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Collective efficacy at the Rugby World Cup 2015 – The role of imagery and observation

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Abstract

The Rugby World Cup in 2015 will present each competing team with unique psychological challenges not usually encountered in normal international fixtures. In the “pressure-pot” environment of the tournament, teams that have the strongest sense of collective efficacy will most likely perform to their best and respond positively to the outside stressors (e.g., media interest, public expectations). In this review, the importance of collective efficacy to team performance at the World Cup in terms of team resiliency and minimising process losses is discussed. In addition, the relationship between collective efficacy and other psychological factors such as team cohesion is highlighted. From a practical perspective, an introduction to interventions to develop collective efficacy is provided. In particular, the neuroscience evidence for the use of imagery and observation interventions to improve individual collective efficacy perceptions is highlighted. It is emphasised how these interventions are particularly suited to international teams who compete together sporadically. Finally, specific recommendations are made such that practitioners might be able to implement these strategies with their teams before the World Cup.

Keywords: Group dynamics, team resilience, imagery, observation

Every four years in rugby union, international rugby teams compete together for the Webb Ellis Trophy – the World Cup. The four-year cycle and prestige of this event makes it unique from the perspective of team dynamics, compared to the remainder of international rugby fixtures. Research indicates that elite athletes encounter organisational and competitive stressors from a number of different perspectives, including personal performance (e.g., completing a set piece), environmental issues (e.g., staying in hotels), personal issues (e.g., being away from family), leadership issues (e.g., relationship with coach) and team issues (e.g., relationship with team members; e.g., Fletcher, Hanton, Mellalieu, & Neil, 2012). When these stressors occur in the context of a large competition like the World Cup, teams that have high levels of collective efficacy are more likely to be resilient to these stressors (cf. Morgan, Fletcher, & Sarkar, 2013).

Anecdotal reports from previous Rugby World Cups illustrate specific stressors, such as coach–athlete relationships and public expectation, which may impact directly on team dynamics. For example, in 2011, the French team was reported to be on the brink of mutiny following communication breakdowns between the head coach and a number of players (The Week, 27 September 2011). As research indicates that effective coach–athlete relationships appear to predict collective efficacy in teams (Hampson & Jowett, 2014), this event likely had a damaging effect on the team. As another example, New Zealand, who are often favourites, have been consistent underachievers at all but the 1987 and the 2011 World Cups. The media portray this underperformance as choking (e.g., Gulf News, 6 September 2011), which the literature indicates is moderated by group factors such as cohesion (e.g., Hill & Shaw, 2013). Although there is considerable poetic-licence and bias in media reporting, and there is no way to know for sure that both these events occurred in the manner described by the media, both these historical examples illustrate the importance of understanding specific stressors and how this impacts on group dynamics during the competition.
This review will focus on how collective efficacy plays a critical role in determining team performance at the Rugby World Cup. First, a discussion of collective efficacy is provided reflecting on evidence that suggests its importance for team performance and its relationship to other psychological factors (e.g., cohesion). Then, relating specifically to rugby union, possible interventions and practical implications are outlined for practitioners wishing to improve collective efficacy within their teams.

**Group processes and collective efficacy in rugby union**

Steiner’s theory of group productivity suggests that group performance is the balance between a team’s potential productivity and the process losses that naturally occur in group contexts (Steiner, 1972). Potential productivity of any team is most often considered from the perspective of the physical and technical abilities of the individual members. Teams with large numbers of talented individuals should have the required resources to defeat opponents who are less talented. However, at events like the Rugby World Cup, the environmental pressures lend themselves to a wide range of process losses. From a psychological perspective, Carron and Hausenblas’ (1998) conceptual framework for studying teams indicates that poor cohesion, communication, role clarity and acceptance, all potentially act as process losses. Team productivity therefore depends on the capacity and belief to maximise talent effectively and remain resilient to internal and external pressures.

Bandura (1997) noted that humans regularly work together towards collective objectives, such as winning a World Cup, and in such circumstances individuals will reflect and hold beliefs concerning their team’s ability to achieve their objectives. Bandura (1997, p. 477) defined collective efficacy as “a group’s shared belief in its conjoint capabilities to organise and execute the courses of action required to produce given levels of attainment” suggesting collective efficacy influences individual efforts of team members, use of available resources, persistence in the face of failure and resistance to discouragement (Bandura, 1997). This description alone highlights why it is a useful characteristic for teams in respect to highly competitive performance environments.

**Collective efficacy and team performance**

Sport psychology research has consistently demonstrated that collective efficacy has a positive effect on performance. In an early study, Hodges and Carron (1992) examined the effects of collective efficacy on the performance of a muscular endurance task. Their results indicated that following manipulated failure, groups with high collective efficacy improved their performance, whereas the performance of teams with low collective efficacy decreased. Other early research also indicated that teams with high collective efficacy maintain effort following failure, whereas those with low collective efficacy reduce their goals (Greenlees, Graydon, & Maynard, 1999; Greenlees, Nunn, Graydon, & Maynard, 1999). These laboratory studies concur with the notion that teams with high levels of collective efficacy will persist in the face of adversity and set more challenging goals (Bandura, 1986, 1997).

