

**Assessing Sustainability Awareness within AC Milan's Local Fanbase**

Environmental Science Practicum Final Report

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## **Abstract**

Italian football club AC Milan occupies a prominent role within the global sports industry's transition to environmentally conscious alternatives to stadium operations, games, and other sustainability campaigns. To further this effort, they reached out to UCLA to spearhead research that quantifies the current extent of their fanbase's awareness of AC Milan's sustainability initiatives and investigates avenues for expanding said awareness. Preliminary research on the multifaceted dynamics of sporting and stadium sustainability indicates that fans likely engage in sustainable practices based on their upbringing and pre-existing behaviors toward pro-environmental attitudes. However, sporting organizations like AC Milan can play an essential role in cultivating eco-friendly perceptions among fans. As such, the team used data collected from a comprehensive review of current literature and a survey sent to AC Milan fanclubs to determine fan attitudes toward sustainability based on certain demographics. This investigation focuses on stadium sustainability, marketing strategies, and fan awareness. The research suggests that although awareness of the club's sustainability initiatives may be lacking amongst certain subsets of the fanbase, respondents are amenable to eco-friendly practices and inclined to support sustainable partnerships within the organization. Data collected from this survey, in conjunction with research surrounding other sports organizations' green marketing strategies, informed final proposals designed for future use at AC Milan. Ultimately, this report offers insight into fostering a culture of sustainability within AC Milan while maximizing fan involvement in, support for, and understanding of their green campaigns.

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## **Introduction**

Through the experiential practicum opportunity afforded by the Institute of the Environment and Sustainability (IoES) at the University of California, Los Angeles (UCLA), the AC Milan Fan Sustainability team partnered with the Italian football club AC Milan to compose, distribute, and analyze a peer-reviewed survey. This series of sustainability-oriented questions highlight respondents' perspectives and behaviors concerning environmentalism. We defined the term "environmental sustainability" as "the idea that humans should live in a manner that conserves earth's natural resources" in the survey and we will be using the same definition in this report. We released the survey in English and Italian to allow us to reach audiences both in Italy and internationally. By gauging the survey respondents' (hereafter referred to as 'respondents') support for and perception of sustainability as a whole, we were able to construct and indicate strategies to further engage fans at AC Milan through current or newly introduced methods. We analyzed the collected data to verify and refute the following hypotheses using Excel, Qualtrics, and R analytics, which directly informed the final list of proposals submitted to AC Milan leadership.

### **Stadium Sustainability**

Football, or soccer, continues to dominate as the most popular sport in the world. As professional clubs like AC Milan grow, they continue to explore plans for expansion and updated facilities, such as stadiums. When considering new stadiums, it is relevant to research fans' current ideologies surrounding stadium sustainability and obtain the best approach to integrate sustainability at the stadium with fan culture. Concerning stadium sustainability, we anticipate that (1) 2/3 of respondents who attended three or more live games this season will support sustainable stadium operations (e.g., hosting a Green Game (a specific gameday experience focused on fan education and engagement in sustainability), using reusable water bottles at games, implementing low-carbon food), (2) season ticket holders and respondents under the age of 40 are more likely to support the continued growth of sustainable initiatives than non-season ticket holders and respondents who are 40 and older, and (3) among respondents who attended three or more in person games this season, bus and train will be the most popular modes of transport used to get to the stadium.

### **Fan Awareness**

AC Milan's fan engagement regarding sustainability is vastly important to the continual evolution of the club. With the partnerships of AC Milan to the connections yet to be made, the football club hopes to address the current level of engagement the fans have toward sustainability as a whole, and how they can accurately gauge fans' interests. We hypothesize that (1) less than 1/3 of respondents are aware of at least one of AC Milan's sustainability initiatives, (2) at least 2/3 of respondents view sustainability favorably, and (3) over 2/3 of respondents support AC Milan's current level of involvement in environmentally conscious practices.

## **Marketing Strategies**

Concerning marketing sustainability in the world of sports, two viable options exist: green marketing and social marketing. Green marketing describes the introduction of sustainable services and products into the core of a business process, while social marketing strategies focus on consumer orientation and engagement to win people over and build rapport (Meizen, 2021). With this in mind, we anticipate that (1) respondents are more inclined to respond to sustainability campaigns led by individual players than those that are headed by team management or external partners, (2) currently, 2/3 of respondents who attended three or more live games this season have an understanding of why a one-time monetary contribution of \$6.50 (€6.03) would be implemented to bolster an organization's sustainability initiatives, and (3) a future partnership with a solar company will be the most supported by respondents amongst the choices of a partnership with a sustainable food packaging company, a solar company, and an environmental justice organization.

## **Methods**

### **Background Research**

We conducted a literature review during the initial stage of the project, which took place during the fall quarter of the 2023-2024 school year. The research compiled in this review was consolidated under the “Preliminary Research” paper, which informed the background research for “Project Proposal,” which was written during the winter quarter. The background research present in the proposal was leveraged during the survey production stage of the project. The “Demographics” section of the proposal supplied us with valuable information regarding the target audience when analyzing survey data. The successful sustainability projects listed under the “Existing Sustainable Practices” and “Global Sustainability Initiatives” sections served as foundational knowledge for us when creating a list of campaign and policy change suggestions for AC Milan. Research conducted for the “Fan and Player Engagement” section has helped us outline a draft of the survey with the core objectives in mind and brainstorm potential incentives for survey participants. Finally, the “Effective Survey Principles” section directly contributed to the survey production phase.

### **Interviews**

The first step of this project was to obtain an understanding of the prevailing values and cultural norms that exist within both the city of Milan and the AC Milan football club. To accomplish this, we conducted a qualitative one-on-one interview with a former member of AC Milan’s youth football club. In addition, we communicated with some current residents of Milan and other Italian AC Milan fans to develop a basis for Italian cultural attitudes. We intended to understand the football club’s positionality within the greater Milan community and obtain direct, personal accounts of the city and the club’s history with sustainability, and corresponding perspectives. These semi-structured interviews were designed to be conversational and to provide us, as non-native researchers, with pertinent background information. In the end, we ceased interviews after conducting one with Pietro Grassi, a former AC Milan Youth Team member. During the spring quarter, we also engaged in casual correspondence (i.e., email, LinkedIn direct message) with sustainability representatives of American sports teams and stadiums. To optimize these conversations, we drafted questions and the interview structure following advice from Professor Alesia Montgomery of UCLA’s IoES.

### **Survey Production**

The next component of this project was to build a survey for AC Milan fans. Before the production phase, we extensively researched effective survey principles. Next, a survey outline was created detailing question types, format, goals, and plans for later analysis. The survey consists of agreement scale, multiple choice, rank options, and open-ended questions. The agreement scale, rank option, and multiple choice questions were geared to provide concrete data points, while open-ended questions were used to collect personalized responses (Story et al.,

2019). While writing the survey questions, we ensured that every question would provide meaningful results that would turn into suggestions for AC Milan. The lead of the survey team tested multiple survey softwares, including SurveyMonkey and Google Workspace, but ultimately selected Qualtrics due to its breadth of analytic tools and user-friendly nature. The free version collects a maximum of 500 responses, and the survey team deemed it a large enough sample size. Afterward, the lead of the survey team built a test survey to learn how to navigate the software, distribute the survey, and employ the various analysis tools offered by Qualtrics. The rest of us participated in this test survey and offered feedback. The survey team then built a pilot survey that was submitted to the Advisor and AC Milan to undergo a stringent beta test.

Meanwhile, the communications team liaised and met with UCLA faculty members who could offer guidance with various components of the project. Professor Alesia Montgomery of UCLA's IoES informed the survey team about crafting effective qualitative questions. Professor Maria Falbo of UCLA's Department of European Languages & Transcultural Studies translated the final draft of the survey into Italian and informed us about cultural considerations relevant to the project. Team representatives also met with the Italian Consul General stationed in Los Angeles as well as her Vice Consul General and staff for information regarding the political landscape of Italy.

After undergoing several rounds of feedback from AC Milan and subsequent edits, the final draft was shared with Professor Alesia Montgomery and Professor Alan Barreca of the Institute of Environment and Sustainability, both of whom conducted external reviews of the final report during the spring quarter. Professor Montgomery reviewed and offered feedback on the literature review while Professor Barreca did so for the data interpretation and analysis.

### **Survey Distribution**

We extensively researched the pros and cons of various distribution models before offering suggestions to AC Milan. The survey team found that sending a fanbase-wide mass email blast equipped with the survey link (Appendix A) would achieve the most responses. Other modes of suggested distribution models involved the addition of the survey link to a weekly newsletter sent to fans, promoting the project via popular social media outlets such as Instagram, or displaying QR codes strategically around the stadium during a game. The survey team noted that the manual distribution of fliers would be accompanied with time and workforce constraints (Qualtrics, 2023; Singer and Cong, 2012; Cole, 2015). After three biweekly meetings held during the winter quarter, AC Milan decided to circulate the survey to presidents of approximately 70 international and local AC Milan fan clubs. The message sent to fan club presidents read:

*“This year, the Club is supporting a group of students from UCLA, University of California, Los Angeles, in carrying out project work related to the sustainability of a football match.*

*The opinion of our fans is crucial for the success of the project! For this reason, we kindly ask you to share [this survey](#) with your members and invite them to participate and share their thoughts on this topic.”*

Because the survey respondents thus belonged to the fanclubs that were contacted, our data comes from a convenience sample – a sample taken from readily accessible individuals. As such, there is a bias arising from which people had both (1) membership in a contacted fanclub and (2) the motivation and readiness to respond to the survey request. We do not believe that this interferes negatively with the data analysis, as both of those factors are markers of a passionate fan that possesses strong opinions about the club’s decisions. As it is the passionate fans who are likely to pay attention to AC Milan’s decisions, regarding sustainability and otherwise, it is their voices that the survey was able to target. However, it remains important to keep the bias of a non-probabilistic sample in mind.

## **Data Analysis**

We organized the survey data using Qualtrics. Before this phase, each team member completed and received certificates from the Collaborative Institutional Training Initiative (CITI) program for it is required by UCLA for studies involving human subjects. This course allowed us to obtain a better understanding of research protocols, participant safety, and best practices when writing and administering a survey. Additionally, the survey team learned the programming language R, and consulted Professor Mark Handcock of UCLA’s Department of Statistics. Upon navigating the test survey, the survey team lead found that exporting the response data from Qualtrics to Excel was straightforward and that the analytic tools have a shallow learning curve. In addition to this, the survey team also used R to process data to then create graphs. The research and survey teams collaborated to construct graphs that quantify response popularity, responses based on demographics, and comparison of questions. While making the graphs, the data analysis team first explored many graphs and forms of analysis, then cut down to only what they found most relevant. The data analysis ultimately informed the final stage of the project: proposals for how football clubs can promote sustainable initiatives; what sustainable campaigns have been and will be favorable to fans; as well as, the fanbase’s overall desire to become involved with sustainability.

## **Alternative Research**

We constructed a contingency plan in preparation for a host of potential complications that may have backlogged or entirely hindered data collection via the online survey. In preparation for such a scenario, we conducted an additional literature review of the most sustainable and eco-friendly sports stadiums in the U.S. Moreover, we created a copy of the English survey and slightly modified the questions to convey that this project was conducted by an independent university research team – rather than the original survey’s acknowledgment of



the partnership with AC Milan. This modification was done to dispel any public notion that the AC Milan football club is responsible for adopting any proposals suggested by this unaffiliated, independent contingency project. We made direct message requests on the r/ACMilan subreddit page and collected two responses before we suspended the contingency plan. The responses from the alternative survey were excluded because the modifications necessitate separate analyses, and two responses are not a utilizable sample.

Within one week of releasing the original Italian and English surveys, we collected sufficient responses, so the contingency research conducted thus far was used to supplement the data analysis on a qualitative basis only, and not quantitatively. We incorporated some information collected from outreach efforts to members of UCLA Athletics; representatives of the sustainability departments of sports teams such as the Atlanta Hawks, Los Angeles Dodgers, and Seattle Krakens; and representatives that manage sports venues that incorporate eco-friendly practices (e.g., SoFi, Tottenham Hotspur Stadium). Our initial goal was to have Zoom or phone call interviews with these representatives. However, we were unable to successfully complete the interview process. Our contact with the sustainability of sports teams was done through LinkedIn and email correspondence.

