Angelenos' Environmental Attitudes and Behaviors in Advance of LA 2028

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ABSTRACT: *In the past twenty-five years, Olympic host cities have increasingly focused their attention on environmental issues. Given the growing emphasis on environmental sustainability across sport, the purpose of this project was to examine the environmental attitudes and behaviors of residents in Los Angeles, the host city of the 2028 Olympic and Paralympic Games. Using survey research methods to explore local attitudes toward sustainability initiatives, the results indicated Angelenos broadly support sustainability practices in general and those specific to sport, but that they are largely unaware of existing pro-environmental practices and initiatives. By establishing a baseline of residents' environmental attitudes and behaviors, the results of this study can be used to inform policy and governance in future Olympic cities seeking to design and deliver an event with a lasting positive impact on the community and a positive environmental legacy.*

KEYWORDS: sustainability, sport ecology, mega-events, planning, Olympics

When developing a long-term legacy plan for the Olympic Games, local organizers and governing bodies are faced with unique challenges related to sustainability and the natural environment. To confront and resolve these challenges, the International Olympic Committee (IOC) employs a formal environmental management policy, a part of which mandates prospective host cities include comprehensive environmental legacy plans in their Bid Books. In response to these environmental guidelines,

many Olympic host cities have endeavored not only to meet the standards set by the IOC (i.e., codified in Recommendations 4–5 of *Olympic Agenda 20201*) but to use the Games to demonstrate their long-term commitment to environmental stewardship.[2] After Sydney hosted the "Green Games" in 2000, many Olympic cities that followed have proclaimed themselves to be the most sustainable Games, including Salt Lake City, Athens, Torino, Beijing, Vancouver, London, and so on.[3] Most recently, Paris and Los Angeles, host cities of the 2024 and 2028 Games, respectively, announced a cooperative agreement in which the two organizing committees will engage in information sharing "in order to create a new gold standard of sustainability for major international sporting events."[4]

In its most recent *Sustainability Report*, the IOC outlined its progress toward eighteen sustainability objectives, which collectively represented the IOC's responsibilities to the natural environment as an organization, as owner of the Olympic Games, and as leader of the Olympic Movement.[5] The objectives include "[reinforcing] sustainability commitments in the Host City Contract so that bidding for and hosting an Olympic Games can act as a catalyst for sustainable development within the host city and region," and "[building] strategic partnerships with relevant expert organisations to develop innovative sustainable solutions for planning and staging of the Olympic Games."[6] Although the IOC reported they have made substantial progress toward the majority of its objectives, they acknowledged significant work remained in several areas. In pursuit of these objectives, the IOC faces several challenges, including maintaining an emphasis on sustainability as a candidature team transitions to an Organizing Committee for the Olympic Games (OCOG) and to move away from "sustainability being used by Candidate Cities as a differentiator" to "the ideal," in which "it becomes the natural basis for any Candidature."[7] In other words, given the social, political, and economic differences between cities, future candidate cities are encouraged to avoid sustainability plans that build on what other cities have promised; instead, they should be oriented in "the direction in which the city/region is already heading, and that can enhance and accelerate planned programmes and help address contemporary social, economic and environmental issues."[8]

For its part, the Los Angeles Organizing Committee for the Olympic and Paralympic Games 2028 (LAOCOG) has made environmental sustainability a central component of its plan.[9] In its original bid documentation, local organizers identified sustainability as "a core guiding principle of LAOCOG's planning and decision-making around successfully delivering the Games"[10] and outlined several key initiatives to support its sustainability vision. These concepts—which included the successful hosting of the first "Energy Positive Games,"[11] a focus on sustainable venue operations, and deliberate social inclusion—were among those cited in the *Report of the IOC 2024 Evaluation Commission*.[12] In many ways, the sustainability

initiatives planned for the Olympic Games were proposed to complement the City of Los Angeles's broader commitment to environmental stewardship, affirmed in the 2015 LA Sustainability City pLAn (pLAn), an aggressive twenty-year strategy to "position [Los Angeles] as an international leader in scalable climate solutions and innovative approaches to sustainability."[13] Though local organizers' sustainability vision has yet to be updated for the 2028 Games, it is expected their environmental programming will serve in a similarly supportive role.

Despite the IOC and Olympic host cities' prioritization of environmental legacy planning, it is uncertain the degree to which local citizens support (both financially and philosophically) these initiatives. In previous research, sports fans have indicated they feel responsible for conserving natural resources while attending a sporting event but are reluctant to pay higher prices to protect the environment.[14] Furthermore, even in past cases in which residents attributed high importance to a mega-event's environmental legacy,[15] it is unknown whether citizens believe such legacy planning is worth the long-term investment by local organizers and governments. Finally, despite the fact an essential aspect of any environmental legacy plan is social inclusion, previous research has not evaluated how citizens' attitudes toward and knowledge of environmental issues have been affected in Olympic cities with comprehensive environmental legacy plans.

In addition to addressing large-scale infrastructural and managerial challenges, successful environmental legacy plans require an engaged public audience that will ensure that a host city's sustainable vision will be realized in the years and decades following the Games. Based on the lack of empirical research investigating the link between the social and environmental aspects of a Games' legacy plan, the purpose of this study was to explore the extent to which an Olympic host city's residents were engaged in both sport and sustainability. In particular, we focused on measuring local attitudes that could inform the planning and implementation of the 2028 Olympic and Paralympic Games in Los Angeles, where the local organizing committee's vision is "to showcase what the Games embody when it comes to embracing and modeling the highest standards of sustainability."[16]

Research Questions

The unique circumstances under which the 2028 Olympic and Paralympic Games (LA 2028) were awarded represent an opportunity to conduct exploratory research that may provide value to not only LAOCOG, but also the IOC, future candidate cities, and sport ecologists. Because of LA 2028's commitment to providing a privately financed Games, the City of Los Angeles's robust environmental pLAn, and the atypically long planning period afforded to LAOCOG, we endeavored to measure Angelenos' existing attitudes toward sport participation, their sport participation

and environmental behaviors, their favorability of initiatives championed by the city's long-term sustainability plan, and their beliefs that sport organizations and events should engage in pro-environmental initiatives. To better understand residents' support of pro-environmental strategies, we focused on three key research questions:

RQ1: What are the environmental attitudes and behaviors of residents in a future Olympic host city?
RQ2: What demographic and psychographic factors contribute to citizens' attitudes toward the environment and environmental initiatives?
RQ3: To what extent do residents believe sport organizations have a responsibility to behave in an environmentally conscious manner?

Planning for LA 2028 is still in the early stages, so establishing a baseline assessment of local attitudes toward environmental issues may inform organizers' sustainability strategies. This baseline can allow researchers to evaluate changes to residents' attitudes toward the environment and investigate behavioral changes. Such analysis not only provides a fundamental understanding of and data-driven insight into the effectiveness of sustainability programming, but it can also advise future organizers, policymakers, and governments who endeavor to pursue the ambition of hosting a more environmentally sustainable Games than their predecessors.

