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Review

Observation as a method to enhance collective efficacy: An integrative review

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ABSTRACT

Objectives: This review provides an integrative argument for the use of observation as an intervention to manipulate individual collective efficacy beliefs in sports teams.
Design: An exploration of the conceptual and empirical evidence underpinning observation-based interventions for increasing collective efficacy.
Method: A presentation of reflections on the following. First, we reflect on existing techniques used to increase self- and collective efficacy beliefs. Second, we consider collective efficacy in the context of observational learning and the various modeling techniques employed in the sports and motor performance literature. Third, we highlight relevant literature from neuroscience, outlining the analogous neural pathways evident for social cognition (i.e., collective efficacy) and observation.
Results: This review presents a case for the use of observation interventions to manipulate collective efficacy, drawing upon social psychological frameworks of human behavior, the observation-based literature, and contemporary understanding of brain and behavior.
Conclusions: Observation-based interventions are suited for collective efficacy manipulation in sport. There is a need to advance understanding of this relationship in order to maximize improvements in collective efficacy across group contexts.

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Collective efficacy, which refers to a team's belief in its ability to produce given levels of attainment, is important for team performance because it influences team members' individual efforts, use of available resources, persistence in the face of failure, and resistance to discouragement (Bandura, 1997). A large body of evidence exists to suggest collective efficacy has a positive effect upon group performance across many domains of group function (see Stajkovic, Lee, & Nyberg, 2009; for a meta-analysis). Despite the wealth of literature that has described collective efficacy (i.e., its antecedents and effects), less attention has been paid to methods used to change or manipulate this construct. Existing techniques, such as imagery, exhibit equivocal findings when used to manipulate collective efficacy beliefs (Shearer, Mellalieu, Shearer, & Roderique-Davies, 2009). Consequently, in order to develop a comprehensive

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method for increasing collective efficacy the specific antecedents of this construct should be considered. In this respect, observation of a group task/action can provide an individual with mastery and vicarious experiences, suggesting it may be effective for increasing collective efficacy beliefs.

The aim of this review is to present a case for the use of observation interventions to manipulate collective efficacy, drawing upon social psychological frameworks of human behavior, the observation-based literature, and contemporary understanding of brain and behavior. Following an overview of collective efficacy as a construct in the context of Bandura's (1986) social cognitive theory (SCT), and as an extension of self-efficacy, we discuss research focusing on existing interventions used to enhance efficacy beliefs in the sport-based literature. Observational learning, an important component of Bandura's SCT, is then introduced, with specific emphasis on modeling types and styles, and their link to collective efficacy. Next, we consider the contemporary social neuroscience literature that examines action observation and human social cognition, discussing evidence for the shared neural mechanisms that support the use of observation as an intervention for collective efficacy. Finally, we consider why observation of team action is an ideal intervention for collective efficacy enhancement, and provide recommendations to further understanding of the relationship between observation and collective efficacy.

1. The theoretical background to efficacy and its manipulation in sport

Bandura (1977) introduced social learning theory to advance understanding of human learning and behavior, placing emphasis on the important roles played by vicarious, symbolic, and self-regulatory processes. Social learning theory was subsequently adapted to provide greater focus on human cognition in the context of social learning, which became known as SCT (cf. Bandura, 1986). SCT provides a framework for understanding human functioning, suggesting that human achievement depends on a reciprocal triad between personal, behavioral, and environmental influences. According to SCT, self-referent thoughts mediate between knowledge and action, determining a person's behavior, thought patterns, and emotional reactions for a given situation. Of these thoughts, none is more central than individuals' judgments of their capabilities, namely self-efficacy beliefs (cf. Bandura, 1989; Pajares, 1996). Self-efficacy is defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3) reflecting the confidence an individual has in his or her ability to perform a specific task.