### **Finalizing the Research**

The final report, completed in the spring quarter of the academic year, articulates the results of this research as well as the final list of proposals for AC Milan. All of the quantitative data as well as the qualitative interviews and correspondence have been archived and submitted to the Advisor, AC Milan, and Institute of the Environment and Sustainability. The fall quarter consisted of the preliminary research phase, and the exhaustive timeline of the winter and spring quarters is shown below.

## Timeline

<b>Winter Quarter</b>		
<b>Deadline</b>		<b>Action Items</b>
Week 1	Jan 9	Group contract (draft)
	Jan 12	Meeting with Emma   Group contract (final)   Designate roles   Schedule weekly meetings
Week 2	Jan 16	Team meeting   Schedule permanent date/time for team meetings   Finalize logistics   Finalize research questions
	Jan 18	Meeting with Emma   Finalize timeline   Discuss overall project outline & scope   Compile a list of UCLA faculty to consult throughout project   Research surveying software
Week 3	Jan 22	Meeting with Emma   Plan first team-client meeting agenda   Literature review outline   Proposal PPT outline
	Jan 23	Research survey marketing techniques   Committee meetings   Conduct Qualtrics demo   Survey outline   Contact UCLA's Italian dept. for a quote on translation services   Proposal PPT (draft)
Week 4	Jan 29	Proposal PPT (final)   Meeting with Emma   Arrange first team-client meeting   Draft agendas for meetings with UCLA faculty
	Jan 30	UCLA IRB training course   Committee meetings
	Feb 2	Submit individual sections (literature review, methods, deliverables) for editing   Proposal Presentation Day   Meeting w/ Italian Consul General
Week 5	Feb 5	Project Proposal (draft)   Survey (draft)   Meeting with Emma   Meeting w/ Professor Alesia Montgomery
	Feb 6	Meeting with Professor Maria Falbo   Team meeting   Research survey distribution models
Week 6	Feb 12	Project Proposal (final)   Survey (final)   Meeting with Emma   Survey beta test   Critical Reflection 1
	Feb 13	Meeting with Professor Falbo   Submit survey draft for translation   Draft interview questions for UCLA soccer player Pietro Grassi & Milan residents   Team meeting
	Feb 16	Interview Pietro Grassi
Week 7	Feb 20	Meeting with client reps   Team meeting   Implement preliminary client suggestions into survey draft and submit for review
	Feb 23	Individual advisor check-ins
Week 8	Feb 26	Implement additional suggestions and edits   Meeting with Emma
	Feb 27	Submit survey for translation   Team meeting
Week 9	Mar 4	Survey beta test   Submit final survey for distribution   Meeting with Emma
	Mar 5	Team-client meeting   Team meeting
Week 10	Mar 11	Internal Peer Review   Meeting with Emma
	Mar 12	Schedule Spring 2024 meetings   Team meeting

<b>Spring Quarter</b>		
<b>Deadline</b>		<b>Action Items</b>
Week 1	Apr 2	Request External Peer Review: Professor Montgomery & Professor Barreca   Meeting with Emma
	Apr 4	Team meeting
Week 2	Apr 9	Organize preliminary survey data & adjust distribution methods if necessary   Meeting with Emma
	Apr 11	Team meeting
Week 3	Apr 15	Critical Reflection 2
	Apr 16	Meeting with Emma
	Apr 18	Finalize survey data collection & analysis   Team meeting
Week 4	Apr 23	Preliminary Results PPT (draft)   Meeting with Emma
	Apr 25	Team meeting
Week 5	Apr 30	Meeting with Emma
	May 2	Team meeting
	May 3	Preliminary Results Presentation Day
Week 6	May 7	Submit individual project report sections for editing   Meeting with Emma   Final Presentation Workshop
	May 9	Team meeting
Week 7	May 13	Project Report (draft)   External Peer Review (final)
	May 14	Final PPT (draft)   Meeting with Emma
	May 16	Team meeting
Week 8	May 21	Meeting with Emma
	May 23	Team meeting
Week 9	May 28	Final PPT (final)   Meeting with Emma
	May 30	Team meeting
Week 10	Jun 4	Meeting with Emma
	Jun 6	Team meeting
	Jun 8	Final Presentation Day
Finals Week	Jun 9	Peer Evaluations
	Jun 14	Project Report (final)   Supporting Data   Critical Reflection 3

## Results

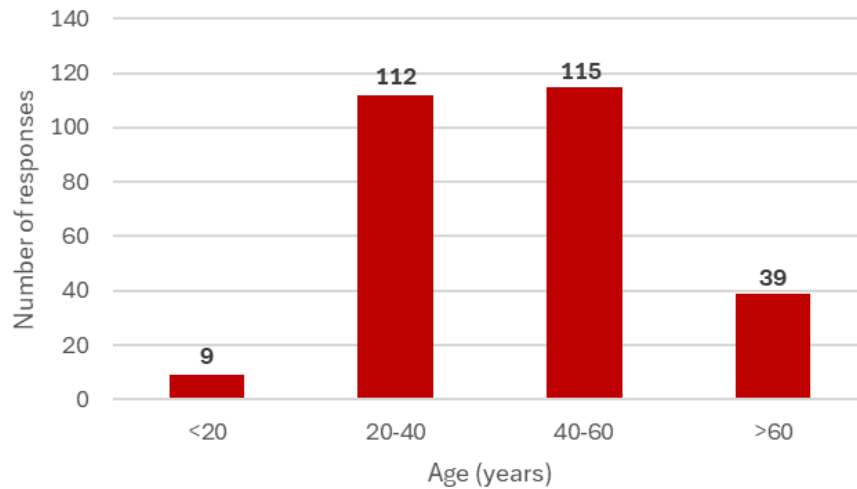
### Responses

By mid-April, we collected 251 responses from the Italian version of the original survey and 40 responses from the English version.

### Data

#### Demographics

To best interpret the responses to the survey and create proposals for AC Milan, we first looked at the demographics of participating respondents.



*Figure 1: Age distribution of respondents*

Of the respondents who opted to disclose their age, 112 (41%) fell within the 20 to 40-year age bracket, while 115 (42%) fell within the 40 to 60-year age bracket (Figure 1). Only 39 (14%) respondents were above the age of 60, and 9 (3%) respondents were 20 years old or younger. Overall, the responses mostly capture the opinions and experiences of respondents aged 20 to 60 years old.

We also investigated the percentage of respondents that are season ticket holders. As seen in Figure 2, 110 (40%) respondents are currently season ticket holders. Although 28 (10%) of respondents indicated that they are not currently season ticket holders but have been so in the past, the majority of participants in this survey were not active season ticket holders.

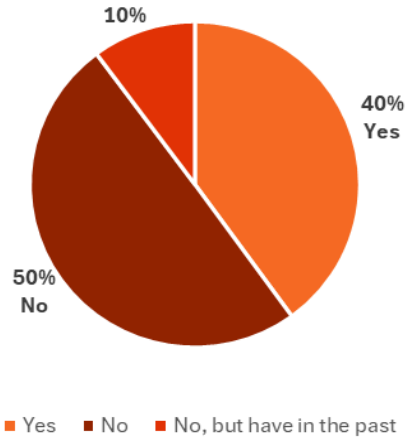


Figure 2: Season ticket holder status of respondents

We also looked at how the season tickets were distributed by age. Figure 3 shows that, of the season ticket holders who took this survey, most lie within the 20-60 age group. Overall, among current season ticket holders, 49 (18%) respondents are between the ages of 20 and 40, 45 (16%) respondents are between the ages of 40 and 60, 13 (5%) respondents are above 60 years old, and only 3 (1%) respondents are 20 years old or younger (Figure 3).

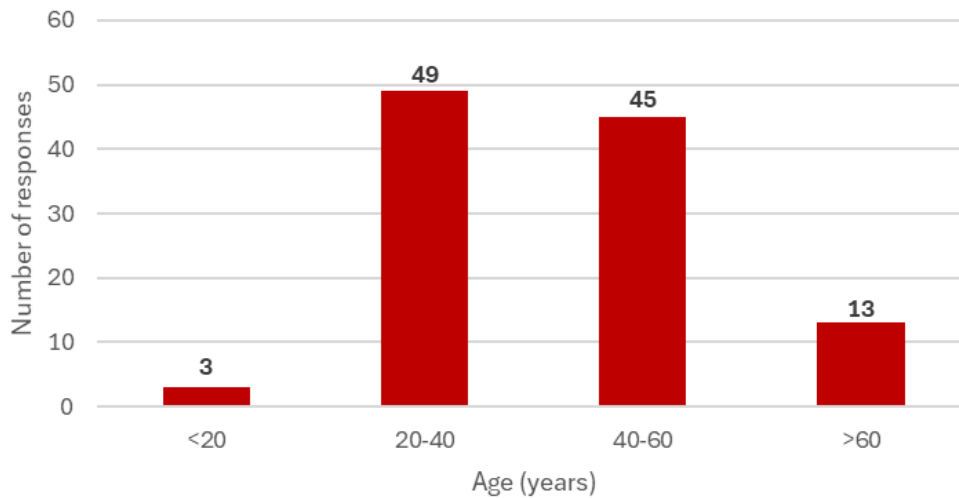
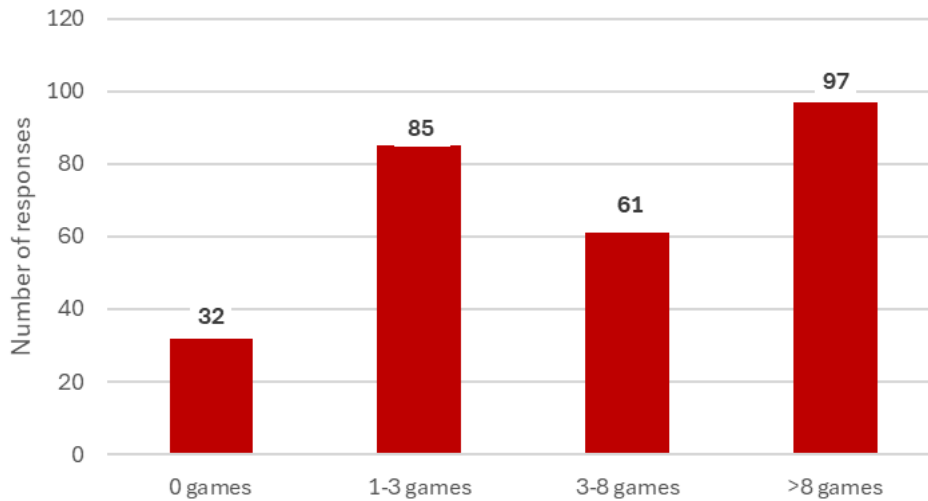


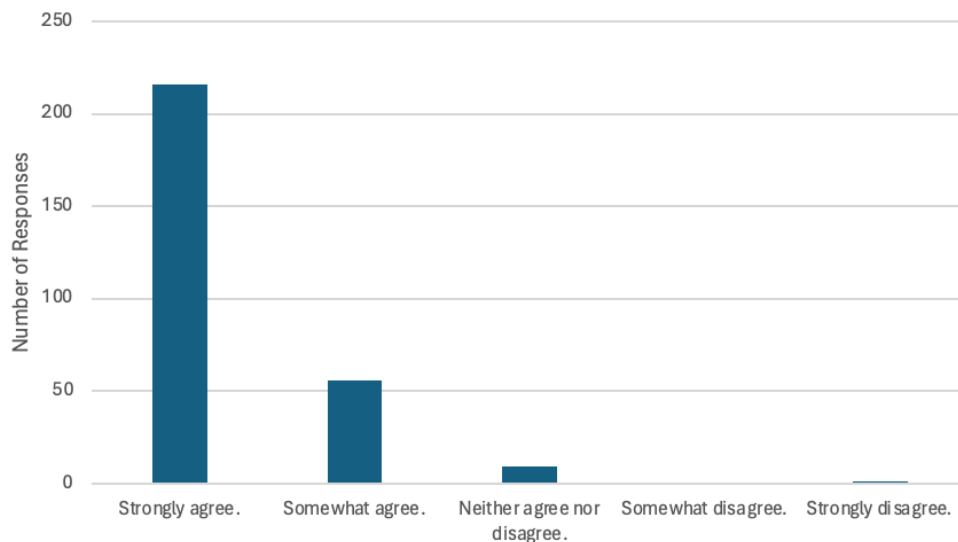
Figure 3: Age demographics among respondents who are season ticket holders

Figure 4 reflects that most respondents either attended more than eight or one to three live games this season. Although 32 (12%) respondents indicated that they had attended 0 games, only half of such respondents were from Italy. Other countries represented include Mali, the United States of America, Canada, South Africa, and Australia.