Literature Review

Environmental Action in the Olympic Games

Scholars have argued the IOC has been connected to environmental issues longer than any other major sport governing body.[17] This connection is due in part to the size and scale of events at the Olympic Games, which often necessitate new infrastructure and construction to accommodate competitions, athletes, spectators, press, and officials. Almost from the beginning of the modern Olympic Movement, citizen activists prompted local Games organizers to consider environmental action, underscoring the important link between social inclusion and environmental safeguarding.[18] Infrastructure for arenas and other competition venues, lodging for athletes and visitors, and transportation are several examples of Games-related projects that could impact the surrounding environment.

In the 1990s, following the momentum from several significant environmental meetings (including the release of the historic Brundtland Report and Norwegian Prime Minister Gro Harlem Brundtland's subsequent address to the IOC in Seoul in 1988[19]), the IOC introduced several significant environmental initiatives, including an amendment to the *Olympic Charter* in 1991 compelling host cities to hold the Games under "conditions which demonstrate a responsible concern

for environmental issues,"[20] the adoption of the environment as the third pillar of Olympism in 1994,[21] and an additional change to the *Olympic Charter* in 1996 that demonstrated the IOC's commitment to "sustainable development."[22] More recently, in its "New Norm" report, the IOC suggested reforms to the candidature process, in which prospective host cities would be encouraged to draft proposals that "better aligned with the cities' long-term development plans and allow greater efficiency and sustainability."[23]

Research on the environmental legacy of mega sporting events like the Olympic Games has primarily focused on post-event analyses. Several scholars have offered historical accounts of environmental legacy planning at the Olympic Games,[24] while others have discussed the reasons why environmental policy emerged as the third dimension of the Olympic Movement.[25] Additional studies have explored specific cases. For example, Lesjø provided an account of how the 1994 Lillehammer Games emerged as the first "Green Games," noting that the city's environmental legacy plan was not part of the city's original bid.[26] According to Ross and Leopkey, since Lillehammer, environmental practices have become increasingly sophisticated.[27]

Furthermore, the progressive evolution of environmental actions in the Games has had lasting institutional impacts on the IOC and Olympism. Still, despite concerted efforts to develop ambitious environmental goals among host cities, recent research indicates the IOC lacks the authority to induce environmental compliance in Olympic hosts.[28] Looking forward, Ross, Leopkey, and Mercado noted, "There is potential for research to occur on stakeholder engagement with environmentalism in the Olympics."[29] These stakeholders may include local residents.

In some cases, researchers have surveyed or interviewed local residents to measure the public's views toward a Games' environmental legacy, including perceptions of environmental and security issues in London, Beijing's legacy planning, and Vancouver's Olympic legacy.[30] Additionally, Jin et al. observed that promotional efforts around the Beijing Olympics positively impacted environmental protection and promoted "the conservation and management of resources in the host city environment."[31] Furthermore, Kaplanidou found environmental initiatives contributed to residents' quality of life in Sydney, Athens, and Beijing.[32] The results of these studies indicate that beyond the positive environmental legacy, there may be some public value to a Games' environmental legacy, including civic pride and quality of life. Furthermore, the effects associated with sustainability initiatives may extend beyond the life of the Games; in Mol's study of the Beijing Games, he hypothesized, "The environmental redirection of networks and flows in China and beyond [will take] place in a much wider context than just the Olympics."[33]

More recent research has underscored the challenges host cities face when designing environmental strategies. For instance, Miller chronicled numerous examples of greenwashing at the Games, noting it has been a central part of the Olympic

Movement narrative since the mid-1990s and arguing that the "Olympics' growth evangelism has cast an ecological pall over event after event."[34] That is, regardless of the intent of local organizing committees and the IOC more generally, recent efforts to integrate sustainability into the delivery of the Olympic Games have fallen short of expectations, including in Beijing, Rio de Janeiro, and PyeongChang.[35] Moreover, the rise of local and international counter-Olympic activism has led to increased public awareness of the environmental issues associated with mega-events (e.g., PyeongChang[36]).

According to Del Fiacco and Orr, the period between 2014 and 2016 represented an "environmental regression" in which Games organizers failed to prioritize sustainability, thereby leading to "negligent treatment of [the] environment."[37] This period was a marked contrast from previous environmentalism efforts first driven by the public (1932–1992), then host cities (1994–2000), and finally the IOC (2002–2012). In the case of Sochi (2014), Müller noted Russia's Olympic sustainability agenda led to the development of a national agenda that promoted sustainable development. However, attempts to follow previous hosts' environmental plans "produced over-ambitious commitments" and "led to irreversible environmental damage, oversized infrastructure and limited public engagement and benefits."[38]

Still, scholars continue to acknowledge the considerable potential of the Olympic Movement as a tool for raising public awareness of environmental issues and effecting change. As Samuel and Stubbs noted, "While it remains to be seen how the OG [Olympic Games] will continue to evolve and what legacies will eventuate, the steps towards greening the OG signal a resolve to leverage the OG for transformational results."[39] As discussed in further detail in the following section, sport organizations and events have leveraged their widespread appeal to engage various stakeholder groups.

Sport Organizations and Environmental Engagement

Sport organizations and events have increased the sophistication of their sustainability initiatives to the point that it is necessary to engage public stakeholders to advance these efforts further.[40] This point is illustrated in the nature of a sporting event, where the participants and spectators make up a majority of the event's environmental impact whether through transportation, waste generation, or utility usage.[41] Thus, it is necessary to induce fans and participants to take part in the various sustainability initiatives to achieve higher success regardless of the desired sustainability initiative (e.g., waste management, public transportation, carbon offsetting). While this is an encouraging aspect to involve participants and spectators into the fulfillment of sustainability efforts, there are considerable challenges in the creation and deployment of an effective fan engagement campaign.[42] This issue is further confounded when sport organizations do not adequately invest in market

research to create messaging that properly engages fan segments, which dramatically differs from the attention and investment a marketing campaign to boost ticket sales would receive.[43]

Researchers have explored the role that sport organizations can serve in promoting sustainability messages,[44] the process of creating such messages,[45] and consumer responses to such campaign messages.[46] These researchers have explored ways to leverage the power of sport to engage and positively influence sport fans and participants' sustainable behaviors at events and even in their everyday lives. Specifically, in two empirical studies, Inoue and Kent demonstrated that sports teams are effective messengers in delivering environmental communications to fans.[47] Casper, Pfahl, and McCullough have demonstrated how sustainable messages and initiatives are effective at promoting sustainable behaviors at sporting events and in their personal lives.[48] However, they primarily found that those with high environmental values were more likely to engage in these behaviors. They found that lower identified fans with higher environmental values deepened their fan identification because of the team's sustainability efforts.[49] However, less environmentally inclined fans were not receptive or aware of the environmental messages. To this end, McCullough and Kellison proposed a conceptual framework to leverage more sport-specific points of attachment (i.e., place attachment) as a way to leverage an individual's fan identification and affinity to their team as a way to get them to perform normed social behaviors (e.g., sustainable behaviors).[50]

The literature reviewed above demonstrates the vital role sport fans, spectators, and participants play in the success of a sports team's or event's pro-environmental strategy. Without adequate support and engagement, a sport organization's efforts to promote sustainability may be wasted. Therefore, when designing an environmental program (such as an environmental legacy plan), organizations must consider the knowledge and attitudes of local stakeholders, as discussed further below.

