



Review

The dynamic group environment in sport and exercise

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ABSTRACT

Although researchers have offered insights across a range of topics (e.g., cohesion, leadership, roles, etc.), a recent review suggested that the field of group dynamics in physical activity has a strong potential for growth as an area of focus for research (Eys & Spink, 2016). The objectives of the present review are to (a) highlight the importance of group dynamics within physical activity contexts, (b) review progress made on select but key longstanding and emerging topics, and (c) provide suggestions for future research that will facilitate the progression of the field. To this end, a case is made for the necessity to understand group dynamics based on the prevalence of groups in sport and exercise contexts, in addition to the potential for satiating the fundamental need to belong (Baumeister & Leary, 1995). Finally, key topics and future research directions are embedded within four broad sections including (a) setting the stage (e.g., the group environment, team selection, and socialization), (b) structural issues (e.g., roles, leadership), (c) group processes and emergent states (e.g., cohesion), and (d) the application of group dynamics principles. Overall, there are tremendous opportunities for researchers to contribute to the theory, research, and practice of group dynamics in sport and exercise.

1. Introduction

One needs to look no further than the men's 2018 World Cup of football (soccer) to yield examples of how important group dynamics are to the culture and performance of sport teams. For example, European-based sport psychology professionals working with the English (Dr. Pippa Grange) and Swedish (Dr. Daniel Ekvall) teams made headlines for their contributions toward uniting team members and exceeding performance expectations (Jonson, 2018; Saner, 2018). Specifically, Ekvall noted that positive team dynamics were “a competitive advantage. There are a lot of things that affect a match and if we can do as many of them as well as possible, it strengthens our chances. That includes good teamwork, unity and communication” (Jonson, 2018, para. 5). The significance of group dynamics is salient across physical activity contexts. Indeed, the fitness industry is another example whereby physical activity providers, such as the November Project, SoulCycle, and Orangetheory, have taken advantage of the power of groups to promote and sustain member involvement (Brown, 2016). Similarly, Bailey, Benson, and Bruner (2017) highlighted how important organizational culture, social unity, shared experiences, and common goals were to those participating in CrossFit classes. From a practical perspective, few would argue against the strong influence that groups and group dynamics have within physical activity contexts.

Group dynamics is a term used to describe “the actions, processes, and changes that occur within and between groups” (Forsyth, 2014, p. 2), and topics housed under this umbrella term have been of interest to physical activity researchers for some time. This is demonstrated through multiple editions of key texts (e.g., *Group Dynamics in Sport*; 4th edition, Carron & Eys, 2012) as well as empirical articles reporting sport/exercise studies to context-specific journals (e.g., *Psychology of Sport and Exercise*) and others devoted to understanding groups more generally (e.g., *Group Dynamics: Theory, Research, and Practice*). However, a superficial examination of the table of contents for *Psychology of Sport and Exercise* over the past decade (2008–2018; not including special issues, commentaries, etc.), which seems appropriate given the purpose of this special edition, leads to observations about the relative coverage of group dynamics. First, of the over 900 titles scanned, only 15% appear to direct attention to group-related issues, and this percentage is perhaps generous in that titles containing the most innocuous reference to the group environment were included. A stricter criterion (e.g., a clear focus on small group variables such as cohesion or roles) would lower the percentage substantially.

Despite the limited research involving groups relative to other psychological topics in our field (Kleinert et al., 2012), a second observation is that the published research has remarkable topical variety. Notably, issues have been explored in groups ranging from dyads (e.g.,

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coach-athlete relationships, peer friendships) through to larger sport teams and exercise groups (e.g., cohesion, motivational climate). In addition, researchers have been interested in understanding individual experiences emanating from group membership (e.g., social identity, motivation), how certain members influence a group in comparison to others (e.g., peer leadership), and broader societal or cultural implications (e.g., diversity). Although traditionally emphasized topics such as cohesion and leadership continue to appear, intriguing new subject matters are emerging (e.g., team resilience, Morgan, Fletcher, & Sarkar, 2013; collective emotions, Tamminen et al., 2016).