*Figure 4: Number of live games attended by respondents this season*

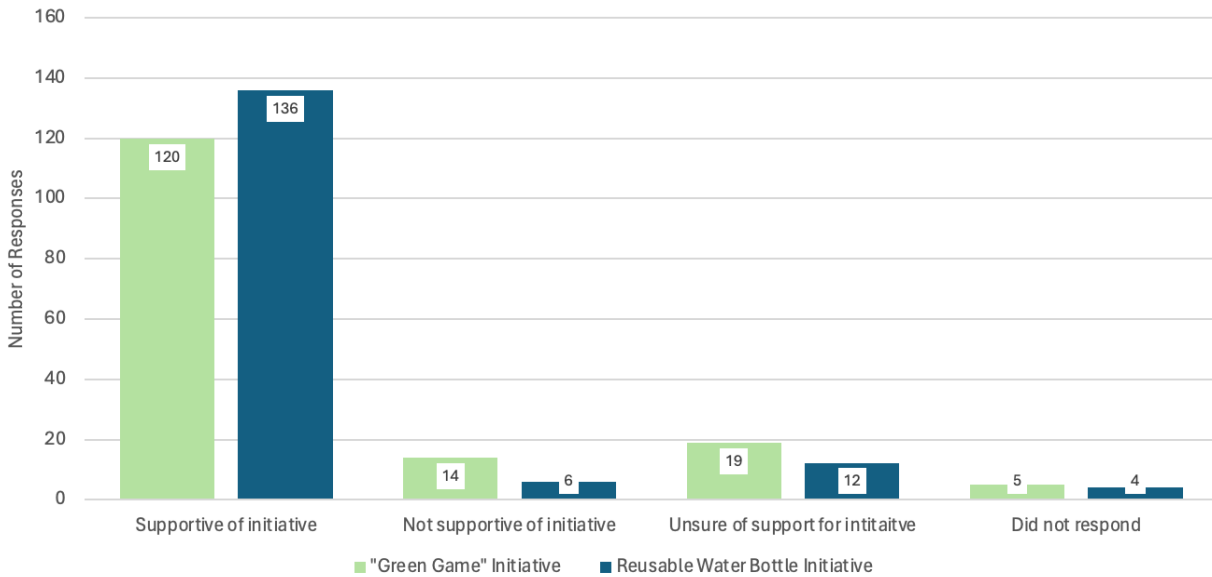
Furthermore, we asked fans if they considered sustainability important near the start of the survey to gauge any biases they may have when answering subsequent questions. Figure 5 shows that most people who took our survey already strongly believe in the importance of sustainability (212 (77%) strongly agree and 55 (20%) somewhat agree, with 8 (3%) indicating neither agreement or disagreement). A singular respondent (0.4%) indicated that they strongly felt sustainability was unimportant (Figure 5).



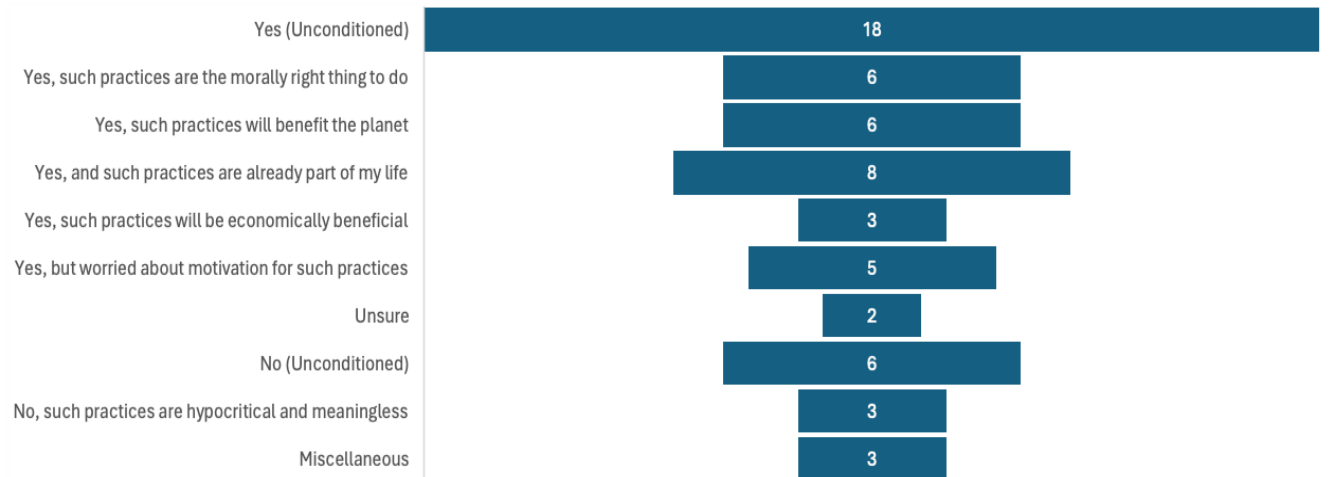
*Figure 5: Response to the statement, 'Environmental sustainability, the idea that humans should live in a manner that conserves Earth's natural resources, is important to me'*

## Stadium Sustainability

We estimated that two-thirds of respondents who attended three or more live games this season would support stadium operations such as a Green Game and using reusable water bottles at games. In excess of this estimation, of the 158 respondents who attended three or more games this season, 120 (76%) indicated interest in the introduction of a Green Game that educates respondents about sustainability with prizes and activities (Figure 6). Similarly, 136 (86%) respondents demonstrated support for a reusable water bottle initiative that prohibits the sale of single-use plastic bottles within stadiums. More respondents, however, supported the reusable water bottle campaign than a Green Game (Figure 6). 14 (9%) respondents indicated that they were not interested in the introduction of a Green Game, compared to only 6 (2%) that expressed a lack of support for the reusable water bottle campaign (Figure 6).



*Figure 6: Number of respondents who attended three or more live games this season who are interested in the introduction of a Green Game versus those who are supportive of a reusable water bottle campaign*



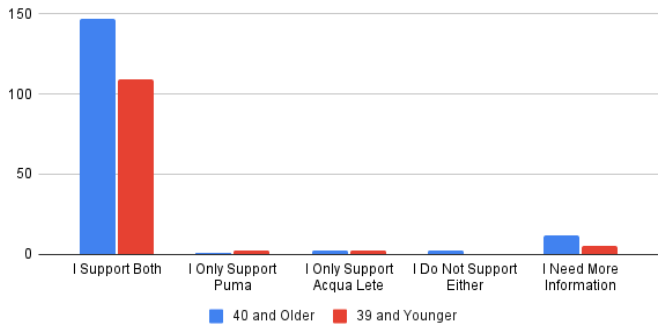
*Figure 7: Respondent explanations as to whether they support eco-friendly practices such as a fan-paid fee to support sustainability, a Green Game, and a reusable water bottle campaign (responses were not fixed options, this was a free response question; rather, the responses were pared down and organized by members of the survey team)*

In determining why respondents may be in support of, or against, certain sustainable stadium operations, 60 respondents’ additional comments to an optional free-response survey question provide some guidance. Although an overwhelming 46 (77%) of the 60 comments express support for initiatives such as Green Game and a reusable water bottle campaign, 6 (13%) of those comments expressed concern about the motivation behind the introduction of such initiatives (Figure 7), such as concerns regarding greenwashing. An additional 6 (13%) of the 46 affirmative comments expressed that such initiatives are the morally right and good thing to do, all of which came from Italian speaking respondents.

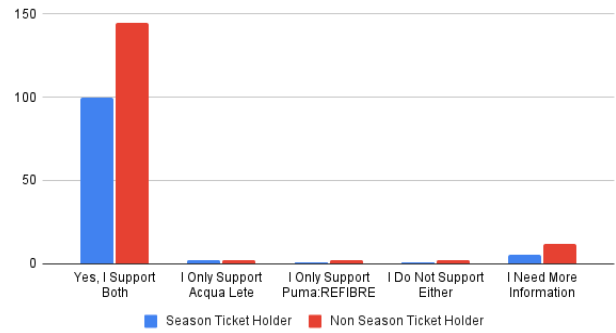
Next, we underestimated the level of support those over the age of 40 and those who are season ticket holders would have for the continued growth of sustainable initiatives at AC Milan. It was expected that season ticket holders and fans under the age of 40 are more likely to support the continued growth of sustainable initiatives for stadiums than non-season ticket holders and respondents who are 40 and older. However, when looking at current support for AC Milan’s sustainability partnership by age, 147 out of 154 respondents aged 40 and older (95%) were found to support both the Acqua Lete and PUMA RE:FIBRE partnerships, compared to 109 out of 121 respondents aged 39 and younger (90%) supporting both partnerships (Figure 8a). This indicates that in addition to enthusiastic support amongst respondents ages 39 and younger, there is even more support for these partnerships from respondents aged 40 and older.



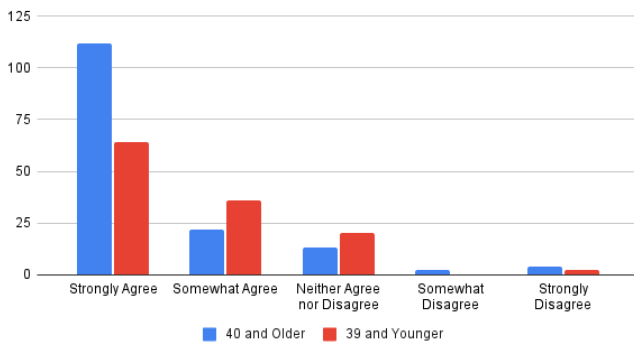
When looking at current support for AC Milan’s sustainability partnership by season ticket holder status, 100 (91%) respondents who are current season ticket holders support both the Acqua Lete and PUMA RE:FIBRE partnerships, while 145 (88%) respondents who are current non-season ticket holders support both partnerships (Figure 8b). The survey recorded 110 responses from current season ticket holders and 165 responses from those without season tickets (Figure 8b).



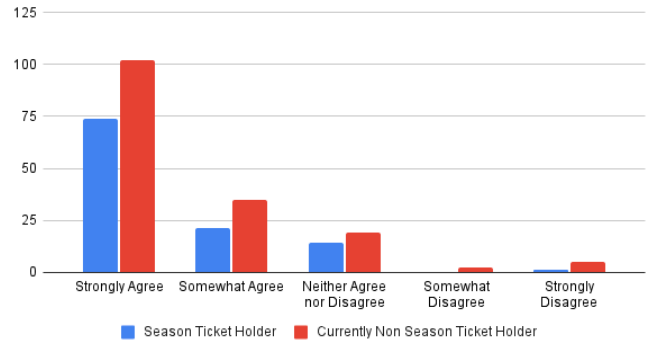
*Figure 8a: Fan support for AC Milan partnerships with Acqua Lete and PUMA RE:FIBRE among different age brackets (respondents 40 and older versus respondents 39 and younger)*



*Figure 8b: Fan support for AC Milan partnerships with Acqua Lete and PUMA RE:FIBRE by season ticket holder status (respondents who are current season ticket holders versus respondents who are current non-season ticket holders)*



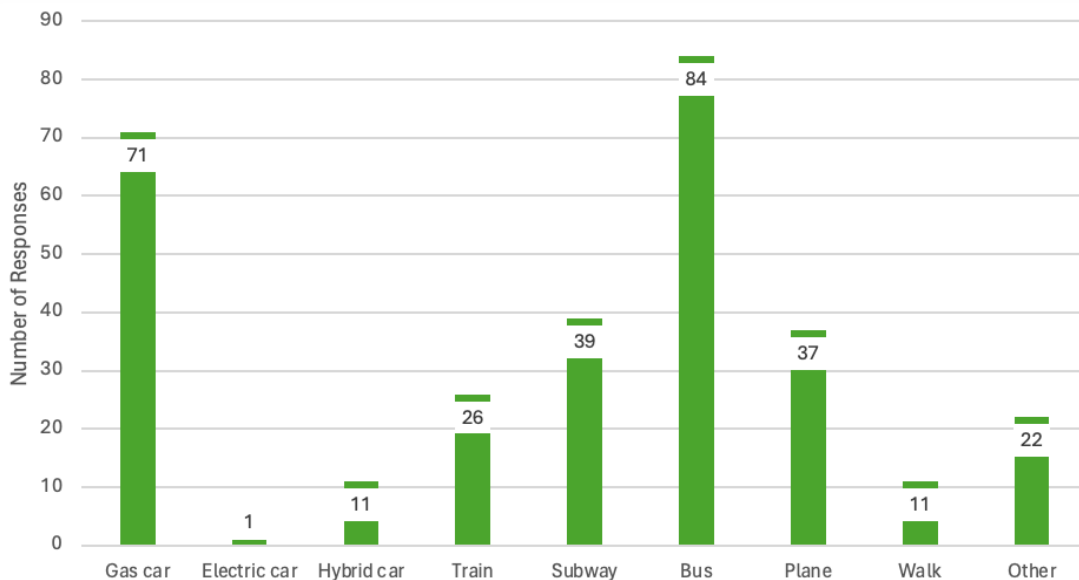
*Figure 9a: Fan interest in learning about AC Milan’s current sustainable initiatives among different age brackets (respondents 40 and older versus respondents 39 and younger)*



*Figure 9b: Current season ticket holder vs. non-season ticket holders’ interest in learning about AC Milan’s current sustainable initiatives by season ticket holder status (reflects the number of respondents rather than percentages)*

Looking at respondent interest in learning about AC Milan’s current sustainable initiatives, the survey indicates that 112 respondents aged 40 and older (73%) have strong interest in being informed of such initiatives by AC Milan while 64 respondents aged 39 and younger (53%) expressed the same robust interest (Figure 9a).