The Role of Attitudes in Addressing Environmental Problems

In *Navigating Environmental Attitudes*, Heberlein identifies three "fixes" for environmental problems. First, technological changes focus on efforts to change the environment itself (e.g., damming rivers). Second, cognitive changes aim to change human behavior by providing the public with access to information that informs them about environmental problems (e.g., floodplain maps). Finally, like cognitive changes, structural changes center on altering human behavior, but they rely on altering "the structure of the situation that influences human behavior" (e.g., floodplain zoning).[51]

Public attitudes play an important role in the efficacy of these three fixes. In the case of technological and structural changes, they must be consistent with the prevailing public discourse. For cognitive changes to occur, two conditions must be

met: (1) attitudes must be changed, and (2) these attitudes must influence behavior. The relationship between attitudes and Heberlein's three fixes for environmental problems are illustrated in table 1. Additionally, the table places the environmental fixes in the context of a mega sporting event that aspires to increase the use of public transportation and reduce the use of single-use plastics in its competition venues.

Based on their theorized link with the three potential environmental solutions, public attitudes represent an essential precondition to understanding environmental changes. As Heberlein argues, "No matter which fix we use—and this is the important point—attitudes matter. So we need a scientific understanding of how attitudes work, and this knowledge of attitudes must be part of the design of any environmental program. Even technological fixes that try to change the environment directly must be designed to be consistent with public attitudes to the public will bear the cost, risks, and inconveniences of the fix."[52] Given the potential of the Olympic Games as a driver of pro-environmental behavior change, it is necessary to measure public attitudes before developing and deploying technological, cognitive, and structural strategies designed to respond to environmental problems.

Public perceptions of environmental initiatives are an important precursor to understanding behavioral change. Citing the work of Bhattacharya and Sen, Casper, Pfahl, and McCullough argue that "tying awareness, knowledge, actions, and perceptions related to environmental activities in sport . . . is necessary to understand

TABLE 1. Attitudes and Environmental Solutions

	Technological	Cognitive	Structural
What Changes	Environment	Human behavior	Human behavior
How Change is Achieved	Technology influences the environment	Information influences human behavior	Structure of the situation influences human behavior
Example	Public transportation; Beverage refill stations	Map of transportation alternatives; Signs and information about single-use plastics	Limiting on-site parking; Eliminating single-use plastics
Role of Attitudes	Technology must be consistent with dominant public attitudes and values	Attitudes must be changed and attitudes must influence behavior	Structural changes must be consistent with dominant public attitudes and values

Adapted from Thomas A. Heberlein, *Navigating Environmental Attitudes* (Oxford: Oxford University Press, 2012), 9.

the attitudes and beliefs of people towards a sport organization and [environmental sustainability] if a sustainable impact on fan behavior is to be achieved."[53] For a mega-event like the Olympic Games, establishing a baseline understanding of public attitudes toward environmental issues may inform any technological, cognitive, or structural efforts to reduce the event's environmental impact and promote positive behavioral change.

Method

In this study, we aimed to examine the environmental attitudes and behaviors of residents in a future Olympic host city and the factors that contributed to citizens' attitudes toward the environment and environmental initiatives. Because Olympic environmental initiatives differ from host to host, we focused on the 2028 Olympic Games in Los Angeles. This approach was consistent with previous studies of Olympic legacy, in which survey research has been employed to measure local attitudes toward numerous issues, including the environment, economic development, security, tourism, international image, and knowledge development.[54] In the case of LA 2028, the local organizing committee has pledged to deliver the Games in an environmentally sustainable manner.[55] Planning for LA 2028 is still in the early stages, so establishing a baseline assessment of local attitudes toward environmental issues may inform organizers' sustainability strategies.

Instrument

As part of the survey design process, we visited the Olympic Studies Centre (OSC), met with OSC staff, and reviewed the OSC collections. There, we also received feedback from a legacy specialist with the IOC.[56] Additionally, we met with members of LAOCOG both virtually and in person. Following these meetings, we finalized the survey instrument. The survey instrument contained eighty items and was separated into twelve sections, the majority of which focused on questions of public attitudes, awareness, knowledge, actions, or perceptions. These measures provide important insight that can be used to design technological, cognitive, or structural environmental strategies.[57] Each section is summarized in turn below.

Screening and sport participation. Participants were required to be eighteen years of age or older and residents of Los Angeles County, California. In addition to questions screening their eligibility to participate in the study, participants also provided their gender, racial or ethnic heritage, homeowner status, environmentalist status, level of education, family income, interest in professional and/or college sports, and participation in sports or physical activity. These items were used to assess the generalizability of the data based on demographic comparisons between the sample and census data on all residents of Los Angeles County.

Attitude toward environmental issues. Four items were used to assess participants' attitudes toward environmental issues and conservation, including "I worry about environmental issues" and "Environmental problems are a risk for future generations." Two items—"Environmental problems are exaggerated" and "Too much attention is paid to environmental problems"—were reverse-scored. These items originated from Blok, Wesselink, Studynka, and Kemp's survey on the pro-environmental behavior of university employees, which has subsequently been deployed in numerous settings, including sport studies.[58] Participants responded to the items using a seven-point Likert-type scale with the anchors *strongly disagree* and *strongly agree*.

Behavioral control. Perceived behavioral control referred to the extent to which individuals felt they could personally impact the natural environment. In previous research, perceived behavioral control has been hypothesized to predict pro-environmental behavioral intentions.[59] Four items from Mancha and Yoder's Green Perceived Behavioral Control scale were adopted.[60] Examples used to measure behavioral control include "I find it easy to be environmentally friendly at home" and "I am very confident that I can protect the environment." As was the case in the previous section, two items were reverse-scored ("I find it difficult to preserve resources and recycle" and "Being friendly with the environment is out of my control"). Participants responded to the items using a seven-point *agree–disagree* scale.

Personal norms. Five items were modified from Casper, Pfahl, and McCullough and used to measure personal norms, a hypothesized predictor of both everyday behavioral intentions and sport event behavioral intentions.[61] Three of these items were generic ("Conserving natural resources is very important to me"; "I have a responsibility to conserve natural resources"; "I would be willing to pay higher prices to protect the environment"), and two were applied to a sport context ("I feel that I should conserve natural resources while attending a sporting event" and "I would be willing to be inconvenienced to help preserve natural resources at a sporting event"). A seven-point *agree–disagree* scale was used.

Personal pro-environmental behaviors. To examine the extent to which participants actively engaged in pro-environmental behaviors, we created a list of thirty-one activities that varied in the amount of effort required and the cost to act.[62] In most cases, respondents were asked to report how often they carried out sustainable practices using the following scale: *never*, *sometimes*, *often*, *regularly*, *always*, or *not sure*. Six items asked the respondents if they had considered completing an action (using the responses *yes* or *no*) such as installing a rainwater tank or adding insulation to their home.

Knowledge of sport sustainability practices. Although sport organizations around the world have begun adopting pro-environmental initiatives in their facilities and during events, it is unclear if the general public is widely aware of this industry trend. To measure general knowledge of sustainability practices, we

developed five original items. These items focused on strategies currently being employed at collegiate, professional, and international sporting events, including in-stadium recycling, water conservation, local food sourcing, the use of renewable energy, and the construction of temporary facilities (rather than permanent venues) to host events. Respondents were asked to rate their familiarity with each initiative using a seven-point scale ranging from *never heard before* to *very familiar*.