Overall, our understanding of group dynamics within sport and exercise settings is touted to be in its adolescent stage (i.e., has a strong potential for growth as an area of focus for research; Eys & Spink, 2016), and some reflection regarding the progress and opportunities for research in this area is worthwhile. Keeping in mind that the depth and breadth of coverage is necessarily limited within one article, the objectives of the present review are to (a) highlight the importance of group dynamics within physical activity contexts, (b) review progress made on select but key longstanding and emerging topics, and (c) provide suggestions for future research that will facilitate the progression of the field.

2. The importance of group dynamics in physical activity contexts

There are two broad reasons to advocate for a research focus on the dynamics of small groups in sport and exercise contexts. First, *groups are pervasive* within physical activities. Certainly, team sports and exercise classes are the primary situations evoked when considering group scenarios involving physical activity. However, sports traditionally labelled as ‘individual’ are actually infused with varying levels of interdependence that make them targets for group investigations (Evans, Eys, & Bruner, 2012). For example, track and field athletes may participate in activities that do not require task interdependence during competition (e.g., javelin, 100 m sprints), but their training environment and club/team-level outcomes (i.e., other forms of interdependence) can greatly influence their experiences (Evans et al., 2012). Furthermore, exercise contexts can differ in terms of their objective group characteristics and subjective levels of interdependence. As one example, preferences for physical activity contexts vary based on the formality and types of relationships forming the social structure (Burke, Carron, & Eys, 2006).

A second reason supporting greater examination of group issues is that sport/exercise provides the contexts through which *the need to belong* (Baumeister & Leary, 1995) can be satisfied, and this need can also fundamentally alter the experience of physical activity. Baumeister and Leary (1995) proposed that humans have a fundamental motive for interpersonal attachments, and provided several sources of evidence supporting their claim. First, Baumeister and Leary highlighted the ease with which social bonds form. Clearly, sport teams provide a setting in which interactions and relationships are encouraged. However, even in situations that are porous from a group perspective (e.g., drop-in physical activity classes), researchers have demonstrated that participants subjectively perceive characteristics of groupness. Notably, Spink, Wilson, and Priebe (2010) reported that exercisers held moderately high perceptions that the collection of individuals in their class held a common fate, shared mutual benefits, were organized in a social structure, engaged in group processes, and viewed themselves as a group (e.g., self-categorized as a ‘we’). In addition, those perceptions of groupness were positively related to adherence.

The need to belong is also evidenced by the reluctance of people to break existing bonds, even when doing so would be to their benefit. Baumeister and Leary (1995) noted that transition periods (e.g., moving) resulting in diminished interactions prompted individuals to find ways to stay in contact with one another and plan for opportunities to reunite. Similar reunion pacts are often made by members of sport teams, and such efforts are likely facilitated in recent years with online

social platforms (e.g., Facebook; Forrest & Bruner, 2017). As it pertains to the maintenance of destructive relationships, coaches of sport teams have suggested that the management of negative influences with their groups (i.e., cancers/bad apples) entailed direct and indirect communication, supervision, discipline, and tolerance (Cope, Eys, Schinke, & Bosselut, 2010). This list of strategies is primarily geared toward maintaining group membership, and expulsion of the negative member was noted as a very last resort, particularly if that individual was talented. Finally, team members will absorb or engage in dangerous and humiliating activities, reinforcing destructive group norms, simply to remain within the team (i.e., hazing; Hamilton, Scott, LaChapelle, & O’Sullivan, 2016). In fact, athletes’ social identification with their team positively predicts their susceptibility to peer influence to engage in risky behaviors (Graupensperger, Benson, & Evans, 2018).

