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The role of identity on receptivity to environmental messaging and its impact on fandom

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ABSTRACT

Negative fan responses to social messages reinforce sport practitioners' reluctance to implement and engage external stakeholders in environmental messaging out of fear of backlash. Drawing from the Sport Sustainability Campaign Evaluation Model (SSCEM) and its extended version (eSSCEM), we aim to empirically understand how consumers react to environmental messages. Specifically, the objectives of this paper are threefold: (1) Incorporate aspects of the SSCEM (internal constraints) and pre-existing perceptions of the importance of acting sustainably excluded from prior research into the extension; (2) Include two new KPIs specific to the sport organization (a stronger connection to the sport organization or supporting the sport organization less); and (3) Test the moderating effects of environmentalism identification on the model to determine whether environmentalism impacted the relationships within the model suggesting potential market segments. We use data from a sample of 429 NCAA Football Bowl Subdivision team ticket purchasers to show that fans' receptivity to environmental sustainability messages impacts their connection with the organization and future support. The perceived fit between environmental sustainability and the organization strongly influences receptivity. Environmentalism identification moderates these relationships to some extent, indicating differing fan responses to sustainability efforts. The study's results underscore the importance of sport organizations' effective communication of sustainability efforts to elicit positive fan responses and strengthen connections to the team.

KEYWORDS

Environmental sustainability; consumer behaviour; sport ecology; marketing; communications; sport ecology

Sport organizations often engage in social initiatives designed to promote a specific cause, whether socially or environmentally focused. These causes have included efforts to end racism (Dixon et al., 2016; Evans et al., 2020), promote gender equality (De Soysa & Zipp, 2019; Melton & MacCharles, 2021), and improve environmental sustainability (e.g., waste management system, use of public transportation; J. M. Casper et al., 2020; Inoue & Kent, 2012). Despite national polling data showing support for these types of campaigns

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(Barwick, 2020), some fans have responded negatively to such efforts. For example, some fans counterprotested the National Football League's (NFL) support of Black Lives Matter protests (Sperling & Vandegrift, 2022). Furthermore, in the National Hockey League (NHL – U.S.), a minority of fans complained about, and players refused to wear themed jerseys celebrating Pride Nights (Desjardins, 2022). The National Hockey League commissioner said these actions were a distraction from the game and cancelled all associated celebrations (Stumbaugh, 2023). Similar to these social initiatives, initial findings show that messages about environmental sustainability or climate change can polarise society (Pew Research, 2021) and may alienate sport fans (Kellison & Cianfrone, 2020). Such findings concerning environmental messages may perpetuate practitioner concerns about negative fan responses to environmental initiatives (Casper et al., 2012; Todaro et al., 2023; Trendafilova et al., 2013) and explain the slow adoption across the sport sector (McCullough & Trail, 2023).

Although researchers have noted that sport organizations are effective messengers for pro-environmental campaigns (Inoue & Kent, 2012), fans have been found to vary considerably in their responses to environmental sustainability messaging (Casper et al., 2017, 2021; Inoue & Kent, 2012; Trail & McCullough, 2020). For example, fans respond differently to pro-environmental campaigns (Trail & McCullough, 2020) and may change their sustainability intentions based on levels of fandom (Casper et al., 2017), personal identity (e.g., political affiliations; Casper et al., 2021; Kellison & Cianfrone, 2020), and environmental identity (Kashima et al., 2014; Terry et al., 1999). Furthermore, research has shown that fans' sustainability intentions or behaviours may be impacted by internal constraints, such as a lack of knowledge about what constitutes environmental sustainability, whether acting sustainably is worthwhile (Trail & McCullough, 2018, 2021), or pre-existing perceptions of the importance of acting sustainably (Casper et al., 2021). However, the extant literature is limited and has not sufficiently examined how a sport organization's environmental efforts may impact their fans' fandom intentions. Fans may respond positively to their sport organization engaging in environmental sustainability initiatives and deepen their support for the team (Casper et al., 2017); on the other hand, fans may react negatively and support the team less or cut off fandom altogether, as sport practitioners fear (Casper et al., 2012; Todaro et al., 2023; Trendafilova et al., 2013).

McCullough and Trail's (2023) eSSCEM (extended Sport Sustainability Campaign Evaluation Model) provides a useful framework to fill the above void in the literature about the rationale for being receptive to sustainability messaging. However, the Key Performance Indicators (KPIs) used by McCullough and Trail (2023) do not measure changes in fandom intentions. Examining the impact that such initiatives have on fandom intentions is theoretically and practically important to verify or dispel perceived practitioner constraints for engaging in environmental sustainability messages and theoretically to understand fans' responses to such messaging that may impact other aspects of how they interact with a specific sport brand. Accordingly, we hope to simultaneously address that deficiency and meet one of McCullough and Trail's (2023) future research suggestions to evaluate additional potential KPIs by adding fan responses to initiatives (in terms of intention to increase or decrease support for the team) as new KPIs in the model. The eSSCEM depicts team – sustainability fit and attachment to the team influencing receptivity to sustainability messaging, with the former relationship potentially being mediated by the ascription of environmental responsibility to the team. These four

variables impacted two potential KPIs (support for a green corporate partner and sustainability intentions; McCullough & Trail, 2023). They also suggested that in future use of the eSSCEM, researchers needed to include variables from both the eSSCEM and the original SSCEM, in addition to other variables that might explain additional variance in KPIs. Incorporating specific internal constraints (lack of knowledge and lack of worth; Trail & McCullough, 2018, 2020, 2021) and the importance of acting sustainably (Casper et al., 2021) would address these suggestions and potentially explain more variance in the designated KPIs.

The literature and the eSSCEM also do not consider the potential moderating effects of one's identity as an environmentalist. As we noted above, environmental identity has been shown to impact sustainability intentions and behaviours (Kashima et al., 2014; Terry et al., 1999), but no research has examined whether this extremely relevant identity might moderate all the existing relationships in the eSSCEM and impact fans' reactions to environmental initiatives by increasing or decreasing their connection to the team.

Thus, the overall focus of this paper, using fans of a U.S. collegiate football team who have not been exposed to a specific campaign or initiative, is to determine whether receptivity to environmental messaging from the sport organisation (and determinates) will increase future connection to the sport organisation or if it will cause people to support the sport organisation less in the future. Specifically, the objectives of this paper are threefold: (1) Incorporate aspects of the SSCEM (internal constraints) and additional constructs from other recent research (importance; Casper et al., 2021) into the eSSCEM that were not included in the prior research; (2) Introduce two new KPIs specific to the sport organization (intention to develop a stronger connection to the sport organization or intention to support the sport organization less) into the eSSCEM instead of the existing KPIs; and (3) Integrate the concept of environmental identification in the model to determine whether it impacts the model as a whole, and relationships within the model, suggesting potential market segments. The refinement of the eSSCEM will demonstrate its utility in examining the responses across possible fan segments to create and refine campaign messages to promote pro-environmental behaviours and responses to such initiatives that might impact the team's fandom.