Research has also demonstrated that collective efficacy is related to competitive sport teams’ performance. For example, in a longitudinal study of college football teams, Myers, Payment, and Feltz (2004) demonstrated that collective efficacy predicted subsequent offensive performance. Myers, Feltz, and Short (2004) then investigated the reciprocal relationship between collective efficacy and team performance in female ice hockey teams. Their findings suggested that collective efficacy had a greater impact on performance, than performance had on collective efficacy. Their results highlighted that protecting collective efficacy is important in preparation for performance. Furthermore, it suggested that when teams perform badly, it might be possible to improve performance by manipulating collective efficacy. More recently it has been shown how athletes with higher collective efficacy are more likely to compete for top classification or higher performing teams (Leo, Sánchez-Miguel, Sánchez-Oliva, Amado, & García-Calvo, 2013).

Without undermining the positive impact of collective efficacy, it is worthwhile highlighting potential harmful effects that can occur. Specifically, research warns that collective efficacy can have damaging effects on team decision-making (Goncalo, Polman, & Maslach, 2010; Tasa & Whyte, 2005). Tasa and Whyte (2005) suggested that when collective efficacy is too high, there is danger that their confidence leads to “group think” — a phenomenon whereby a group’s cohesiveness and harmony acts as a barrier for critical thought and alternative options for action (cf. Janis, 1971). In addition, teams that develop too much collective efficacy, too early in the teams’ formation, risk missing the opportunity for process conflict, important for development and discussion of successful strategies (Goncalo et al., 2010). In the context of the Rugby World Cup, there are two implications of this. First, high levels of collective efficacy developed in advance of the World Cup, like those observed in the New Zealand All Blacks, might make teams susceptible to poor decision-making regarding strategies needed for specific opponents. Second, as international squads are often selected a
Collective efficacy and related psychological factors

Collective efficacy is also related to a number of other psychological factors. Most importantly from the perspective of group dynamics, research has shown that collective efficacy and cohesion are closely related (Heuzé, Raimbault, & Fontayne, 2006; Kozub & McDonnell, 2000). For example, in the context of rugby union, task components of cohesion have accounted for 32% of variance in collective efficacy scores (Kozub & McDonnell, 2000), with similar finding demonstrated in volleyball (Paskevich, Brawley, Dorsch, & Widemeyer, 1999). More recently, Heuzé et al. (2006) found that both task components and one social component of the group environment questionnaire were positively related to collective efficacy, thus emphasizing in particular the strong relationship of task cohesion to collective efficacy. This observation seems logical given that collective efficacy is defined as a task-specific construct (Bandura, 1997).

Research specific to rugby union has also highlighted a relationship between anxiety, positive affect and collective efficacy. Specifically, Greenlees, Nunn, Graydon, and Maynard (1999) found that collective efficacy accounted for 6% variance in cognitive anxiety and 22% variance in positive affect in rugby union players. Given that physiological and affective states have previously been identified as an antecedent of collective efficacy (Bandura, 1997), it is not surprising that anxiety in a negative sense will undermine players’ perceptions of collective efficacy. Likewise, if players experience positive affect (e.g., excitement), this will lead to more positive perceptions of collective efficacy.

Interventions to improve collective efficacy

To understand how to improve collective efficacy in sport teams, it is necessary to understand the mechanism by which teams perceive collective efficacy. Collective efficacy has similar antecedents to self-efficacy, such that mastery experiences, vicarious experiences (and imaginal experiences), verbal persuasion and physiological and affective states all contribute (Bandura, 1997), with the addition of leadership, cohesion and group size specific to collective efficacy beliefs (cf. Bandura, 1997; Carron & Hausenblas, 1998). Mastery experiences are the strongest source of self-efficacy beliefs (Bruton, Mellalieu, Shearer, Roderique-Davies, & Hall, 2013), and given the similarity to collective efficacy it is likely that mastery experiences will also be a strong source of efficacy in teams. That is, if teams experience success in terms of match outcomes or can appreciate improvements in their team’s technical abilities, they are likely to perceive higher levels of collective efficacy. From a practical perspective in rugby, this allows coaches to develop collective efficacy by ensuring teams achieve success via the achievement of pre-defined process (e.g., in-training) and performance (e.g., in-competition) goals. For instance, in training, the three-quarter line might work on a difficult attacking play. Their markers of success might include, coach-rated improvements in execution, or more objectively pre-defined notational analysis markers (e.g., hitting the correct attacking lines/angles, percentage errors etc.). In competition, goal setting and notational analysis might be combined to track goals for key performance indicators and allow team members to compare their performances across games (e.g., turnovers in possession).