Furthermore, 74 respondents who are current season ticket holders (67%) have a strong interest in being informed of AC Milan's sustainability initiatives, while 102 respondents who do not have season tickets (61%) expressed the same strong interest (Figure 9b). Note that the higher number of agreeable respondents from the non-season ticket holder category does not correspond to a higher percentage, as we can see that season ticket holders remain more likely to demonstrate strong interest.



*Figure 10: Modes of transportation taken by fans who attended three or more live games this season to get to the stadium for match days*

We anticipated that among respondents who attended three or more in person games in Milan, buses and trains/subways would be the most popular modes of transport used to get to the stadium. While transportation via bus was selected 84 times and thus most often by those who attended three or more games this season, gas cars were the second most popular mode of transportation with 71 responses (Figure 10). Notably, transport via train only received 26 selections, while plane transport received 37 (Figure 10).

## Fan Awareness

We underestimated the number of respondents aware of AC Milan’s sustainability campaigns. It was anticipated that less than one-third of the fanbase is aware of at least one of the partnerships with companies such as Acqua Lete and PUMA, but as reflected in Figure 11, 77 (28%) respondents are aware of both partnerships and 41 (15%) respondents are aware of one of them, which means that 118 (43%) respondents were aware of at least one partnership. When comparing awareness among respondents who attended less than three games this season and those who attended three or more games this season, both groups have a similar lack of awareness when it comes to both partnerships, with 124 (45%) and 113 (41%) respondents indicating no awareness, respectively (Figures 12a and 12b).

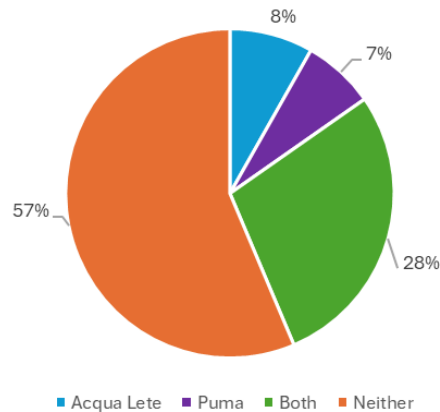


Figure 11: Number of respondents aware of AC Milan partnerships with Acqua Lete and PUMA  
RE:FIBRE

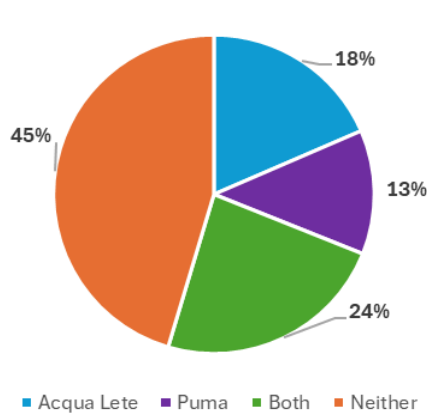


Figure 12a: Awareness of AC Milan’s partnerships with other companies among respondents who attended less than three games this season

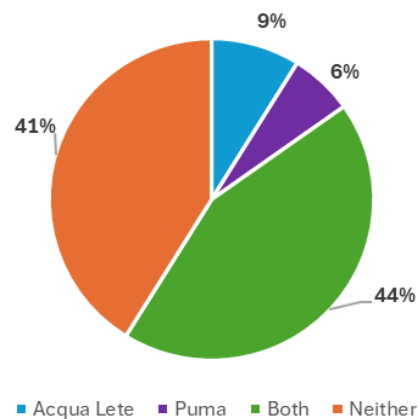


Figure 12b: Awareness of AC Milan’s partnerships with other companies among respondents who attended three or more games this season

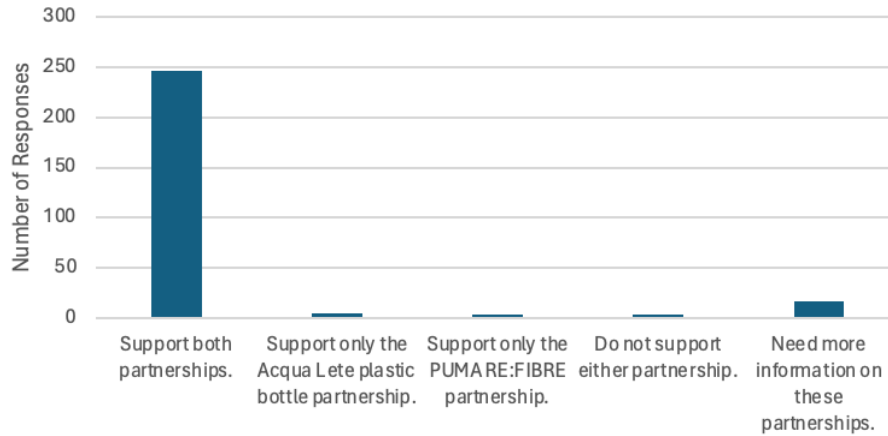


Figure 13: Respondents' support for AC Milan partnerships with Acqua Lete and PUMA

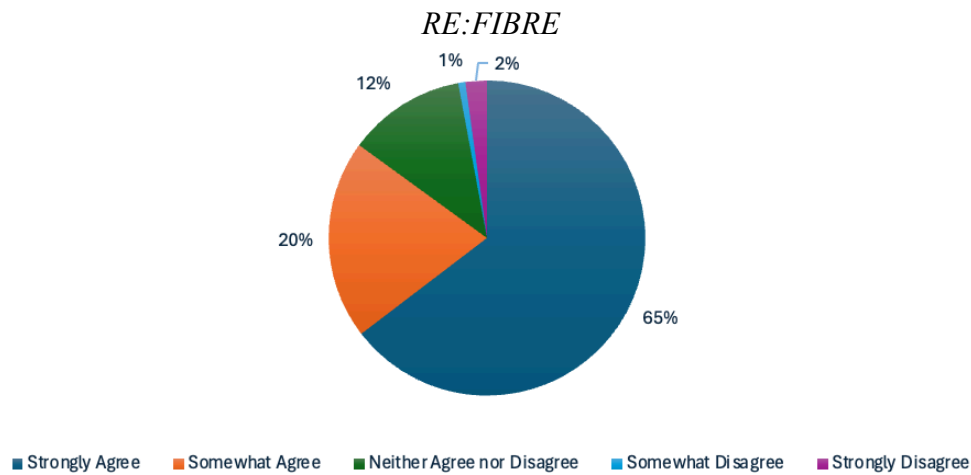


Figure 14: Percentage of respondents that would like to be informed of AC Milan's current sustainability initiatives

An impressive 248 (90%) respondents support both partnerships (Figure 13) and 234 (85%) are at least somewhat interested in being informed of AC Milan's environmental initiatives (Figure 14).

The two most common environmentally conscious practices that respondents engage in are recycling and reducing food waste. However, only 171 (62%) and 162 (59%) respondents engage in the two practices, respectively (Figure 15). This reflects the diversity of the sample population's affinity for environmentalism, and confirms that fervent environmentalists are not disproportionately overrepresented and skewing the data. Furthermore, alongside the data from Figures 13 and 14 that show overwhelming support for, and interest in, AC Milan's sustainability initiatives, this figure gives credence to the fact at least two-thirds of respondents view sustainability favorably, corroborating our original hypothesis.

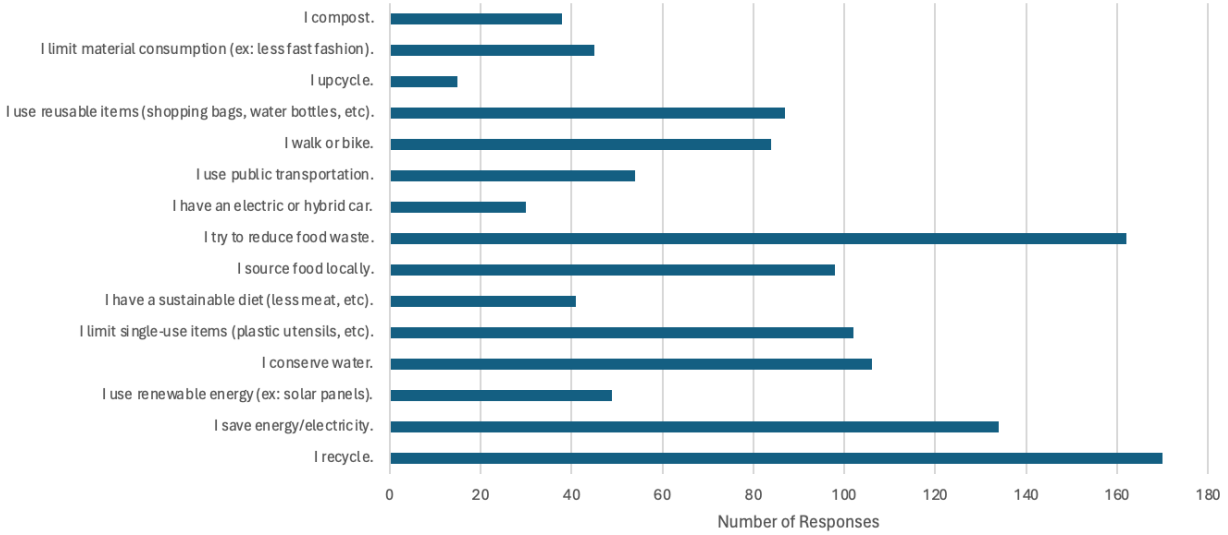


Figure 15: General summary of respondents' environmentally-conscious practices

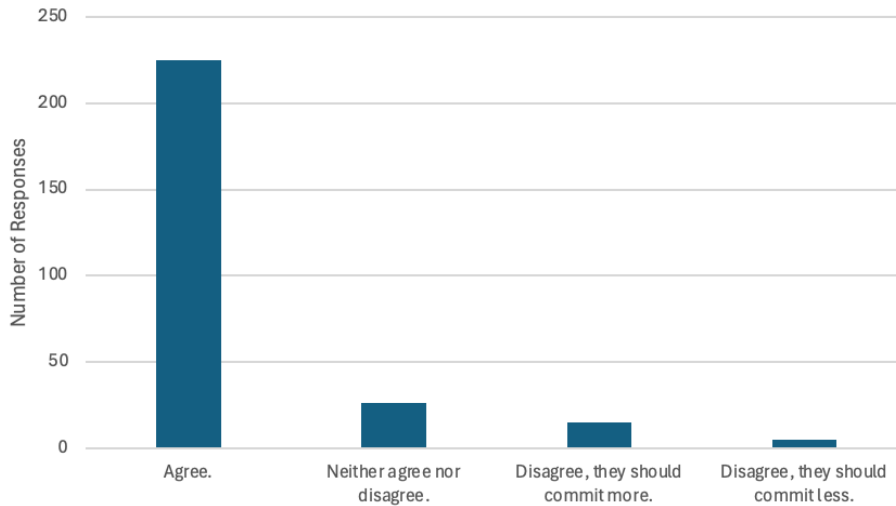


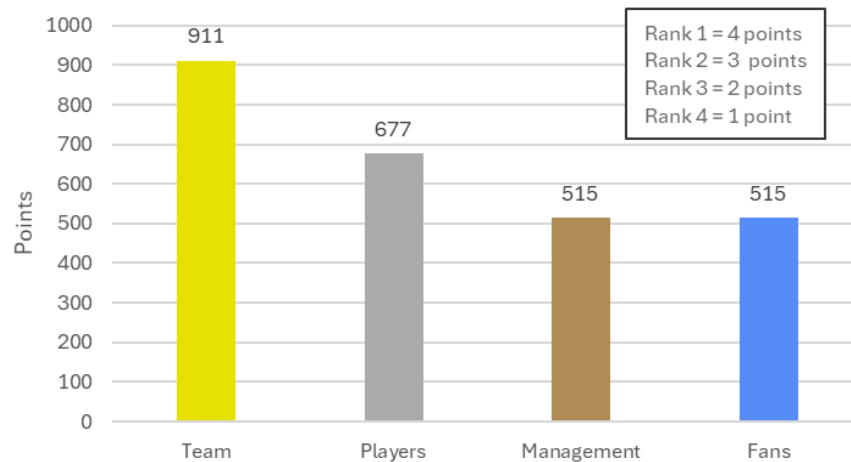
Figure 16: Response to the statement, 'AC Milan should continue committing to sustainable initiatives at their current rate (8th most sustainable football club in Europe according to BrandFinance)

Finally, Figure 16 demonstrates that 225 (83%) respondents believe that AC Milan should continue committing to sustainable initiatives at their current rate. This statistic supports our team's belief that over two-thirds of respondents support AC Milan's current level of involvement in environmentally conscious practices, and is a call to action for AC Milan to continue their dedication to green partnerships and their involvement in sustainability.