Review of literature

The SSCEM (Trail & McCullough, 2020) used a variety of theories, including the hierarchy of needs framework (Maslow, 1943), values theory (Rokeach, 1973), self-determination theory (Deci & Ryan, 2008), identity theory (Stryker & Burke, 2000), constraints theory (Crawford & Godbey, 1987), theory of planned behaviour (Ajzen & Madden, 1986), and various behavioural models including the attitude-behaviour-context model (Guagnano et al., 1995), the motivation-opportunity-ability model (MacInnis & Jaworski, 1989), model of sustainability behaviour (Belz & Peattie, 2012), and model of sport consumer behaviour (Trail, 2019). In creating the extension to the SSCEM, McCullough and Trail (2023) added constructs to the model to account for "societal and organizational benefits for sport organizations that engage in environmental campaigns and initiatives" (p. 85) informed by values-beliefs-norms theory (VBN; Stern, 2000). These constructs included team – sustainability fit, receptivity to messaging, ascription of responsibility, and support for green corporate sponsors. McCullough and Trail (2023) found that the model fit of the

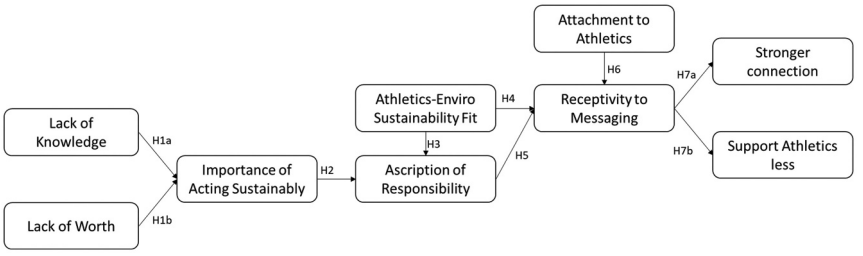


Figure 1. Proposed structural model with hypotheses.

eSSCEM was good as indicated by the significant path coefficients and by the model fit. In that study though, McCullough and Trail focused on a national sample within the context of the participant's favourite sport team. In our study, we focus on the sport organization-sustainability fit (i.e., athletic department-sustainability fit) rather than the team-sustainability fit, making a distinction between an athletic department and the specific team within the athletic department. Previous researchers have also examined the athletic department's sustainability efforts rather than focusing on the individual team (see Casper et al., 2014, 2020). As such, fans can have a high affinity between the collective (i.e., athletic department) and individual (i.e., specific team; cf., Pritchard et al., 2010). Further, we are including aspects from the original SSCEM (internal constraints) and an additional construct (perceived importance; Casper et al., 2021) and incorporating them into the eSSCEM, plus adding two new KPIs that measure connection to the sport organization or a lack of support for the sport organization (Figure 1). Below, we describe our modified model based on McCullough and Trail's (2023) eSSCEM and Trail and McCullough's (2020) SSCEM and provide a rationale for the modifications.

Objective 1

Internal constraints

Constraints are barriers that individuals must overcome to engage in specific behaviours (Kim & Trail, 2010). Internal constraints focus on an individual's internal factors and thoughts toward a behaviour. In contrast, external constraints are barriers that prevent an individual from engaging in behaviours beyond the individual's control (e.g., weather, geography). According to constraints theory (Crawford & Godbey, 1987), internal constraints must be alleviated before external constraints can be addressed to achieve a specific outcome (e.g., increased perceptions and behaviour). In this study, we focus on individuals' internal constraints, including the lack of knowledge of a specific behaviour's benefits and whether an individual deems certain behaviours worthwhile. Behavioural scientists have focused on the influence of constraints on behaviours in a variety of contexts, including environmental behaviours (Tanner, 1999), at-home recycling (Guagnano et al., 1995), and environmental behaviours at sporting events (McCullough & Cunningham, 2010, 2011; Trail & McCullough, 2018). Specifically, we focus on the internal constraints of lack of knowledge and lack of worth because they influence environmentally sustainable behaviours in a sport context (Trail & McCullough, 2018).

Lack of knowledge. Knowledge of environmental sustainability and how to engage in specific behaviours is critical to encouraging individuals to increase their positive attitudes toward environmental sustainability in general and, more specifically, pro-environmental behaviours (Martins et al., 2022; Martins et al., 2019). Lack of knowledge is a barrier to environmental behaviours in various industries, including construction (Elmualim et al., 2010), fashion (Blazquez et al., 2020), and sport (McCullough, 2013; Trail & McCullough, 2018). Specifically, within sport, McCullough (2013) found that tailgaters' lack of knowledge of how to act environmentally sustainable at sporting events was a predominant internal constraint. Trail and McCullough (2018) found that people's lack of knowledge about environmental sustainability or waste diversion was a significant constraint to engaging in sustainable behaviours at a sport event.

Lack of perceived worth. Perceived worth is a significant predictor of the more importance an individual placed on pro-environmental behaviours (Martins et al., 2019). Individuals conduct a cost-benefit analysis in their minds to determine if they will engage in a particular behaviour (Swaim et al., 2014). Trail and McCullough (2021) found that lack of worth significantly and negatively influenced environmentally sustainable behavioural intentions in a sport event context, and individuals who know and understand the worth of environmental actions are more likely to perceive the importance of those actions or the determinantal outcomes of inaction (de Young, 2000).

Knowledge and perceived worth are essential antecedents to perceived importance. Casper et al. (2021) found that lack of knowledge and lack of worth predicted the level of importance sport fans placed on environmental actions. Considering these aspects and previous literature, we propose the following hypotheses:

Hypotheses 1a & 1b: Lack of knowledge (H1a) and lack of worth (H1b) will negatively impact the importance of acting sustainably.

Importance of acting sustainably

Importance refers to the degree of necessity an individual places on an object or action (Frankfurt, 1988) and in the VBN (values-beliefs-norms model; Stern, 2000), importance of acting sustainably reflects a *belief* by the individual. Specifically, Singhapakdi et al. (1996) noted that importance "is the key determinant of whether or not an ethical problem is even perceived" (p. 1132). This contention aligns with the rationale for instigating behaviour because of the ascription of responsibility in the VBN model (Stern, 2000). Specifically, an individual will not ascribe responsibility to act if they do not find the action important or if there are no negative consequences for inaction (Schwartz, 1968). For example, Brekke et al. (2010) found that the more an individual placed importance on pro-environmental behaviours (i.e., recycling), the more they ascribed responsibility to act. Thus, as individuals believed that acting sustainably was important, they would ascribe more responsibility to organizations to be more environmentally sustainable. Based on the theory and research mentioned above, we propose:

Hypothesis 2: The belief that acting sustainably is important will positively influence ascription of responsibility (H2).

Athletic department – environmental sustainability fit

However, marketing researchers have shown that importance is not the only variable that impacts ascription of responsibility. Many have extensively examined the fit between a sponsor and sport property, evaluating the match between the two brands (see Cornwell, 2020, for a review). The concept of fit has been extended beyond sponsorship to include corporate social responsibility initiatives (i.e., social and environmental; McCullough & Trail, 2023). The perceived fit between the messenger and the context of the messages also influences the receptivity of these messages. Specifically, Habitzreuter and Koenigstorfer (2021) examined the fit between environmental sport sponsorships and attitudes toward the sponsor among sport fans, and Maktoufi et al. (2020) found that respondents who perceived a good fit between an organization and its sustainability initiatives were more receptive to these messages. Within a sport context, Becker-Olsen et al. (2006) found sponsorship messages from a sport team perceived as a low fit also had low receptivity to the message and sponsor. McCullough and Trail (2023) used these findings to explore the team – environmental sustainability fit in their eSSCEM. They found that team – sustainability fit significantly predicted both ascription of responsibility to the team and receptivity to messaging ($\beta = 782$. & $\beta = .440$, respectively). Researchers (Trail et al., 2003; Wann, 1995) have noted that the connection fans have with an individual team are similar to the connection fans have with an athletic department (see Pritchard et al., 2010). Further, in the context of this study, the athletic department intends to deliver environmental messages to fans at football games. Thus, we propose the following:

Hypotheses 3 & 4: Perceived fit between a college athletic department and environmental sustainability will positively impact ascription of environmental responsibility (H3) and receptivity to environmental messaging from athletics (H4).

