The purpose of this paper is to focus more attention on the potential value of a structural social network approach for understanding social interaction, relationships, structures, and change in sport. Despite growing interest in this approach in sociology in general, little attention has been paid to it by sport sociologists. Examples of applications to sport are presented concerning the study of pain and injury, small groups and subcultures, organizational relations, coaching burnout and deviance, and managerial recruitment and stacking.

Prominent among the perspectives seen in the work of North American sport sociologists over the past decade have been a variety of cultural, interpretive, critical, interactionist, and feminist perspectives (Nixon, 1991). Combinations of these perspectives often are seen in the sport sociology of this period, and much of this sport sociology expresses or suggests an antipositivist orientation and some of it even an antistructuralist stance. Using Harris's (1989) distinction between emphases on "suited-up" and "stripped-down" sport sociologies, one could argue that there has been a preference for a qualitative or discursive focus on the suited-up level of sport, with its dramatic and expressive meanings for people, in cultural, interpretive, interactionist, and many critical and feminist studies of sport in recent years.

It is not my intention to challenge the value or contributions of these kinds of studies of sport. I would like to argue instead that sport sociology could benefit from relatively more attention to the stripped-down level of social interaction and underlying social structures. A structural sport sociology focusing on such stripped-down analysis would utilize contemporary social network perspectives,
concepts, and methods to concentrate on the nature and influence of social interaction and underlying social structures in sport. Parenthetically, I am not urging an exclusive reliance on either qualitative or quantitative research, but structural analysis of the sort I am describing readily lends itself to mathematical modeling and quantitative methods.

Contemporary structural social network analysis provides us with useful conceptual and methodological tools for identifying and understanding social interaction, structures, and change (e.g., see Berkowitz, 1982; Burt & Minor, 1983; Freeman, White, & Romney, 1992; Mayhew, 1981a, 1981b; Scott, 1991; Smith, 1987, chapter 11; Wellman, 1988). Some network analysts have tried to study the complex structure of social relations in whole networks, and others, seeing the conceptual and methodological limitations of such studies, have concentrated on smaller egocentric—or personal—social networks defined from the standpoint of focal individuals. In either case, the focus is on structures of social relations that directly or indirectly link people to each other and to the assorted groups, organizations, communities, and other collectivities that are part of their social environment.

Unlike sociologists in general, relatively few sport sociologists have explicitly employed the conceptual orientation or methodological techniques of such social network analysis. My purpose is to draw attention to possible areas of application of structural social network analysis to the study of sport.

Social Network Analysis for the Sociology of Sport

What follow are specific examples and types of explicitly or implicitly network-related sport sociology research and examples of some ways that sport sociology could benefit from a more conscious and rigorous use of network ideas and methods. In addition, some examples are provided of social network research in other contexts that might suggest additional directions for the structural social network analysis of sport.

Pain, Injury, and Social Networks

Big-time athletes face a conspiratorial structure and culture that induce or constrain them to play with pain and injuries (Nixon, 1993a). I have tried to show how social networks in sport, which I call "sportsnets," operate conspiratorially or collusively to influence the choices and decisions and block the alternatives of athletes so that they act in ways that reinforce the values and norms of the culture of risk that perpetuates these networks (Nixon, 1992). Results from an ongoing research project show that various types of social relations with significant others in their sportsnet, including pressure to play hurt, discouragement from playing hurt, and sympathy or caring about sports injuries and pain, had more effects than social status, sports status, and injury experience variables on how college athletes responded to their pain and injuries (Nixon, 1993b).

In general, this work focuses on how social relations and social structural influences mediate and impose cultural messages that rationalize and "normalize" pain and injury in sport, and how these influences induce athletes to play with pain and injuries, despite serious risks to fitness and health. By being exposed to "biased social support" in their networks of teammates, other athletes, coaches, fans, and the sports media, athletes are subtly and overtly constrained
to take these risks and, indeed, often are unaware that they might have a choice. The biased social support to which they are exposed encourages risk taking, personal sacrifice, and a level of sports commitment that precludes notions of resting or sitting on the sidelines except in the cases of objectively debilitating pain and injuries that make participation impossible.