### Marketing Strategies

We initially hypothesized that respondents respond more to sustainability campaigns led by individual players than those that are headed by team management or external partners.

Respondents were asked to rank their preference for who they would like to see run a sustainability campaign: the team, individual players, club management, or the fans. Based on survey results, the overwhelming majority of respondents prefer green campaigns led by the entire team (Figure 17). Such results were obtained based on a point system in which a response with Rank 1 was weighted to four points, Rank 2 to three points, Rank 3 to two points, and Rank 4 to one point. Using the points system, the team scored 911 points, individual players scored 677 points, and team management scored 515 points alongside fan volunteers (Figure 17). From this, it was discovered that respondents who prefer to see the whole team running such a campaign outnumber those who prefer individual players three to two.



*Figure 17: Point system that ranks the relative influence of the football industry’s four main entities (the team, individual players, club management, fans)*

Although we had incorrectly hypothesized that individual team members would be seen as the most preferred members of a sports organization to lead a sustainability campaign, individual players were proven to still hold influence among respondents, placing second within the point system (Figure 17). In a free response question, we asked fans to indicate who they considered the most influential player on the current roster to be. Respondents indicated Rafael Leão as the most influential footballer on the team, with 120 votes (50%) (Figure 18). The next ranked footballer (Theo Hernandez) received less than 1/3 the number of votes as Leão, with 37 votes (15%). Footballers mentioned in the ‘Other’ category were: Tomori (three votes), Florenzi (three votes), Kjær (two votes), Ibrahimovic (one vote), and Loftus-Cheek (one vote) (Figure 18).

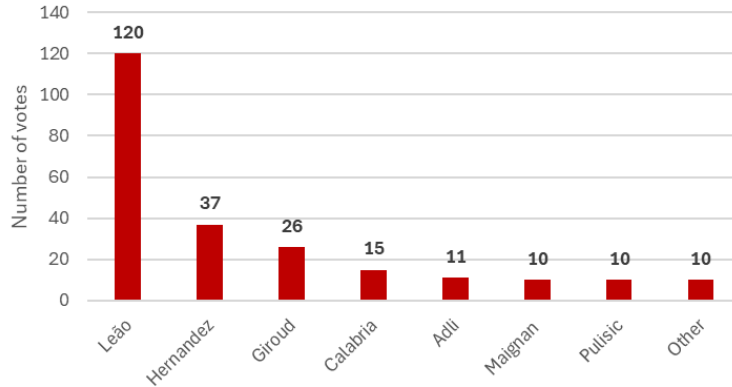


Figure 18: Ranking of the most influential AC Milan players based on respondents' opinions

When asked to rank what they believed a football player's role should involve, the vast majority of respondents selected "Win a trophy with their club" as the most important, followed by interest in players visiting children in local hospitals and winning a trophy with their national team (Figure 19). Notably, no respondent selected "Appear on a TV show" as a first choice. A point system similar to that used for Figure 17 was applied to this question, with a first choice ranking receiving six points, the second choice receiving five points, and similarly on until the sixth rank receiving one point. The points system revealed that the respondents' consensus was that winning a club trophy (1478 points) was the most important for a player to do, followed by visiting children in local hospitals (1244 points), and then winning a national team trophy (1053).

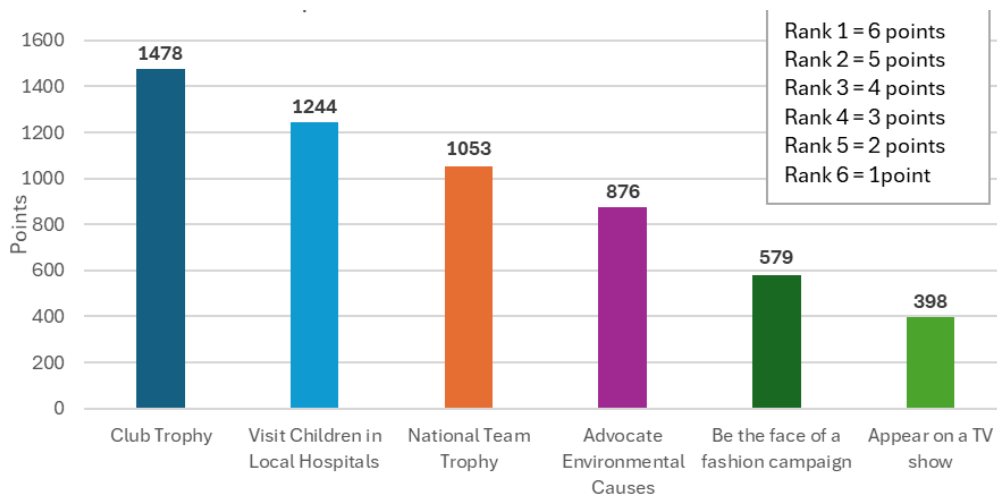
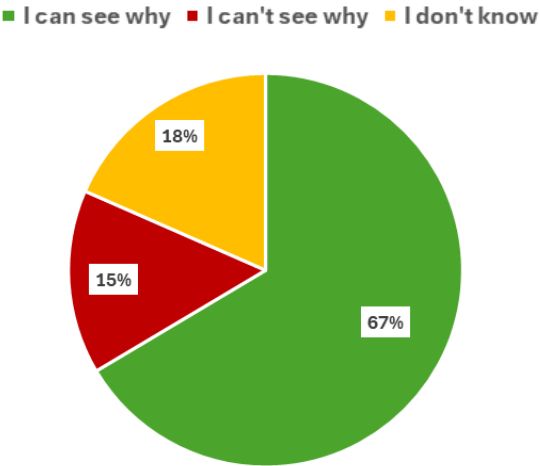


Figure 19: Point system that quantifies respondents' opinions on the rank of priorities for football players

Next, we believed that two-thirds of respondents who attended three or more live games this season have an understanding of why a small monetary contribution of \$6.50 (€6.03) would be implemented to bolster an organization's sustainability initiatives. Results prove that 101 respondents (67%) who attended three or more games this season, understand why fans of the

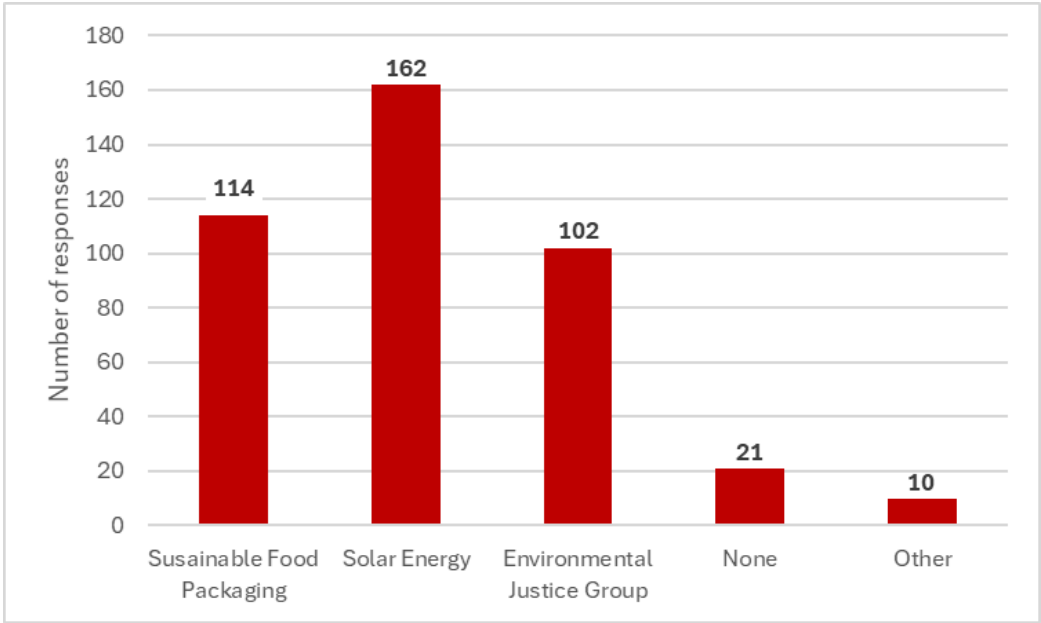
Philadelphia Eagles would be willing to pay a one time fee of \$6.50 (€6.03) to help contribute towards their team’s sustainability initiatives. On the other hand, 23 respondents (15%) did not understand the point of such a fee, and 28 respondents (18%) were unsure of their opinion on the matter (Figure 20). On average, respondents who attended three or more games this season reported understanding of the monetary contribution 2% more than the whole group who took the survey, but the percent who disagreed stayed the same.



*Figure 20: Reaction to a small monetary fee of \$6.50 (€6.03) to help support sustainability initiatives among respondents who attended three or more games this season*

Finally, we expected that respondents would be most supportive of a future partnership with a solar company that would implement solar panels to run stadium operations. We asked respondents to choose the sustainable partnership(s) they would like to see in the future from a selection of a partnership with a sustainable food packaging company that would implement sustainable packaging on stadium food, a partnership with a solar company that would implement solar panels to run stadium operations, a collaboration with an environmental association that guarantees access to clean water and air in the reference area, none of these potential collaborations, or other.





*Figure 21: Partnerships that respondents want to see in the future*

As shown in Figure 21, respondents are most interested in a potential partnership with a solar energy company that would provide renewable power to the stadium (162 responses). At the same time, few said they wouldn't want to see any of these partnerships (21 responses). Those who answered 'other' (10 responses) indicated an interest in partnerships focused on social matters such as cancer research, anti-racism, and child education.

## Discussion

### Analysis

#### Demographics

Because the survey was disseminated exclusively to dedicated fanclubs, the data collected mostly reflects the opinions of respondents who are already fervently involved in AC Milan fandom, as shown by 57% of respondents indicating that they attended more than 3 games live this season (Figure 4) and by 50% of respondents currently holding or having previously held a season ticket for AC Milan (Figure 2). By contrast, our survey does not encapsulate the perspectives of more casually committed fans. The results show that the vast majority of respondents have a favorable outlook on sustainability (Figure 5). However, since the focus of this project is centered on gauging fan awareness of sustainability with an emphasis on dedicated fans who regularly attend live games – again, taking into account the convenience and self-selection bias of survey respondents as a marker of passionate fans – the accompanying results and analysis are optimal and conducive to producing realistic, actionable proposals.

#### Stadium Sustainability

Concerning stadium sustainability, we suggest that AC Milan seriously consider the incorporation of stadium operations and promotions such as a Green Game or a reusable water bottle campaign inspired by the 2022 FIFA World Cup. Of the 158 respondents who attended 3 or more games this season, 120 (76%) indicated interest in attending a Green Game inspired by the United States' National Basketball Association (NBA) where fans have the opportunity to win prizes while learning how they can positively impact the environment (Figure 6). Similarly, 86% of respondents who attended 3 or more games this season reported support for a single-use plastic prevention initiative modeled off of the 2022 FIFA World Cup's efforts to distribute thousands of reusable water bottles and install hundreds of drinking fountains (Figure 6). Given the data, AC Milan may find great success and fan engagement in introducing these, or similar, sustainability efforts.