Ascription of responsibility

Ascription of responsibility assesses an individual's expectations that they or another entity should engage in a specific behaviour to alleviate a problem (i.e., environmental harm; Dunlap & Van Liere, 1978). Ascription of responsibility became more prominent in the values-beliefs-norms theory (Stern, 2000) and has been used as part of the VBN framework in a variety of environmental behaviours in different contexts, including transportation (Lind et al., 2015), tourism (Confente & Scarpi, 2021), and sport (Casper et al., 2021; McCullough & Trail, 2023). McCullough and Trail (2023) hypothesized that ascription of responsibility would be positively related to receptivity to sport organization messaging, but the path between the two was not significant ($\beta = .135$). Despite their recent findings, McCullough and Trail (2023) suggest that this relationship be tested in a more sport-specific setting because theory and prior research indicate that such a relationship should exist. Thus, we propose:

Hypothesis 5: Ascription of responsibility will positively influence receptivity to environmental messaging from the athletic department (H5).

Attachment to athletics

Trail et al. (2017) and Trail and James (2016) noted that attachment to a team is based on identity theory. Stryker and Burke (2000) defined identity as the "parts of a self, composed of the meanings that persons attach to the multiple roles they typically play in highly differentiated contemporary societies" (p. 284). Points of attachment, in general, have been extensively researched in sport consumer behaviour by Trail and colleagues (e.g., Ballouli et al., 2016; Trail, 2019; Woo et al., 2009) and others (e.g., Wear & Heere, 2018), but specifically, Robinson and Trail (2005) suggested that sport fans may have various points of attachment to a sport brand (e.g., attachment to a sport, team, player, coach, institution, or town). These points of attachment leverage "role identities that are salient relative to the specific event and population" (Trail & McCullough, 2020, p. 115). Based on these role identities, one point of attachment may be more salient for an individual than another, but typically the predominant point of attachment is attachment to the team as shown by examining the mean scores of various points of attachment (e.g., Robinson & Trail, 2005) or their shared variance with behavioural intentions such as attendance, BIRGing, merchandise purchasing, etc (e.g., Kwon et al., 2005; Shapiro et al., 2013). However, both Cialdini et al. (1976) and Pritchard et al. (2010) implied that the football team, in university sports in the U.S., although representative of the athletic department, may be distinct. Typically, athletic departments do all the marketing for all their sport teams, control the financial aspects of all the teams, etc. In our situation, because the athletic department would create and distribute all the messaging about sustainability, we focused on attachment to the athletic department, rather than attachment to the specific team (football). Furthermore, Shapiro et al. (2013) found that attachment to the athletic department had a larger shared variance with the behavioural intentions of attending men's basketball games, women's basketball games, and supporting sponsors, than attachment to the team did. Therefore, we chose to focus on attachment to the athletic department in our research.

Within a sport ecology research context, Inoue and Kent (2012) found that sport teams are effective mediums for encouraging pro-environmental behaviours among sport fans. Their finding has been supported in research by Casper et al. (2017, 2020), and McCullough and Trail (2023) found that attachment to the team was positively and significantly related to receptivity to messaging (β =.264), but the variance was small. Following this empirical background and the propensity for athletic departments to develop department-wide environmental initiatives and be the messenger at individual sporting events (e.g., football; Casper et al., 2017), we propose:

Hypothesis 6: Attachment to athletics will increase receptivity to messaging (H6).

Receptivity to messaging

Communications are effective when the targeted audience receives them, and such messages are evaluated based on the receptivity of the message (Burgoon et al., 1987). Messages are more readily received from trusted or familiar sources (McCullough & Trail, 2023). As people are more receptive to messaging, pro-messaging behaviours increase. For example, people increased their environmentally friendly behaviour or intentions as they viewed sustainability messaging more positively (Casper et al., 2017; McCullough & Trail, 2023; White & Simpson, 2013). However, as noted in the introduction, research has

yet to investigate whether receptivity to sustainability messaging impacts fan support of the team providing the messaging and attempting to change fan behaviour. Casper et al. (2017) noted that fans may respond positively to their sport organization engaging in environmental sustainability initiatives in general. In addition, Inoue and Kent (2012) found that sport teams are effective messengers to promote environmental messages, demonstrating that receptivity to a team promotes positive behavioural intentions. Further, Casper et al. (2014) found that lower-identified fans increased their connection with the team by buying merchandise and attending more events because of the team's environmental sustainability initiatives. Thus, we propose:

Hypothesis 7a: Increased receptivity to athletics messaging will predict a stronger connection with athletics (H7a).

However, sport practitioners have shown concern about the reaction of their fans to environmental sustainability initiatives (Casper et al., 2012) to the point that practitioners have explicitly expressed this reason as to why their organization does not engage in environmental sustainability efforts. Sport managers have also operated under the perception of what they think their fans expect of their organizations (Todaro et al., 2023). Specifically, Casper et al. (2012) and Todaro et al. (2023) found that fans may react negatively to pro-sustainability activities and support the team less. This possibility is what sport practitioners fear most. Thus, we hypothesize the following:

Hypothesis 7b: Increased receptivity to athletic department messaging will reduce a "lack of support" of the athletic department (H7b).

Objective 2

Stronger connection to the brand & support sport organization less

As noted in the introduction, there is empirical ambiguity in the outcomes of engaging in environmental sustainability initiatives among sport practitioners (Casper et al., 2012; Kellison & Cianfrone, 2020). McCullough and Trail (2023) suggested that the eSSCEM provides a foundation to evaluate various KPIs of environmental sustainability initiatives and recommended that additional KPIs be examined as dependent variables in the eSSCEM as important metrics relevant to sport organizations to evaluate sustainability initiatives. To that end and to achieve Objective 2, we have included two new KPIs as ultimate dependent variables into the eSSCEM (i.e., building a stronger connection to the brand and supporting the sport organization less in the future).

Sport organizations, especially those with fans and spectators of a conservative bent (Casper et al., 2021), are frequently concerned about losing support from people who are critical of environmental sustainability initiatives (Kellison & Cianfrone, 2020). Although one might presume that building a strong connection with a sport organization and supporting a sport organization less would be antithetical, we propose that although they are negatively related – similar to BIRGing (Basking in Reflected Glory) and CORFing (Cutting Off Reflected Failure; Harrolle et al., 2010; Trail, 2019; Trail et al., 2005) – they will not be perfectly negatively correlated. For example, when a team wins, fans BIRG;

when the team loses, some people, typically those less attached, CORF. In the context of this study, we suspect that although those who are receptive to the athletic department messaging will build a stronger connection with the team because of their perception of fit (Hypothesis 7a), people who are not receptive to the messaging will not necessarily support athletics less to the same extent (Hypothesis 7b); doing so would mean disassociating from the athletic department with whom they may have had a long and extensive attachment. Trail and colleagues (Harrolle et al., 2010; Trail, 2019; Trail et al., 2005) found similar relationships between BIRGing and CORFing behaviour. People more highly attached to the sport organization would BIRG more in winning situations than they would CORF in losing situations, but the relationship was not equivalent, and that is what we expect here relative to building a stronger connection to the team brand versus supporting the team less.

