

## Go Green for the Home Team: Sense of Place and Environmental Sustainability in Sport

**Brian P. McCullough**  
Seattle University  
mccullob@seattleu.edu

**Timothy B. Kellison**  
Georgia State University  
tkellison@gsu.edu

**Abstract:** The sport industry has a tremendous impact on the natural environment. As a result, sport organizations have implemented ways to reduce their impact ranging from energy upgrades, waste management programs, and fan engagement. However, fan engagement efforts have received mixed results to increase participation in sustainability initiatives. This paper proposes that sense of place can be leveraged using fan identification to increase participation in such initiatives, thereby decreasing the environmental impact of the sport organization and individual fans. A conceptual model is presented and practical examples are provided for the use and reference of sport management and sustainability educators or researchers.

**Keywords:** sense of place, sport, fan identification, sustainable behaviors, fan engagement, sport management

---

*Brian P. McCullough: McCullough is an Assistant Professor and Coordinator of the [Sport Sustainability Leadership \(SSL\)](#) program at Seattle University. His research focuses on the managerial decision making processes involving environmental sustainability initiatives among upper management and using the context of sport to influence environmental behaviors of sport spectators while game day and everyday life. He has published his research in the *Journal of Sport Management*, *Sport & Communication*, *International Journal of Sport Management & Marketing*, and *Quest*. Most recently, he published his first book, *Introduction to Environmental Sport Management*.*

*Timothy B. Kellison: Kellison is an Assistant Professor in the Department of Kinesiology and Health at Georgia State University. His research is centered on sport and the environment, public policy, and organizational theory. Kellison's work on sustainability and sport has focused on the integration of pro-environmental design and strategies in professional sports arenas, ballparks, and stadiums. His research on the topic has been published in the *Journal of Sport Management*, *Sport Management Review*, and *European Sport Management Quarterly*.*

The sport industry has a tremendous impact on the natural environment just like any other industry. According to recent estimates, the four major sport leagues in North America (i.e., National Hockey League, Major League Baseball, National Football League, and National Basketball League) contribute 35,000 metric tons of carbon emissions on an annual basis (Waste Management, n.d.) while others estimate one league's (NHL) total greenhouse emissions at 550,000 metric tons (Hulac & Cusick, 2014). Like economic impact reports where reported figures benefit the teams, leagues, and partnering organizations, environmental impact reports are seemingly underestimated as compared to outside research. A sport league and organization's impact on the natural environment comes from team travel, construction and operation of facilities (e.g., practice, match, and auxiliary facilities), games/events, procurement, and consumption of natural resources. However, the league or organization's impact is not limited simply to team operations and events. The impact of the fans (e.g., transportation, pre and post-game festivities, etc.) must also be considered in the overall environmental impact of the sport considering how the product is consumed in person (Collins & Flynn, 2008; Kellison & McCullough, 2016; McCullough, 2013). As a collective strategy, sport organizations have started to implement sustainability initiatives to reduce their organizational impact on the natural environment (Pfahl, 2011).

There are a series of examples of sport organizations at the professional and collegiate levels implementing environmental sustainability initiatives (see National Resource Defense Council, 2012, 2013). Commonly, as in other industries, sport organizations begin with highly visible and easily implemented sustainability efforts like recycling programs, community focused events, and basic fan engagement activities as part of a broader organizational strategy predominately focused on corporate social responsibility (CSR) (Casper, Pfahl, & McCullough, 2014; McCullough, Pfahl, & Nguyen, in press; Trendafilova & Babiak, 2011). Casper and colleagues (2012) note that sport managers recognize the importance of sustainability initiatives and intend to address these issues. However, these managers have shown a lack of cooperation and collaboration among outside organizations (e.g., vendors, campus sustainability offices) to leverage the influential social capital of their sport organizations to implement substantive environmental initiatives and demonstrate a deep commitment to reducing the organization's environmental impact (Pfahl, Casper, Trendafilova, McCullough, & Nguyen, 2015). As such, it seems that sport organizations have picked their lowest hanging fruits concerning the first wave of sustainability efforts, and now must make a deeper commitment to further their environmental sustainability efforts (McCullough et al., 2016). The next step that sport organizations have taken in their sustainability efforts is to engage sport fans (Casper & Pfahl, 2012; Casper et al., 2014; McCullough, 2013).

