall potential for military leadership”). Also Tenenbaum and colleagues (2011; 2007) argued for a higher ecological validity of single-item measures.

Likewise, in the present study we chose not to examine particular characteristics or behaviors of the leader, but instead to examine the overall perceived leadership quality of each of the four leaders within the team (task, motivational, social, and external leader) with respect to their specific role. By using a single-item measure, we assessed to which extent the four leaders were perceived to fulfill their specific leadership role well. More specifically, in order to capture players’ and coaches’ impression of the leadership quality of the task leader (i.e., the player who was indicated as the best task leader in their team), participants completed the item “To what extent do you think that this leader fulfils his/her role as *task leader* well?” on a 7-point Likert scale, ranging from -3 (*very bad*) to 3 (*very good*).

Likewise, participants were asked to indicate the perceived quality of the motivational, social,

and external leader, with respect to their specific role fulfillment. The higher participants scored on these scales, the better they perceived the quality of the athlete leaders within their team. Confirmatory factor analyses established that the perceived quality of each of the four different leadership roles contributed to an overall measure of perceived athlete leader quality ($\chi^2/df = .09$; $GFI = 1.00$; $AGFI = 1.00$; $CFI = 1.00$; $RMSEA < .001$).

Collective efficacy and team outcome confidence. The Collective Efficacy Questionnaire for Sports (CEQS; Short, Sullivan, & Feltz, 2005) is often used to assess collective efficacy in sports teams and includes five subscales; Ability (e.g., “outplay the opposing team”), Effort (e.g., “play to its capabilities”), Persistence (e.g., “persist when obstacles are present”), Preparation (e.g., “devise a successful strategy”), and Unity (e.g., “be united”). Both for players and coaches each of the items began with the stem “Rate your confidence, in terms of the upcoming game or competition, that your team has the ability to...” The reliability and validity of this measure was demonstrated for players and for coaches, for different sports, for different levels, for different age groups, and for male and female teams (Chou, Yu, & Chi, 2010; Dithurbide, Sullivan, & Chow, 2009; Jowett, Shanmugam, & Caccoulis, 2012; Short et al., 2005).

However, a recent study conducted an exploratory factor analysis on this Collective Efficacy Questionnaire of Sports (Fransen, Kleinert, et al., 2014), thereby detecting two distinct factors: collective efficacy and team outcome confidence. The subscales of Effort, Persistence, Preparation, and Unity were established to be a valid measure of process-oriented collective efficacy, whereas the Ability subscale was demonstrated to be a measure of outcome-oriented team outcome confidence. The present study adopted these measures to assess collective efficacy and team outcome confidence. More specifically, participants rated all items of the CEQS on a 7-point scale, anchored by 1 (*not at all confident*) and 7 (*extremely confident*). The items of the subscales of Effort, Persistence, Preparation, and

Unity were combined into a measure for collective efficacy, whereas the items of the Ability subscale were combined in a measure for team outcome confidence. The higher participants’ ratings, the more they were confident in the abilities of their team to complete all required processes successfully or to outplay the opponent.

Confirmatory factor analyses confirmed the psychometric structure of both process-oriented collective efficacy (16 items; $\chi^2/df = 9.47$; $GFI = .90$; $AGFI = .87$; $CFI = .94$; $RMSEA = .08$) and outcome-oriented team confidence (4 items; $\chi^2/df = 1.60$; $GFI = 1.00$; $AGFI = .99$; $CFI = 1.00$; $RMSEA = .02$). The internal consistency of both the collective efficacy scale (Cronbach’s $\alpha = .95$) and the team outcome confidence scale (Cronbach’s $\alpha = .93$) was excellent.

Team identification. Based on previous research (Boen, Vanbeselaere, Brebels, Huybens, & Millet, 2007; Doosje, Ellemers, & Spears, 1995) team identification was measured using the same five items for players and coaches; “Being a member of the team is very important for me”, “I am very proud to be a member of this team”, “I am very happy that I belong to this team”, “I feel very connected with this team”, and “I identify strongly with this team”. This measure was previously used to assess the team identification of 16- to 36-years old elite level volleyball and handball players and was demonstrated to be a highly internally consistent scale (De Backer et al., 2011). Participants assessed these items on a 7-point scale anchored by -3 (*strongly disagree*) and 3 (*strongly agree*). In other words, the higher individuals score on this scale, the more these individuals identify themselves with their team. The internal consistency of this identification scale proved to be excellent (Cronbach’s $\alpha = .88$).

Data Analysis

The hypothesized model was tested for both players and coaches through Structural Equation Modeling (SEM) with AMOS. The direct effects of perceived athlete leadership quality on respectively collective efficacy (H1a) and team outcome confidence (H1b) were examined through SEM by including only the variables of interest. Furthermore, to test the mediation effects in this model (H2 and H3), we followed the Structural Equation Modeling (SEM) approach advanced by Holmbeck (1997). Although one might argue that the relations among predictor, mediator, and outcome are not necessarily “causal”, the nature of the mediated relation is such that the independent variable influences the mediator which, in turn, influences the outcome (Holmbeck, 1997). In the present study, two mediators were proposed and were each tested separately; collective efficacy as mediator between perceived leadership quality and team outcome confidence (Hypothesis 2) and team identification as mediator between perceived leadership quality and collective efficacy (Hypothesis 3c). SEM is considered as the preferred method to test mediation effects because of the information that it provides on the degree of “fit” for the entire model after controlling for measurement error.

