Leader Social Network and Team Performance: A Study of Division I Football Captains

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Within collegiate athletics, a core value in close proximity to the educational mission of institutions is performance excellence (e.g., The Ohio State University, 2017). A wide body of research has sought to identify the determinants of team performance to understand how to design and manage highly effective teams (Vincenzo, Giannoccaro, & Carbone, 2017). Athletic teams can be characterized as social communities, with team members connected through their relationships within the team. The properties of these social networks have been found to explain team outcomes (Sparrowe, Liden, & Kraimer, 2011). For example, within the context of competitive sport, winning teams have been found to communicate more frequently than losing teams (Bowers, Jentsch, Salas, & Braun, 1998; Lausic, Tennebaum, Eccles, Jeong, & Johnson, 2009). However, few studies examining flow of communication within teams have captured the exchange at the dyadic or behavioral level (Katz & Lazer, 2010; Lausic et al., 2009). A key role within an athletic team’s social network is the team captain, who serves in a leadership capacity to influence the attitudes and behaviors of other team members (Dupuis, Bloom, & Loughead, 2006). Team captains are typically viewed as an extension of the coaching staff, resulting in greater influence within the team (Chelladurai & Riemer, 1998). Unfortunately, this critical population is often overlooked as leaders within collegiate athletics due to the power and presence of coaches (Chelladurai, 1993). A greater understanding of the influence of collegiate team captains on team performance can enhance the coaching staff’s ability to leverage captains as a strategic human resource to increase the overall effectiveness of the team. Therefore, the purpose of this study is to examine the effect of team captains’ intra-team social networks on team performance.

From a theoretical perspective, a social network reflects the webs of relationships (ties) among individuals or entities (Quatman & Chelladurai, 2008). Social network theory examines the social world through the lens of the relational components present within phenomena. Two central concepts within interpersonal social networks are the structure and content of the dyadic connection between individuals (Balkundi, & Harrison, 2006). The social network structure illustrates the pattern of connections among individuals, with the degree of interconnectedness within a network considered the density of the network’s structure. Comparatively, the nature of the tie reflects the social network content, with the resources that flow through the network structure characterized as instrumental and expressive.

The effects of social networks in organizations has been broadly examined within management research (Moliterno & Mahony, 2011), however, there is a general lack of consensus surrounding the effects (Vincenzo et al. 2017). Within Balkundi and Harrison’s (2006) theoretical framework linking team network structure to team outcomes, the authors assert a positive relationship between the density and centrality of ties in a team’s social network and team performance. Moreover, teams with a greater number of ties (high-density) should have greater collaboration and information sharing, positively impacting successful team performance. Additionally, teams with formal leaders (strong-centrality) should be able to leverage the influence and ties of central leaders to disseminate information and guide team members towards collective goals, positively affecting successful team performance. Within the context of collegiate athletics, we hypothesize: H1) higher leader network density will result in higher team performance outcome (i.e., winning); and H2) stronger leader network centrality will result in higher team performance outcome (i.e., winning).

This study investigated the link between collegiate football team captains’ social networks and team performance. The researchers selected a National Collegiate Athletic Association (NCAA) Division I men’s football program at a large Midwestern university for observation. The football program’s four team captains, selected by the players prior to the beginning of the season, were deemed eligible for the purpose of the study. The team captains were between the ages of 18-23 years, fulfilling linebacker, wide receiver, running back, and defensive back positions. For a period of three consecutive weeks mid-season, the researchers attended Tuesday, Wednesday, and Thursday practice
sessions and recorded the intra-team communication of the four captains with other team members pre-practice and during practice (while on the sideline and during position drills, excluding team drills per coaching staff request). Each team captain was filmed separately using a digital video camera, in which the players’ number was clearly visible for subsequent coding.

At the conclusion of data collection, the researchers coded each identified interaction between the team captains and other team members. The captains’ non-verbal acknowledgement of another team member for a continuous period of time was considered an interaction, for which physical contact between players during the interaction (excluding contact associated with drills) was coded separately. The coded interactions were organized based on critical components of the practice session - pre-practice, main practice (separate from a position drill), and during a drill. For the purpose of analysis, the players’ uniform number and jersey color were coded to identify which players interacted with team captains. Following the coding process, the researchers mapped the leaders’ social networks using UCInet software (Borgatti, Everett, & Freeman, 2002). The social network analysis was based on node centrality, with team member nodes in close proximity to the team captain indicating more communication with that player (Monge & Contractor, 2003).

As previously noted, H1 posits that higher network density will result in positive team outcomes, in this setting, winning a football game. Results indicate that leader networks were more dense during practices leading up to a loss (.532) than practices leading up to a win (.431). Thus, H1 is not supported. Furthermore, H2 posits that centrality of the leader network will result in a positive outcome (winning). Results indicate that leaders where more central figures in the network during practices culminating in a loss (64.79) than practices culminating in a win (36.50). Thus, H2 is also not supported.

Based on prior research and the common structure of networks this study sought to build upon findings that indicate higher density and centrality of leaders results in higher team performance (Moliterno & Mahony, 2011). However, the findings of this study suggest the opposite, in that network density was lower during the week of practice leading to a win and higher during the practices that culminated in a loss. This may be explained by the uniqueness of competitive sport compared to corporate organizations. Perhaps knowing the upcoming game would be highly competitive, team captains made a concerted effort to communicate with teammates. The result at the end of the week was still a loss, but the team communicated and prepared more nonetheless. The same can be suggested about network centrality. Results suggest that team captains were highly central to the entire team’s communication structure during the weeks leading up to a loss and less so during the weeks leading up to a win. One interesting finding related to centrality was even though team captains were not as central during practices leading up to a win, the importance of their position as the central node of communication for the team remained extremely similar during practices leading up to a win (.362) and practices leading up to a loss (.371). This indicates that although density and centrality differed, the position of team captain was regarded as critical in maintaining the overall flow of communication in the network. Removing the team captain, according to these findings, regardless of the week’s result would carry an extremely negative impact on the network.