Given that collective efficacy is a group construct, vicarious experiences gained through observing teammates behaviours also provide information for understanding the confidence of the team as a whole. Indeed, research suggests that observing teamwork behaviours (e.g., communication, coordination, conflict resolution) is a key group-level antecedent of collective efficacy (Fransen et al., 2012; Tasa, Taggar, & Seijts, 2007). From a mechanistic perspective, Bruton, Mellalieu, and Shearer (2014) and Shearer, Holmes, and Mellalieu (2009) suggested that collective efficacy perceptions are formed through a process of action observation and emotional empathy, which stimulates the mirror neuron system (MNS) and cortical midline structures (CMSs) in the brain. Neuroscience research has shown that both brain areas are active during action observation and empathy, and reflect similar brain activity to that observed when the same person completes the observed action or feels the same emotions themselves (Gatti et al., 2013; Schilbach et al., 2006). The role of the MNS is thought to include understanding action and intention, imitation and empathy (Rizzolatti, 2006) but ultimately from the perspective of sport allows for an understanding of what team mates are doing and if they are doing it well. In contrast, the CMS is thought to provide a more specific mechanism for social cognition, allowing individuals to empathise with others’ thoughts and feelings (Iacoboni et al., 2004) and from the perspective of team sports like rugby, allowing them to gain a sense of the team members’ emotions and perceptions of collective efficacy (see Shearer et al., 2009, for a full account).
The recent reviews in the sport psychology literature concerning the social neuroscience of collective efficacy perceptions have suggested imagery and observation as potential interventions to improve collective efficacy in sport. Research indicates that imagery and action observation share similar neural representations to those active during movement execution which include both motoric and emotional limbic areas of the brain (Carr, Iacoboni, Dubeau, Mazziotta, & Lenzi, 2003; Gallese, Keysers, & Rizzolatti, 2004; Grezes & Decety, 2001; Uddin, Iacoboni, Lange, & Keenan, 2007). Evidence for the use of imagery and observations as methods of improving collective efficacy is growing. From the perspective of imagery, a number of researchers have examined its use in this regard (Munroe-Chandler & Hall, 2005; Shearer, Mellalieu, Shearer, & Roderique-Davies, 2009; Shearer, Mellalieu, Thomson, & Shearer, 2007; Shearer, Thomson, Mellalieu, & Shearer, 2007). For example, Munroe-Chandler and Hall showed how collective efficacy improved for two of three groups from the same football team following a motivational general master imagery intervention, and Shearer and colleagues found similar result both in laboratory settings and in elite wheelchair basketball. From the perspective of observation interventions, little has been done to test their effect on collective efficacy until recently. However, in a series of experimental studies, Bruton et al. (2014) demonstrated a positive impact of video-based observation interventions on collective efficacy, in both laboratory settings and a group of basketball players. Although untested in other sports, it is reasonable to assume that this result would be transferable.

**Practical implementation of interventions**

Although in its infancy, the notion that rugby teams might be able to develop their collective efficacy via individual interventions is promising for a number of reasons. The most compelling reason from the perspective of international rugby and the Rugby World Cup is that international squad members spend the majority of their time competing with their club or regional squad in domestic competitions and therefore are less familiar with their international teammates. In this sense, imagery and observation could be used in combination to allow squad members to become attuned to positive teamwork behaviours. Recently, it has been shown that relevant sources for the development of collective efficacy include factors such as positive supportive communication, confident leadership behaviours and emotional reactions after scoring (Fransen et al., 2012). In this vein, “Good-News” video could be created that incorporated these elements from previous times the squad spent together and then used individually in preparation for the World Cup when the players are apart (i.e., outside of training camps). These videos could also be used to stimulate imagery in the players, which could be either directed or free-choice, and again would reinforce collective efficacy. The implementation of any imagery programme should consider the practical guidance provided by the PETTLEP mnemonic of imagery (Holmes & Collins, 2001) and the more recent recommendations for using this model (Wakefield, Smith, Moran, & Holmes, 2013).

Individual-based interventions for collective efficacy are also beneficial as they allow for the individualisation of the intervention process. Traditional team-building interventions follow a “one-size fits all” approach, and although research indicates the effectiveness of both indirect and direct methods (Martin, Carron, & Burke, 2008), there is little scope to individualise. Given that perceptions of collective efficacy are individually perceived, the option to target the individual’s needs is useful. For example, the hooker might predominantly consider the possession percentage of own line-outs when judging how confident his side is. In contrast, the full-back might emphasise more the ability of his teammates to make tackles and maintain a defensive line. If this information is known (e.g., via interview or questionnaire), the observation and imagery interventions can be tailored to each individual.

**Summary**

The pressure-pot environment of the Rugby World Cup places unique pressures on the teams involved compared to those experienced by players and teams during the normal yearly fixtures. Research clearly suggests that teams who have higher collective efficacy are more resilient to losses and poor performances and remain committed in respect to their goals. The sporadic nature of international rugby competition means that teams must capitalise on every opportunity to develop collective efficacy. In addition to time spent together and traditional methods of team building (e.g., team goal setting), the use of imagery and observation interventions might serve as a useful method to improve the collective efficacy of the competing teams.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

**References**