However, the United National Environmental Programme (UNEP) (2010) cautions sport managers about the challenges of engaging sport fans to reduce their contributions to the organization or event's environmental impact. Largely, the environmental impact of a sporting event is in the hands of sport fans, and sport organizations may not want to alienate their fans by forcing sustainability upon them (McCullough & Cunningham, 2011). Despite these challenges, sport organizations are developing strategies and campaigns to increase sustainable behaviors among their sport fans (Kellison & Kim, 2014; Pfahl, 2011). Consequently, sport organizations, non-governmental organizations, and researchers have begun to examine sport fan behaviors, interventions, and fan engagement programs. Casper and colleagues (2014) note that sport organizations use *green games* as a mechanism to engage fans and educate them on sustainable

behaviors while attending sporting events. Oftentimes featured once a season, green games are used to promote sustainability initiatives of sponsors. One limitation, however, is that *green games* are a temporary and one-time engagement. These games do not result in repetitive messaging that have been shown to increase sustainable behaviors among sport fans through the likes of other marketing and communication efforts (Worrell & Reuter, 2014). Further, a sporting event may not be the best forum to engage or educate fans on sustainability issues due to the salient and dominate nature of fan identification (see Branscombe & Wann, 1992; Cialdini, Borden, Thorne, Walker, Freeman, & Sloan, 1976) and the dormancy of the fan's environmental identity (Stern, 2000), a phenomenon known as identity salience hierarchy (Stryker & Serpe, 1982). Considering the challenges of salient identity hierarchy, McCullough (2013) notes that sport organizations can leverage one of their most valuable assets, fans' affiliation to their team's brand, to increase fans' sustainable behaviors. That is, the loyalty and allegiance fans have to their sport team (i.e., brand) result in an unmatched bond that sport organizations can leverage to induce fans to increase their sustainable behaviors (e.g., recycle, compost, etc.). For example, the National Hockey League connects the importance of the league and fans to be environmentally responsible through their narrative of how global warming effects the future of (frozen) pond hockey. Pond hockey is commonly linked to nostalgia of where most participants and fans learned the game as children (Fairley, Ruhanen, & Lovegrove, 2015). However, many sport organizations do not properly harness and use their fans' loyalty, identity with the team, or sense of place effectively or advantageously to benefit the sport organization (Underwood, Bond, & Baer, 2001).

To this end, the purpose of this paper is to examine how leveraging sense of place (SOP), manifested through fan identification, can encourage sport fans to engage in sustainable behaviors while attending sporting events. Specifically, we use the conceptualization of sense of place (Jorgensen & Stedman, 2011) as a frame to understand how aspects of fan identification with a sport team can activate the environmental identity in fans to increase sustainable behaviors during their game day experience. Currently, there little to empirical evidence within the sport management literature examining sense of place and its connection to marketing environmental sustainability initiatives to fans. In the following sections, we provide an overview of relevant literature, including a summary of sense of place and fan identification to orient the reader, and make recommendations to sport management students, academics, and practitioners for leveraging specific aspects unique to their sport organization's brand that can increase fans' sustainable behaviors.

### **Literature Review**

The concept of sense of place (SOP) has been integrated with multiple disciplines including recreation, tourism, and sport management and marketing (Funk & James, 2006; Gammon, 2004; Meyer, 2001). SOP is used interchangeably with other conceptualizations like place identity (Ramshaw & Hinch, 2006), place dependence (Stokols & Schumaker, 1981), and place attachment (Low & Altman, 1992). The conceptualization of SOP "involves an interplay of affect and emotions, knowledge and beliefs, and behaviors and actions" (Kyle, Graefe, & Manning). This attachment is manifested through our human experience with a particular setting or space (e.g., college campus, stadium) and bestows that space value (Milligan, 1998), which may fluctuate over time. Thus, SOP can be conceptualized as an attitude (see Jorgensen & Stedman, 2001). As a result, Jorgensen and Stedman (2001) demonstrate that SOP is

conceptualized through the sub-constructs of place attachment, place identity, and place dependence. In the following sections, we outline these three sub-constructs.

**Place attachment.** Place attachment has been defined in terms of an individual's affective or emotional connection with a specific place. These bonds are social and emotional. An individual strengthens these bonds, or attachments, they create an attitude about that interaction and place, albeit positive or negative. Social interaction is at the very essence of an individual's motivations for attending a sporting event (James & Ross, 2004; Wann, Grieve, Zapalac, & Pease, 2008). Further, sport fans can deepen their attachment to a particular space (e.g., city, campus, sport facility) because of their experiences (e.g., tailgating, attending a sporting event) and the interactions with those around them (e.g., family, friends, fellow fans), most of who are in the same in-group associated with the home team. Football tailgaters are a prime example of the social interaction or camaraderie and competition that allows an individual's attachment to grow and sustain (Peters, Okleshen, Leigh, & Hollenbeck, 2009). Peters and colleagues indicate that tailgaters commonly expressed "enjoyment in meeting new people and inviting strangers to join their tailgate" (p. 99). These instances can be heightened through the shared experiences of simple interaction (e.g., a conversation) to more memorable events (e.g., a close game, winning a championship, etc.). However, attitudes can be both positive and negative. Within sport, a negative outcome of a sporting event (i.e., loss by the home team) can create negative emotions on behalf of fans. For example, in the perennial study, Cialdini and colleagues (1976) demonstrated that college sport fans were more likely to wear the team's insignia the days following a victory than a non-victory. Likewise, the fans were more likely to use inclusive pronouns (i.e., we, us) after a team victory and exclusive pronouns (e.g., they, them) after a non-victory when discussing the team. In other instances, fans will actually separate themselves from the team's brand to protect their self-identity (e.g., not wear the team's insignia; use exclusive pronouns), a process called cutting off reflective failure (CORFing) (Wann & Branscombe, 1990). The temporal state of affective responses, or emotions, show that these attitudes can be easily influenced by an exogenous event or stimulus (Fishbein & Ajzen, 1975) such as team performance (Cialdini et al., 1976), off-field behaviors of athletes (Fink et al., 2009), and perception of service at an event (Greenwall, Fink, & Pastore, 2002). As such, it is important to differentiate between the temporal and more permanence of place attachment and place identity, respectively.