The strategy for testing mediation effects with SEM, recommended by Holmbeck (1997), includes a predictor variable (A), a hypothesized mediator variable (B), and an outcome variable (C). A critical prerequisite for a mediation effect is the significant association between variable A and variable C. Next, also the $A \rightarrow B$ and $B \rightarrow C$ path coefficients should all be significant in the directions predicted. The final step is to assess the fit of the $A \rightarrow B \rightarrow C$ model under two conditions: (a) when the $A \rightarrow C$ path is constrained to zero, and (b) when the $A \rightarrow C$ path is not constrained. One then examines whether the second model provides a significant improvement in fit over the first model with a chi-square difference test. If there is a mediation effect, the addition of the $A \rightarrow C$ path to the constrained model should not improve the fit. In other words, the previously significant $A \rightarrow$

C path is reduced to non-significance (i.e., it does not improve the fit of the model) when the mediator is taken into account.

Results

Descriptive statistics and correlations

Means, standard deviations, Cronbach’s α ’s and correlations for the examined variables are provided in Table 3. The data show that, overall, both players and coaches perceive their athlete leaders as good leaders, demonstrated by the relatively high means ($M = 1.78 - 1.99$; $SD = .74 - .93$) on a scale from -3 to 3. With regard to the different subscales of the CEQS, the correlation between the Ability subscale and the other four subscales ranged between .53 and .62, whereas the correlations between the subscales Effort, Persistence, Preparation, and Unity ranged between .73 and .81. The lower correlations with the Ability subscale are in line with previous reported correlations between the CEQS subscales by Short and colleagues (2005). After combining the latter four subscales in our measure of process-oriented collective efficacy, a moderate correlation emerged between collective efficacy and team outcome confidence ($r = .63$ for players; $r = .62$ for coaches). The fact that both constructs were not highly correlated further corroborates our assumption that these two concepts are related but not the same.

The difference between these concepts was, for instance, manifested in their different correlation with team identification; process-oriented collective efficacy correlated more strongly with team identification ($r = .61$ for players; $r = .55$ for coaches) than outcome-oriented team confidence did ($r = .39$ for players; $r = .38$ for coaches). Furthermore, it is noteworthy that the perceived quality of the task leader was more strongly correlated with players’ and coaches’ team identification, their collective efficacy, and their team outcome confidence than the perceived quality of the other leaders.

AMOS Path model

Players. First, we explored whether the perceived quality of the athlete leaders was positively related with both dimensions of players’ team confidence. Our findings support Hypothesis 1a by revealing a significant and substantial path from players’ perceived leadership quality to their collective efficacy ($\beta = .57; p < .001$). In addition, Hypothesis 1b was supported by the significant direct path from players’ perceived leadership quality to their team outcome confidence ($\beta = .34; p < .001$).

Second, we explored whether players’ collective efficacy mediated the relation between players’ perceived quality of athlete leadership and their team outcome confidence. Significant direct paths emerged between perceived leadership quality and collective efficacy ($\beta = .57; p < .001$), between collective efficacy and team outcome confidence ($\beta = .64; p < .001$), and between perceived leadership quality and team outcome confidence ($\beta = .34; p < .001$), supporting the two mediation conditions of Holmbeck (1997). In the third step, we examined the unconstrained model, allowing for a direct regression path between predictor (i.e., perceived leadership quality) and outcome variable (i.e., team outcome confidence). The unconstrained model had a good fit with the data. However, the relation between perceived leadership quality and team outcome confidence was reduced to non-significance ($\beta = .05; p = .53$) when the mediator was included. The chi-square difference test between the unconstrained and the constrained model revealed no significant difference between the two models ($\Delta\chi^2(1) = .40; p = .53$), thereby providing support for the constrained model. These findings support Hypothesis 2; players’ process-oriented collective efficacy fully mediates the relation between perceived leadership quality and players’ outcome-oriented team confidence.

Third, we explored whether team identification mediated the relation between players’ perceived quality of leadership and their collective efficacy. Having identified a

significant relation between predictor and outcome variable ($\beta = .57; p < .001$), we tested the individual paths between team identification as proposed mediator and both perceived leadership quality and players’ collective efficacy. In doing so, the results supported Hypothesis 3a by demonstrating a significant direct path from perceived leadership quality to players’ identification with their team ($\beta = .31; p < .001$). In addition, Hypothesis 3b was confirmed by revealing a significant path from players’ team identification to their collective efficacy beliefs ($\beta = .63; p < .001$). The final step to determine whether there is a mediation effect is to assess the fit of the model under two conditions: (a) when the path between perceived leadership quality and collective efficacy is constrained to zero, and (b) when the path between perceived leadership quality and collective efficacy is not constrained. The AMOS maximum likelihood confirmatory path analysis indicated a very good fit of the unconstrained model with the data ($\chi^2/df = 2.60; GFI = .96; AGFI = .93; CFI = .97; RMSEA = .07$). The chi-square difference test between the unconstrained and the constrained model indicated a significant difference between the two models ($\Delta\chi^2(1) = 43.35; p < .001$), which meant that the constrained model was improved by adding the direct path between perceived leadership quality and collective efficacy. These findings support Hypothesis 3c: the relation between players’ perceived leadership quality and players’ collective efficacy is partly mediated by their team identification.

To build our final model, we explored whether players’ collective efficacy mediated the relation between their team identification and their team outcome confidence. First, the results demonstrated a significant relation between predictor (i.e., team identification) and team outcome confidence ($\beta = .39; p < .001$), thereby supporting the first mediation condition. Also the next mediation condition was fulfilled given the significant direct relations between collective efficacy and respectively team identification ($\beta = .63; p < .001$) and team outcome confidence ($\beta = .64; p < .001$). The chi-square difference test between the

unconstrained and the constrained model revealed no significant difference between the two models ($\Delta\chi^2(1) = 1.75; p = .19$), indicating that collective efficacy fully mediated the relation between players’ team identification and their team outcome confidence. The final model, as shown in Figure 2, provided excellent fit to the data. The standardized regression path coefficients and the proportions explained variance are illustrated in Figure 2.