Support of initiatives for sport sustainability. To examine whether individuals supported pro-environmental action among sport organizations, we proposed four original items: "Major sports teams and events can be used to raise awareness of environmental issues"; "I would participate in a sports event that benefited the environment"; "Sports provide a platform to educate fans about social issues"; and "I think it is important for sports teams and events to be environmentally friendly." Respondents rated their level of agreement with each statement using a seven-point *agree–disagree* scale.

Ascriptions of responsibility. Ascriptions of responsibility refer to the belief that sport organizations have an obligation or responsibility to engage in environmental stewardship. In previous research, Casper, Pfahl, and McCullough hypothesized ascriptions of responsibility would strongly predict behavioral intentions related to everyday and sporting event environmental actions.[63] To measure ascriptions of responsibility, we modified four items from Casper et al., and respondents used a seven-point Likert-type scale with the anchors *strongly disagree* and *strongly agree*.

Local awareness. While many items focused on general environmental issues, the Local Awareness factor related specifically to initiatives occurring in Los Angeles. We proposed three items to measure Angelenos' awareness of local sustainability efforts. First, respondents were asked to indicate their familiarity with Los Angeles's Sustainability City pLAn. Second, they were asked the extent to which they agreed or disagreed with the statement, "I generally think of Los Angeles as an environmentally friendly city." The *agree–disagree* scale was also used for the third statement, "Most of the major sports teams in LA are environmentally friendly."

Sporting event behaviors. Three items centered on respondents' expectation that they would participate in sustainable practices at a sporting event if given the opportunity. Examples of sustainable behaviors included reducing transportation impact and proper waste disposal. These items were modified from Kellison and Cianfrone and used the seven-point *agree–disagree* scale.[64]

Demographics. Three additional demographic items were included at the end of the survey. They included conservationist status, political affiliation, and zip code.

Comments. At the survey's conclusion, space was available for participants to leave open-ended comments "related to environmental sustainability and/or sports." Additionally, participants were given the option of leaving their contact information if they were interested in receiving the results of the study. We reviewed

all open-ended responses for concerns about the survey instrument, but we did not analyze the content of the empirical material for this study.

Design

We administered the study through the medium of an internet survey due to the low cost of administering, the relative ease through which participants could be recruited, and the low environmental impact. Additionally, the online-survey format provided greater ease of use for participants when responding to qualifier and contingency questions. Instrument design was guided by Dillman, Smyth, and Christian's web-survey construction principles, which outline the advantages of online questionnaires and offer recommendations for reducing the occurrence of measurement and nonresponse errors.[65]

In recognition of the possibility of biasing effects resulting from measuring multiple factors in a single survey administration, we followed several procedural and statistical steps suggested in previous literature to mitigate the inflation associated with common method variance (CMV). For example, care was given to create proximal separations between the predictor and criterion variables. As Podsakoff, MacKenzie, and Podsakoff noted, however, the ability to create such separations is contingent upon the length of the survey and the desired randomness of the items.[66] Additionally, during the instrument development stage, items were drafted in ways that reduced the ambiguity of their meanings; for example, indeterminate words (e.g., many, sometimes) were substituted with specific words.[67] When respondents suspect a response choice is socially desirable, their answers are more likely to be biased; therefore, where possible, the social desirability of the items have been minimized. Finally, items were constructed so that a balance between positive and negative responses would be expected. As noted by Podsakoff, MacKenzie, and Podsakoff, an instrument that contains a mix of positively and negatively worded items reduces acquiescence (i.e., positively biased) and disacquiescence (i.e., negatively skewed) response patterns.

Sampling

After obtaining Institutional Review Board approval, we employed a purposive sampling technique to distribute an online survey to residents of Los Angeles County, California. Participants were solicited using Qualtrics Panels, a survey-research service that operates mostly traditional, actively managed market research panels. The survey was available in both English and Spanish, and it was available to residents of Los Angeles County who were eighteen years of age or above.

In order to provide evidence of data generalizability to all Los Angeles County residents, we used the recommendations of Krejcie and Morgan.[68] We concluded that in order to obtain a representative sample of Los Angeles County's 10.1 million residents with 95% confidence, the preferred sample size was approximately 384.

Analysis

After the survey was deployed and a sufficient sample size was achieved, data were analyzed using SPSS Statistics. Given the exploratory nature of this study, the results are largely based on descriptive data analysis using frequencies and mean scores. Additionally, to examine potential attitudinal differences based on demographic characteristics, we conducted an analysis of variance (ANOVA). The results of these analyses are presented below.

Results

Sample Characteristics

The survey was completed by 855 individuals. Demographic characteristics collected from the sample included gender (53% men, 47% women), race and ethnicity (47.2% Hispanic, 31.3% White [non-Hispanic], 7.8% Black [non-Hispanic], 6.0% Asian, 2.5% American Indian or Alaska Native, 1.1% Native Hawaiian or Other Pacific Islander, and 4.1% other), age (*Mdn* = 34–44), level of education (3.6% less than high school graduate or equivalent; 11.9% high school diploma or equivalent; 6.1% trade, technical, or vocational training; 21.6% some college, no degree; 12.6% associate's degree; 30.8% bachelor's degree; and 12.3% graduate degree or higher), and annual household income (*Mdn* = $40,000–$69,999). Twenty-one participants completed the survey in Spanish, while the remaining 834 completed the English version.

In table 2, a demographic summary of the sample is provided and compared with all residents of Los Angeles County. Across age, gender, and race, there is general consistency between the sample and county population, thus lending to the generalizability of the data.

Other demographic information collected is provided in table 3. Nearly half of the sample rented their homes (48.9%), while slightly less owned their homes (45.3%). Sixty-nine percent of the sample considered themselves active or passive environmentalists, 27.3% were not environmentalists, and 3.7% declined to answer. More than half of the sample identified themselves as Democrats (27.4% strong, 28.4% somewhat leaning), while those identifying as Republicans made up less than 20% (7.5% strong, 8.9% somewhat leaning); 15.1% had no party affiliation; 5.1% were Libertarian; and 7.6% listed another political affiliation or declined to answer. The majority of the sample indicated they followed professional and/or college sports either occasionally (21.2%), frequently (28.4%), or daily (14.7%), while slightly more than one-third reported following sports a little (17.1%) or not at all (18.6%). Finally, we asked respondents to indicate their level of participation in sport and physical activity. More than half of the sample participated at least occasionally. The three most popular types of activities were, in order: fitness (63.5%), outdoor (32.3%), and individual (24.1%).