**Place identity.** Place identity refers to the "symbolic importance of the physical environment to self-definition" (Jorgensen & Stedman, 2001, p. 236). Place identity differs from place attachment in that it moves beyond temporal emotions and evaluates the individual experience of self-identity within a space. Through repetitive action, individuals can create a deeper identity with their surroundings or space. For instance, researchers found that an individual's place identity becomes deeper with more exposure or interaction within that space (Brymer, Downey, & Gray, 2009). Brymer and colleagues found that individual sport athletes (i.e., extreme sport athletes) have a deeper connection to nature (e.g., environmental identification) because of their participation in their respective outdoor sport. From this, we can understand an individual's self-concept is reflected and shaped by one's interaction within a specific space. This identity is present among tailgaters in their perseverance and longevity of their identity to a specific tailgating activity in the same locale despite threats to their identity and connection to the place (i.e., poor team performance) (Gibson, Willming, & Holdnak, 2002).

Gibson and colleagues note that sport fans consider attending sporting events, particularly on campus, as the “Mecca or center of their social world...” (p. 415), a characterization core to their identity as a fan and thus their connection to campus and the sport facility. While place identity can determine the significance to the formation of the individual’s self-concept, place dependence helps us understand how individuals are better suited to fulfill their identity at specific locations more than others.

**Place dependence.** Place dependence refers to the individual’s “perceived strength of association between him or herself and specific places” (Stokols & Shumaker). It is related to place identity, but differs in the value an individual puts on a specific space to fulfill specific tasks of their identity through a sense of belongingness. Individuals believe there is perceived behavioral advantage of being in one place over another to support their effort to achieve specific behavioral goals (Jorgensen & Stedman, 2001). Further, Gibson and colleagues comment that individuals’ common rituals and interactions with a specific space may only take place in specific locations (e.g., tailgating on campus) to fully embody their group identity. They note that attending a sporting event “may not only anchor an individual’s identity but it might also provide a forum for collective identity with the periodic opportunities to reaffirm the sense of connectivity in a stadium...” (p. 421). In fact, football fans at the University of South Carolina paid \$7,500 (\$12,739 when adjusted for inflation) for the six home games during the 1992 football season simply to ensure they had parking in a tailgating lot (Melnick, 1993). Clearly, sport fans, specifically a tailgating fan, fully express their fan identity during activities associated with a specific place (e.g., campus, sport facility).

In summary, consistent with Jorgensen and Stedman (2001), we conceptualize SOP through three concepts – place attachment, place identity, and place dependence. Place attachment is more temporal than the other two concepts. Place attachment focuses on the temporal orientation to a specific place because of an individual’s experience and interactions (e.g., personal and social). Place identity describes how the location helps fans form their own self-concepts through their individualization. Place dependence outlines individuals’ preferences to express their identity in a specific location over others. In this case, their integration into a broader community in a specific location is necessary to fulfill their identity. Gibson and colleagues demonstrate SOP among college football fans. They found “that a collegiate football team provided individuals an opportunity to express an identity (individuation) and a sense of belongingness (integration) on football Saturdays throughout the season (temporal orientation)” (cf. Funk & James, 2006, p. 196). SOP has also been used to promote and influence sustainable behaviors (Uzzell, Pol, & Badenas, 2002; Vaske & Kobrin, 2001). Based on this previous research and its connection to fan identification, SOP should be taught by sport management academics as a way to promote sustainable behaviors among sport fans. In the following section, we outline how fan identification relates to SOP.

### **Fan Identification**

Sport fans are primarily consumed with their game day experience and as a result, sport managers have found it difficult to engage their fans in their game day sustainability initiatives or even get their fans to recognize specialized programs like green games (Casper et al., 2014). However, McCullough (2011) commented that sport organizations could leverage a fan’s affiliation with a sport team to boost compliance with sustainability initiatives. We propose that leveraging fans’ SOP of their surrounding environment (e.g., stadium, tailgate areas)-through fan

identification can increase sport fans' participation in sustainability initiatives. Fan identification and SOP are related due to their social and integral part in forming an individual's identity and sense of purpose. Further, previous research concerning SOP has demonstrated that the concepts can be used to promote sustainable behaviors in the areas of tourism, recreation and sport (Farnum, Hall, & Kruger, 2005; Han, Nelson, & Kim, 2015; Korpela, 1989). In the following sections, we introduce the concept of fan identification, the tenets of SOP, and how these two concepts can help promote sustainable behaviors among sport fans.