Coaches. Given previous evidence of the positive impact of coaches’ efficacy beliefs on the team’s performance (Chase et al., 1997), we also tested the hypothesized model for coaches. In line with Hypothesis 1, coaches’ perceived quality of the athlete leaders was positively associated with both dimensions of coaches’ team confidence. These findings were supported by the significant direct paths from perceived athlete leadership quality to coaches’ team outcome confidence ($\beta = .25; p < .001$) and to coaches’ collective efficacy ($\beta = .57; p < .001$). Second, in line with our findings for the players, coaches’ collective efficacy fully mediated the relation between coaches’ perceived athlete leadership quality and their team outcome confidence, supporting our second hypothesis. Third, our findings demonstrated that coaches’ team identification partly mediated the relation between their perceived quality of athlete leadership and their collective efficacy; the constrained model was improved by adding the direct path between perceived leadership quality and collective efficacy ($\Delta\chi^2(1) = 49.126; p < .001$), thereby confirming our third hypothesis. Finally, coaches’ collective efficacy fully mediated the relation between coaches’ team identification and their team outcome confidence. As such, the mediation analyses resulted in a similar model for coaches as for players. The final model for coaches including the standardized regression path coefficients and the proportions explained variance is shown in Figure 3, and provides evidence of an excellent fit to the data.

Discussion

The purpose of the current study was to examine whether players’ and coaches’ perceptions of athlete leaders’ quality were positively associated with their team outcome confidence, as well as to test for the mediating roles of team identification and collective efficacy. The results, as represented in Figures 2 and 3, are in accordance with the formulated hypotheses and revealed that the perceived quality of the athlete leaders was positively related to players’ and coaches’ collective efficacy. This relationship was partially mediated by team identification. Furthermore, process-oriented collective efficacy fully mediated the relationship between perceived athlete leader quality and team outcome confidence.

The findings contribute to athlete leadership research in sport psychology by indicating that high-quality athlete leaders significantly contribute to their team’s collective efficacy (Hypothesis 1a) and their team’s outcome confidence (Hypothesis 1b). These results support previous research demonstrating a positive impact of athlete leaders on their teammates’ team confidence (Bandura, 1997; Fransen, Haslam, et al., 2014; Fransen et al., 2012; Hoyt et al., 2003; Ronglan, 2007). Furthermore, our results again support the previous finding that the task leader is perceived as the most important leader by players and coaches (Fransen, Vanbeselaere, et al., 2014). Indeed, the strongest correlations were found between the examined outcome variables and the perceived quality of the task leader (compared to motivational, social, or external leader).

Furthermore, collective efficacy was demonstrated to mediate the relationship between perceived athlete leader quality and team outcome confidence (Hypothesis 2). In other words, perceptions of higher athlete leadership quality are linked with sports teams’ beliefs that they can be successful, through a strong belief in the processes within the team (i.e., preparation, effort, persistence, and being united as a team). These results corroborate recent experimental findings revealing that collective efficacy is a mediator in the relation

between expressed team confidence by the leader and players’ team outcome confidence (Fransen, Haslam, et al., 2014).

Finally, team identification partially mediated the relationship between perceived quality of athlete leadership and players’ collective efficacy (Hypothesis 3). These findings provide support for the applicability of the identity based leadership approach of Haslam and colleagues (2011) in sport settings by showing that high-quality leaders are indeed able to strengthen their teammates’ identification with their team. In turn, a stronger identification with the team enhanced players’ and coaches’ confidence in realizing the team’s outcome goal, through process-oriented collective efficacy beliefs. In short, by strengthening members’ identification with their team, athlete leaders can foster their sports team’s collective efficacy and in turn members’ team outcome confidence.

The three postulated hypotheses were examined not only for players, but also for coaches. The results revealed consistent patterns for all hypotheses across both groups. As such, athlete leaders not only affect their teammates’ but also their coach’s collective efficacy and team outcome confidence. These heightened efficacy beliefs of the coach concerning his/her team may in turn positively affect athletes’ team confidence (Vargas-Tonsing et al., 2004) and also the team’s performance (Chase et al., 1997). Furthermore, as coaches’ identification with their team partly mediated the relation between perceived athlete leader quality and coaches’ collective efficacy, these findings provide further support that the social identity approach to leadership (Haslam et al., 2011) contributes to our theoretical understanding of leadership in sport settings.

The present study goes beyond mere description and attempts to explain the mechanisms through which predicted relations occur. In doing so, the present findings are the first in sport settings to highlight the potential value of collective efficacy and team identification as processes underlying how athlete leaders impact their teammates’ team

outcome confidence. Watson and colleagues (2001) pointed out that leaders can initiate upward spirals of high collective efficacy through persuasion, facilitating effective coordination, and modeling confidence and success. The present study adds to this view that athlete leaders can foster their team’s collective efficacy by strengthening players’ and coaches’ identification with their team.

Indeed, the present findings demonstrated that high-quality leaders are able to strengthen members’ identification with their team. In this regard, we have highlighted the potential value of the social identity approach to leadership for gaining a greater understanding of leadership processes in sport. Haslam and colleagues (2011) provided more detail on how the effectiveness of leaders is tied to members’ identification with the group, thereby proposing four key rules to effective leadership. First, leaders need to be in-group prototypes (i.e., represent the unique qualities that define the group). Second, they need to be in-group champions (i.e., advance and promote the core interests of the group). Third, leaders need to be entrepreneurs of identity (i.e., bring people together by creating a shared sense of ‘us’ within the group). And fourth, leaders need to be embedders of identity (i.e., develop structures that facilitate and embed shared understanding, coordination, and success). Future work is required to determine the contribution of each of these identity-based leadership dimensions in sport settings and to indicate how these dimensions can be translated into practice.