Sportsnets are relatively more likely to entrap athletes in a culture of risk and foster a self-abusive pattern of risk, pain, and injury when the networks are (a) larger (and athletes are more easily replaced), (b) denser (network members have more contacts with each other than with people outside the sportsnet), (c) more centralized in their control over the flow of information and resources, (d) higher in the reachability of athletes to coaches and other authorities, (e) more closed for athletes (more restricted in permissible contacts with people outside the sportsnet), (f) more homogeneous in the transactional content of member relations, and (g) more stable in their social relational patterns (Nixon, 1992). These ideas are grounded in the assumptions that athletes tend to be most receptive to messages of risk and sacrifice and least likely to ask questions about the implications of their pain and injuries when they are enmeshed in sportsnets with these properties; when they are intensely tied to the members of such networks; and when they have more consuming or “multiplex” relations with teammates and more dependent, asymmetric relations favoring coaches and other sportsnet gatekeepers, bridges, stars, and authorities. This framework adds to the understanding of college athletes’ role engulfment described by Adler and Adler (1991) in their study of big-time college basketball players.

Other Directions for Social Network Analysis of Sport

Small Group and Subcultural Analyses

Network analysis provides a remedy for what Lüschen (1986) referred to as the “overpsychologized” treatment of the small group in sport. In fact, a remedy is needed for the relative neglect of groups and small group interaction in sport sociology. Structurally oriented network studies could provide important insights into the effects of group and relational properties of sports teams, such as size, social composition, integration and solidarity, leadership and status-influence structures, personnel turnover, various aspects of communication patterns, and processes of cooperation, competition, and conflict, on team productivity and success.

Without dismissing Melnick’s (1986) argument that psychological factors also contribute to group structure, group process, and group performance and should not be ignored in the study of small groups in sport, Lüschen’s call for sociologically and structurally oriented sports group studies remains compelling because much about the nature of group dynamics in sport and about the relevance of sports groups to understanding other kinds of groups has been overlooked. Such studies also could provide sport sociologists with a chance to rectify their inattention to aspects of sport life much studied outside sport, such as group development, coalition formation, and social pressures on members (Widmeyer, 1986).

The study by Allison, Duda, and Beuter (1991) of a trekking expedition through the Himalayas reveals the potential relevance of a structural network approach for understanding how goal-oriented groups such as sports teams form, develop, and dissolve through processes of intragroup cooperation and conflict.
Furthermore, ethnographies of sports subcultures (e.g., Klein, 1986, on bodybuilding) suggest the value of a network perspective for understanding the nature of social relations among participants in these subcultures.

**Organizational Analyses**

Network approaches are not limited to the study of interpersonal processes or social structures at the small group or microstructural level. Baxter, Margavio, and Lambert’s (1992) study of competition, legitimation, and population density in the regulatory network governing intercollegiate athletics in the United States showed that the likelihood of National Collegiate Athletic Association (NCAA) sanctions was related to the density of the competitive environment of member institutions. This work also suggests the importance of looking at differences in the structural properties, competitive practices, legitimacy of regulatory bodies and rules, and patterns of resource exchange of different networks of colleges and universities in different regions to account for variations in their likelihood of receiving NCAA penalties. An understanding of the ways different institutions in a conference or region are linked to each other and to the larger regulatory network of the NCAA could provide important sociological insights into the structural patterns and sources of rule violations and penalties in college athletics.

Frey (1978) provides another example of the use of a network approach for understanding interorganizational relations in sport in his study of patterns of cooperation and conflict within and between amateur sports federations within the amateur sports network in the United States. From his perspective, we can see why individual sports federations, operating as oligopolistic cartel-like structures, perceived a nationalized sports structure as a threat to their authority and revenue potential.