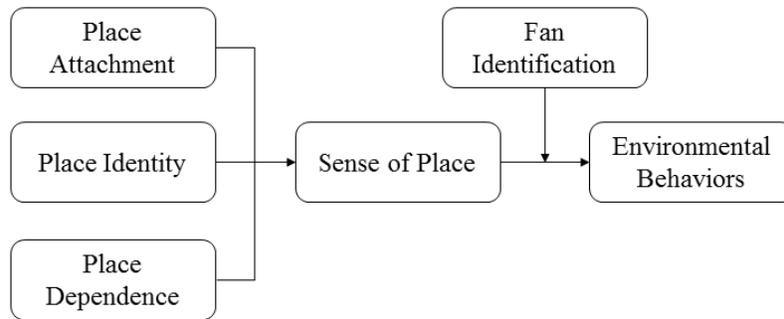
Social identity theory (Tajfel, 1982) explains the importance of self-concept of an individual. Social identity is formed through the concepts of personal identity and social identity. Personal identity is categorized by an individual's specific attributes and characteristics like personality traits, intelligence, and generosity. Further, social identity is categorized by defining oneself through the membership to a specific group. Generally, people categorize themselves as members of a religious denomination, political party, racial group, professional organization, or gender identity. These identifications enhance the self-image and categorization by its members. An individual's social group (e.g., in-group) leads to bias and preference for people within the same in-group (Wann & Grieve, 2005). Likewise, the identification with a specific sport team (i.e., fan identification) is also an important form of social identity spanning the array of sport teams from high school, collegiate, and professional sport in the United States (Underwood, Bond, & Baer, 2001) to national soccer teams in Europe and Africa (Brown, 1998).

Within the context of sport, fan identification is the primary form of identification of customers, fans, and spectators. Fan identification is defined as an individual's commitment and emotional attachment to a sport organization, which incorporates aspects of psychological and behavioral aspects of identity (Branscombe & Wann, 1991). This identity is so strong that sport fans will begin to identify themselves as part of the sport team using inclusive pronouns to boost their self-concept through their association with a strong brand (Wann & Branscombe, 1992). Fan identification has been used to understand various behavioral outcomes of sport fans including aggressive behaviors (Dimmock, Grove, & Eklund, 2005), social interaction (Platow et al., 1999), and purchase behaviors (Kwon, Trail, & James, 2007).

Sport fans identify with the various aspects that make up the sport organization's brand, which include players, coaches, facilities, logos/insignia, traditions, and language. Underwood and colleagues (2001) specifically recognize the role of a sport organization's stadium (i.e., physical facility) in the formation of the fan game day experience: "The intimate relationship between facility and fan is illustrated by the fact that many of these stadiums/arenas are referred to by more familiar nicknames" (Underwood et al., 2001 p. 7). Some examples include Ben Hill Griffin Stadium at the University of Florida, known to fans as The Swamp, or Scotland's Celtic Park, known as Paradise to fans. Underwood and colleagues continue to note that sport organizations tend to focus on the team and facility aspects of the brand rather than individual players, because players are more likely to come and go and product (i.e., team) performance is unpredictable. Thus, sport organizations can create a shared group experience by leveraging the connections fans have with the sport facility through integrated communications on the facility's brand elements.

Finally, the experiences that help form and deepen an individual's fan identification occur through his or her interaction and experiences with sport brand. As sport fans attend more games or events at a specific location (e.g., stadium), these experiences are associated with that place. Further, repetitive behaviors lead to traditions and rituals that are common among sport fans (Cottingham, 2012; Drenten, Peters, Leigh, & Hollenbeck, 2009; Eastman & Riggs, 1994),

which only further strengthens their identification and connection with the brand. As a result, a sport organization can leverage its fans' connection with the team's brand. Specifically, marketing campaigns take advantage of fans' connection to the sport facility, including surrounding areas (e.g., tailgating areas, campus, neighborhoods), to increase sustainable behaviors. Kim and colleagues (2015) examine the pro-environmental behaviors (i.e., recycling) of sport spectators at home as compared to at sporting events. They found that self-reported recycling behaviors were significantly higher at home ( $M = 4.24$ ,  $SD = 1.11$ ,  $t(404) = 16.815$ ,  $p < 0.001$  (one-tailed),  $d = 0.947$ ) as compared to away events ( $M = 3.07$ ,  $SD = 1.35$ ). This study has obvious limitations concerning the awareness and ease of recycling programs at sporting events. However, this study lends well to our conceptualization that identity, or SOP, can play a role to increase environmental behaviors among sport fans. In the following section, we outline how sport management and sustainability educators can teach current and future sport practitioners how this may manifest in a practical setting.



*Figure 1.* Conceptual model using fan identification leveraging sense of place to promote environmental behaviors among sport fans.