The present findings also provided evidence for a positive relation between team identification and significant group-level outcomes such as collective efficacy and team outcome confidence. As outlined by Wang and Howell (2012, p. 780), three arguments underpin these findings. First, individuals who identify with a group are more likely to attribute positive qualities to the group. As a consequence, they will evaluate their team’s capabilities to achieve group tasks more optimistically (Tajfel, 1982). Second, when group

members strongly identify with their group, they tend to follow the group norms. As a result, group members may synchronize more effectively because they are able to anticipate each other’s behavior and actions. This improved coordination may, in turn, contribute to positive beliefs about the group’s abilities to successfully accomplish the processes that may lead to success, and in turn to achieve the group goal. Third, according to the Social Cognitive Theory (Bandura, 1997), group members’ collective efficacy beliefs may be threatened by members’ negative emotional states. An individual’s emotional state, often resulting from feelings of stress, anxiety, or fear of failure, may have a detrimental impact on the performance, especially in sport settings (Jones, 2003). However, a strong identification with the team can serve as a buffer that protects individuals from these negative emotions. A shared team identification can foster a cohesive and trusting team climate in which group members help each other and provide emotional support (Jetten, Haslam, & Haslam, 2012). As such, the counterproductive effect of players’ negative emotional state on their collective efficacy will be reduced. A further in-depth investigation of the arguments outlined above is a promising avenue for future research as it would provide more insight in how team identification fosters members’ collective efficacy and team outcome confidence.

There are a number of practical implications that could be considered by coaches, sport psychologists, and sports teams. First, coaches would do well to identify the leadership qualities within their team. Previous research (e.g., Fransen, Vanbeselaere, et al., 2014; Loughead et al., 2006) has demonstrated that informal leaders usually take the lead. Looking only at the formal team captain would therefore constrain the potential of good team leadership. The current findings show that guiding and improving the way in which athlete leaders fulfill their leadership role can increase the team’s collective efficacy and its team outcome confidence, two factors that are closely linked with performance (Chase et al., 1997; Myers, Feltz, & Short, 2004). Conducting leadership workshops with sports teams, which

focus on how athlete leaders can fulfill their leadership role optimally, could help coaches to guide the development of athlete leaders within the team.

Second, as explained in the preceding theoretical discussion of the study findings, it could be valuable for leaders to strengthen athletes’ identification with the team. In order to improve their effectiveness, athlete leaders need not only to ‘be one of us’ (identity prototypicality), but also to ‘do it for us’ (identity advancement), to ‘craft a sense of us’ (identity entrepreneurship), and to ‘embed a sense of us’ (identity impresarioship) (Haslam et al., 2011). In this regard, athlete leaders would do well to understand the values that athletes ascribe to their membership of the sports team, which in turn, will increase leaders’ abilities to represent the group and strengthen members’ identification with the team. An increased identification with the team has been found to reduce social loafing and to enhance team performance (Hoigaard, Boen, De Cuyper, & Peters, 2013).

Third, the findings revealed that process-oriented collective efficacy and outcome-oriented team outcome confidence are different concepts, and additionally, that collective efficacy may impact upon team outcome confidence. The team’s belief to realize its outcome goal (i.e., team outcome confidence) is less controllable given its susceptibility to external factors such as the opponents, the referee, or a lucky goal. On the other hand, the team’s belief in the process (i.e., Effort, Preparation, Persistence, and Unity) is more controllable than the outcome, and the present study suggests that this controllable process-oriented collective efficacy may enhance the less controllable outcome-oriented team confidence. Based on this evidence, coaches and athlete leaders in sports teams should primarily focus on enhancing (controllable) collective efficacy processes, which in turn may foster the team’s outcome confidence.

When interpreting the findings of the current study, it is worth considering the strengths and weaknesses of the approach. A major strength of this study is the large sample

size including male and female athletes and coaches across diverse team sports and levels of competition. The consistency in the relations demonstrated for both players and coaches testifies to the reliability and generalizability of the study’s findings. Furthermore, the study goes beyond mere description and attempts to explain the mechanisms through which the predicted relations occur. In doing so, we have highlighted the potential value of the social identity approach to leadership for gaining a greater understanding of leadership processes in sport.

Notwithstanding these strengths, it should be noted that the current study included individual players and coaches rather than complete teams. Because the 2,867 participants were active in 1,893 different teams, it was not possible for the present study to account for the nested structure in the data. However, from a research perspective, it is clear that further investigation at the team level is warranted because the variables of interest (e.g., team identification, collective efficacy, team outcome confidence) possibly exhibit a significant degree of intra-group consensus within sports teams. In terms of the design, a cross-sectional approach was adopted, limiting our ability to infer causality from the results. A recent experimental study confirmed the impact of athlete leaders on players’ team outcome confidence, and provided support for the mediating role of collective efficacy and team identification (Fransen, Haslam, et al., 2014). Hence, future research may explore these relations across a season or during a game to establish how these relations change over time. With regard to the measurement, we opted in favor of a one-item measure assessing the quality with which athlete leaders fulfilled their specific leadership role. Both players and coaches perceived their leaders on average as good leaders. A possible ceiling effect, due to the selection of good leaders, might have led to an underestimation of the strength of the relations in our model. Therefore, future research may further investigate which behaviors or

characteristics are most decisive in determining perceptions of athlete leaders’ quality. As such, more specific guidelines for coaching workshops could be developed.

In conclusion, the current study has provided initial evidence for the importance of perceived quality of athlete leaders in order to optimize teams’ collective efficacy and team outcome confidence. Athlete leaders who are perceived to fulfill their leadership role well, together with a focus on the more controllable collective efficacy beliefs, are likely to strengthen players’ and coaches’ team outcome confidence. Moreover, team identification provides a mechanism through which leaders are able to foster pertinent group-level outcomes such as collective efficacy. Consequently, based on the current findings, the social identity approach to leadership offers a promising theoretical framework to extend our knowledge of leadership in sporting contexts. Having high-quality athlete leaders within the team fosters players’ and coaches’ team identification and team confidence, which in turn may lead to a better team performance.