In particular, we suggest that AC Milan introduce a reusable water bottle campaign first. This sustainability initiative received more comprehensive support, evidenced by a smaller number of respondents opting to report complete lack of support or undecidedness in favor of outright support for the initiative (Figure 6). Additionally, recycling and reusing items are amongst the top current sustainable habits of surveyed fans (Figure 15), suggesting that the fanbase may be more open to participating in an initiative that incorporates habits they have already committed to. The reusable water bottle campaign may also serve to quell fan worries regarding the economic motivation of sustainability initiatives (Figure 7). Because the reusable water bottle campaign would actually reduce the amount of money fans have to pay to buy bottled water at a game, such an initiative can appeal to those who already care about

environmental sustainability as well as those who are worried about greenwashing and the motivations behind a large sports organization's efforts toward sustainability (Figure 7).

We also suggest that AC Milan not attempt to differentiate sustainable initiatives at the stadium by season ticket holder status or age. Although our analysis demonstrates that there are slight differences amongst those 40 and older and those 39 and younger, the differences were not significant enough to impact the future of sustainable stadium operations, as only a 5% difference in support of AC Milan's partnerships with Acqua Lete and PUMA RE:FIBRE exists between the two age brackets (Figure 8a). We used the standard 95% of confidence, which determines that a difference of 5% or lower is not statistically significant enough, especially within the context of this research, since the audience is compromised by both age brackets. While a larger 20% difference exists between the same age brackets' desire to learn about AC Milan's current sustainability initiatives, this difference, similar to the 5% difference, actually favors those respondents who are 40 and older (Figure 9a). Our team had anticipated that the younger respondents would be more supportive of sustainability at AC Milan, and although this is not true, this indicates that support is not waning with age, a fact that is of particular importance to AC Milan as the club's fan base seems to be comprised of more individuals aged 40 and older (Figure 1). In terms of the differences between current season ticket holders and current non-season ticket holders, our team discovered negligible differences between the two groups' perceptions of AC Milan's sustainability initiatives. Only a 3% difference in support of AC Milan's partnerships with Acqua Lete and PUMA RE:FIBRE exists between the two groups (Figure 8b), and a 6% difference separates season ticket holder and non-season tickets holder respondents' interest in learning about current sustainability initiatives at AC Milan (Figure 9b).

Finally, in the case of a new AC Milan stadium, we suggest that AC Milan invest in public transportation, such as shuttle services to connect gaps in public transportation, and continue to encourage low-carbon transportation methods to the site, especially if it is located outside of an accessible city center. According to Figure 10, amongst respondents who attended 3 or more games this season, bus, gas car, subway, and plane are the most common modes of transportation taken to get to the stadium. If the new stadium is located slightly farther from the heart of Milan, our team suggests that the club dedicate resources toward reducing the number of fans using gas cars. The organization could install bicycle racks and strategic urban planning initiatives to promote bike transport, provide food or drink vouchers to those that can prove they used a low-carbon option to get to the stadium, or other options which may incentivize a reduction in carbon emissions from transportation.

### **Fan Awareness**

Although our initial hypothesis underestimated the percentage of respondents (less than 33%) that are aware of at least one of AC Milan's green campaigns and partnerships with other organizations, the actual value (43%) certainly does not constitute the majority of the international fan base (Figure 11). Moreover, 85% (Figure 14) of respondents reported that they

would like to be aware of such campaigns and an overwhelming 90% (Figure 13) of respondents voiced their support for both partnerships (e.g., PUMA and Acqua Lete). Given the disparity between support and awareness, particularly the percentage of respondents that would like to be aware of these campaigns versus the percentage of respondents that are already aware of current campaigns, the data argues that AC Milan should expand its outreach efforts. One potential avenue for these outreach efforts is taking advantage of the sizable congregation of fans that live games attract – presently, the percentage of respondents who are aware of the aforementioned partnerships does not vary significantly with respect to the frequency in which they attended live games this season (Figure 12a & 12b). Additionally, the same figures suggest that outreach highlighting these partnerships is either more prominent at games, compared to online, or that the individuals attending a higher number of games put more time and attention into reading about what the club is doing. In either case, AC Milan has a large room for growth in how they distribute information regarding their environmentally sustainable partnerships, especially to those who do not spend as much time at games or reading about the club partnerships and activities outside of football.

It must be noted, however, that any expansion of sustainability campaigns must not concomitantly diminish humanitarian campaigns such as players' visits to children's hospitals. The second priority for most of these respondents is footballers volunteering for humanitarian work (Figure 19), which should remain a tenet of the club. Additionally, because 83% of respondents believe that AC Milan should continue committing to sustainable initiatives at their current rate (Figure 16) and the majority of respondents already engage in specified environmentally conscious practices (Figure 15), any expansions should be deliberate and purposeful.

### **Marketing Strategies**

Based on the collected data, to effectively engage fans in the sustainability initiatives of the club, our team suggests that AC Milan move forward with team-led sustainability campaigns and eco-friendly partnerships that are influenced by fan preference. As Figure 17 demonstrates, respondents of this survey are most likely to support an environmental sustainability campaign, such as a fundraising event to plant trees, run by the entire team. The point system used in Figure 17 shows that support for team-led initiatives decidedly exceeds that for players, management and team partners, and fan volunteers. Interestingly, AC Milan's current practice (i.e., the organization's management leading and marketing all of the green campaigns) was only the third most favorable option for most respondents (receiving only 515 points in the point system, compared to 911 for the team and 677 for individual players) (Figure 17). This suggests that the respondents will be more likely to support, and engage in, sustainability initiatives when the whole team demonstrates involvement in such initiatives. In future endeavors, emphasis should be placed on AC Milan's diverse coalition of players and, if possible, their uniting ideals surrounding environmental sustainability. Furthermore, the data encourages a focus on certain individual players when team-led campaigns are impractical. From individual players coming in

second in the point system developed for Figure 17, it can be inferred that players still hold significant influence in the eyes of fans. Rafael Leão, AC Milan's 24-year-old forward, was chosen by respondents under the free-response option as the most influential player on the team's roster (Figure 18). This means that when involving players in sustainability campaigns, Leão likely has the largest ability to generate support and attention to what the club is doing.

In deciding how to effectively include players and the team in club actions, it is important to understand what respondents would like to see a professional footballer do. A point system similar to that used in Figure 17 is displayed in Figure 19, suggesting that most respondents believe that professional football players should prioritize winning a trophy for their club. While this is to be expected, a sizable percentage of respondents selected 'meeting with children at local hospitals' as their first or second choice. Although respondents hope to see their team's players win a trophy for their club or national team, there seems to also be considerable interest in social and sustainable causes, as respondents prioritized meeting with children in hospitals and advocating environmental causes above more materialistic endeavors such as participating in a fashion campaign and appearing on a TV show (Figure 19). On account of this, we suggest AC Milan incorporates humanitarian efforts into their sustainability campaigns that involve the team and players. This is something that the club can build on to better engage their fans with such practices off of the football pitch.

Further data analysis revealed that 67% of respondents who attended three or more games this season have an understanding of why a small monetary contribution of \$6.50 (€6.03) would be implemented to bolster an organization's sustainability initiatives (Figure 20). While this data corroborated our hypothesis, our team suggests continued research into this topic by subsequent practicum teams at UCLA to explore openness to spectators paying such a fee on AC Milan tickets, as respondents having an understanding of such a practice may not directly translate to willingness to pay a fee themselves. Additionally, respondents who opted to leave comments in optional sections throughout the survey shared concerns about the economic motives behind sustainability efforts and a fan-derived fee (Figure 7).

Finally, our team suggests the expansion of AC Milan's partnerships with PUMA and Acqua Lete as well as bolstering advertising efforts for said partnerships. Continuously assessing fan preferences regarding potential partnerships is crucial to the successful expansion of sustainable initiatives at AC Milan. Our analysis reveals that, currently, 162 respondents would most prefer a football club to engage in a partnership with a solar company that would implement solar panels to run stadium operations (Figure 21). Other options that received a significant amount of votes include a partnership with a sustainable food packaging company that would implement sustainable packaging on stadium food (114 votes) and a partnership with an environmental justice organization that ensures access to clean water and air in the territory of reference (102 votes) (Figure 21). In general, very few respondents indicated no interest in the potential partnerships, suggesting that expansion of sustainable partnerships at the club would be backed by fan interest. In conjunction with this data, our team suggests that AC Milan more

extensively advertise its current sustainability partnerships and campaigns. Many respondents indicated concerns about greenwashing, with some mentioning that AC Milan makes a substantial profit from sustainability campaigns. According to Pietro Grassi, currently a football player for UCLA and formerly a member of the AC Milan Youth Team, environmental consciousness was not an appendage of AC Milan players' and affiliates' identities (Read, 2024; Appendix C). Rather, any such campaigns and partnerships were organized by club management and were intended to bolster AC Milan's public image (Read, 2024). In order to mitigate such worries and demonstrate true commitment to both environmental sustainability and fan opinions, the club should dedicate resources to marketing techniques that explain current partnerships and promote transparency between club management and the fan base.

## **Sustainability in Sports**

### **Model Organizations**

The global sports industry has long held considerable social capital, recognized for its ability to drive social cohesion and influence personal identity (Annesi et al., 2023). In recent years, organizations throughout the global sports industry, and individual members of sports teams, have successfully utilized their far-reaching influence to bring awareness to various social issues, including racial injustice and gender inequality. Fans, in turn, engage with these initiatives when they allow them to feel closer to their respective team's players and goals (Meizen, 2021). As environmental protection comes to the forefront of social dialogue, the sports industry, and its members, have the power to drive fan attitudes surrounding sustainability through marketing and fan engagement. Many sports organizations have successfully incorporated fans in their transition to sustainability, serving as a model for future efforts.

### **Atlanta Hawks**

Chief among these model organizations is the Atlanta Hawks, a member of the NBA in the United States. The Atlanta Hawks occupy State Farm Arena, a joint sports and live entertainment venue and the first sporting arena to receive platinum certification for their zero waste initiatives (StateFarmArena.com, n.d.). The franchise was the first in NBA history to achieve Leadership in Energy and Environmental Design (LEED) certification for their operational buildings, and diverted 2,503,745 pounds of waste from landfills in 2022 (StateFarmArena.com, n.d.). However, they are primarily known for their innovative marketing practices that have fundamentally transformed their fans' engagement with, and sentiments toward, sustainability. The Atlanta Hawks have woven sustainability into nearly all aspects of their fans' experiences both at, and beyond, game days through intentional brand partnerships (Love, 2021). The Hawks work with Novelis, a brand that specializes in aluminum rolling and recycling, to host an in-game entertainment segment called "Recycle and Win" (Love, 2021). During the segment, the team's staff highlights a fan who has correctly sorted their waste in the

arena's multi-bin trash system that consists of landfill, compost, and recycling (Love, 2021). State Farm Arena's suite section, named The Novelis Sustainable World Veranda Level, also offers opportunities for fans to learn about sustainability and the importance of recycling (Love, 2021). The Vice President of Operations at State Farm Arena, Barry Henson, spoke of the importance of incorporating fans in major marketing initiatives that go beyond the arena, stating, "We try to help as much as we can locally. Many of these issues, environmental and social, should carry over into peoples' home lives" (Meizen, 2021). Additionally, Henson noted that successful marketing campaigns employ subconscious messages, ones that allow fans to engage in impactful actions while still being entertained (Meizen, 2021).

### **San Francisco Giants**

The San Francisco Giants of American Major League Baseball (MLB) have likewise led their counterparts in shifting toward sustainability in sports, strategically allowing fan decisions to guide their sustainability initiatives. The Giants, in a similar fashion to the Atlanta Hawks, have employed specific marketing techniques to incite fan enthusiasm toward green practices, keeping the fan experience at the forefront of new projects including their construction of *The Garden* at their stadium, Oracle Park, in 2014 (MLB.com, n.d.). The Garden, created in partnership with Bon Appetit Management Company is an open-air eatery in the outfield that holds two restaurants designed to educate fans on urban farming and sustainable eating (MLB.com, n.d.). The fan attraction offers plant-based plates with fresh vegetables picked directly from *The Garden* itself (MLB.com, n.d.). By designing a fan-centered eating experience that promotes low-emission food options, the Giants have marketed sustainability in an exciting way that engages fans. The organization also encourages fans in their recycling efforts through their Green Team, easily identifiable employees who work to help fans properly dispose of their waste in designated bins without becoming overwhelmed (MLB.com, n.d.).