TABLE 2. Demographic Comparison of Sample and All County Residents

	Sample	All Residents
N	855	10,105,722
Age		
18–24	11.8%	10.2%
25–34	20.1%	15.7%
34–44	22.3%	13.9%
45–54	17.8%	13.7%
55–64	15.3%	11.5%
65 and over	12.6%	12.5%
Gender		
Women	47.0%	50.7%
Men	53.0%	49.3%
Non-binary and/or other gender identification	0.0%	—
Race		
White	31.3%	26.5%
Black or African American	7.8%	7.9%
American Indian or Alaska Native	2.5%	0.2%
Asian	6.0%	14.3%
Native Hawaiian or Other Pacific Islander	1.1%	0.2%
Persons reporting other races	4.1%	2.5%
Persons of Hispanic, Latino, or Spanish origin	47.2%	48.4%
Highest level of education achieved[a]		
Less than high school graduate or equivalent	3.6%	21.9%
High school graduate or equivalent	11.9%	20.7%
Trade, technical, or vocational training	6.1%	—
Some college, no degree	21.6%	19.3%
Associate's degree	12.6%	6.9%
Bachelor's degree	30.8%	20.4%
Graduate degree or higher	12.3%	10.9%
Income		
Mdn family income range	$40k–$69,999	
Mdn household income	$61,015	

Note. *Mdn* = median; — = not reported. Percentages of Sample declining to answer Race and Highest level of education not reported in table. All Residents data from "2013–2017 American Community Survey 5-Year Estimates" by U.S. Census Bureau, 2017.

[a]Percentage of persons age ≥25.

TABLE 3. Homeowner Status, Environmentalist and Conservationist Status, Political Affiliation, Interest in Professional and/or College Sports, and Participation in Sport or Physical Activity Among the Sample

	Frequency	%
Homeowner status		
Rent	418	48.9%
Own	387	45.3%
Other	50	5.8%
Environmentalist status		
Active environmentalist	155	18.1%
Passive environmentalist	435	50.9%
Not an environmentalist	233	27.3%
No answer	32	3.7%
Conservationist status		
Active conservationist	142	16.6%
Passive conservationist	420	49.1%
Not a conservationist	237	27.7%
No answer	56	6.5%
Political affiliation		
Strong Democrat	234	27.4%
Somewhat-lean Democrat	243	28.4%
Somewhat-lean Republican	76	8.9%
Strong Republican	64	7.5%
Strictly independent or no party affiliation	129	15.1%
Libertarian	44	5.1%
Other	15	1.8%
No answer	50	5.8%
How closely do you follow professional and/or college sports?		
Not at all	159	18.6%
A little	146	17.1%
Occasionally	181	21.2%
Frequently	243	28.4%
Daily	126	14.7%
How often do you participate in sports or physical activity?		
Not at all	163	19.1%
A little	205	24.0%
Occasionally	204	23.9%
Frequently	193	22.6%
Daily	90	10.5%

continued

TABLE 3. *continued*

	Frequency	%
In what type(s) of sports or physical activity do you participate?[a]		
Fitness	543	63.5%
Outdoor	276	32.3%
Individual	206	24.1%
Team	164	19.2%
Water	107	12.5%
Winter	70	8.2%
Racquet	51	6.0%

Note. $n = 855$

[a]Multiple selections allowed.

Establishing a Baseline

The results of the survey are listed in table 4. For each factor, an aggregate score was calculated using total item scores for each factor (e.g., a mean score for "Attitude Toward Environmental Issues" was calculated using all scores for Attitude1, Attitude2, Attitude3, and Attitude4). For comparative purposes, factor scores are illustrated in figure 1. Each factor and associated items are discussed in turn in the next series of sections.

FIGURE 1. Factor scores.

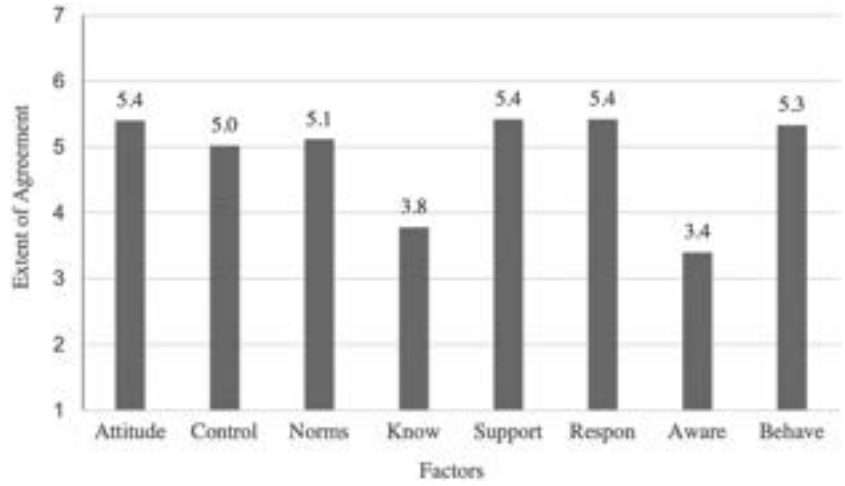


TABLE 4. Descriptive Statistics of Select Factors and Items

Coding	Factor / Item	M	SD
	Attitude Toward Environmental Issues	5.40	1.25
Attitude1:	I worry about environmental issues.	5.32	1.51
Attitude2:	Environmental problems are exaggerated. (R)	5.22	1.82
Attitude3:	Environmental problems are a risk for future generations.	5.73	1.59
Attitude4:	Too much attention is paid to environmental problems. (R)	5.33	1.71
	Behavioral Control	5.02	.98
Control1:	I find it easy to be environmentally friendly at home.	5.33	1.35
Control2:	I find it difficult to preserve resources and recycle. (R)	5.06	1.65
Control3:	I am very confident that I can protect the environment.	4.72	1.46
Control4:	Being friendly with the environment is out of my control. (R)	4.96	1.66
	Personal Norms	5.12	1.17
Norms1:	Conserving natural resources is very important to me.	5.53	1.34
Norms2:	I have a responsibility to conserve natural resources.	5.52	1.32
Norms3:	I would be willing to pay higher prices to protect the environment.	4.56	1.68
Norms4:	I feel that I should conserve natural resources while attending a sporting event.	5.06	1.46
Norms5:	I would be willing to be inconvenienced to help conserve natural resources at a sporting event.	4.91	1.59
	Knowledge of Sustainability Practices[a]	3.78	1.50
Know1:	. . . Recycle cans and bottles at sporting events?	4.80	1.83
Know2:	. . . Conserve water usage at sporting events?	3.57	1.93
Know3:	. . . Use local suppliers for food and beverage at sporting events?	3.79	1.90
Know4:	. . . Use renewable energy like solar or wind to power arenas and stadiums?	3.76	1.88
Know5:	. . . Build temporary facilities for a sporting event that can be removed once the event is over?	2.98	1.89

continued

TABLE 4. *continued*

Coding	Factor / Item	M	SD
	Support of Initiatives for Sport Sustainability	5.42	1.21
Support1:	Major sports teams and events can be used to raise awareness of environmental issues.	5.63	1.37
Support2:	I would participate in a sports event that benefited the environment.	5.19	1.47
Support3:	Sports provide a platform to educate fans about social issues.	5.22	1.56
Support4:	I think it is important for sports teams and events to be environmentally friendly.	5.63	1.29
	Ascriptions of Responsibility	5.42	1.23
Respon1:	Organizers of major sporting events have a responsibility to integrate environmental issues into their strategic planning processes.	5.33	1.39
Respon2:	Sports event organizers have a responsibility to promote environmentally sustainable practices into their operations.	5.36	1.41
Respon3:	I think it's important for sports event organizers to consider ways of reducing their environmental impact.	5.64	1.33
Respon4:	I expect organizers of major sporting events to use environmentally preferable practices.	5.38	1.37
	Local Awareness	3.40	1.18
Aware1:	How familiar are you with the mayor's Sustainable City plan (also known as the Sustainable City pLAn)?[a]	2.31	1.67
Aware2:	I generally think of Los Angeles as an environmentally friendly city.	3.80	1.57
Aware3:	Most of the major sports teams in LA are environmentally friendly.	4.10	1.33
	Sporting Event Behaviors	5.33	1.13
Behave1:	I intend to do all that I can do to reduce my environmental impact when attending a sporting event.	5.33	1.34
Behave2:	While attending a sporting event, I intend to reduce my transportation impact as much as possible (by taking mass transit or public transit).	4.65	1.69
Behave3:	I intend to dispose of my waste properly every time while attending a sporting event.	6.00	1.28

Note. *M* = mean. *SD* = standard deviation. (R) = reverse-scored item. Unless otherwise noted, observed variables measured by seven-item response choices anchored by *strongly disagree* and *strongly agree*.