References

- Alicke, M., & Govorun, O. (2005). The better-than-average effect. In M. Alicke, D. Dunning & J. Krueger (Eds.), *Studies in self and identity* (pp. 85-108). New York: Psychology Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bass, B. M., & Avolio, B. J. (1995). *The Multifactor Leadership Questionnaire*. Palo Alto, CA: Mind Garden.
- Boen, F., Vanbeselaere, N., Brebels, L., Huybens, W., & Millet, K. (2007). Post-merger identification as a function of pre-merger identification, relative representation, and pre-merger status. *European Journal of Social Psychology, 37*(2), 380-389. doi: 10.1002/ejsp.367
- Carron, A. V., Hausenblas, H. A., & Eys, M. A. (2005). *Group dynamics in sport* (3 ed.). Morgantown, WV: Fitness Information Technology.
- Chase, M. A., Lirgg, C. D., & Feltz, D. L. (1997). Do coaches' efficacy expectations for their teams predict team performance? *The Sport Psychologist, 11*(1), 8-23.
- Chelladurai, P. (2007). Leadership in sports. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (pp. 113-135). Hoboken, NJ: John Wiley & Sons, Inc.
- Chemers, M. M., Watson, C. B., & May, S. T. (2000). Dispositional affect and leadership effectiveness: A comparison of self-esteem, optimism, and efficacy. *Personality and Social Psychology Bulletin, 26*(3), 267-277. doi: 10.1177/0146167200265001
- Chou, Y. H., Yu, C. A., & Chi, L. K. (2010). The relationships between coaching efficacy, collective efficacy, team performance and satisfaction in youth softball teams. *Journal of Sport & Exercise Psychology, 32*, S151-S151.
- Collins, C. G., & Parker, S. K. (2010). Team capability beliefs over time: Distinguishing between team potency, team outcome efficacy, and team process efficacy. *Journal of*

Occupational and Organizational Psychology, 83(4), 1003-1023. doi:

10.1348/096317909x484271

Cotterill, S. (2013). *Team psychology in sports: Theory and practice*. Abingdon: Routledge.

De Backer, M., Boen, F., Ceux, T., De Cuyper, B., Hoigaard, R., Callens, F., . . . Vande

Broek, G. (2011). Do perceived justice and need support of the coach predict team identification and cohesion? Testing their relative importance among top volleyball and handball players in Belgium and Norway. *Psychology of Sport and Exercise*, 12(2), 192-201. doi: 10.1016/j.psychsport.2010.09.009

Dithurbide, L., Sullivan, P., & Chow, G. (2009). Examining the influence of team-referent causal attributions and team performance on collective efficacy: A multilevel analysis. *Small Group Research*, 40(5), 491-507. doi: 10.1177/1046496409340328

Doosje, B., Ellemers, N., & Spears, R. (1995). Perceived intragroup variability as a function of group status and identification. *Journal of Experimental Social Psychology*, 31(5), 410-436. doi: 10.1006/jesp.1995.1018

Drucker, P. F. (1992). *Managing the non-profit organization: Practices and principles*. Oxford: Butterworth-Heinemann.

Edmonds, W. A., Tenenbaum, G., Kamata, A., & Johnson, M. B. (2009). The role of collective efficacy in adventure racing teams. *Small Group Research*, 40(2), 163-180. doi: 10.1177/1046496408328489

Fransen, K., Haslam, S. A., Steffens, N. K., Vanbeselaere, N., De Cuyper, B., & Boen, F. (2014). *Believing in us: Exploring leaders’ capacity to enhance team confidence and performance by building a sense of shared social identity*. Manuscript submitted for publication.

Fransen, K., Kleinert, J., Dithurbide, L., Vanbeselaere, N., & Boen, F. (2014). Collective efficacy or team outcome confidence? Development and validation of the

Observational Collective Efficacy Scale for Sports (OCESS). *International Journal of Sport Psychology*, Manuscript in press.

Fransen, K., Vanbeselaere, N., De Cuyper, B., Vande Broek, G., & Boen, F. (2014). The myth of the team captain as principal leader: Extending the athlete leadership classification within sport teams. *Journal of Sports Sciences*, 1-9. doi: 10.1080/02640414.2014.891291

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(7), 641-649. doi: 10.1080/02640414.2011.653579

Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology*, 14(3), 172-204. doi: 10.1080/10413200290103482

Greenlees, I. A., Graydon, J. K., & Maynard, I. W. (1999). The impact of collective efficacy beliefs on effort and persistence in a group task. *Journal of Sports Sciences*, 17(2), 151-158.

Haslam, S. A. (2004). *Psychology in organizations: The social identity approach* (2nd ed.). London: Sage.

Haslam, S. A., Reicher, S. D., & Platow, M. J. (2011). *The new psychology of leadership: Identity, influence and power*. New York: Psychology Press.

Hoigaard, R., Boen, F., De Cuyper, B., & Peters, D. M. (2013). Team identification reduces social loafing and promotes social laboring in cycling. *International Journal of Applied Sports Sciences*, 25(1), 33-40.

Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric

- psychology literatures. *Journal of Consulting and Clinical Psychology*, 65(4), 599-610. doi: 10.1037/0022-006x.65.4.599
- Hoyt, C. L., Murphy, S. E., Halverson, S. K., & Watson, C. B. (2003). Group leadership: Efficacy and effectiveness. *Group Dynamics: Theory, Research, and Practice*, 7(4), 259-274. doi: 10.1037/1089-2699.7.4.259
- Jetten, J., Haslam, C., & Haslam, S. A. (2012). *The social cure: Identity, health and well-being*. Hove & New York: Psychology Press.
- Jones, M. V. (2003). Controlling emotions in sport. *The Sport Psychologist*, 17(4), 471-486.
- Jowett, S., Shanmugam, V., & Caccoulis, S. (2012). Collective efficacy as a mediator of the association between interpersonal relationships and athlete satisfaction in team sports. *International Journal of Sport and Exercise Psychology*, 10(1), 66-78.
- Kogler Hill, S. E. (2001). Team leadership. In P. G. Northouse (Ed.), *Leadership: Theory and practice* (2 ed., pp. 161-187). Thousand Oaks, CA: Sage.
- Loughead, T. M., Hardy, J., & Eys, M. A. (2006). The nature of athlete leadership. *Journal of Sport Behavior*, 29, 142-158.
- Morgan, P. B. C., Fletcher, D., & Sarkar, M. (2013). Defining and characterizing team resilience in elite sport. *Psychology of Sport and Exercise*, 14(4), 549-559. doi: 10.1016/j.psychsport.2013.01.004
- Myers, N. D., & Feltz, D. L. (2007). From self-efficacy to collective efficacy in sport: Transitional methodological issues. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 799-819). Hoboken, NJ, US: John Wiley & Sons Inc.
- Myers, N. D., Feltz, D. L., & Short, S. E. (2004). Collective efficacy and team performance: A longitudinal study of collegiate football teams. *Group Dynamics: Theory, Research, and Practice*, 8(2), 126-138. doi: 10.1037/1089-2699.8.2.126

- Paradis, K. F., & Loughhead, T. M. (2010). Perceptions of formal and informal athlete leader effectiveness in youth sport. *Journal of Sport & Exercise Psychology, 32*, S204-S205.
- Price, M. S., & Weiss, M. R. (2011). Peer leadership in sport: Relationships among personal characteristics, leader behaviors, and team outcomes. *Journal of Applied Sport Psychology, 23*(1), 49-64. doi: 10.1080/10413200.2010.520300
- Price, M. S., & Weiss, M. R. (2013). Relationships among coach leadership, peer leadership, and adolescent athletes' psychosocial and team outcomes: A test of transformational leadership theory. *Journal of Applied Sport Psychology, 25*(2), 265-279. doi: 10.1080/10413200.2012.725703
- Ronglan, L. T. (2007). Building and communicating collective efficacy: A season-long in-depth study of an elite sport team. *The Sport Psychologist, 21*(1), 78-93.
- Short, S. E., Sullivan, P., & Feltz, D. (2005). Development and preliminary validation of the collective efficacy questionnaire for sports. *Measurement in Physical Education and Exercise Science, 9*(3), 181-202.
- Silver, W. S., & Bufanio, K. M. (1996). The impact of group efficacy and group goals on group task performance. *Small Group Research, 27*(3), 347-359.
- Stajkovic, A. D., Lee, D., & Nyberg, A. J. (2009). Collective efficacy, group potency, and group performance: Meta-analyses of their relationships, and test of a mediation model. *Journal of Applied Psychology, 94*(3), 814-828. doi: 10.1037/a0015659
- Steffens, N. K., Haslam, S. A., Reicher, S. D., Platow, M. J., Fransen, K., Yang, J., . . . Boen, F. (2014). The Identity Leadership Inventory (ILI): Assessing four dimensions of leaders' social identity management. *The Leadership Quarterly*, Manuscript accepted for publication.
- Tajfel, H. (1982). *Social identity and intergroup relations*. Cambridge, UK: Cambridge University Press.

- Tenenbaum, G., & Gershgoren, L. (2011). Conclusions and recommendations: Toward a comprehensive framework of evidence-based practice with performers. In J. K. Luiselli & D. D. Reed (Eds.), *Evidence-based approaches to performance enhancement* (pp. 249-262). New York, USA: Springer.
- Tenenbaum, G., Kamata, A., & Hayashi, K. (2007). Measurement in sport and exercise psychology: A new outlook on selected issues of reliability and validity. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of Sport Psychology* (3 ed., pp. 757-773). Hoboken, NJ, USA: John Wiley & Sons, Inc. doi: 10.1002/9781118270011.ch34
- Turner, J. C. (1982). Towards a redefinition of the social group. In H. Tajfel (Ed.), *Social Identity and Intergroup Relations* (pp. 15-40). Cambridge: Cambridge University Press.
- van Zomeren, M., Leach, C. W., & Spears, R. (2010). Does group efficacy increase group identification? Resolving their paradoxical relationship. *Journal of Experimental Social Psychology*, *46*, 1055-1060.
- van Zomeren, M., Postmes, T., & Spears, R. (2008). Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin*, *134*(4), 504-535. doi: 10.1037/0033-2909.134.4.504
- Vargas-Tonsing, T. M., Myers, N. D., & Feltz, D. L. (2004). Coaches' and athletes' perceptions of efficacy-enhancing techniques. *The Sport Psychologist*, *18*(4), 397-414.
- Wang, X. H., & Howell, J. M. (2012). A multilevel study of transformational leadership, identification, and follower outcomes. *Leadership Quarterly*, *23*(5), 775-790. doi: 10.1016/j.leaqua.2012.02.001

“The Impact of Athlete Leaders on Team Members’ Team Outcome Confidence: A Test of Mediation by Team Identification and Collective Efficacy” by Franssen K et al.

The Sport Psychologist

© 2014 Human Kinetics, Inc.

Watson, C. B., Chemers, M. M., & Preiser, N. (2001). Collective efficacy: A multilevel analysis. *Personality and Social Psychology Bulletin*, 27(8), 1057-1068.