Baumeister and Leary (1995) also suggested that the need to belong is likely to influence individuals’ cognitions and emotions. There is ample evidence within sport/exercise research that aligns with this contention. For example, in a longitudinal examination of a long-term aerobics program based on the Theory of Planned Behavior (TPB), Courneya and McAuley (1995) found that perceptions of the social environment, including social support and group cohesion, were predictive of exercise adherence through mediating cognitions such as intentions to be physically active and participants’ attitudes toward the exercise behavior. In addition to the TPB, it should be noted that many prominent theories within exercise psychology incorporate elements of the social environment as contributors to cognitive, affective, and behavioral outcomes including Self-Determination Theory (e.g., need for relatedness; Deci & Ryan, 2000) and Social Cognitive Theory (e.g., influence of vicarious learning/modeling and verbal persuasion; Bandura, 1986). In relation to sport, perceptions of belonging have been associated with improved satisfaction, social cohesion, and motivation (Allen, 2006). Similarly, when athletes experience greater cohesion among their team, they are more likely to interpret precompetitive anxiety symptoms favourably (Wolf, Eys, & Kleinert, 2015). Finally, Tamminen et al. (2016) further reinforced the importance of the group by reporting that relationships among teammates and social norms are factors influencing athletes’ emotions, both individually and as a collective.

A final source of evidence pertains to reactions of individuals when they are deprived of their involvement. Baumeister and Leary (1995) concluded that the lack of stable and positive relationships could lead to a host of negative outcomes (e.g., illness, dissatisfaction), many of which are relevant to sport and exercise contexts. For example, a prominent aspect of the competitive environment is the selection process, and those deselected from their intended team experience a wide range of negative psychosocial and emotional outcomes (e.g., sadness, frustration, anger; Neely, McHugh, Dunn, & Holt, 2017). Furthermore, Battaglia, Kerr, and Stirling (2018) described the experiences of ice hockey goaltenders who were benched (i.e., removed from competition due to poor play), which may be analogous to partial deprivation. The social atmosphere described by these individuals, at least in the short-term, suggested that “the team bench, a place that was supposed to be associated with support, bonding, and acceptance, became a place that fostered isolation and made the goalies feel like outcasts” (Battaglia et al., 2018, p. 41).

Taken together, group processes feature prominently in physical activity contexts. Considering the need or desire for social interaction has been highlighted as an important human characteristic, continued efforts to explore group related topics in sport/exercise are warranted.

3. Key longstanding and emerging topics

The purpose of the current section is to highlight some of the topics that have been investigated within group dynamics and to offer specific paths for future work. Each of these topics deserve full reviews of their own and, in many cases, such summaries are present in the extant

literature. In short, we seek to simply draw attention to the diversity of group dynamics issues and encourage a greater focus within sport and exercise research. To accomplish this objective, key topics and future research directions are embedded within four broad sections: (a) setting the stage for group dynamics, (b) the structure present within groups, (c) the implications of group processes and emergent states, and (d) the application of group dynamics principles.

3.1. Setting the stage

Coaches and sport psychology practitioners have long aspired to create team structures that enable effective functioning. Foundational issues setting the stage for team effectiveness include understanding the group's environment, considering team member attributes, and properly selecting and socializing new team members. As it relates to the *group's environment*, two issues receiving considerable attention are the home advantage and motivational climate.

The home advantage refers to the consistent finding that “home teams in sport competitions win over 50% of the games under a balanced home and away schedule” (Courneya & Carron, 1992, p. 13). Building on this notion, Courneya and Carron (1992) proposed a feed-forward framework involving the five key components of the home advantage: game location (home, away); game location factors (crowd, learning/familiarity, travel, rules); critical psychological and behavioral states of competitors, coaches, officials; and performance outcomes. This conceptual framework served as an important catalyst for research in this area (e.g., Carron, Loughead, & Bray, 2005).

Schwartz and Barsky (1977) are credited as the first to systematically document the home advantage in professional baseball, ice hockey, and US collegiate football and basketball. A considerable body of supporting evidence has since emerged in professional sport (e.g., Pollard & Pollard, 2005) and international competitions such as the summer and winter Olympics (e.g., Balmer, Nevill, & Williams, 2003) and winter Paralympic Games (Wilson & Ramchandani, 2017). Research conducted prior to 2010 was examined via meta-analysis to determine the overall effect and impact of potential moderators. A significant advantage for home teams was observed across conditions (overall effect size of 0.604), with the effect being stronger for the pre-1950 era (versus more recent eras), playoff/championship games (versus regular season), and the sport of soccer (.674 winning percentage). No differences were found for type of sport (individual vs. team) or competitive level (collegiate vs. professional; Jamieson, 2010).