Objective 3

Moderating effects of environmentalism identification (ID)

As noted in the introduction, neither the literature nor the eSSCEM consider the potential moderating effects of one's identity as an environmentalist. Identity theory is applicable here as well. Stryker and Burke (2000) noted that "the higher the salience of an identity relative to other identities incorporated into the self, the greater the probability of behavioural choices in accord with the expectations attached to that identity" (p. 286). Specifically, environmental identity varies from person to person within different contexts based on the salience of the context to the individual. Within a sport context, Trail and McCullough (2021) found that environmental behaviours can transfer (i.e., spillover) from one context (i.e., sport) to another (everyday life) showing that an environmental identity can be salient across situations especially if an entity encourages that identity and its associated behaviours, supporting previous work (see J. M. Casper et al., 2020). In our study, we suggest that if the salience of the environmentalist as a role identity is activated, then the importance of that role, within a context of a specific situation (sport), which typically may not activate such a role, will impact how the individual perceives any aspect relative to sustainability and environmentalism.

Previously, researchers have found that viewing oneself as an environmentalist has impacted various variables, including environmental intentions and behaviours, attitudes, perceived behavioural controls, and social norms (Kashima et al., 2014; Terry et al., 1999). Considering the above research and identity theory, it is likely that Environmentalism ID influences the whole model (i.e., many, if not all, of the relationships in the model) rather than just specific variables in the model, indicating that it is probably a moderator of the model. Environmentalism ID has been shown to be a moderator in prior research, for example, moderating the relationship between perceived behavioural control on intentions and the effect of past behaviour on intentions and behaviours (Carfora et al., 2017) and between environmental messaging and behavioural intentions (Liu et al., 2021). In addition, Lauren et al. (2019) noted the influence environmental identification can have on behaviours, norms and other effects on concepts (e.g., ascription of responsibility). No known prior research has examined whether this extremely relevant role identity might moderate all the existing relationships in the eSSCEM and impact fans' reactions to environmental initiatives by increasing or decreasing their connection to the team. It is

notable that identifying potential moderators assists marketers in segmenting their markets (Trail, 2019). In our case, determining if an environmentalist identity is a moderator would assist team marketers in identifying market segments that may respond differently to relationships in the model. Thus, due to the exploratory nature of this part of our research and with no prior research to provide evidence of the specific moderation effects that Environmental ID might have on the model as a whole and on the specific paths in the model, we propose Research Question 1: Will Environmentalism ID moderate the model and the paths therein (RQ1)?

Method

Participants

To test this model, we collected data from 429 football fans who purchased tickets from a Division I FBS program in the United States during the 2021 season. In June 2022, an online Qualtrics survey was sent directly to 5,000 randomly selected individuals who purchased tickets during the 2021 football season. The survey was kept open for six weeks, with reminder emails sent to prospective participants who had not completed the survey two and four weeks after the initial invitation.

In total, 636 people opened the survey, but after eliminating incomplete responses, 429 completed it. Of the 429 participants, 60.7% self-identified as male and 36.5% as female. The average age was 49.4 years. Approximately 91% self-identified as White, 2% as Indigenous, 2% as Asian, 2% as Hispanic, and 1% as Black. The sample had relatively high levels of formal education, as 32.6% had a post-bachelor's degree, 45% had a college degree, 15.3% had some college, and 6.8% had a high school education or less. Nearly 59% of the respondents had donor season tickets, 22% had student passes, 11% had suite/premium tickets, 5% had faculty/staff passes, and 2.5% were former athletes. The potential respondents were asked to complete a survey about the athletic department and environmental sustainability. The IRB at the institution determined that this research qualified for exemption.

Instruments

The current study was part of a broader data collection for the athletics department focused on their developing sustainability efforts. The data presented in this study are part of a data collection from June 2022. All the items from this study are specific to the context, approved by the athletics department, and measured on a 5-point Likert-type scale from Strongly Disagree to Strongly Agree, with the midpoint being Neutral. The Lack of Knowledge (4 items; the "waste diversion" item was removed due to a poor factor loading), Lack of Worth (2 items), and Importance (2 items) items were adapted from Casper et al. (2021). Factor loadings for all three constructs were acceptable, ranging from 0.60 to .99 (see Table 1 for all loadings). The two Athletic-Department – Environmental Sustainability Fit items were adapted from Speed and Thompson (2000) who specified that the "items referred to abstract notions of fit such as similarity, a logical connection" (p. 230). The "athletic department" item was used previously by McCullough et al. (2022) to focus on organizational environmental sustainability fit. In the current

Table 1. Loadings of items on scales in model and means.

	β	*CI*	*SE*	*t*	*M*
Lack of Knowledge (AVE = .527: CR = .81)					
I don't understand what the term "sustainable" means when referring to the environment.	.668	.613–.722	.033	20.07	1.48
I don't understand what "zero waste" means.	.597	.535–.658	.037	15.92	1.89
I don't understand what "renewable energy" means.	.832	.791–.872	.024	33.98	1.32
I don't understand what the term "renewable fuels" means.	.783	.740–.826	.026	30.01	1.59
Lack of Worth (AVE = .704; CR = .82)					
Acting in an environmentally friendly way WILL NOT improve the environment enough to make a difference.	.753	.711–.795	.026	29.34	2.40
Acting sustainably is NOT worthwhile.	.917	.884–.949	.020	46.51	2.07
Importance (AVE = .747; CR = .85)					
It is very important to act sustainably.	.999	.956–1.04	.026	39.03	3.81
It is very important to protect the environment.	.704	.704–.763	.030	23.23	4.34
Ascription of Responsibility (AVE = .889; CR = .94)					
[Athletic Department] has a responsibility to integrate environmental issues into the strategic planning processes.	.930	.912–.947	.010	88.58	3.47
[Athletic Department] has a responsibility to promote environmentally sustainable practices in its operations.	.956	.941–.972	.009	101.80	3.57
Athletic-Department-Sustainability Fit (AVE = .837: CR = .91)					
There is a logical fit between [Athletic Department] and environmental sustainability.	.867	.840–.895	.017	51.68	3.31
There is a logical fit between [Athletic Department] Student-Athletes and environmental sustainability.	.960	.938–.982	.014	70.76	3.33
Receptivity to Environmental Messaging from Athletics (AVE = .901; CR = .95)					
I would increase my environmentally sustainable behaviors if [Athletic Department] asked me to.	.959	.941–.977	.011	88.18	3.18
I would increase my environmentally sustainable behaviors if [Athletic Department] Student-Athletes asked me to.	.939	.920–.958	.011	81.92	3.06
Attachment to Athletics (AVE = .551; CR = .78)					
I see myself as a very valuable part of [Athletic Department].	.632	.571–.693	.037	17.08	3.36
I feel very attached to [Athletic Department]	.891	.835–.946	.034	26.33	4.03
Being a [Athletic Department] fan is very important to me.	.677	.617–.736	.036	18.73	4.41
Dependent KPIs – Stronger Connection & Less Support					
I would have a much stronger connection to the [Athletic Department] if they committed to being environmentally sustainable.					2.46
I would support the [Athletic Department] LESS if they committed to being environmentally sustainable.					2.12