### **Philadelphia Eagles**

The Philadelphia Eagles, an organization in the United State's National Football League (NFL), are similarly leaders in fan engagement within their sphere of influence. The Eagles organization became the first professional sports team to acquire International Organization for Standardization (ISO) 20121 certification, signaling their commitment to event sustainability and management standards (Philadelphia Eagles, 2023). When asked, the director of fan engagement, Norman Vosschulte, said that the team's greatest achievement in sustainability is the relationship that has been cemented between the organization and its fans, citing their finding that sustainability was "the second most important driving factor of [locals in their 20s] becoming avid sports fans" (Campelli, 2020). To engage fans in their sustainability efforts, the Eagles have introduced numerous fan-based campaigns, including their 2023 Touchdowns for Sustainability initiative, which led to substantial investment in sustainability programs throughout Philadelphia (Philadelphia Eagles, 2023). The organization has also incorporated sustainability into its fan's gameday experience, creating a sizable rendition of the Lombardi Trophy, made entirely out of recycled bottle caps, which is a popular fan attraction inside their

stadium (Campelli, 2020). To accomplish their sustainability initiatives, the Eagles have used their fan support, conducting a series of surveys that demonstrated fans' willingness to pay a \$6.50 USD fee to help enact eco-friendly practices within the organization (Greenhalgh & Drayer, 2020). The achievements of this football team's programs suggest that once fan attitudes are gauged, fan engagement can be successfully woven into an organization's large-scale implementation of sustainable practices.

### **AC Milan**

We learned that AC Milan presently leads the international football industry in the shift to sustainable alternatives, similar to the aforementioned model organizations. AC Milan has partnered with BMW to develop a system that promotes environmentally friendly transportation options for the club and the greater Milan area (KnowESG, 2023). The organization also worked with Invent, an Italian green energy firm specializing in photovoltaic systems, to promote sustainability (Georgiou, 2018). AC Milan's leadership also promotes environmental awareness among their expansive fan base. Pietro Grassi, the former AC Milan Youth Team member, stated that AC Milan management has regularly highlighted sustainability initiatives (Read, 2024; Appendix C). Additionally, it is not uncommon for players and other AC Milan affiliates to directly support green campaigns. For example, in 2022, both the AC Milan women's and men's teams supported circular production practices by donning special jerseys "made with an innovative garment-to-garment recycling method as part of PUMA's RE:JERSEY project" (PUMA, 2022).

Furthermore, we learned that AC Milan plans to build a new stadium that will be a prime example of green infrastructure. The stadium will utilize renewable energy sources, implement a water recycling system, (Perez, 2023) and ensure "sustainable mobility and public transport" for fans traveling to and from the stadium (AC Milan, 2023). Because AC Milan is first and foremost a sports team, studying data that reflects the collective perspectives of stadium attendees will optimize their approach to green initiatives. As such, the following survey-based proposals will augment AC Milan's approach to managing the new stadium project and other related campaigns.



## Proposals

- 1) **Promote “Green Games.”** Most fans who attended more than three live games this past season are open to attending Green Games (Figure 6).
  - a) The Portland Trail Blazers of the NBA implemented a Green Game in December of 2023, which offered fans the opportunity to win a prize by visiting a designated area in the arena to learn about sustainability practices and watch a demo of innovative liquid packaging (Portland Trail Blazers, 2023).
- 2) **Reduce the use of single-use plastic water bottles and implement accessible water fountains around the stadium.** The majority of fans who attended more than three in person games this past season support the initiative of implementing reusable water bottles (Figure 6).
  - a) During the 2022 FIFA World Cup in Qatar, tens of thousands of reusable water bottles were distributed and 290 drinking water fountains were installed which minimized the use of single-use 500mL water bottles by a quantity of 300,000 (FIFA Waste Minimization, 2022).
  - b) The Philadelphia Eagles of the NFL in the United States implemented reverse vending machines. Cans, plastic bottles, and plastic cups are inserted into a machine and the user can possibly receive a prize (Tanenbaum, 2022).
- 3) **Keep current food options, but change the packaging in order to limit waste.** ~120 respondents are interested in seeing sustainable food packaging (Figure 21). Less than 1/3 of respondents claim to have a sustainable diet and the same number of respondents limit single plastic use as a general eco-friendly practice (Figure 15).
  - a) Tottenham Hotspur of the English Premier League uses no plastic straws, stirrers or cutlery in their restaurants. Instead, paper straws and wooden stirrers and cutlery are used (Tottenham Hotspur, n.d.).
- 4) **Advertise AC Milan’s green initiatives during halftime to reach all live attendees.** Due to lack of awareness amongst fans of the Acqua Lete and Pema RE:FIRBE campaigns, there is a need for increased marketing. There is no need to preferentially target certain age brackets or season ticket holders when marketing green initiatives as there is virtually no difference between the degree of awareness and affinity for sustainability between these variables (Figures 8a-9b).
- 5) **Increase access to public transportation by creating shuttle services to connect fans from greater areas, encourage biking with bike lots, and limit the use of gas cars.** Most fans who attended three or more games this past season rode the bus to the stadium (Figure 10).

- a) The Golden State Warriors of the NBA have created a system at their stadium, the Chase Center, that rewards fans who use low-carbon transportation to arrive at the facility. The organization offers a network of public transportation options and preferred parking for carpools, and has both electric vehicle charging stations and a bike valet to promote the reduction of automobile emissions (Chase Center, 2020).
  - b) The Las Vegas Raiders of the NFL encourage biking by conveniently locating racks around all sides of the stadium and designating bike plans to these racks (Allegiant Stadium, 2024). The Philadelphia Eagles organization provides bikes for all employees (Philadelphia Eagles, 2023).
- 6) ***Rigorously expand and promote green partnerships (e.g., Acqua Lete, Puma RE:FIBRE) with organizations directly affiliated with the global sports industry.*** ~250 respondents support the current partnerships (Figure 13) and 83% of fans agree that AC Milan should continue committing to sustainable initiatives (Figure 16).
- a) Tottenham Hotspur partners with products of change, which drives the sustainable changes of consumer product markets. They also partner with HPE to lower stadium electricity use during low activity periods (Tottenham Hotspur, n.d.).
- 7) ***The entirety of AC Milan’s roster and affiliates (e.g., Youth Team) should lead sustainability campaigns rather than solely being spearheaded by management.*** The majority of respondents ranked the entire team as their first preference to lead a green campaign (Figure 17).
- 8) ***Enter a partnership with a solar energy company to promote a clean power resource for the stadium.*** Respondents showed the most support for solar energy as a potential means of promoting stadium sustainability with external partnerships (Figure 21).
- a) Real Salt Lake, a member team of the United States’ Major League Soccer (MLS), found success in their solar partnership with Auric Solar and Rocky Mountain Power. The team’s stadium, America First Field, was equipped with almost 6,500 solar panels in 2015, which has the capacity to offset 73% of the organization’s annual power needs (Major League Soccer, 2017).
- 9) ***Bolster sustainability marketing by targeting AC Milan’s social campaigns (e.g., visiting children in hospitals, volunteering at shelters).*** Respondents prioritize social campaigns over sustainability campaigns (Figure 19).

- a) The NFL has created a dual initiative within the NFL Green program that focuses on food recovery. The initiative partners with local food banks to ensure that any food that goes untouched or unserved during a game day is donated to help those in need and is thus diverted from landfills (National Football League, n.d.).

**10) Recruit future UCLA practicum teams to conduct in depth research on each core component of this report** (specifically exploring the introduction of a fan-based fee to support eco-friendly practices, demographic differences between international and local fans, the potential to expand the survey population beyond superfan clubs, and further outreach to interested model sports organizations such as the Atlanta Hawks.)

## **Limitations**

Due to the nature of this survey-based, international research, certain limitations exist in extrapolating and interpreting our team's findings. Although our team worked diligently alongside AC Milan leadership to send the survey out, the survey was ultimately optional, and no incentive was provided to respondents. Thus, those with strong opinions about sustainability may have been more likely to participate and submit responses than those who view sustainability neutrally, a phenomena known as nonresponse bias (Story et al., 2019; Kitchenham, 2002). The optional nature of the survey may have also contributed to the 10 blank surveys we received, which we did not include in our analysis. Additionally, the survey was distributed exclusively to fanclub members and therefore may not accurately reflect the opinions of the average or more casual fan. The results also likely reflect more local Italian perspectives than international, demonstrated by the fact that we received 251 responses from local Italian fans and only 40 from international fans. Ultimately, certain results may have been impacted because those who were not sent the survey, or those who chose not to respond, could conceivably have different views on sustainability than those who responded.

The need for translation services throughout the drafting and analysis of the Italian survey additionally may have impacted this research. Because this team is composed of English-speaking students with little to no proficiency in the Italian language, we received support from Maria Falbo, a UCLA faculty member in the Department of European Languages and Transcultural Studies. Maria assisted in the translation of our survey and helped to ensure that the meaning of each survey question remained comparable between the English and Italian versions. However, due to differences between English and Italian sentence structure, vocabulary, and cultural norms, small inconsistencies may differentiate the two versions. Furthermore, in our team's interpretation of Italian-speaking participants' free responses, we used Google Translate due to convenience in sorting and analyzing the majority of the data. While we did consult the Department of European Languages and Transcultural Studies for responses we felt were not accurately transcribed by Google Translate, the use of this tool may have impacted the proper understanding of each response.

The order in which information was presented in the survey may have further created bias in the collected results. In line with the goals of this survey, our team created questions that would assess respondents' awareness of, and support for, sustainability initiatives and practices within AC Milan's organization. However, this required us to imbed multiple examples of AC Milan's current sustainability initiatives within questions, a fact that may have impacted respondents' perceptions about the quantity and quality of actual sustainability efforts at AC Milan, and thus their feelings regarding future investment in sustainability at the club. This potential source of bias may have particularly shown up in responses to question 24 of the survey, which asked fans whether they believe AC Milan should continue committing to sustainable initiatives at the rate they are.

Our team was able to partially minimize the discussed limitations by creating open-ended discussion and analyzing results by demographic subsets. Open-ended questions do not constrain respondents' answer choices and, as such, are an effective method to mitigate limitations and contextualize previous multiple choice answers. Additionally, analysis that accounts for demographic characteristics of survey respondents help to determine if collected results accurately, or at least closely, reflect the collective demographics of the entire fanbase (Story et al., 2019; Gleason, 2022). Ultimately, our team was well prepared to present informative results while minimizing limitations.

## **Future Research**

There is ample opportunity for both AC Milan and future UCLA IoES students to build on this research. This research aims to serve as a base foundation for a long-term relationship with AC Milan to allow for further analysis of the club's actions surrounding fans and a sustainable future. At the same time, the research is a piece of the ever-changing world of sustainability. The research that we put together is a step in the right direction for future practicum teams to build upon. With a new survey that explores alternate viewpoints of some of the topics we discussed, future research can use the work as a blueprint to guide AC Milan to the desired approach to sustainability. Future researchers can conduct additional analysis of current results and create derivatives of the survey to produce more specific proposals for AC Milan depending on which pillar of sports sustainability they would like to hone in on. The surveys, raw data, and interview questions are attached at the end of this report to allow future researchers to evaluate the questions and answers given their desired finish line (Appendix A, B, & C).

This area of research has become of newfound importance to many sports teams as climate variability becomes more drastic. While future research has numerous possibilities regarding environmental sustainability, we came up with a few possible avenues AC Milan may want to explore going forward. Future IoES practicum teams associated with AC Milan may want to further alter some of our research questions to answer new hypotheses proposed as time progresses. As the landscape changes regarding sustainability, building upon this project's blueprint of environmentally associated questions can help AC Milan progress within the sphere

of sports sustainability. One way to achieve this is to increase the sample size of survey respondents, allowing for a broader and more accurate gauge of fan attitudes around sustainability. Another future research approach may be to harness other sports teams' methodologies concerning sustainability and their organizations. Many sports teams, as discussed in the Sustainability in Sports section, have adopted specific eco-friendly actions to engage fans. Using existing ideas and this report's content as inspiration, future research should develop questions with more specificity and targeting. For example, as suggested in the proposal section, possible avenues of future research could include exploring the introduction of a fan-based fee to support eco-friendly practices, demographic differences between international and local fans, and expanding the survey population beyond superfan clubs. Finally, research on strengthening the connection between fanbases and the organizations they support can be increased through further in-depth qualitative research, involving more interviews and conversations with fans.