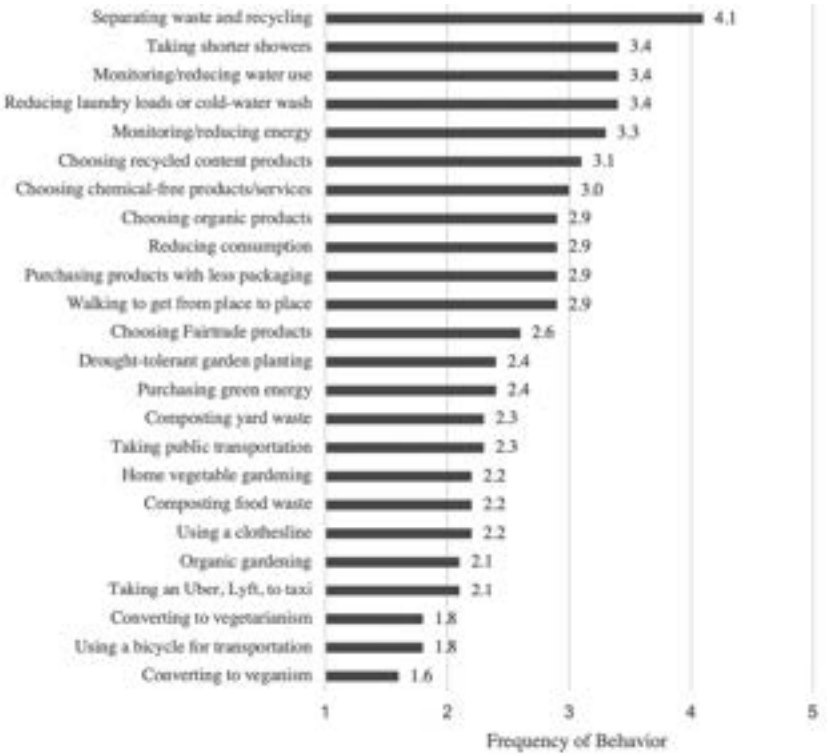
[a]Response scale: 1= never heard of this; 2 = heard before, but not at all familiar; 3 = not very familiar; 4 = neither familiar nor unfamiliar; 5 = somewhat familiar; 6 = familiar; 7 = very familiar.

General environmental considerations. Four factors—Attitude Toward Environmental Issues, Behavioral Control, Personal Norms, and Personal Pro-environmental Behaviors—were used to determine Angelenos' general environmental beliefs and actions. Participants responded to the first three factors (i.e., Attitude, Control, Norms) using a seven-point scale, and all aggregate scores were above the neutral midpoint, *4*. Participants generally agreed with statements related to the seriousness of environmental problems, the importance and responsibility of conserving natural resources, and the ease of being environmentally friendly at home. These results are generally reflective of results reported in the 2019 *Public Policy Institute of California Statewide Survey* on Californians' environmental attitudes (PPIC Statewide Survey), which found more than half of Los Angeles County respondents expressed high levels of concern that wildfires are becoming more severe as a result of climate change (70%), that global warming is a serious threat (61%), and that plastics and marine debris are a big problem along the California coastline near them (77%).[69] Respondents were slightly less confident in their ability to protect the environment and were less supportive of the idea to pay higher prices or be inconvenienced to protect the environment (though mean scores on these items still exceeded the midpoint).

To examine Angelenos' existing pro-environmental behaviors, we asked participants to use a five-point scale to report how often they carried out thirty-one separate sustainable actions. The results are reported in figure 2. Mean scores for the majority of environmental actions fell below the midpoint, indicating participants engaged in most sustainable behaviors rarely or not at all. The five most common environmental actions were separating waste and recycling (M = 4.1), taking shorter showers (M = 3.4), monitoring or reducing water use (M = 3.4), reducing laundry loads or using a cold-water wash (M = 3.4), and monitoring or reducing energy (M = 3.3). Conversely, the five least popular environmental actions were converting to veganism (M = 1.6); using a bicycle for transportation (M = 1.8); converting to vegetarianism (M = 1.8); taking an Uber, Lyft, or taxi (M = 2.1); and organic gardening (M = 2.1).

Attitudes toward sport sustainability. Five factors—Knowledge of Sustainability Practices, Support of Initiatives for Sport Sustainability, Ascriptions of Responsibility, Local Awareness, and Sporting Event Behaviors—were used to determine Angelenos' knowledge of and attitudes toward sport-specific environmental behaviors. Overall, the results demonstrate participants support pro-environmental action by sport organizations, leagues, and federations, but that their knowledge of existing sustainability initiatives in sport is low. For instance, Angelenos largely supported statements calling for sports teams and events to demonstrate environmental stewardship (Support M = 5.42). Additionally, there was general agreement that organizers of major sporting events had a responsibility to integrate environmental issues into their strategic planning processes (M = 5.33) and that it was important for sports event organizers to consider ways of reducing their environmental impact (M

FIGURE 2. Personal pro-environmental behaviors.



Note. Response scale: 1 = never; 2 = sometimes; 3 = often; 4 = regularly; 5 = always

= 5.64). In the PPIC Statewide Survey, Los Angeles County residents were largely supportive of the state government making its own policies to address global warming (67%) and agreed that it was very important that California acts as a leader in the efforts to fight climate change (57%).[70]

On the other hand, awareness of existing sustainability practices like water conservation (M = 3.57), local food sourcing (M = 3.79), the use of renewable energy (M = 3.76), and the construction of temporary facilities (M = 2.98) fell below the midpoint. Furthermore, few respondents were familiar with the Sustainable City pLAn (a strategic initiative central to the sustainability vision for LAOCOG's 2024 bid).