Zaccaro, S. J., Rittman, A. L., & Marks, M. A. (2001). Team leadership. *Leadership Quarterly*, 12(4), 451-483.

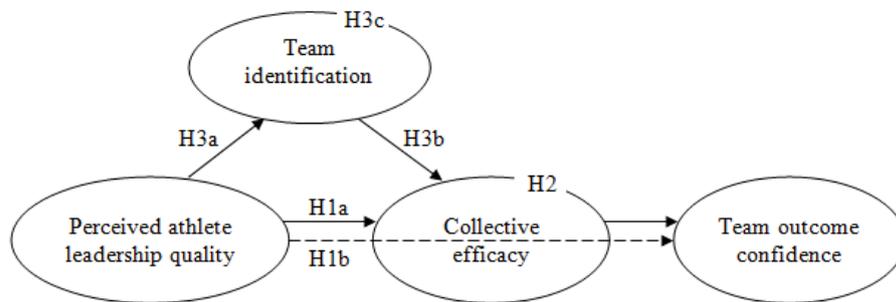


Figure 1. The hypothesized model of perceived athlete leadership quality, team identification, process-oriented collective efficacy, and outcome-oriented team outcome confidence.

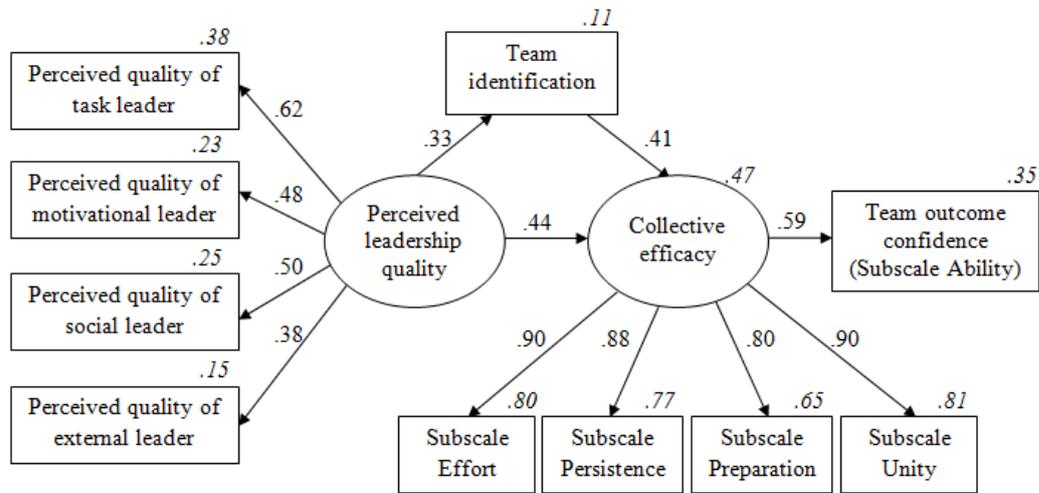


Figure 2. The structural model for the players (excluding the leaders) of athlete leadership quality, team identification, collective efficacy and team outcome confidence with the regression coefficients and the proportions explained variance in italic. All coefficients presented are standardized and significant ($p < .001$). Goodness-of-fit indices were $\chi^2/df = 2.85$; $GFI = .95$; $AGFI = .92$; $CFI = .96$; $RMSEA = .07$.

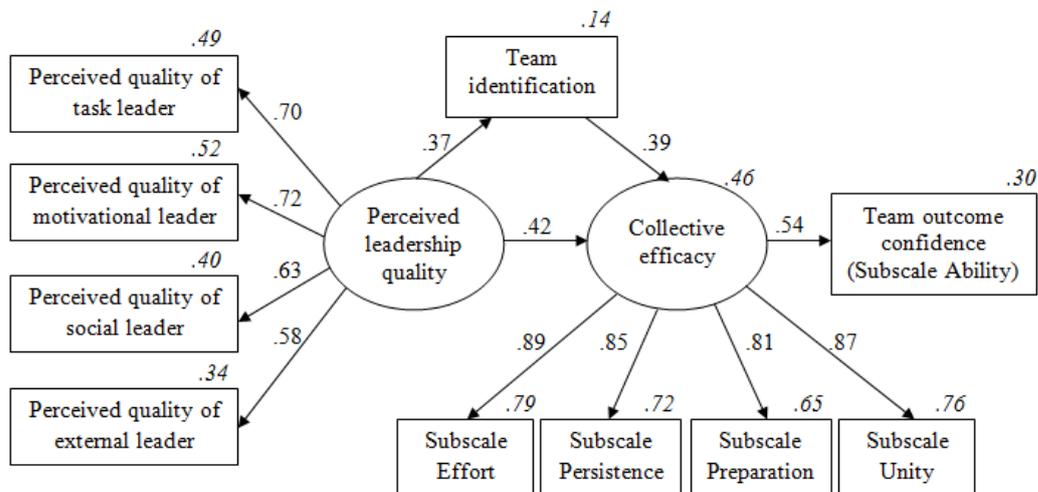


Figure 3. The structural model for the coaches including coaches’ perceptions of athlete leadership quality, coaches’ team identification, their collective efficacy and their team outcome confidence with the regression coefficients and the proportions explained variance in *italics*. All coefficients presented are standardized and significant ($p < .001$). Goodness-of-fit indices were: $\chi^2/df = 2.41$; $GFI = .95$; $AGFI = .92$; $CFI = .97$; $RMSEA = .07$.