Extending beyond winning percentages, emerging work has also focused on investigating the influence of the home advantage on psychobiological responses. As an example, Fothergill, Wolfson, and Neave (2017) reported hormonal shifts in home versus away games in elite soccer, with home teams demonstrating higher cortisol levels (i.e., greater stress). Other psychobiological work by Roy and Forest (2018) examined the effects of a circadian disadvantage (i.e., playing in a different time zone) on the winning percentages in three major sport leagues in North America (i.e., NBA, NHL, and NFL). The results revealed an association between winning percentages and the number of time zones travelled for the away evening games, with a clear disadvantage for the teams travelling westward.

Motivational climate refers to “individuals’ composite views concerning the situationally emphasized goal structures operating in an achievement setting” (Duda, 2001, p. 144), and is broadly categorized into two types. The first is a task-involving or mastery climate, which pertains to the degree to which athletes perceive evaluation criteria to focus on individual progress/self-improvement, learning, achievement, and giving maximal effort (Harwood, Beauchamp, & Keegan, 2014). In contrast, evaluation criteria within an ego-involving climate focus on social comparison and the ability to demonstrate superiority over other athletes and teams (Harwood et al., 2014). Researchers have encouraged the assessment of links between motivational climate and group perceptions. As one example, Heuzé, Raimbault, and Fontayne

(2006) found that a task-involving climate positively predicted task cohesion within French adult basketball and handball teams, while an ego-involving climate negatively predicted dimensions of both task and social cohesion.¹ In addition, based on Smoll and Smith's (2008) Mastery Approach to Coaching, McLaren, Eys, and Murray (2015) demonstrated that youth soccer coaches involved in a motivational climate intervention had athletes who reported elevated perceptions of task and social cohesion at the end of the season.

A second component of setting the stage for an effective group is considering *member characteristics*. Given the wide range of features that members bring to a group, Carron and Eys (2012) attempted to simplify a complex topic by categorizing personal characteristics as either physical (e.g., size, body type, motor abilities) or psychological (e.g., attitudes, aptitudes and personality traits). As an example of the latter, researchers have explored the role of personality in interpersonal relationships within sport teams. Allen, Greenlees, and Jones (2013) noted that personality (and the diversity of personality characteristics in a team) may be related to the roles and positions athletes occupy, the coach-athlete relationship, and team cohesion, but also noted that researchers need to “move beyond the conventional focus on the individual athlete to consider the wider focus on the role of personality in social interactions and group processes” (p. 199). This represents a viable future research direction in sport group dynamics.

Another informative line of work has examined the role of identity in group members. For example, Strachan, Shields, Glassford, and Beatty (2012) investigated personal identity (operationalized as runner role identity) and social identity of participants involved in a running group. Running group identity was positively associated with the percentage of runs being conducted with the group and maladaptive reactions to group disbandment. Not surprisingly, researchers have advocated for the investigation of social identity as a salient factor contributing to physical activity adherence (Stevens et al., 2018). Related research on identity in a sport context has used the Social Identity Approach (Haslam, 2004) to understand sport behavior, group formation and development, team member support, and leadership (Rees, Haslam, Coffee, & Lavalley, 2015). Of particular interest to the current review, researchers have examined social identity in relation to group constructs such as cohesion (Bruner, Boardley, & Côté, 2014) and team performance (Murrell & Gaertner, 1992). Given the growing evidence of the team and individual benefits associated with social identity, researchers also have examined important antecedents such as leadership and groupness (e.g., Fransen, Haslam, Steffens, Vanbeselaere, De Cuyper, & Boen, 2015; Martin, Balderson, Hawkins, Wilson, & Bruner, 2017).

A third component of setting the stage pertains to *team selection* and the subsequent *socialization of group members*. Despite the importance of these two processes for most coaches and a considerable body of research in organizational psychology, there has been minimal research particularly in a youth sport setting. A focus of the limited work has been on the deselection process for athletes involved in competitive sport. As noted in an earlier section, for some deselected athletes this may lead to negative psychological and emotional consequences.