research, we added a second item similar to the first but focused on the fit between the student-athletes and environmental sustainability. The two items had acceptable factor loadings of .87 and .96. The two Ascription of Responsibility items were adapted from McCullough and Trail (2023) and had acceptable factor loadings of .93 and .96. The only modification for these items in this study is that the specific athletic department was named in the item (e.g., [Athletic Department] has a responsibility to integrate environmental issues into the strategic planning processes.). The two Receptivity to Messaging items focusing on environmental sustainability were adapted from McCullough and Trail (2023) and represented *intentions* to be receptive to messaging and had high factor loadings. The three Attachment-to-Athletics items were adapted from Trail's (2019) Team Attachment subscale from his Point of Attachment Index, which has been widely used in sport marketing (Ballouli et al., 2016; Larkin et al., 2015) and sport ecology research (McCullough & Trail, 2023; Trail & McCullough, 2020). Our dependent variables were measured using single items adapted from Grissemann and Stokburger-Sauer (2012) to focus on a sport and environmental sustainability context based on the practitioner

concerns that fans may support a team less for engaging in environmental sustainability (Casper et al., 2012). The first item, which measured a positive connection, was, "I would have a much stronger connection to the Athletic Department if they committed to being environmentally sustainable". The second dependent variable measured a reduction in support: "I would support the Athletic Department LESS if they committed to being environmentally sustainable". Finally, the moderating variable of Environmental Identification (ID) was derived from Schwartz's (1992) scale of basic values and has been used in prior sport ecology research (J. M. Casper et al., 2020; McCullough & Trail, 2023; Trail & McCullough, 2020, 2021). It was formulated as a negative statement, "I DO NOT consider myself an environmentalist", in an attempt to allow respondents to express their opposition to sustainability and environmentalism rather than the implicit assumption that everyone should be an environmentalist based on their self-categorization of being an environmentalist.

Results

The scales were normally distributed (Table 2) with no outliers. We used Mplus to assess the measurement model. The CFA showed that the model fit well ($\chi^2/df = 1.51$; CFI = .989; TLI = .985; RMSEA = .034; SRMR = .031). The CR coefficients for all scales exceeded .78 (Table 1), and the AVE values ranged from .527 to .901 (Table 1), indicating adequate convergent validity. No squared correlation exceeded the AVE value between the associated scales, providing evidence of discriminant validity (Table 2).

Relative to Objectives 1 and 2, we found that the structural model fit adequately well (*c.f.*, Baggozi & Yi, 1988; Bollen, 1989; Hu & Bentler, 1999; $\chi^2/df = 3.11$; CFI = .941; TLI = .928; RMSEA = .070; SRMR = .069; Figure 2) and that 7 out of 9 of our hypotheses were supported (Table 3).

To assess whether the level of Environmentalism ID would moderate the model (Objective 3), we ran a multigroup model in Mplus. First, we created three groups: those who indicated that they were *environmentalists*, those who were *neutral*, and those who were *anti-environmentalists*. This trichotomous grouping was achieved by segmenting the Environmentalism ID item into those who self-categorized whether they disagreed (i.e., those who indicated either Strongly Disagree or Disagree) with the statement "I DO NOT consider myself an environmentalist" (Environmentalists; $n = 165$), those who neither agreed nor disagreed (Neutrals; $n = 98$) and those who

Table 2. Correlations and normality measures.

	Lack of Knowledge	Lack of Worth	Importance	Ascription	Fit	Responsiveness	POA	Skewness	Kurtosis
Lack of Knowledge	(.527)							1.87	5.87
Lack of Worth	.215	(.704)						.658	−.433
Importance	−.239	−.693	(.747)					−1.33	1.86
Ascription	−.190	−.748	.627	(.889)				−.668	−.454
Fit	−.207	−.611	.466	.716	(.837)			−.313	−.628
Receptivity	−.121	−.603	.452	.680	.710	(.901)		−.280	−.933
Attachment to Athletics	−.121	.097	−.140	−.136	−.016	−.085	(.551)	−1.14	1.21

AVE values on the diagonal.

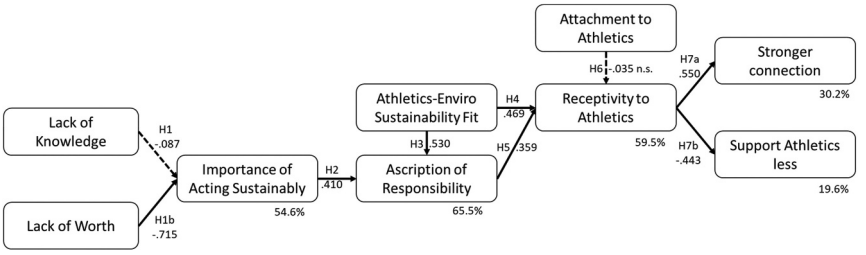


Figure 2. Structural model with path coefficients (without moderator). Note: Overall fit - $\chi^2/df = 3.11$; CFI = .941; TLI = .928; RMSEA = .070; SRMR = .069. Percentages represent explained variance. Dashed paths indicate a lack of meaningfulness.

Table 3. Path coefficients and hypotheses in the structural model.

		β	*CI*	*SE*	*t*	*p*
Hypothesis 1a – Partially Supported	Lack of Knowledge → Importance of Acting Sustainably	−.087	−.159–.016	.043	−2.02	.044
Hypothesis 1b – Supported	Lack of Worth → Importance of Acting Sustainably	−.715	−.772–.658	.035	−20.66	>.001
Hypothesis 2 – Supported	Importance of Acting Sustainably → Ascription of Responsibility	.410	.342–.478	.041	9.91	>.001
Hypothesis 3 – Supported	Perceived Fit between Athletic Department and Environmental Sustainability → Ascription of Responsibility	.530	.468–.593	.038	14.04	>.001
Hypothesis 4 – Supported	Perceived Fit between Athletic Department and Environmental Sustainability → Receptivity to Environmental Messaging from Athletics	.469	.380–.558	.054	8.66	>.001
Hypothesis 5 - Supported	Ascription of Responsibility → Receptivity to Environmental Messaging from Athletics	.359	.268–.449	.055	6.52	>.001
Hypothesis 6 – Not Supported	Attachment to Athletics → Receptivity to Environmental Messaging from Athletics	−.035	−.096–.027	.037	−0.93	.351
Hypothesis 7a – Supported	Receptivity to Environmental Messaging from Athletics → Stronger Connection with Athletics	.550	.497–.602	.032	17.31	>.001
Hypothesis 7b – Supported	Receptivity to Environmental Messaging from Athletics → Supporting Athletics Less	−.443	−.505–.380	.038	−11.67	>.001

agreed (i.e., those who indicated either Strongly Agree or Agree) with the item (Anti-Environmentalists; $n = 166$). The multigroup model ($\chi^2/df = 1.87$; CFI = .918; TLI = .907; RMSEA = .078; SRMR = .117) did not fit overly well and worse than the original non-moderated model, showing that the three groups differed to some extent. The Chi-square difference tests between the three groups indicated that there were overall differences
(χ^2 Environmentalists = 339.78 vs. χ^2 Neutrals = 246.16, $\Delta\chi^2 = 93.617/df = 1$; χ^2 Environmentalists = 339.78 vs. χ^2 Anti-Environmentalists = 253.57, $\Delta\chi^2 = 86.21/df = 1$; χ^2 Neutrals = 246.16 vs. χ^2 Anti-Environmentalists = 253.57, $\Delta\chi^2 = -7.41/df = 1$). All the confidence intervals of the comparison paths overlapped (Table 4), indicating the path coefficients did not differ, except for the path coefficient from Receptivity to Stronger Connection (see note, Table 4). However, several were close to being distinct, suggesting that with larger groups, differences in the relationship between Lack-of-Worth to Importance might exist and between Importance to Ascription (Table 4).