Knoppers, Meyer, Ewing, and Forrest’s (1990) study of gender and the distribution of power in college athletic departments suggests how a network approach can be used to understand flows of resources and power within sports organizations. Their research shows the importance of looking at both the revenue-producing nature of sports and the gender of coaches in trying to understand who has the greatest access to resources and who is most able to mobilize resources to exercise power in the sportsnets of individual universities. The application of power and network-exchange ideas could add to our understanding of gender relations in sport in various types of sportsnets.

Finally, Pitter’s (1990) study of an amateur sports organization reveals the importance of considering the nature of day-to-day interaction within organizational settings in sports. His analysis of a case study of power and control relations in a small community-based track-and-field club in Canada showed how member relations were influenced by a hierarchical and centralized power structure favoring coaches and the most successful athletes, which led to differential access to resources and control over the organization.

**Coaching Burnout and Deviance**

An analysis of reasons for variations in college coaches’ responses to pressure shows that responses such as burnout and deviance can be structurally defined as components of coaching role patterns and that these role patterns are influenced by structural factors in the local sportsnets of coaches (Nixon, 1990). Among the factors assumed to shape coaching roles in big-time college sportsnets
are political and economic influences on coaches’ interactions and behavior, the kinds and amount of social support flowing from coaches’ social networks of personal relationships, characteristics of the campus athletic subculture of athletes, and the objective favorability of the ratio of resources and demands upon coaches that flow through their local sportsnet. A major aim of this analysis was to conceptualize burnout and deviance among coaches as social, rather than individual, matters, and structural social network ideas were essential means of achieving this aim.

Managerial Recruitment and Stacking

Loy, Curtis, and Hillen’s (1987) study of the relationship of playing position to managerial recruitment in Japanese baseball provides a further example of the use of a social network perspective. Their research replicated, albeit with weaker associations, Grusky’s (1963) findings for North American professional baseball clubs. Both studies test Grusky’s theory of formal structure, which assumes that managers are most likely to have been players who were in the more central or high-interaction positions. Although there has been a considerable amount of research of this type since 1963, Loy et al. (1987) suggest that a number of questions remain regarding the nature of and reasons for the playing position—leadership relationship. Researchers might gain more knowledge by trying to understand the distinctive properties, such as frequency, intensity, reciprocity, multiplexity, power, and affect, of the on-field and off-field relations of players who occupy positions that are most likely to produce managers in different cultures.

Studies of stacking (e.g., Loy & McElvogue, 1970), which look at racial and ethnic segregation in playing position assignments, suggest that one of the consequences of the segregation of nonwhites into noncentral or low-interaction positions is that they are less likely to be chosen as managers. It would seem fruitful, then, to use a network approach to combine the managerial recruitment and stacking research traditions with the tradition focusing on the social contact theory of racial integration (e.g., Chu & Griffey, 1985) to determine how the racial composition of teams, stacking, and various dimensions of social relations between the races are related to each other and to minority opportunities and rewards in different sportsnets in different sports.

Conclusion

This is not an exhaustive list of potential lines of social network analysis in sport sociology. A sample of recent non-sports-related network studies indicates the range of possible applications of network analysis to the study of sport. This sample includes studies of occupational mobility, intergroup contact, network sources of ideology and belief systems, the roles of brokers and gatekeepers, labor and producer market relations, corporate interlocks, friendship and social support, primary group structures, interorganizational and community ties, networks of drug users, communication channels and networks, social movements, power in exchange networks, identity and control in social networks, political networks, and leadership and group decision-making structures. (For example, see Burt, 1992; Cook, 1982; Cook & Emerson, 1978; Cook, Emerson, Gillmore, &

Social network analysis can be used to map and understand social relations at the simplest and most complex levels of societies and the world system. It is fundamentally sociological and can be used to understand the content as well as forms of social interaction, social structure, and social change. It can be highly rigorous and can provide precise, clear, and revealing pictures and explanations of social relations. More frequent, conscious use of this approach in sport sociology offers the prospect of advancing our understanding of significant stripped-down social aspects of sport.

References


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*The journal Connections, which is the bulletin of the International Network for Social Network Analysis, frequently offers many pages of abstracts of conference papers, books, and published articles using network approaches or relating to social networks.*
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