Given the dearth of research in sport, we can look to other contexts to gain insight regarding group selection processes. A recent study by Martin and Eys (2018) investigated the selection process of a high-performance air force military team, while specifically considering implications for sport. Thematic analysis of interviews with potential candidates and veteran pilots created a number of concepts (e.g., integration of new members through mentorship, utilizing tradition) that have theoretical and practical implications to sport. Further work is needed on identifying and selecting the ideal candidates for teams

¹ The general association between motivational climate and cohesion has been supported in youth sport samples (see Eys et al., 2013; Horn, Byrd, Martin, & Young, 2012; McLaren, Newland, Eys, & Newton, 2017).

beyond the previous focus on anthropometric, physiological, or objective performance indices (e.g., Gabbett, Jenkins, & Abernethy, 2011). Advancing research on selection processes and enhancing communication with athletes might aid in reducing negative outcomes associated with athlete deselection.

Finally, once team members have been selected, those new to the team need to be introduced and integrated, often having to learn the norms and culture of a specific group relatively quickly. This entry process is referred to as team socialization (Benson, Evans, & Eys, 2016), which has been identified as a key transition experience in the lifespan of an athlete (Wylleman & Lavallee, 2004). Although researchers have explored the entry experience of newcomers (e.g., Bruner, Munroe-Chandler, & Spink, 2008), there is a relative absence of theory to explain how sport teams initially engage newcomers. To address this gap, Benson, Hardy, and Eys (2016) introduced the organizational socialization model by Van Maanen and Schein (1979) to understand the tactics used to socialize new members into groups. Interviews with collegiate coaches and athletes demonstrated that the socialization process differed according to the ability and status of the incoming athletes, both informal and formal shared learning experiences were utilized, and veteran athletes represented an important conduit for such processes.

3.2. Structural issues

The structure of sport and exercise groups can be considered from physical and psychological standpoints (Carron & Eys, 2012). The geographic location of group members within sport teams and exercise classes (i.e., positions) are overt and recognizable physical aspects of a group's structure. From a psychological perspective, structure is created via specific and generalized behavioral expectations and interactions of group members. These are recognized in the roles, norms, and leadership structures present within groups, all of which have received research attention within sport and exercise.

Roles pertain to the expectations that are held for an individual in a specific position in a group. These role expectations can be generated formally (e.g., communicated by a coach directly to an athlete) or informally (e.g., not prescribed/communicated but inferred through behaviors and interactions) (Mabry & Barnes, 1980). Both formal and informal roles are easily detectible in interdependent sport teams. For example, team sport athletes come to occupy specialized task-oriented roles (i.e., consistently contributing skills to the performance of the team), auxiliary task-oriented roles (i.e., supporting roles such as the informal roles of the energy player or encourager), leadership roles (e.g., formal captainship; informal mentors), and social-oriented roles (e.g., social organizer) (Benson, Surya, & Eys, 2014). However, roles are also present in independent sport environments and exercise contexts. For instance, physical activity interventions have capitalized on the desire to satisfy role expectations by asking individuals to be responsible for taking attendance, monitoring collective goals, and setting up the class environment (Estabrooks, Harden, & Burke, 2012).

Considerable research attention has focused on formal roles as opposed to informal roles (see Eys, Schinke, Surya, & Benson, 2014, for an overview of role research), though the body of literature has underscored the complexity of role transmission and execution for both types. Successful role performance is a product of individual group members understanding their role responsibilities (i.e., role clarity), committing to their role (i.e., role acceptance), believing they have the requisite skills/abilities to fulfill their responsibilities (i.e., role efficacy), and not being overwhelmed by competing or excessive expectations (i.e., role conflict and overload).

Norms differ from roles in that they reflect generalized expectations that are applied to and shared by all group members. In short, they are informal expectations that provide information about how to behave in a social setting (Cialdini & Trost, 1998). Individuals can perceive group norms in a descriptive (i.e., how I see others behaving) or injunctive

(i.e., how I think others want me to behave) fashion (Yun & Silk, 2011). In sport, examples of typical norms include the expectation for maximal effort in both competition and training as well as engaging in the social activities of the team (Munroe, Estabrooks, Dennis, & Carron, 1999; Spink, Crozier, & Robinson, 2013). Furthermore, normative beliefs that provide information that important others are being active can increase physical activity behaviors (e.g., Priebe & Spink, 2015), particularly if one's motivation to comply is consistent with exercise-promoting norms (Kim, Eys, Robertson-Wilson, Dunn, & Rellinger, 2018).