**Conceptual Model.** Sport management and sustainability educators or researchers can use the following conceptual model to demonstrate the influence of fan identification on the relation of sense of place on sport fans' sustainable behaviors at home sporting events. Below we graphically depict a conceptual model, based on previous research and our literature review (see Figure 1). In the model three antecedent variables (i.e., place attachment, place identity, place dependence) provide cognitive, affective, and sociological tenets to empirically determine SOP (Jorgensen & Stedman, 2011). As the conceptual model progresses, SOP then predicts sustainable behaviors (Vaske & Korbin, 2001; Uzzell et al., 2002). The relation between SOP has also been demonstrated to predict sustainable behaviors among sport fans (Han et al., 2015). However, Han and colleagues did not evaluate the relation of psychographics (i.e., fan identification) of their participants on fans' sustainable behaviors. Building on this previous work, we propose that fan identification serves as a moderating variable that positively affects the strength of the relation between SOP and sustainable behaviors of fans attending a sporting event. Fan identification has been shown to moderate other behavioral outcomes (Ngan, Prendergast, & Tsang, 2011; Normal, Clark, & Walker, 2005; Theodorakis, Koustelios, Robinson, & Barlas, 2009). For example, fan identification significantly moderated the perception of service quality and purchase intentions (Theodorakis et al., 2009). This model can be used to create marketing campaigns that leverage fans' sense of place surrounding their experiences when attending a sporting event. In the section below, we outline practical examples

highlighting the various ways sense of place and fan identification can be used in sustainability campaigns involving sport organizations.

### **Practical Examples**

A sport organization ultimately wants to deepen its fans' identification with the team with aspects that do not associate with on-field performance – an aspect of the organization that is wildly unpredictable (Sutton, McDonald, Milne, & Cimperman, 1997). Sport organizations have done this through fan identification by creating traditions (e.g., pregame ceremonies, marching band performances), symbols (e.g., Notre Dame's Touchdown Jesus, Texas A&M's 12th Man), community engagement, and in-group language (e.g., "We are Penn State"). Sport organizations also engage in social causes (e.g., breast cancer awareness, environmental sustainability) to deepen their connection with existing and potential customers (i.e., fans) (Babiak & Trendafilova, 2011). Specifically focusing on environmental sustainability, McCullough and Cunningham (2010) posit that sport organizations that engage in environmental sustainability programs can deepen the fans' identification with the team. However, when fans attend a sporting event and engage in the spectacle surrounding the event, their fan identity is activated (i.e., salience) and others (i.e., environmental identity) are not. This can be explained by identity salience hierarchy (Stryker & Serpe, 1982). This presents a challenge for sport managers endeavoring to engage fans to behave in an environmentally sustainable way during the game day experience. For example, the sport organization needs to activate the fans' environmental identification to ensure they engage in sustainable behaviors while tailgating or in the stadium. It is our position that sport organizations can leverage fan identification of its fans to engage in environmentally sustainable behaviors as the organizations launch or advance their sustainability initiatives.

Marketing campaigns should highlight the fan's connection to campus, the stadium/facility, and nostalgia of attending games and perhaps being a student, to facilitate the connection with campus. The arena, ballpark, or stadium often represents the most visible symbol of an organization's environmental commitment (Kellison & Hong, 2015). Sport fans commonly refer to their sport team's facility as Mecca or cathedrals stressing the significance of the facility to their identification, much like the feelings a religious landmark invoke among its believers. Sport organizations have begun to implement this into their broader sustainability campaigns. Despite the conservative nature on campus, Louisiana State University leverages their fans' connection with their football stadium kindly nicknamed "Death Valley." For example, the university and athletic department launched a series of advertisements with in-group messaging such as "Keep our Home Clean" and "Don't trash Mike's turf! Recycle!" Mike is the name of LSU's mascot, a Bengal tiger. These messages implicitly connect the fan with the greater community using inclusive language (e.g., our home) or to brand images like the mascot. Currently, there is no empirical evidence or published research examining the effect of these interventions on sustainable behaviors of sport spectators. As a result, the influence of such campaigns should be explored.

To this end, common in-group language should be used to leverage fan identification and the collective efforts to engage in sustainable efforts. Practical examples are Colorado University–Boulder's "Be a Good Buff" campaign started in the 2014 football season (University of Colorado, 2015). This campaign goes beyond the implicit language and makes specific requests. The request is prompted through collective action and language by saying "be a good Buff" and then makes a specific request (e.g., recycle, compost, etc.). The University of

Colorado and its athletic department have extended ‘the ask’ beyond the athletic department’s brand to include the greater university community. Additionally, the “Good Buff” campaign also focuses on behaviors beyond the game day experience to focus on at home behaviors.

Further, the collaborative efforts of the Green Chicago Restaurant Coalition, the City of Chicago, and the University of Chicago have resulted in the establishment of the Sustainable Chicago Sports Project, Green Chi Sports (see <http://greenchisports.uchicago.edu>). This project aligns the various professional teams in Chicago in a collective effort to promote sustainable behaviors in the greater Chicago metropolitan area. Their website details the organization’s purpose:

The Sustainable Chicago Sports Project will align directly with the City of Chicago’s Sustainable Chicago 2015 plan and succeed in achieving an overall reduction of environmental impact for the Chicago sports industry; effectively protecting the environment and encouraging the education of Chicagoans about the ease and enjoyment of participating in environmental sustainability.