Table 4. Path coefficients by group in the moderated model.

		β	*CI*	*SE*	*t*
Lack of Knowledge → Importance of Acting Sustainably	Environmentalists	−.117	−.234–.000	.071	−1.65
	Neutrals	−.140	−.297–.018	.096	−1.45
	Anti-Environmentalists	−.050	−.164–.064	.069	−0.72
Lack of Worth → Importance of Acting Sustainably	Environmentalists	−.678	−.763–.593	.052	−13.15
	Neutrals	−.611	−.724–.497	.069	−8.87
	Anti-Environmentalists	−.729	−.798–.660	.042	−17.32
Importance of Acting Sustainably → Ascription of Responsibility	Environmentalists	.317	.210–.423	.065	4.87
	Neutrals	.495	.378–.613	.071	6.93
	Anti-Environmentalists	.454	.351–.557	.063	7.26
Perceived Fit between Athletic Department and Environmental Sustainability → Ascription of Responsibility	Environmentalists	.566	.473–.660	.057	9.99
	Neutrals	.480	.366–.595	.070	6.88
	Anti-Environmentalists	.495	.395–.594	.060	8.21
Perceived Fit between Athletic Department and Environmental Sustainability → Receptivity to Environmental Messaging from Athletics	Environmentalists	.485	.349–.622	.083	5.85
	Neutrals	.414	.244–.584	.103	4.00
	Anti-Environmentalists	.478	.341–.615	.083	5.74
Ascription of Responsibility → Receptivity to Environmental Messaging from Athletics	Environmentalists	.348	.208–.488	.085	4.10
	Neutrals	.385	.212–.558	.105	3.66
	Anti-Environmentalists	.341	.200–.483	.086	3.97
Attachment to Athletics → Receptivity to Environmental Messaging from Athletics	Environmentalists	−.098	−.201–.005	.063	−1.57
	Neutrals	−.054	−.199–.091	.088	−0.61
	Anti-Environmentalists	.072	−.026–.169	.059	1.21
Receptivity to Environmental Messaging from Athletics – Stronger Connection with Athletics	Environmentalists[a]	.421	.313–.529	.066	6.41
	Neutrals[b]	.722	.636–.808	.052	13.81
	Anti-Environmentalists[a]	.491	.393–.588	.059	8.27
Receptivity to Environmental Messaging from Athletics – Supporting Athletics Less	Environmentalists	−.435	−.541–.328	.065	−6.72
	Neutrals	−.241	−.405–.077	.100	−2.41
	Anti-Environmentalists	−.387	−.497–.278	.067	−5.82

Differing superscripts indicate significantly different path coefficients, determined by non-overlapping confidence intervals of the comparison paths.

Discussion

We had three objectives in this paper: (1) Incorporate aspects of the SSCEM (internal constraints) and other recent research (importance; Casper et al., 2021) excluded from prior research into the eSSCEM; (2) Introduce two new KPIs specific to the sport organization (a stronger connection to the sport organization or supporting the sport organization less) into the eSSCEM instead of the existing KPIs; and (3) Test the moderating effects of Environmentalism ID on the model to determine whether it impacts the relationships within the model, suggesting potential market segments. Specifically, we drew from Trail and McCullough's (2020) SSCEM and the eSSCEM (McCullough & Trail, 2023) to address noted practitioner concerns (Casper et al., 2012; Todaro et al., 2023; Trendafilova et al., 2013) about how fans will respond to environmental sustainability initiatives. To orient the study within this practitioner scenario, we positioned the context of the study with an athletic department that had yet to openly promote environmental sustainability initiatives to survey their fans on the prospective responses to such initiatives.

Objective 1: incorporate internal constraints and importance into the eSSCEM

The primary purpose of Objective 1 was to determine whether additional factors (internal constraints and importance) contributed valuable information to the eSSCEM and did not deleteriously impact overall model fit or negatively impact existing relationships in the model. We determined that the model fit the data similarly to McCullough and Trail's (2023) original eSSCEM model. The additional variance was explained in Ascription of Responsibility (66% vs. 61% in McCullough & Trail, 2023) and Receptivity to Athletic Messaging (60% vs. 43%) due to the direct and indirect effects of two of the new variables (Lack of Worth and Importance) added to the model. Overall, our results have theoretical implications as the model supports the VBN model (Stern, 2000) and the eSSCEM model (McCullough & Trail, 2023). Specifics are detailed below.

Hypothesis 1a was only partially supported; Lack of Knowledge did not meaningfully impact Importance. Although the path coefficient was significant, the amount of variance explained in importance was minimal (less than 1%). This demonstrates that a lack of knowledge about what the terms "sustainable", "renewable energy", or "zero waste" mean had almost no impact on the belief that acting sustainably was important. In other words, even if people were not sure what those terms meant, it only minimally impacted their views on how important it was to act sustainably. Conversely, it also shows that knowledge about those terms and what they represent did not increase the view that the environment should be protected. The mean scores on the Lack of Knowledge items showed that most people did understand all the terms. These results contradict what de Young (2000) found: knowledge significantly predicted the perceived importance of engaging in environmental sustainability initiatives. Similarly, our results did not support Casper et al. (2021) findings that lack of knowledge was a significant predictor of the level of importance individuals placed on environmental actions by sport organizations to reduce their environmental impact; however, our measures of importance were not specific to the sport organization but were more general.

Hypothesis 1b was supported, indicating that the more people thought that acting sustainably was worthwhile in general, the more they thought it was important to act sustainably and protect the environment. Combined, Lack of Knowledge and Lack of Worth explained 55% of the variance in Importance of Acting Sustainably. Furthermore, the more fans and spectators thought that acting sustainably and protecting the environment was important, the more they ascribed responsibility to the athletic department to follow through and integrate environmental issues into the operations and strategic planning processes, supporting Hypothesis 2. This result shows support for constraints theory in general (Crawford & Godbey, 1987), and supports constraints' models in both leisure (Crawford et al., 1991) and sport consumer behaviour (Kim & Trail, 2010, 2011; Larkin et al., 2015; Trail et al., 2008, 2023), in addition to prior research relative to sustainability (Casper et al., 2021; McCullough, 2013; Trail & McCullough, 2018, 2020, 2021). Specifically, this result aligns with Casper et al. (2021) determination that the importance of reducing environmental impacts predicted higher levels of ascription of responsibility. The finding also demonstrates the necessity for consumers (i.e., fans) to recognise the relevance of action, whether by themselves or perhaps for organizations, to engage in a particular initiative or action

(Singhapakdi et al., 1996). Collectively, these results demonstrate that fans' general perceptions of worth influence the importance they place on protecting the environment, in general, and influence the ascription of responsibility they place on sport organizations to implement environmental sustainability into their strategic plans and operations.

Even though we found the sample as a whole to be slightly above neutral for the Fit construct, this neutrality could be attributed to several factors, including variability in individual perceptions or a general lack of awareness or engagement with the athletic department's sustainability efforts. Additionally, the relatively neutral responses might reflect that while individuals find the notion of Fit logical, they might not have strong emotional or cognitive investments in environmental activities of the athletic department. This makes sense given the baseline nature of this data collection because the Athletic Department, as noted earlier, did not actively promote its environmental sustainability efforts.