Leadership represents a highly investigated structural aspect of sport and exercise groups. Interventions for and with exercise instructors are a conduit toward promoting greater exercise adherence (see Beauchamp & Eys, 2015). Furthermore, the quantity and quality of leadership behaviors provided by both coaches and athlete leaders are of longstanding interest to sport researchers. Multiple texts and chapters provide the necessary coverage of this topic (e.g., Beauchamp, Jackson, & Loughead, 2019). Suffice to say, leadership remains an important topic to pursue from a research perspective for several reasons. First, the full-range model of leadership offers many avenues for future research, including a focus on transformational leadership (i.e., a form of leadership that moves beyond transactional approaches; Bass & Riggio, 2006). Transformational leadership has been found to be influential in sport (Callow, Smith, Hardy, Arthur, & Hardy, 2009), exercise (Beauchamp, Welch, & Hulley, 2007), and physical education classes (Beauchamp & Morton, 2011). Second, formal (e.g., captains) and informal (e.g., mentors) peer leaders have been identified as critical to group hierarchy and performance (Fransen, Vanbeselaere, De Cuyper, Vande Broek, & Boen, 2014; Hoffman & Loughead, 2016). Finally, leadership is fundamentally impossible to engage in without the presence of followers. Proactive and context-sensitive followership (i.e., "the characteristics, behaviors, and processes of individuals acting in relation to leaders"; Uhl-Bien, Riggio, Lowe, & Carsten, 2014) is viewed by coaches as critical to the leadership process (Benson, Hardy, & Eys, 2016), and represents an interesting extension to research in this area.

Ultimately, the structure of a group provides the foundation from which interactive processes (e.g., communication) and states (e.g., cohesion) emerge. In conjunction with effectively setting the stage via the selection of individuals contributing the right mix of skills/abilities, devising an appropriate structure helps to create the underlying conditions that increase the chances for group success (Hackman, 2012). There are many opportunities for future research related to roles (e.g., informal role occupancy), norms (e.g., considering broader organizational norms and culture; see Wagstaff, 2017), and leadership (e.g., peer leadership and followership). Furthermore, underdeveloped/novel contexts (e.g., structure of exercise groups) and topics (e.g., cliques; Martin, Wilson, Evans, & Spink, 2015) offer several avenues for future research. As it pertains to the latter example, the presence of sub-groups/cliques/faultlines represents a meaningful division in the overall structure of a group that may result in both negative (e.g., isolation) and positive outcomes (e.g., social support for in-group members) (Martin et al., 2015), though a greater understanding is necessary to determine the conditions and specific effects of their presence.

3.3. Processes and emergent states

The group's task and social objectives, in addition to its member characteristics and group structure, ultimately dictate what happens over the course of a group's development and lifespan. It is useful to consider the differences between overt activities that a group engages in as it pursues its objectives (i.e., group processes) from the largely intangible "properties of the team that are typically dynamic in nature and vary as a function of team context, inputs, processes, and outcomes" (i.e., emergent states; Marks, Mathieu, & Zaccaro, 2001, p. 357). In a sport environment, this distinction was encouraged by McEwan and Beauchamp (2014), who further outlined a teamwork

model including processes such as team goal setting, communication, performance monitoring, and problem solving that occur across a variety of teamwork stages (i.e., preparation, execution, evaluation, and adjustment periods). The identified emergent states included group cohesion and collective efficacy.

Of the above mentioned variables, *group cohesion* has received the most research attention within sport and exercise psychology. It is an emergent state that is “reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron, Brawley, & Widmeyer, 1998, p. 213). Despite this focus by group dynamics researchers, much is still unknown about cohesion. In a review article reflecting on the state of cohesion research, Eys and Brawley (2018) encouraged future work to concentrate on (1) the mechanisms explaining how cohesion emerges and how it leads to group and individual outcomes, (2) understanding the temporal dynamics of cohesion, (3) seeking complementary approaches to measurement (e.g., observational in conjunction with survey-based), and (4) exploring cohesion in populations that have been understudied, noting specifically youth, high-risk groups, and athletes with disabilities. Accordingly, despite the evidence base highlighting the significance of this longstanding topic, it continues to warrant more in-depth examination.