Attitudinal Differences by Demographic Categories

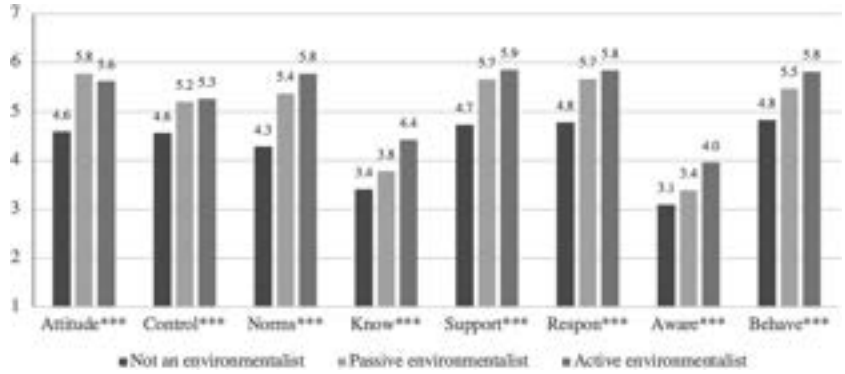
Lastly, we used Analysis of Variance (ANOVA) to examine the influence of three demographic categories—environmentalist status, interest in sport, and participation in sport or physical activity—on the eight aggregated factors. Given the lack of

a firm theoretical foundation on which to test these relationships, this line of inquiry is intended to be exploratory rather than explanatory or inferential.

We found significant differences in all eight factors based on respondents' environmentalist status. As illustrated in figure 3, those who did not consider themselves to be environmentalists scored significantly lower than respondents who thought themselves to be passive or active environmentalists.

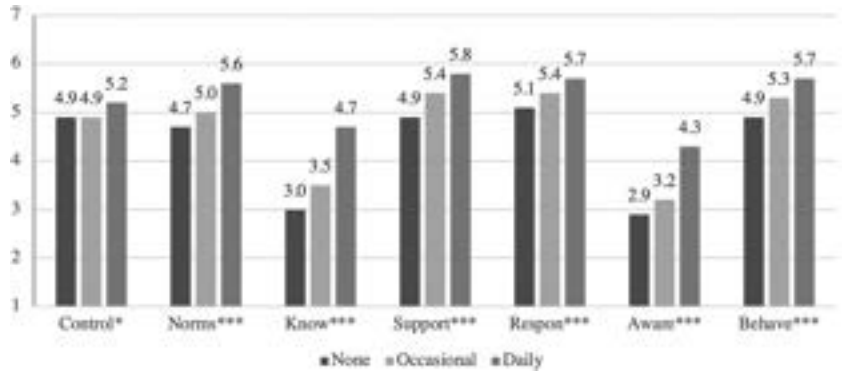
Next, we found significant differences in every factor except Attitude Toward Environmental Issues based on the level of interest in professional or college sport. For illustration, in figure 4, we demonstrate how factor scores increased by interest across three groups: no interest, occasional interest, and daily interest.

FIGURE 3. Group differences based on environmentalist status.



Note. n_{not} = 233; $n_{passive}$ = 435; n_{active} = 155. ***p < .001. For Norms, significant differences exist between all three groups. For Know and Aware, a significant difference exists between active environmentalists and the two other groups. For all other factors, a significant difference exists between non-environmentalists and the two other groups.

FIGURE 4. Group differences based on level of interest in professional and/or college sport.



Note. n_{none} = 159; $n_{occasional}$ = 181; n_{daily} = 126. *p < .05. ***p < .001. For Control and Response, a significant difference exists between daily interest and the two other groups. For all other factors, significant differences exist between all three groups.

Lastly, we found significant differences in every factor except Attitude Toward Environmental Issues based on the level of participation in sport and physical activity. For illustration, in figure 5, we demonstrate how factor scores increased as the level of participation increased across three groups: no participation, occasional participation, and daily participation.

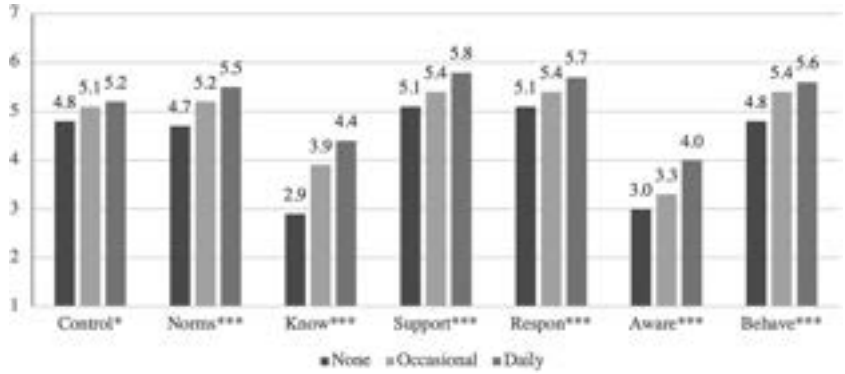
These results show clear contrasts between individuals based on demographic characteristics. As expected, the greater the degree to which individuals considered themselves to be environmentalists, the more likely they were to support pro-environmental action in sport and in general. Interestingly, as (a) interest in professional or college sport or (b) participation in sport or physical activity increased, so did their support of sustainability initiatives.

The results of the study have important implications for sporting event planners, including those of recurring events (like a professional sports organization) and one-time mega-events (like LAOCOG). In the concluding section, we expand on the technical results of the study. Additionally, we highlight the key takeaways, discuss implications, acknowledge the study's limitations, and outline several directions for future research.

Discussion

Planning of the Olympic Games has long been impacted by public stakeholders, including citizen activists and well-organized groups. As discussed in the literature review, these stakeholders have played significant roles in the design and delivery of

FIGURE 5. Group differences based on level of participation in sport or physical activity.



Note. n_{none} = 163; $n_{occasional}$ = 204; n_{daily} = 190. $^{*}p < .05$. $^{***}p < .001$. For Control, a significant difference exists between non-participants and the two other groups. For Aware, a significant difference exists between daily participants and the two other groups. For all other factors, significant differences exist between all three groups.

the Games, particularly when it comes to environment-related issues. In the past twenty-five years, local organizing committees have also begun seriously considering not only how to produce an event that minimizes sport's harmful impact on the natural environment, but also how to exploit the high profile of the Games to effect positive change among spectators and ordinary citizens.

In light of the potential influence of a Games' environmental legacy on residents, we endeavored to measure the environmental attitudes and behaviors of citizens living in a future host city (i.e., Los Angeles). In addition to providing valuable insight about a population's attitudes toward environmental issues, their knowledge of pro-environmental practices, and their support of sport sustainability initiatives, the data collected in this study provide a baseline against which future data can be compared.

The results of the study indicate Angelenos at large worry about environmental issues, believe environmental problems are not exaggerated, and think environmental problems represent a risk for future generations. Furthermore, many Angelenos acknowledged a responsibility to conserve natural resources, both at sporting events and in general. Despite these beliefs, the willingness to pay higher prices or be otherwise inconvenienced to support conservation efforts at sporting events was less favorable (i.e., mean scores were closer to the statistical midpoint).

There is clear support—and perhaps even pressure—from Angelenos for sports teams and event organizers to behave in an environmentally friendly manner. Respondents largely agreed that sport provided a platform to educate fans and raise awareness about social issues (e.g., climate change). This finding supports the implementation of "cognitive fixes" to environmental problems, in which an actor provides information designed to influence human behavior.[71] Additionally, respondents expected organizers of major sporting events to use environmentally preferable practices (i.e., which could include technological or structural fixes[72]), as Angelenos argued event organizers had a responsibility to integrate environmentally sustainable practices into their operations. As a result, Angelenos are likely to assess the responsiveness and efficacy of LAOCOG based on extent to which organizers engage sustainability in all aspects of the Games.