The Sustainable Chicago Sports Project wants to engage fans across various contexts to eventually impact everyday behaviors at home and in the workplace. This campaign goes beyond one team or institution to include multiple teams and an entire city capturing an individual’s identification with the city of Chicago and the various professional teams throughout the city. These practical cases provide a broad range of examples to focus sustainability campaigns. Such campaigns can range from a sport organization to the inclusion of a complex strategy across an entire city. These efforts should focus on the in-group identity, and specifically on how that identity is related to a specific location (e.g. stadium, campus, and city).

Lastly, sport teams can use another asset to engage their fans – their identity with the city or region. Fans may already have a build in SOP that aligns with their fan identity as demonstrated in the Sustainable Chicago Sports Project. However, beyond promoting a citywide effort to engage people in sustainable initiatives, teams can promote local business and foods to reduce the team’s environmental impact. Teams like the Seattle Mariners and Seahawks, for example, are starting to offer healthier, locally sourced, organic foods in concessions. Additionally, it is common to see local craft beers and whiskeys offered in sections of the stadium. Interestingly, there is a minor league baseball team called the Hillsboro Hops that offers their own specific brew only at the stadium. These offerings may never completely replace the staple, yet unhealthy, concessionaire options of nachos, pretzels, and processed hot dogs. Teams are leveraging these options as a way to educate fans on local food sources, the environmental benefits of buying local, and trends of urban farming (see Red Sox, 2015). To this point, the Green Sport Alliance featured a daylong seminar on sustainable game day foods with corporate (Sedexo, US Foods, Sysco Foods) and sport partners (see <http://greensportsalliance.org/foodreport>). The options to engage fans in sustainability are still emerging, but one point remains clear: sport organizations must engage their fans to make the most substantial strides in their sustainability efforts.

### **Conclusion**

Sport organizations have a tremendous impact on the natural environment. Sport fans are major contributors to this impact (Collins & Flynn, 2008; McCullough, 2013). However, previous research has demonstrated the difficulty with engaging sport fans in sustainable behaviors (Casper & Pfahl, 2012; Casper et al., 2014; McCullough & Cunningham, 2011). Even sport federations have cautioned sport managers about the difficulty to engage and manage the

environmental impact of sport fans (UNEP, 2010). Researchers have suggested that fan identification (McCullough, 2013) and SOP (Kim et al., 2015) can increase sustainable behaviors among fans. Yet previous research has not explicitly explored this connection. We propose a conceptual model and provide practical examples to show how SOP and fan identification can increase sustainable behaviors at sporting events. Sport management and sustainability instructors should consider this model when teaching ways to promote sustainable behaviors at large-scale events like sporting events. Future research should empirically test the model and the interaction of fan identification on SOP.

## References

- Babiak, K., & Trendafilova, S. (2011). CSR and environmental responsibility: motives and pressures to adopt green management practices. *Corporate Social Responsibility and Environmental Management, 18*(1), 11–24. doi:10.1002/csr.229
- Branscombe, N. R., & Wann, D. L. (1991). The positive social and self-concept consequences of sports team identification. *Journal of Sport & Social Issues, 15*(2), 115–127. doi:10.1177/019372359101500202
- Brown, A. (1998). *Fanatics!: Power, identity, and fandom in football*. Psychology Press.
- Brymer, E., Downey, G., Gray, T., Downey, G., & Gray, T. (2009). Extreme sports as a precursor to environmental sustainability. *Journal of Sport & Tourism, 14*(2-3), 193–204. doi:10.1080/14775080902965223
- Casper, J. M., & Pfahl, M. E. (2012). Environmental behavior frameworks of sport and recreation undergraduate students. *Sport Management Education Journal, 6*, 8–20.
- Casper, J. M., Pfahl, M. E., & McCullough, B. P. (2014). Intercollegiate sport and the environment: Examining fan engagement based on athletics department sustainability efforts. *Journal of Issues in Intercollegiate Athletics, 7*, 65–91.
- Cialdini, R. B., Borden, R. J., Thorne, A., Walker, M. R., Freeman, S., & Sloan, L. R. (1976). Basking in reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology, 34*(3), 366–375.
- Cottingham, M. D. (2012). Interaction ritual theory and sports fans: Emotion, symbols, and solidarity. *Sociology of Sport Journal, 29*(2), 168–185.
- Dimmock, J. A., Grove, J. R., & Eklund, R. C. (2005). Reconceptualizing team identification: New dimensions and their relationship to intergroup bias. *Group Dynamics: Theory, Research, and Practice, 9*(2), 75–86.
- Drenten, J., Peters, C. O., Leigh, T., & Hollenbeck, C. R. (2009). Not just a party in the parking lot: An exploratory investigation of the motives underlying the ritual commitment of football tailgaters. *Sport Marketing Quarterly, 18*(2), 92–106.
- Eastman, S. T., & Riggs, K. E. (1994). Televised sports and ritual: fan experiences. *Sociology of Sport Journal, 11*(3), 249–274.
- Farnum, J., Hall, T., & Kruger, L. E. (2005). Sense of place in natural resource recreation and tourism: an evaluation and assessment of research findings. *General Technical Report - Pacific Northwest Research Station, USDA Forest Service, (PNW-GTR-660)*. Retrieved from <http://www.cabdirect.org/abstracts/20063075726.html>
- Fink, J. S., Parker, H. M., Brett, M., & Higgins, J. (2009). Off-field behavior of athletes and team identification: Using social identity theory and balance theory to explain fan reactions. *Journal of Sport Management, 23*(2), 142-155.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Funk, D. C., & James, J. D. (2006). Consumer loyalty: The meaning of attachment in the development of sport team allegiance. *Journal of Sport Management, 20*(2), 189–217.
- Gammon, S. (2004). Secular pilgrimage and sport tourism. In B. W. Ritchie & D. Adair (Eds.). *Sport tourism: Interrelationships, impacts and issues* (pp. 30–45). Channel View: New York.
- Gibson, H., Willming, C., & Holdnak, A. (2002). “We’re Gators ... not just Gator fans”: Serious leisure and University of Florida football. *Journal of Leisure Research, 34*(4), 397–425.