McEwan and Beauchamp's (2014) model of teamwork concisely integrates and proposes a flow of group processes, though previous research programs typically focus on one concept at a time. For example, *intra-team communication* (i.e., verbal and non-verbal information exchange; McEwan & Beauchamp, 2014) is a critical group process that has been investigated via several methods. Sullivan and Feltz (2003) conceptualized intra-team communication to include expressions of positive and negative conflict, acceptance/consideration, and distinctiveness/uniqueness as the foundation for their Scale for Effective Communication in Team Sports. In contrast, Lausic, Tenenbaum, Eccles, Jeong, and Johnson (2009) used a coding system for communication patterns among team members that identified instances when athletes expressed action plans, facts, non-task related information, general acknowledgements, and uncertainty. Overall, a recent summary of intra-team communication (Eys, Surya, & Benson, 2017) highlights the importance of this process from theoretical and practical perspectives, and further notes future research directions including the continuation of using multiple data collection methods (i.e., surveys, observation), consideration of communication frameworks from outside of sport/exercise, and exploration of cultural similarities and differences for communication practices and preferences.

The above examples (i.e., cohesion and communication) represent but two of many processes and emergent states. Important contributions have also been made to our understanding of intrateam coordination (e.g., Eccles & Tenenbaum, 2004), competition (Harenberg, Riemer, Karreman, & Dorsch, 2016), conflict (Paradis, Carron, & Martin, 2014), and collective efficacy (see Chow & Feltz, 2014), among others. Overall, a sustained and integrated approach that (a) attempts to understand the interrelationships among the various group processes and emergent states as well as (b) considers these relationships over the lifespan of the group would have a substantive influence on the larger field of group dynamics moving forward.

3.4. Applying group dynamics principles

In sport, group dynamics principles have largely been used to improve athlete and team performance. This research can be encapsulated within the broader process of team building (TB), which is defined as “a method of helping the group to (a) increase effectiveness, (b) satisfy the needs of its members, or (c) improve work conditions” (Brawley & Paskevich, 1997, p. 13). Considering the overt emphasis on performance in sport, it is not surprising that scholars have explored a variety of TB approaches aimed at improving team functioning. This literature was synthesized in a meta-analysis conducted by Martin, Carron, and

Burke (2009). As a general summary, TB interventions had a medium to large effect on performance outcomes (Hedges $g = 0.71$). However, a noteworthy finding was that TB influenced individual athlete cognitions ($g = 0.80$) more so than it did for team cohesion ($g = 0.21$ for social and NS for task). This is particularly important given that (a) the conceptual model for TB advanced by Carron and Spink (1993) identifies cohesion as the main outcome variable and (b) a citation network and genealogical analysis highlighted the near exclusive emphasis on cohesion within the TB literature (Bruner, Beauchamp, Eys, & Côté, 2013). Based on their review, Bruner and Colleagues (2013) emphasized the need to diversify TB efforts, highlighting approaches involving goal setting (e.g., Senécal, Loughhead, & Bloom, 2008) and personal disclosure mutual sharing (PDMS; e.g., Holt & Dunn, 2006). Indeed, these approaches target many of the structural topics (e.g., roles, norms) and processes (e.g., communication) discussed previously.

Despite an overreliance on cohesion within the applied group dynamics literature, it is worth noting that exciting advances are occurring. Notably, recent interventions have involved emotional regulation and intelligence training in organizations (e.g., Wagstaff, Hanton, & Fletcher, 2013), social identity development (e.g., Rees et al., 2015), PDMS strategies (e.g., Evans, Slater, Turner, & Barker, 2013), and teamwork (McEwan & Beauchamp, in press). For instance, Evans et al. (2013) and Barker, Evans, Coffee, Slater, and McCarthy (2014) have extended previous PDMS work (see Holt & Dunn, 2006), which involves the disclosure of personal information to improve empathy, understanding, and appreciation among teammates. By having athletes collectively disclose personal stories and information, this research group demonstrated improvements in perceptions of social identity, collective efficacy, and team performance—among other outcomes—in both elite soccer (Evans et al., 2013) and cricket (Barker et al., 2014).