Table 1. The definitions of the four leadership roles, as outlined by Fransen and colleagues (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 2. Sport specific sample characteristics

	Participants	Level	Team gender Men (♂) Women (♀)	Function Players (P) Coaches (C)	Mean age (years)	Average experience (years)
Basketball	1,222 (43%)	18 E (2%)	839 ♂ (69%)	814 P (67%)	23.42	13.87
		220 N (18%)	383 ♀ (31%)	408 C (33%)	40.67	14.59
		865 P (71%)				
		33 RG (3%)				
		28 RC (2%)				
Volleyball	818 (29%)	58 Y (5%)				
		21 E (3%)	327 ♂ (40%)	450 P (55%)	23.72	12.98
		144 N (18%)	491 ♀ (60%)	368 C (45%)	43.28	15.56
		448 P (55%)				
		106 RG (13%)				
Soccer	447 (16%)	34 RC (4%)				
		65 Y (8%)				
		50 E (11%)	419 ♂ (94%)	107 P (24%)	20.81	13.73
		100 N (22%)	28 ♀ (6%)	340 C (76%)	42.53	11.76
		178 P (40%)				
Handball	85 (3%)	51 RG (11%)				
		11 RC (3%)				
		57 Y (13%)				
		10 E (12%)	59 ♂ (69%)	45 P (53%)	21.87	12.18
		34 N (40%)	26 ♀ (31%)	40 C (47%)	41.55	15.05
Netball	83 (3%)	21 P (25%)				
		6 RG (7%)				
		14 Y (17%)				
		24 E (29%)	43 ♂ (52%)	50 P (60%)	22.94	15.12
		36 N (43%)	40 ♀ (48%)	33 C (40%)	39.00	15.03
Hockey	61 (2%)	3 P (4%)				
		3 RG (4%)				
		2 RC (2%)				
		15 Y (18%)				
		9 E (15%)	33 ♂ (54%)	44 P (72%)	24.20	14.82
Rugby	57 (2%)	32 N (53%)	28 ♀ (46%)	17 C (28%)	45.35	10.82
		2 P (3%)				
		7 RG (12%)				
		3 RC (5%)				
		8 Y (13%)				
Rugby	57 (2%)	6 E (11%)	49 ♂ (86%)	33 P (58%)	22.67	3.51
		27 N (47%)	8 ♀ (14%)	24 C (42%)	38.25	10.08
		4 P (7%)				
		14 RG (25%)				
		1 RC (2%)				
		5 Y (9%)				

	Participants	Level	Team gender Men (♂) Women (♀)	Function Players (P) Coaches (C)	Mean age (years)	Average experience (years)
Water polo	51 (2%)	9 E (18%)	46 ♂ (90%)	36 P (71%)	23.58	11.58
		35 N (69%)	5 ♀ (10%)	15 C (29%)	37.80	13.60
		3 RG (6%)				
		2 RC (4%)				
2 Y (4%)						
Ice hockey	43 (2%)	12 E (28%)	40 ♂ (93%)	30 P (70%)	25.83	13.53
		17 N (40%)	3 ♀ (7%)	13 C (30%)	44.23	13.31
		1 P (2%)				
		10 RC (23%)				
		3 Y (7%)				
Total sample	2,867	159 E (6%)	1,855 ♂ (65%)	1,609 P (56%)	23.33	13.36
		645 N (23%)	1,012 ♀ (35%)	1,258 C (44%)	41.94	13.97
		1,522 P (53%)				
		223 RG (8%)				
		91 RC (3%)				
227 Y (8%)						

Note. The sample of the players excludes the players who perceived themselves as an athlete leader (task, motivational, social, or external leader). Levels; E, elite level; N, national level; P, provincial level; RG, regional level; RC, recreational level; Y, youth.

Table 3. Means, standard deviations, correlations and Cronbach’s α ’s across all variables for players and coaches.

Variable	α	M	SD	1	2	3	4
Players ($n = 1,609$)							
1. Perceived quality athlete leadership	.57	1.84	.67	1	.30	.38	.24
1a. Task leader		1.78	.93	.78	.25	.34	.25
1b. Motivational leader		1.90	.74	.73	.17	.29	.23
1c. Social leader		1.99	.75	.74	.23	.26	.13
1d. External leader		1.85	.90	.75	.23	.28	.16
2. Team identification	.93	1.70	1.12	.30	1	.61	.39
3. Process-oriented collective efficacy	.95	1.20	1.00	.38	.61	1	.63
3a. Subscale Effort	.84	1.49	1.01	.33	.56	.92	.54
3b. Subscale Persistence	.84	1.15	1.14	.32	.50	.91	.57
3c. Subscale Preparation	.84	1.00	1.14	.33	.52	.88	.61
3d. Subscale Unity	.85	1.18	1.12	.39	.62	.91	.53
4. Outcome-oriented team confidence (Subscale Ability)	.92	1.27	1.25	.24	.39	.63	1
Coaches ($n = 1,258$)							
1. Perceived quality athlete leadership	.76	1.87	.66	1	.31	.46	.26
1a. Task leader		1.86	.77	.82	.29	.43	.24
1b. Motivational leader		1.93	.76	.82	.27	.40	.21
1c. Social leader		1.98	.74	.80	.23	.33	.15
1d. External leader		1.97	.87	.78	.24	.34	.19
2. Team identification	.89	1.85	.90	.31	1	.55	.38
3. Process-oriented collective efficacy	.95	1.49	.89	.46	.55	1	.62
3a. Subscale Effort	.86	1.68	.91	.41	.51	.92	.53
3b. Subscale Persistence	.83	1.38	1.02	.39	.47	.91	.57
3c. Subscale Preparation	.86	1.38	1.04	.39	.49	.90	.62
3d. Subscale Unity	.83	1.51	.94	.47	.53	.92	.55
4. Outcome-oriented team confidence (Subscale Ability)	.93	1.45	1.23	.26	.38	.62	1

Note. All variables were assessed on a 7pt. Likert scale, ranging from -3 to +3. All correlations were significant at the 0.01 level.