While there is widespread support for sport sustainability, it does not translate to knowledge or awareness of environmental initiatives. Except for recycling cans and bottles, respondents were mostly unaware of the sport sustainability practices listed in the study. Additionally, Angelenos had low awareness of Los Angeles's Sustainable City pLAn and were noncommittal to statements related to the environmental friendliness of Los Angeles and its major sports teams. Based on their self-reported data, pro-environmental action is mostly absent from Angelenos' personal lives. In light of this apparent disconnect between environmental attitudes and behaviors, further research is required to explore the root of inconsistency between attitudes

and proposed technological, cognitive, and structural fixes to environmental problems. This research might specifically explore the difference in sport consumers' environmental attitudes and behaviors, thus complementing the existing body of literature spanning several decades.[73]

It is important to acknowledge the demographic differences we found in the study. Significant differences existed across all three demographic categories we analyzed. Specifically, the results indicate that as individuals increase in environmentalism, sport interest, and sport participation, so do their pro-environmental behaviors, their knowledge of general and sport-specific sustainability practices, and their support of sport sustainability. Therefore, organizers seeking to promote sustainable behaviors among the community may benefit by sending targeted messages to local citizens actively engaged in sport, many of whom are likely attendees of LA 2028.

A key takeaway in this study is that despite general support of sustainability initiatives at sporting events, the public may generally lack awareness and knowledge to identify these initiatives in practice. Thus, in cases in which sports organizations or events (1) fail to adopt sustainable behaviors or (2) adopt sustainable behaviors but fail to promote them, they may be missing out on the opportunity to engage an audience of spectators interested in environmental action. Conversely, organizers that design and deliver sustainable sporting events may more closely align with public expectations. Below, we outline several implications of the study.

Implications

Although research examining the relationship between sport and sustainability is still in the early stages, it is attracting more and more attention from the academy and sport management industry.[74] The sport sector as a whole does not have a considerable environmental impact compared to other sectors, but it has tremendous social influence. Despite their relatively small environmental impact, sports organizations and events have a responsibility to minimize their negative impact (i.e., environmental) and maximize their positive effects (i.e., economic, social[75]). As a result, researchers have primarily focused on evaluating the environmental impact[76] and subsequently finding ways to reduce it through behavioral change research.[77]

The results of this study provide insight on the extent to which residents prioritize environmental programs that could be deployed at major sporting events, including the Olympic Games. Additionally, the data collected are intended to provide a baseline that can be used to determine the extent to which residents' environmental attitudes and behaviors change with the delivery of the 2028 Olympic Games. They may also inform attempts to implement sustainability strategies based on technology, cognition, and structures.

In documents submitted with original candidature files for consideration to host the 2024 Olympic Games, organizers pledged to host the first "Energy Positive

Games." In many ways, this planned environmental legacy could have served as a hallmark of the 2015 LA Sustainability City pLAn, a document outlining the City of Los Angeles's commitment to environmental stewardship. Still, in other Olympic cities, local organizers have continued to propose ambitious sustainability initiatives in bidding documents and event plans. While these initiatives may have significant environmental benefits, there is no empirical evidence to suggest this type of environmental programming is valued by local residents; on the other hand, there is no evidence to indicate these programs are not valued by residents.[78] Therefore, the results of this study may be used to inform the policymakers and organizers of future Olympic cities endeavoring to design and deliver an Olympic Games with lasting impacts on their communities and their citizens.

This study has clear scholarly implications, as the data collected are not only useful to scholars and organizations like LAOCOG, but also with any decision-maker (e.g., elected officials, policymakers, sport governing bodies, team owners and managers) considering investment in important pro-environmental programs or technology. For example, because participants in this study demonstrated strong favorability of robust environmental action, decision-makers may be encouraged to increase their investment in sustainable programming. On the other hand, if participants in this study had expressed a preference for different types of programs, decision-makers might similarly respond by directing its spending away from environmental initiatives. In the latter case, environmental groups would also need to strategize new approaches for communicating the necessity and benefit of sustainable programs.

There have been many calls by scholars to engage in longitudinal research to measure how attitudes and behaviors evolve (and as a result of program intervention[79]). For example, noting that research on Olympic environmental legacy was "an under-researched topic," Samuel and Stubbs recommended both longitudinal studies and "studies of legacies of summer and winter [Olympic Games] and other candidate cities."[80] Therefore, this study responds to those scholars advocating for the study of environmental attitudes and behavior over time. That is, by first measuring environmental attitudes and behaviors early in the LA 2028 planning process (when details of LA 2028's legacy plans are undeveloped—and public knowledge and awareness are concomitantly low), we expect to be able to use these data in subsequent work to identify changes in attitudinal and behavioral trends as well as the possible interventions influencing these changes (such as expanded promotion of LA 2028's sustainability initiatives, highlighting the pro-environmental features of an existing facility like Los Angeles Memorial Coliseum, or the general increase in interest that accompanies the anticipation of the event).

Although this study was conducted in the context of LA 2028, it may be applied to other sporting events and settings. In the next section, we discuss this study's limitations and provide directions for future research.

Limitations and Directions for Future Research

This study has several limitations. First, although we made efforts to mitigate the effect of social desirability bias, it is possible some participants may have exaggerated their responses. Next, while demographic characteristics with the sample were mostly consistent with those of the Los Angeles County population, it is unclear whether these results would be duplicated outside the greater Los Angeles area. In future studies, researchers may attempt to replicate the survey in a different region and compare the groups.

To date, there have been few studies on the attitudes of Angelenos toward the 2028 Games.[81] While this study provides insight on Angelenos' general attitudes toward environmental issues, behavioral control, personal norms, knowledge of sustainability practices, support of initiatives for sport sustainability, ascriptions of responsibility, local awareness, sporting event behaviors, and individual pro-environmental behaviors, no explicit references to LA 2028 appeared in the survey. Sustainability planning for the 2028 Games is still in its infancy, so at the time of data collection, there were few specific initiatives related to LA 2028 that we could investigate. As LA 2028's sustainability strategy emerges, follow-up studies that specifically focus on these initiatives will provide a better analysis of whether the LA 2028 plans align with the interests of public stakeholders. Additionally, there may be more opportunity to conduct a theory-driven analysis of demographic differences, rather than the descriptive approach used in this exploratory study.

This study was grounded in Heberlein's work linking environmental attitudes and three types of environmental solutions: technological, cognitive, and structural. As he writes,

> We try to fix environmental problems by changing the environment directly (the technological fix), relying on people to change themselves in response to information (the cognitive fix), or changing human behavior by changing the context (the structural fix). Although this notion of technological, cognitive, and structural fixes help us understand how we approach environmental problems, real solutions are more complex and often require all three fixes simultaneously. Attitudes do not go away just because we choose a technological or structural fix. Effective structural and technological fixes designed with attitudes take advantage of social contexts rather than relying on attitude change to produce new behaviors.[82]

In the context of this study, the results provide a foundation on which event organizers can build a robust sustainability strategy, the positive effects of which may be felt long after a mega-event has concluded.

By taking a data-driven and theory-grounded approach to understanding what aspects of Olympic legacy are favored most by local citizens, researchers could

provide empirical evidence that supports—or refutes, depending on the results—public and private spending on initiatives related to environmental quality, transportation, education, public facilities, and others.

Acknowledgments

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