As another example, McEwan and Beauchamp (in press) demonstrated preliminary support for the efficacy of a teamwork training program for interdependent sport teams. This program involves the provision of feedback to teams, team and individual goal setting, brief and debrief training, scenario simulations, and the creation of a team charter. Preliminary findings revealed that intervention teams that received teamwork training displayed improvements in teamwork behavior relative to control teams (McEwan & Beauchamp, in press), yet the authors note continued investigations are required to further this line of research.

In exercise contexts, the use of group dynamics principles has traditionally sought to improve individual self-perceptions and experiences, with the aim of increasing participation and maintenance. In speaking of the importance of group processes, Estabrooks, Harden, Johnson, and Pardo (2014) stated, “the primary rationale for using small group interventions is that the group can exert a positive influence on individual behavior” (p. 164). Indeed, when comparing physical activity interventions from a range of environments (e.g., health-care, education, work, home), effectiveness improves when they are delivered to groups in comparison to individuals (Dishman & Buckworth, 1996). Similarly, although the mere presence of co-exercisers or random others can elicit increased levels of motivation and effort (e.g., Martin Ginis & Mack, 2012), such outcomes are accentuated by targeting group dynamics principles to improve connections and support within the exercise environment—in other words, by creating “true groups” (Burke, Carron, Eys, Ntoumanis, & Estabrooks, 2006).

Several examples highlight the importance of group dynamics in the promotion of physical activity. First, Estabrooks and colleagues conducted a series of community-based interventions aimed at improving physical activity levels for those involved (e.g., Walk Kansas, Estabrooks, Bradshaw, Dzewaltowski, & Smith-Ray, 2008). With regard to Walk Kansas, the authors implemented a variety of strategies oriented toward group dynamics, such as the development of distinctiveness (e.g., team names, matching t-shirts), the creation of group goals (e.g., the group was to walk figuratively across Kansas—423 miles), and the facilitation of quality interactions (e.g., group get

together, weekly communication with team captain). Their results demonstrated that participants who were classified as either inactive or insufficiently active at baseline had significant increases in levels of moderate and vigorous physical activity over the course of the intervention.

Second, in recognizing that similarity to others could influence the dynamics of exercise groups (e.g., Dunlop & Beauchamp, 2011), and that age seemed to be a particularly critical characteristic for exercise adherence (e.g., Dunlop & Beauchamp, 2012), Beauchamp et al. (2018) advanced the group-based physical activity for older adults (GOAL) randomized controlled trial. Participants were randomized to groups involving similar ages and the same gender (SASG), similar ages and mixed gender (SAMG), and “standard” mixed age mixed gender (MAMG). These researchers found that adherence to the program was significantly better for the SASG and SAMG conditions compared to the MAMG. Birds of a feather *do* seem to flock together.

A final example involves the combination of social and behavioral interventions, known as the group-mediated cognitive behavioral approach (GMCB; Brawley, Rejeski, & Lutes, 2000). Generally, these interventions involve an intensive phase whereby participants are integrated within a group, and learn to self-regulate and build self-efficacy. The transition phase involves the termination of the group, essentially attempting to wean members from group dependence and improve their ability to self-manage. Participants are then encouraged to completely self-manage exercise levels once they are distanced from the group (e.g., Cramp & Brawley, 2009; Rejeski et al., 2002). In 2014, Brawley, Flora, Locke, and Gierc summarized the 18 published studies involving GMCB approaches, and indicated that they were generally efficacious in improving adherence, social cognitions (e.g., self-efficacy), and physical functioning across a range of populations including older adults, post-natal women, and those in cardiac rehabilitation.

4. Summary

The present review sought to highlight the importance of group dynamics for the field of sport and exercise psychology, review progress of key longstanding and emerging topics, and note future research directions. Researchers are challenged to continually consider the social environment that permeates physical activity contexts, and to extend the basic and applied work that has contributed to our present understanding of group dynamics. Advances in theory, measurement, analysis techniques, and intervention design and delivery are all necessary in order to build a coherent body of knowledge for a very complex topic.

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