Our findings also demonstrate that as people perceive the fit between the athletic department and environmental sustainability to be logical, they think that the athletic department has a responsibility to promote environmentally sustainable practices in its operations, supporting Hypothesis 3 and providing support for the VBN model (Stern, 2000) and prior research by Brekke et al. (2010) and Alcañiz et al. (2010). As noted above, slightly more than 65% of the variance in Ascription of Responsibility was explained by the direct effects of both Fit and Importance and the indirect effects of Lack of Worth. This showed an increase in variance explained beyond what McCullough and Trail (2023) found, indicating that the inclusion of the Lack of Worth and the Importance constructs are valuable contributors to the eSSCEM model and understanding predictors of Ascription of Responsibility.

Our findings are also consistent with prior research showing that the fit between the sport organization and environmental sustainability significantly predicts Receptivity to Messaging (Hypothesis 4; Burgoon et al., 1987; Maktoufi et al., 2020) as does Ascription of Responsibility (Hypothesis 5; Stern et al., 1986), which provides additional support for the VBN model, and research in management (Maktoufi et al. (2020), transportation (Lind et al., 2015), tourism (Confente & Scarpi, 2021), sport (Becker-Olsen et al., 2006), and sustainability in sport (Casper et al., 2021; McCullough & Trail, 2023), respectively. The latter path coefficient (for Hypothesis 5) was significant and meaningful, which varied from McCullough and Trail's (2023) results. Those authors provided several potential rationales as to why their path coefficient was not significant when theory and prior research suggested it should be. Our results are more likely more representative of actual relationships.

It is important to emphasize that this neutral mean does not negate the significance of our findings. Despite the average neutral stance, our results show that individuals who do perceive a strong fit between the athletic department and environmental sustainability are more inclined to believe in the department's responsibility to encourage sustainable practices. Specifically, the path coefficients show that as people believed there was a good fit and ascribed responsibility to the athletic department for incorporating environmental efforts into its operations and strategic planning processes, receptivity intentions to athletic department messaging asking people to be environmentally sustainable increased.

However, Attachment to Athletics did not contribute meaningfully, which did not support Hypothesis 6, identity theory (Stryker & Burke, 2000), or prior research from McCullough and Trail (2023) or Trail and McCullough (2020). Overall, the variables in our model explained 59.5% of the variance in Receptivity Intentions to Athletic Department Messaging, with the indirect effects of Lack of Worth, Importance, and Fit contributing almost 10% of the variance, which is substantially more than was explained in the McCullough and Trail (2023) model. Again, this shows the contributions of the additional variables added to our model. As a result, if a sport organization wishes to engage in a sustainability initiative – environmental, social, or otherwise – it is necessary to demonstrate the importance of why the sport organization is engaging in specific behaviours, thus outlining the fit between the initiative and the sport organization so that fans would expect the organization to act.

Objective 2: new KPIs for the model

The second objective was also achieved by introducing two new KPIs in which sport organizations are very interested. Sport practitioners are worried that environmental sustainability campaigns may have deleterious effects on their existing fans (Casper et al., 2012; Todaro et al., 2023; Trendafilova et al., 2013). We found that, in general, as fans intended to become more receptive to athletic department messaging, their intention to connect with the athletic department significantly and meaningfully increased (Hypothesis 7a), and the likelihood that they would support the athletic department less in the future, decreased (Hypothesis 7b). Unfortunately, the mean score for the connection item was below the midpoint, indicating that a majority of the respondents disagreed that they would increase their connection to the athletic department if the athletic department committed to being environmentally sustainable. However, the mean score was also below the neutral point for the item asking if the respondents would support the athletic department less if it committed to being environmentally sustainable. This finding indicated that the respondents would not decrease their support either, reinforcing research by Casper et al. (2021) and Kellison and Cianfrone (2020, 2023), who found that fans will respond differently to environmental efforts and messages of teams/organizations, and some not in a favourable manner. However, these results may be influenced by the wording of the items (which we discuss in more detail below). The non-reciprocal relationship between the two KPIs (i.e., one does not increase at that same relative amount that the other one decreases), provides support for the idea that these two KPIs have a similar relationship to each other as BIRGing and CORFing do (e.g., Harrolle et al., 2010; Trail, 2019; Trail et al., 2005).

The model, as a whole, explained 30.2% of the variance in stronger connection to athletics and 19.6% in supporting athletics less in the future. Thus, even though the mean scores for both dependent variables indicated that people did not think they could be influenced by the athletic department being more sustainable, in practice, if the athletic department followed the model and (a) communicated the value (worth) of acting in a sustainable way, (b) showed the importance of the reducing environmental impact, (c) established a logical fit between the athletic department and environmental sustainability, (d) increased the ascription of responsibility for the athletic department to act

sustainably, and (e) provided sustainability messaging that resonated with the fans, then people intended to develop a stronger connection with the athletic department and would be less likely to decrease their support in the future. If the athletic department takes these prescribed actions, the mean scores on the dependent variables will probably improve.

Collectively, these findings stress the importance of sport organizations communicating the rationale behind their environmental efforts to demonstrate the fit so that fans are more receptive to environmental messaging because the more that a sport team can encourage their fans to be more receptive to messaging, the more likely they are to increase their affinity with the team and avoid supporting the team less. In sum, this shows that without any communications from the athletic department about environmental sustainability, opinions and support for the athletic department would not change.

Objective 3: moderating effects of environmentalism identification

To achieve the third objective and Research Question #1, we tested for moderation effects of Environmentalism ID and found that it moderated the model, supporting Stryker and Burke's (2000) identity theory that the importance of a role identity could vary (moderate) behavioural choices, or in our case, behavioural intentions (receptivity intentions) and the relationships therein. Environmentalism ID moderating the model also supports prior research by Kashima et al. (2014) and Terry et al. (1999). However, only one path coefficient significantly differed among the groups (Receptivity to Messaging → Stronger Connection with Athletics), with the path coefficient for the Neutrals group being significantly and meaningfully larger than the other two groups. For the Neutrals group, Receptivity to Messaging explained 52% of the variance in generating a Stronger Connection with the Athletic Department. In contrast, with the Anti-Environmentalists and Environmentalists, the variance explained was much smaller (24% and 18%, respectively). These differences indicate that messaging that resonates with the Neutrals is much more likely to increase their connection to the athletic department than with either of the other two groups. As noted above, several other path coefficients were close to being distinct among groups. For example, Lack of Worth explained 53% of the variance in Importance for the Anti-Environmentalists but only 36% for the Neutrals. Thus, Environmentalism ID segments will have different influences on the perceptions of the importance to act sustainably. In addition, the Importance of Acting Sustainably explains 25% of the variance in Ascription for the Neutrals but only 10% for Environmentalists. For Anti-Environmentalists, the Importance of Acting Sustainably explains 21% of the variance in Ascription. These differences indicate that as Neutrals or Anti-Environmentalists perceive acting sustainably as more important, they are more likely to hold the athletic department responsible for integrating environmental sustainability into their strategic planning and operations, compared to Environmentalists. This is probably because the Environmentalists already think acting sustainably is very important and they already think that the athletic department should be responsible for integrating sustainability into their planning and operations. In this case, the college athletic department should emphasize the general benefits of acting sustainably (e.g., economic, practical, and community benefits) to engage Neutrals and Anti-Environmentalists. By way of example,

highlighting cost savings, resource efficiency, and positive local impacts through visible initiatives (e.g., Green Games, small-scale pilot programs; Casper et al., 2014) can help build support from fans by increasing these segments' internalization of the general importance of acting sustainably. Such campaigns can also be used as pilots to assess where these segments' perceptions of importance and ascribed responsibility for integrating sustainability into operations can be positively influenced over time (see Trail & McCullough, 2021).

