

The Evolution of Risk Management: Toward a Safety Culture Model

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The highest frequency of lawsuits brought against sport and recreation providers are based in negligence liability (van der Smissen, 2003). As such, this litigation has become a major threat to the longevity of sport and recreation organizations. Specifically, a University of Houston Law School report (1997) indicates that the average award is over \$1.5 million, with some awards exceeding \$30 million from litigation in sport and recreation injury cases due to negligence (Appenzeller, 2005). As the frequency of these lawsuits and their respective awards continue to escalate, managing this threat will become paramount to an organization's longevity (Appenzeller, 2005).

Beyond the management of the litigation threat, there also exists a moral obligation to protect participants from injury so that their quality of life is maintained or even maximized. Injury or fear of injury from participation in sport and recreation programs is a leading reason for attrition from potentially beneficial physical activity (CDC, 2002). This fact and the resulting public relations problems being labeled an unsafe organization are continual threats within the sport and recreation industry. The Centers for Disease Control and Prevention (CDC), through its National Center for Injury Prevention and Control (NCIPC), states that "at least one of every five visits to an emergency department results from participation in sports or recreation" (CDC, 2002, p. 27). As a result, the CDC has identified sports and recreation injuries as one of its priority areas, and it is dedicated to reducing the frequency and severity of unintentional injuries through science-based, applied research and prevention programs (CDC, 2005). Specifically, the CDC has identified a research agenda that includes 12 priority areas, four of which the CDC believes warrant the greatest attention and funding. The first priority on that agenda includes assessing factors such as sociocultural and environmental influences, as they contribute to injuries (CDC, 2002).

Comparable to most risk reduction protocols, strategic risk management has evolved over considerable time. A description of this evolution has been described in a context of large-scale events (e.g. airplane crashes) and includes four stages or theories (Gordon, Flin, Mearns, & Fleming, 1996; Wilpert, 2000). Evolution stage one describes the root cause of an event as technical, where events are caused by mechanical malfunctions such as equipment failure (Wiegmann & Shappell, 2001). Evolution stage two describes the root cause of an event as human error, where events were caused by operator error (Rochlin & Von Meier, 1994; Coquelle, Cura, & Fourest, 1995). Evolution stage three describes the root cause of an event as sociotechnical, where events are caused by the interaction of technical (stage one) and human error (stage two) factors (Wiegmann et al., 2002). The fourth and final evolution stage describes the root cause of an event as the lack of safety as a value within an organization's culture (Gordon et al., 1996; Wilpert, 2000).

Furthermore, Ostrom, Wilhelmsen, and Kaplan (1993) state that in the 1930s W.H. Heinrich developed the Domino Theory of accident sequencing. Specifically, the Domino Theory posited "that a social environment conducive to accidents was the first of five dominos to fall in an accident sequence" (Ostrom et al., 1993, p. 163). Research also suggests that adequate attention be paid to organizational culture when managing risk in an organization (Elliot & Smith, 1997; Reason, 1997; Pauchant & Mitroff, 1992; Pauchant & Mitroff, 1988).

The description of the evolution of causes described in the context of large-scale events above can also be applied to the sport and recreation industry. In stage one (technical), the industry has experienced advances in protective equipment (e.g. helmets and face guards) and facility design (e.g. buffer zones and low-impact field turf) to help reduce injuries to participants. In stage two (human error), the industry has experienced enhanced training requirements (e.g. coaching and safety certifications) to appropriately plan for safety, reducing injuries to participants. In stage three (sociotechnical), the industry has experienced changes in equipment that help and encourage individuals to administer care to injured participants (e.g. the CPR mask increases willingness to perform CPR because it provides a psychological and physical protection barrier). Yet, the sport industry has experienced very few changes in stage four. Since stage four posits that individuals perform their duties as part of a coordinated team that is embedded in a particular culture, enhancements in an organization's culture could also potentially contribute to a reduction in frequency and severity of injuries (Wiegmann et al., 2002).

A resulting sub-area of study and application that has evolved from a stage four-organizational culture model is that of safety

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culture. Safety culture theorists posit that by measuring an organization's "value and priority placed on worker and public safety by everyone in every group at every level of an organization" or "safety culture," and then implementing interventions to enhance the culture of the organization, an organization can affect its safety measures (Wiegmann et al., 2002, p. 8). Thus, changes, interventions, or enhancements in an organization's culture may help to enhance safety, and numerous studies have demonstrated a relationship between an organization's culture and safety measures.

As risk management continues to evolve, so must the consummate sport and recreation manager. They must continue to be diligent and proactive in their efforts to thwart the escalating threats against their organizations. Therefore, understanding and exploiting the relationship between an organization's culture and safety measures provides a next step in the risk management evolution.

This presentation will define and contextualize safety culture within the sport and recreation industry. Furthermore, evidence of safety culture problems that resulted in injuries and deaths to participants, as well as lawsuits against providers, will be explored. Finally, this presentation will review existing research on safety culture, providing evidence for a proposed theoretical model for further sport and recreation research.