- Greenwell, T. C., Fink, J. S., & Pastore, D. L. (2002). Perceptions of the service experience: using demographic and psychographic variables to identify customer segments. *Sport Marketing Quarterly*, 11(4), 233-241.
- Han, J. H., Nelson, C. M., & Kim, C. (2015). Pro-environmental behavior in sport event tourism: roles of event attendees and destinations. *Tourism Geographies*, 1-19. doi:10.1080/14616688.2015.1084037
- Hulac, B., & Cusick, D. (2014, December 14). *The National Hockey League shoots for zero carbon emissions -- a goal for other sports?* E&E Publishing, LLC. Retrieved from <http://www.eenews.net/stories/1060010841>.
- James, J. D., & Ross, S. D. (2004). Comparing sport consumer motivations across multiple sports. *Sport Marketing Quarterly*, 13(1), 17-25.
- Jorgensen, B. S., & Stedman, R. C. (2001). Sense of place as an attitude: Lakeshore owners' attitudes toward their properties. *Journal of environmental psychology*, 21(3), 233-248.
- Kellison, T. B., & Hong, S. (2015). The adoption and diffusion of pro-environmental stadium design. *European Sport Management Quarterly*, 15, 249-269.
- Kellison, T. B., & Kim, Y. K. (2014). Marketing pro-environmental venues in professional sport: Planting seeds of change among existing and prospective consumers. *Journal of Sport Management*, 28, 34-48.
- Kellison, T. B., & McCullough, B. P. (2016). A forecast for the mainstreaming of environmental sustainability. *Sport & Entertainment Review* 2(1), 11-18
- Korpela, K. M. (1989). Place-identity as a product of environmental self-regulation. *Journal of Environmental Psychology*, 9(3), 241-256. doi:10.1016/S0272-4944(89)80038-6
- Kwon, H. H., Trail, G., & James, J. D. (2007). The mediating role of perceived value: Team identification and purchase intention of team-licensed apparel. *Journal of Sport Management*, 21(4), 540-554.
- Kyle, G., Graefe, A., & Manning, R. (2005). Testing the dimensionality of place attachment in recreational settings. *Environment and behavior*, 37(2), 153-177.
- Low, S. M., & Altman, I. (1992). Place attachment: A conceptual inquiry. In I. Altman & S. M. Low (Eds.), *Place attachment* (pp. 1-12). New York: Plenum.
- McCullough, B. P. (2013). Identifying the influences on sport spectator recycling behaviours using the theory of planned behaviour. *International Journal of Sport Management and Marketing*, 14(1), 146-168. doi:10.1504/IJSMM.2013.060631
- McCullough, B. P., & Cunningham, G. B. (2010). A conceptual model to understand the impetus to engage in and the expected organizational outcomes of green initiatives. *Quest*, 62(4), 348-363. doi: 10.1080/00336297.2010.10483654
- McCullough, B. P., & Cunningham, G. B. (2011). Recycling intentions among youth baseball spectators. *International Journal of Sport Management and Marketing*, 10(1), 104-120. doi:10.1504/IJSMM.2011.043618
- McCullough, B., Pfahl, M., & Nguyen, S. (in press). The waves of environmental sustainability in sport. *Sport in Society*, 1-40. doi:10.1080/17430437.2015.1096251
- Melnick, M. J. (1993). Searching for sociability in the stands: A theory of sports spectating. *Journal of Sport Management*, 7(1), 44-60.
- Meyer, J. L. (2001). Nature preservation, sense of place and sustainable tourism: Can the 'Yellowstone experience' survive? In S. F. McCool & R. N. Moisey (Eds.). *Tourism, Recreation and Sustainability: Linking Culture and the Environment* (pp. 91-104). CABI: New York.