Practical implications

The study's results have significant implications for the sport industry, particularly concerning environmental sustainability initiatives and communication strategies. First, this study underscores the critical need for sport organizations to communicate and integrate their environmental sustainability efforts, stressing the worth, importance, and fit of such initiatives to the athletic department to increase fans' support. While many organizations actively engage in pro-environmental initiatives, more public communication about these efforts is needed to produce potential social benefits from fans (Kellison & Kim, 2014). The study highlights that without understanding fans' perceptions of the worth of environmental sustainability, the ascription that fans place on a sport organization to act sustainably, and the fit between the athletic department and environmental sustainability, receptivity to such messaging and, consequently, the support of those departments is largely left unchanged.

Second, the study's validation of the foundational aspects drawn from the SSCEM (Trail & McCullough, 2020) and eSSCEM (McCullough & Trail, 2023) in a politically conservative region and in a collegiate athletic department that has not actively engaged fans in environmental sustainability initiatives carries practical meaning. The model in this study can forecast fan reactions to potential sustainability endeavours, aiding practitioners in anticipating responses to their planned initiatives. Moreover, the model's universality across diverse environmental identification levels underscores its utility in evaluating entire fan bases, not just specific segments.

At the same time, the study's results emphasize the importance of strategic communication tailored to different fan segments. For instance, understanding how fans identify with environmentalism moderates their responses. Messages that resonate with different segments – such as the neutrals, anti-environmentalists, or environmentalists – have varied impacts on their connection to the athletic department. This result underlines the necessity for targeted communication strategies based on these identified segments to maximize receptivity to sustainability initiatives.

Third, the study highlights the complex relationship between fans' receptivity to sustainability messaging and subsequent KPIs (e.g., increased fandom, decreased support). Specifically, it demonstrates the importance of understanding how specific fan segments will respond to various initiatives to identify possible benefits and risks for the sport organization to engage in environmental initiatives. In general, as the athletic department can increase receptivity to messaging, their fans will support the athletic department more in the future. Specifically, when Neutrals are more receptive to environmental messaging, they are more likely to build a stronger connection to the athletic department (52% of variance explained). If receptive to environmental

messages, Environmentalists will build a stronger connection to the athletic department, but not to the same extent as Neutrals (17.7% vs. 52.3% of variance explained). On the other hand, although some fans might oppose environmental messaging (as indicated by the mean scores in Table 1), our findings reveal that all three segments (Anti-Environmentalists, Neutrals, and Environmentalists) will continue to support the athletic department in the future regardless of environmental messaging. Proactive sport organizations that promote environmental education to demonstrate the importance of acting sustainably and the fit between the team and specific environmental initiatives through environmental messaging can gain competitive advantages (McCullough & Cunningham, 2010; Todaro et al., 2023) and be in a better position to manage the expectations of fans concerning the team's environmental sustainability initiatives (Trail & McCullough, 2021).

Limitations

Despite its strengths and contributions to the literature, this study has limitations that researchers and practitioners should consider when applying it to other contexts. First, the context of the study took place using an athletic department that was not fully engaged in environmental sustainability efforts – beyond featuring recycling bins in their stadiums – nor engaging its fan base with environmental messaging. However, the athletic department wanted to baseline receptivity and the response to such initiatives among its fanbase. As noted above, this limitation may have influenced the not significant and/or less than meaningful findings of Hypotheses 1a and 6. Second, the current study was limited by the number of questions that were included in the questionnaire by the sponsoring sport organization (i.e., the athletic department). Specifically, the wording of the KPI items associated with influences on fan behaviour and environmental identification were limited to single items. As a result, single items were used to assess fan reactions to these environmental sustainability efforts, but such items have been used in prior sport ecology studies (McCullough & Trail, 2023). In addition, researchers should ensure that the items are worded concisely without a conditional clause (e.g., if this, then that).

Similarly, the depth and scope of the fans' understanding of sustainability terms were not connected with specific initiatives planned to launch. Thus, fans were asked about sustainability terms associated with environmental initiatives (e.g., recycling and composting: zero waste, solar or wind energy: renewable energy). However, these knowledge terms have been used in previous studies to assess sport fans previously (Casper et al., 2021; Trail & McCullough, 2020). Further, environmentalist was not defined for the participants, and we relied on self-categorization of the participants without providing a definition to them. However, leaving it open to the participants' interpretation avoids putting rigid classifications that may run contrary to the participants' self-concept of the overall group identity (i.e., being an environmentalist). This construct was also limited to one item by the sponsoring organization. Lastly, even though the total sample was sufficiently large enough for the analyses on the whole sample, once the groupings were created, the Neutrals group subsample size was a little small, thus creating larger confidence intervals for the path coefficients. These larger CIs may have prevented differences between groups on the path coefficients from being found.

Recommendations

Considering the results and limitations of this study, there are several recommendations for future research. Researchers should further explore the eSSCEM's utility in various contexts to test its boundaries and applications to sport organizations at various stages of their environmental efforts. Previously, McCullough and Trail (2023) examined the eSSCEM in the context of incorporating an environmental sustainability-focused sponsor, a more advanced practice (see McCullough et al., 2016). However, the eSSCEM can be helpful in various stages of an organization's sustainability initiatives. For example, the assessment can also longitudinally assess campaigns before to create a baseline, during to get initial responses, and after to examine the lasting effects of such campaigns. Specifically, the lasting effects of positive and negative associations with such messaging are critical to understanding the influence sport teams have on their fanbase from such efforts (Inoue & Kent, 2012) and further address sport practitioners' concerns about alienating fans (Casper et al., 2012; Todaro et al., 2023; Trendafilova et al., 2013). For example, research can examine the lasting effect on fan sentiments that they will increase or decrease the support of a sport team for endorsing or engaging in environmental sustainability activities. Researchers can also explore the applications of the model to evaluate fan responses to other social causes or messaging (e.g., Black Lives Matter, LGBTQ+). For example, some American professional football fans stated they would not support ESPN or the NFL following Colin Kaepernick and others' public displays of protest during the U.S. national anthem (see Sperling & Vandegrift, 2022). Researchers can explore how long such sentiments last and what influences the "staying power" of someone's convictions depending on the issue, which can inform strategic decision-making.

Conclusion

Despite the proliferation of environmental sustainability initiatives across the sport sector, many sport organizations are not publicly engaging in environmental sustainability efforts. The apprehension sport practitioners feel about such efforts may explain the lack of action by organizations because they are still determining how their fans will react to environmental initiatives (Casper et al., 2012; Todaro et al., 2023; Trendafilova et al., 2013). Thus, we tested a model demonstrating that it can predict fans' intentions regarding increasing or decreasing support for a sport organization due to its environmental messaging. As consumers are drawn to organizations with similar social and environmental values, sport managers would benefit from understanding how fans may respond to initiatives before launching costly campaigns that may benefit or hurt their brand. Such a tool is vital for understanding how fans respond to messages and organizational efforts. More research is needed, however, to understand the extent of these reactions by fans and the long-term implications for a team if they implement environmentally or socially oriented, yet possibly politically charged, types of initiatives.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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