Efficacy beliefs are formed through a process of selection/self-reflection, interpretation, and integrated self-persuasion (Pajares, 1997). Bandura (1986, 1997) suggested four specific antecedents of self-efficacy beliefs: enactive mastery experiences; vicarious experience; verbal persuasion; and physiological/affective states, with mastery and vicarious experiences the two strongest sources (cf. Law & Hall, 2009). Bandura (1997) proposed that enactive mastery experiences are the most influential source of efficacy information as they provide direct evidence of whether one can perform at the level required to achieve success, something which has received support in sports settings (e.g., Chase, Feltz, & Lirgg, 2003). Indeed, when repeated, perceived success will lead to increased efficacy expectations and perceived failure will lead to decreased efficacy expectations (Bond, Biddle, & Ntoumanis, 2001). The effects of these experiences on efficacy perceptions depend on factors such as pre-existing knowledge structures, the difficulty of the task being mastered, and the effort expended during the mastery experience (Bandura, 1988). Vicarious experiences refer to experiences that are generated through modeling the behaviors of others. The influence of these experiences are determined by factors such as the similarity of the observed and intended performances, the extent to which the attributes of a model are similar to that of the observer, and the competence/skill level of the model being observed (George, Feltz, & Chase, 1992).

Self-efficacy judgments have been shown to have a positive relationship with individual performance across several domains of human functioning (e.g., business: Stajkovic & Luthans, 1998). However, humans often work together towards collective objectives within groups or teams and hold collective efficacy beliefs regarding the team's functional abilities for specific tasks (Bandura, 1982, 1997). Collective efficacy has been conceptualized and subsequently measured in different ways, with two definitions prominent in the sports-based literature (Myers & Feltz, 2007). The first definition by Bandura describes collective efficacy as "a group's shared belief in its conjoint capability to organize and execute the courses of action required to produce given levels of attainment" (1997, p. 477). The second definition by Zacarro, Blair, Peterson, and Zazanis labels collective efficacy as "a sense of collective competence shared among individuals when allocating, coordinating, and integrating their resources in a successful concerted response to specific situational demands" (1995, p. 309). Although similar, subtle differences exist between the two. For example, Bandura's definition considers the specific goals defined by the team (i.e., "given level of attainment") whereas the definition used by Zacarro and colleagues refers to success in general (i.e., "successful concerted response"). Since collective efficacy is an abstract construct (meaning neither definition can be truly correct or incorrect) we must consider which definition leads to the development of instruments that most accurately predict group behaviors within a given domain (cf. Maddux, 1999). As team sports performance is underpinned by the achievement of specific goals (e.g., shots on target in soccer) rather than success in general, Bandura's definition will be adopted for this review article. This definition clearly states the presence of a "shared belief" and is more specific about what a team is trying to attain (i.e., goals), potentially explaining its widespread use in the sport-based literature.

The development of collective efficacy is linked closely with that of self-efficacy, the difference being the unit of agency to which they concern. Self-efficacy exists at an individual level (cf. Bandura, 1997), whereas collective efficacy has been conceptualized and analyzed both at an individual (Heuzé, Sarrazin, Masiero, Raimbault, & Thomas, 2006) and group level (Gibson, 1999). Although collective efficacy is a group's shared belief, Bandura (1997) advocated that each team member's belief in the team's overall capabilities should be considered, and these individual measures aggregated to the team level. Therefore, both individual and group level approaches are suitable for use with the study of collective efficacy, with the choice of level contingent on the situation involved (i.e., suited to the specific context). Aggregated collective efficacy details a group's overall beliefs, but does not consider individual differences within the group (Shearer, Holmes, & Mellalieu, 2009). Given that collective efficacy is ultimately measured through individual cognitions, it seems appropriate to adopt an individual-level approach to the manipulation, measurement, and analysis of collective efficacy perceptions. This approach recognizes the unique characteristics of each team member and does not assume that one global method will work for all team members (i.e., interventions should be individualized).

The close link between self- and collective efficacy has been established empirically, with studies demonstrating a moderate positive relationship between the two (Watson, Chemers, & Preiser, 2001). As collective efficacy is in part determined by self-efficacy, the two concepts are proposed to share the same antecedents.