Conceptualizing Sport Organization Vulnerability and Capacity in the Context of Climate Change

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On February 12th, 2010, the Vancouver Olympics opened under rainy skies, with not a snowflake in sight. Under the scrutiny of the global media, organizers rushed to bring in snow from neighboring areas, so that the freestyle ski and snowboard events could occur on Cypress Mountain (Goldenburg, 2010). This makeshift solution was costly, and negatively impacted the event’s reputation. But this was not an anecdotal occurrence. Insufficient snow has become so ubiquitous in North American sport events that it is hardly surprising when winter events get canceled due to warm weather. Recent examples include the 2017 cancelations of the American Birkebeiner Challenge, the country’s largest cross-country skiing event, and the Men’s World Cup for alpine skiing at Lake Louise, Alberta. This accelerated issue of undesirable climate conditions for events is not unique to winter sports: the 2017 Syncrude Boreal Open, a PGA Tour of Golf event in Calgary, was canceled because of forest fires that ravaged southern Alberta. Later in the summer, the Rock’n’Roll Marathon in Montreal was canceled because of unseasonable scorching temperatures and high humidity in late September. Each cancellation carried economic and social consequences for their sport organizations and the communities in which they operate, however the precise details of these consequences have not been empirically measured. Despite the growing awareness and action taken on climate change around the world, sport organizations remain woefully ill-equipped to assess and manage the risks of this existential threat. As a first step in addressing this issue, a conceptual framework is being developed to illustrate the risk of climate change for sport organizations.

Sport and the natural environment
The relationship between sport and the natural environment is bidirectional. In one direction, sport organizations impact the natural environment through, for example, resource use and waste production. Researchers have examined that direction of the relationship since the 1990’s, most recently through the lenses of sport sustainability (Mallen, Adams, Stevens, & Thompson, 2010; Kellison & Hong, 2015; Mallen & Chard, 2011), corporate social responsibility (Ioakimidis, Stergioulas & Tripolitsioti, 2006; Trendafilova, Babiak & Heinze, 2013) and pro-environmental behaviors (Inoue & Kent, 2012; McCullough, 2011, 2013; Kellison & Kim, 2014). As such, there is growing understanding in our field about that side of the relationship. Comparatively, a limited body of research has addressed the natural environment’s impact on sport (Leopkey & Parent, 2009; Mallen & Chard, 2011; Fairley, Ruhanen & Lovegrove, 2015; Filo, Cuskelly & Wicker, 2015; Watanabe, Wicker & Yan, 2017). Of them, only two address climate change assessment and response. Evidently, many sports are reliant on very particular climate conditions to be tenable: skiers rely on snow; pond hockey players require a strong sheet of ice; golfers need a well-kept green. Consequently, if the conditions of the natural environment change, sport will be impacted in terms of opportunities to participate (supply), and interest in participating and consuming (demand). This will have subsequent implications for marketing, funding, and operating sport organizations. The lack of research in the sport management discipline that addresses climate risks may be partially responsible for the failure of practitioners to address the growing challenges that climate change presents.

A framework for addressing climate change in sport
A United Nations body called the International Strategy for Disaster Reduction (UNISDR) separates “risk factors” into two components: “hazard (determines geographical location, intensity, and probability)” and “vulnerability/capacities (determines susceptibilities and capacities)” (UNISDR, 2004, p.36). A central proposition of the current conceptual framework is that addressing the ‘hazard’ component of climate change risks through primary research requires an intimate knowledge of climate prediction models, geography, and natural resources. So, hazard research is best addressed by specialists in other disciplines. However, the vulnerability and capacity component of the climate change risk framework is indeed within the scope of the sport management discipline.
The concepts of organizational vulnerability and capacity are not new to sport management. Organizational vulnerability has been narrowly explored in the context of economic vulnerability (Cordery, Sim & Baskerville, 2013; Mahoney & Howard, 2001). Organizational capacity is the “ability of [...] organizations or organizational units to perform functions effectively, efficiently, and sustainably” (Bureau for Development Policy 1998, p. 5). This has been researched in such contexts as sport for development, not-for-profit management, sport for health promotion, and disability sport organizations (Casey, Payne & Eime, 2012; Misener & Doherty, 2013; Wicker & Bruer, 2014; Fairley, Ruhanen & Lovegrove, 2015; Ponting & O’Brien, 2015; Millar & Doherty, 2016; Svensson & Hambrick, 2016). However, applying the two concepts jointly, and specifically in the context of climate change, is novel, and a central facet of the proposed framework.

The Sport Climate Risk Framework is being developed by conceptualizing the interaction of vulnerability and organizational capacity. A framework composed of four quadrants is conceptualized, with vulnerability on the X axis, and capacity on the Y axis. This framework produces four quadrants: (1) Low Vulnerability, Low Capacity; (2) Low Vulnerability, High Capacity; (3) High Vulnerability, Low Capacity; and (4) High Vulnerability, High Capacity. In this framework, the worst-case-scenario for an organization would be to fall in Quadrant 3 (high vulnerability, low capacity), given that the organization would be in a high-risk scenario with a limited capacity to react or respond. The further implications of each quadrant for sport managers will be discussed, as will the possible future research that could explore the processes involved in moving from one quadrant to another.

Expected contributions
The key contribution of the Sport Climate Risk Framework is an illustration of the relationship between climate change and sport organizations. This is accomplished through a conceptual framing of climate-vulnerability and organizational capacity, the implications of which are manifold. First, the proposed framework take steps to bridge risk theories with organizational capacity theories within the context of sport and climate change. Second, the framework is interdisciplinary which Doherty (2012) has suggested as the necessary approach to address gaps in sport management literature relating to complex issues, such as climate change. This will make it possible for the framework to support a wide array of future research in sport management research on climate change. As the focus of the study is sport organizations, future research might explore the applicability of the instruments used to assess climate risks at the individual and community levels, in the context of sport or otherwise. Further, as this study will use a sample of winter sport managers, it would be interesting and relevant to see future research that explores the climate-vulnerability and organizational capacity link in summer sports.