- Ngan, H. M., Prendergast, G. P., & Tsang, A. S. (2011). Linking sports sponsorship with purchase intentions: team performance, stars, and the moderating role of team identification. *European Journal of Marketing*, 45(4), 551-566.
- Norman, P., Clark, T., & Walker, G. (2005). The theory of planned behavior, descriptive norms, and the moderating role of group identification. *Journal of Applied Social Psychology*, 35(5), 1008-1029.
- Pfahl, M. (2011). *Sport and the natural environment: A strategic guide*. Kendall Hunt Publishing Company.
- Pfahl, M., Casper, J., Trendafilova, S., McCullough, B. P., & Nguyen, S. N. (2015). Crossing boundaries: An examination of sustainability department and athletics department collaboration regarding environmental issues. *Communication & Sport*, 3(1), 27-56. doi:10.1177/2167479513519253
- Platow, M. J., Durante, M., Williams, N., Garrett, M., Walshe, J., Cincotta, S., ... & Barutchu, A. (1999). The contribution of sport fan social identity to the production of prosocial behavior. *Group Dynamics: Theory, Research, and Practice*, 3(2), 161-169.
- Ramshaw, G., & Hinch, T. (2006). Place identity and sport tourism: The case of the Heritage Classic Ice Hockey Event. *Current Issues in Tourism*, 9(4-5), 399-418.
- Red Sox. (2015, April 9). Red Sox create rooftop garden at Fenway Park. [Press Release] Retrieved from <http://m.mlb.com/news/article/117245668/red-sox-create-rooftop-garden-at-fenway-park>.
- Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424.
- Stokols, D., & Shumaker, S. A. (1982). The psychological context of residential mobility and well-being. *Journal of Social Issues*, 38(3), 149-171.
- Stryker, S., & Serpe, R. T. (1982). Commitment, identity salience, and role behavior: Theory and research example. In *Personality, roles, and social behavior* (pp. 199-218). Springer New York.
- Sutton, W. A., McDonald, M. A., Milne, G. R., & Cimperman, J. (1997). Creating and fostering fan identification in professional sports. *Sport Marketing Quarterly*, 6(1), 15-22.
- Theodorakis, N. D., Koustelios, A., Robinson, L., & Barlas, A. (2009). Moderating role of team identification on the relationship between service quality and repurchase intentions among spectators of professional sports. *Managing Service Quality: An International Journal*, 19(4), 456-473.
- Underwood, R., Bond, E., & Baer, R. (2001). Building service brands via social identity: Lessons from the sports marketplace. *Journal of Marketing Theory and Practice*, 9(1), 1-13.
- UNEP. (2010). *Assessing the Environmental Impacts of Consumption and Production: Priority Products and Materials*. A Report of the Working Group on the Environmental Impacts of Products and Materials to the International Panel for Sustainable Resource Management. Hertwich, E., van der Voet, E., Suh, S., Tukker, A., Huijbregts M., Kazmierczyk, P., Lenzen, M., McNeely, J., Moriguchi, Y.
- University of Colorado. (2015, September 8). *CU Athletics expands sport sustainability* [Press Release]. Retrieved from <http://www.colorado.edu/news/releases/2015/09/08/cu-athletics-expands-sports-sustainability-programs>.
- Uzzell, D., Pol, E., & Badenas, D. (2002). Place identification, social cohesion, and environmental sustainability. *Environment and Behavior*, 34(1), 26-53.

- Vaske, J. J., & Kobrin, K. C. (2001). Place attachment and environmentally responsible behavior. *The Journal of Environmental Education*, 32(4), 16–21.
- Wann, D. L., & Branscombe, N. R. (1990). Die-hard and fair-weather fans: Effects of identification on BIRGing and CORFing tendencies. *Journal of Sport & Social Issues*, 14(2), 103–117.
- Wann, D. L., & Branscombe, N. R. (1992). Emotional responses to the sports page. *Journal of Sport & Social Issues*, 16(1), 49–64. doi:10.1177/019372359201600104
- Wann, D. L., & Grieve, F. G. (2005). Biased evaluations of in-group and out-group spectator behavior at sporting events: The importance of team identification and threats to social identity. *The Journal of Social Psychology*, 145(5), 531–545.
- Wann, D. L., Grieve, F. G., Zapalac, R. K., & Pease, D. G. (2008). Motivational profiles of sport fans of different sports. *Sport Marketing Quarterly*, 17(1), 6–19.
- Waste Management. (n.d.) *Sustainable Stadiums & Arenas*. Waste Management. Retrieved from <https://www.wm.com/sustainability-services/documents/insights/Stadiums%20and%20Arenas%20Insight.pdf>.
- Worrell, E., & Reuter, M. A. (Eds). (2014). *Handbook of recycling: State-of-the-art for practitioners, analysts, and scientists*. Elsevier: Waltham, MA.