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## Appendices

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### *Appendix A – The survey*

This is a PDF copy of the survey which was sent out to AC Milan fan clubs, in both Italian and English language. The questions were the same in both surveys, originally written in English and translated into Italian. The survey was hosted by Qualtrics.

English Language Survey:

 Qualtrics Survey Software.pdf

Italian Language Survey:


 Qualtrics Survey Software.pdf

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### *Appendix B – The raw data from the survey*

The responses to the survey that was sent out to AC Milan fans, split into responses from the English and Italian language surveys. Text answer format shows the text of the answers that were selected by the respondents, while numeric answer format uses a number to tag each text option and indicate which answer was selected for each question. Both formats show open response answers as text.

English language; text answers format:

 English\_Survey\_Choice\_text.xlsx


English language; numeric answers format:

 English\_Survey\_Numeric.xlsx

Italian language; text answers format:

 Italian\_Survey\_Choice\_text.xlsx


Italian language; numeric answers format:

 Italian\_Survey\_Numeric.xlsx


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### *Appendix C – Interview transcripts and notes*

Interview with a former AC Milan youth player, Pietro Grassi, who now plays for the UCLA soccer team. This interview was conducted to better understand the culture of the club and how sustainability is spoken about and campaigned for within the club.

 Interview with Pietro Grassi, current UCLA Soccer Player

Interview questions to be asked to other teams and stadiums. The following document is specifically for the sustainability representative for the Atlanta Hawks, but any specific details were altered for representatives of other teams and stadiums.

 Interview Questions - Teams and Stadiums

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### *Appendix D - Preliminary Research*

The team’s initial research, conducted in December 2023, into the project topics, including AC Milan and European football, Italian politics and sustainability, sustainable sporting events, the circular economy and EU sustainability, fan views on sustainability and effective survey principles.

#### Preliminary Research

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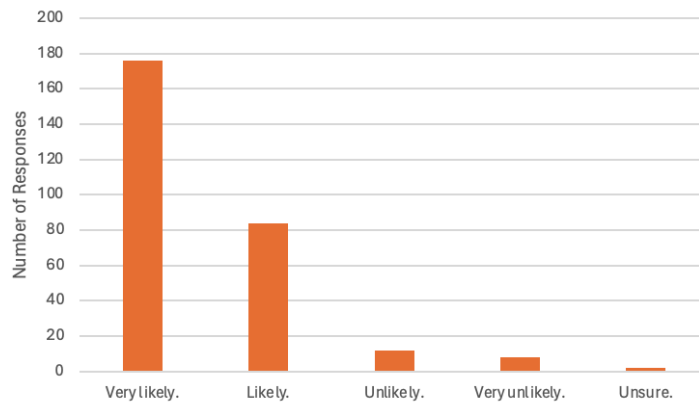
### *Appendix E - Project Proposal*

The team’s outline for the project, outlining how the survey was intended to be distributed and its intended use. The Project proposal highlights the data the team hoped to collect from both the survey and continued research using other methods.

#### Project Proposal

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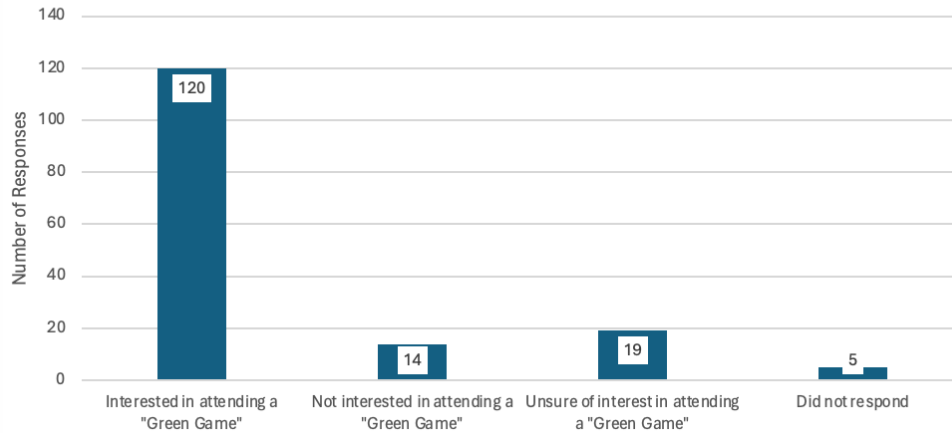
### *Appendix F – Fan likelihood of sorting waste into specified bins*



This graph shows the number of responses for each answer to the question of how likely fans would be to sort their waste into specified bins. It was used to understand the baseline sustainability practices of fans and inform Stadium Sustainability analysis.

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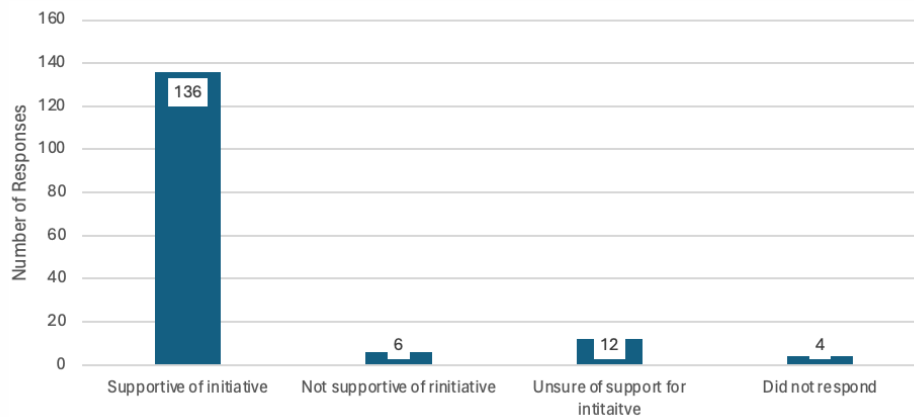
### *Appendix G – AC Milan Fan Interest in Attending a Green Game, who attended more than three games this season*



This graph shows the number of respondents indicating interest in a Green Game, who also attended more than three games this season. This graph was used in the stadium sustainability section, to inform the graph on support for a Green Game and/or the reusable water bottle initiative, and analyze how fans feel about sustainability initiatives in the stadium.

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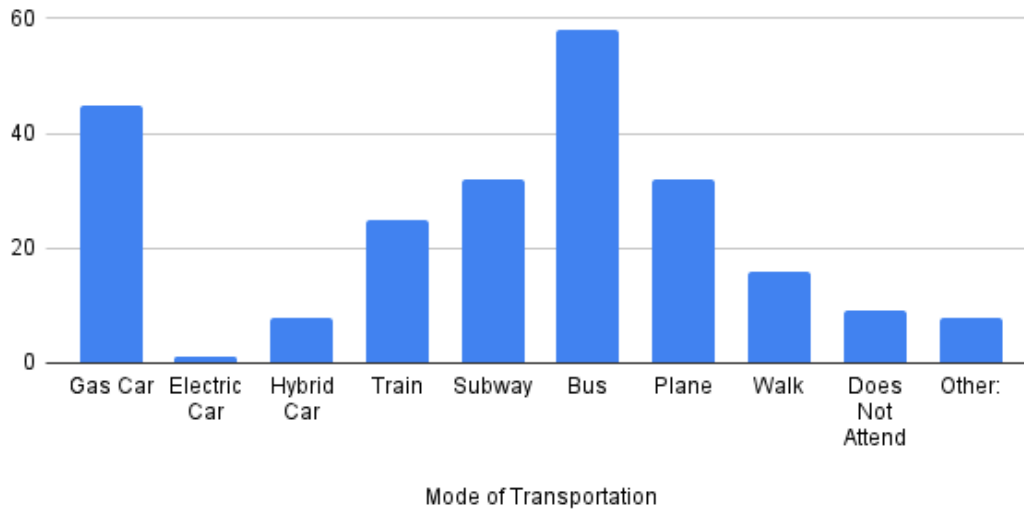
*Appendix H - AC Milan Fan support for reusable water bottle initiative inspired by the 2022 FIFA world cup, who attended more than three games this season*



This graph shows the number of respondents indicating support for the reusable water bottle initiative, who also attended more than three games this season. This graph was used in the stadium sustainability section, to inform the graph on support for a Green Game and/or the reusable water bottle initiative, and to understand how fans feel about sustainability initiatives in the stadium.

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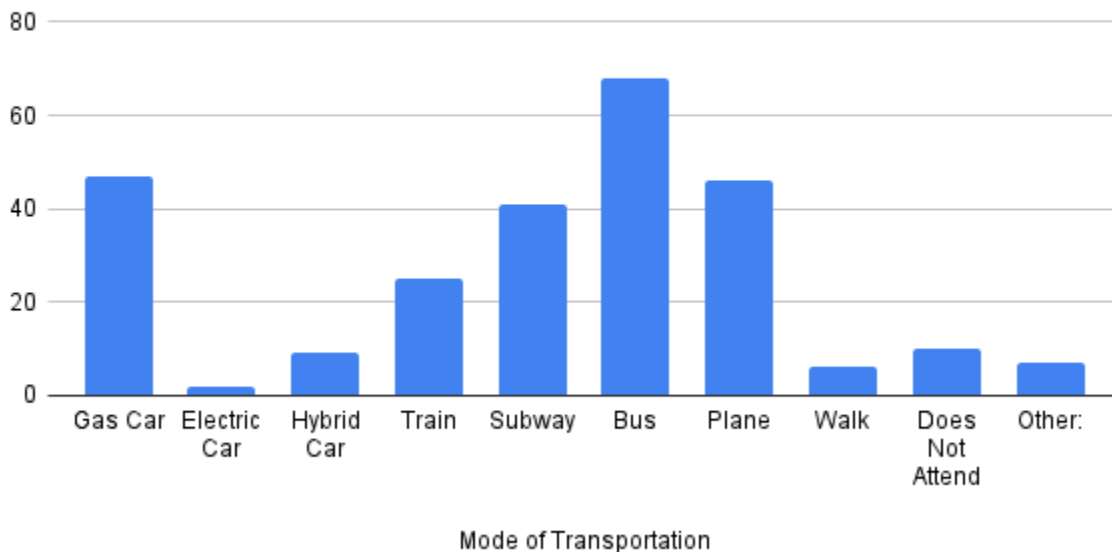
*Appendix I - Models of Transportation fans under 40 use to attend games*



This graph shows the lower half of the age divide for the modes of transport fans use to access the stadium. We found there was little difference between this demographic and the older age group, and as a result did not include the age divided graphs in the report, but did include a graph of the combined demographics as they related to transport to the stadium.

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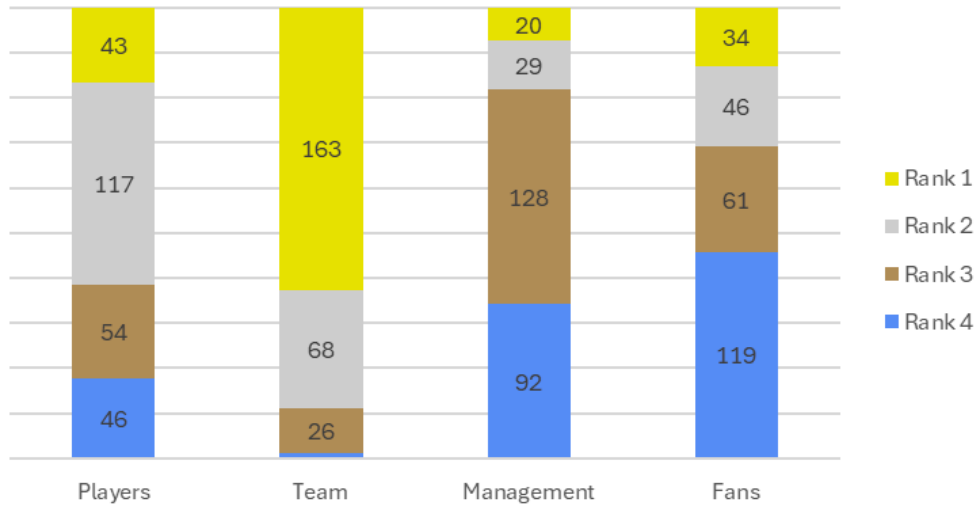
*Appendix J - Models of Transportation fans over 40 use to attend games*



This graph shows the upper half of the age divide for the modes of transport fans use to access the stadium. We found there was little difference between this demographic and the younger age group, and as a result did not include the age divided graphs in the report, but did include a graph of the combined demographics as they related to transport to the stadium.

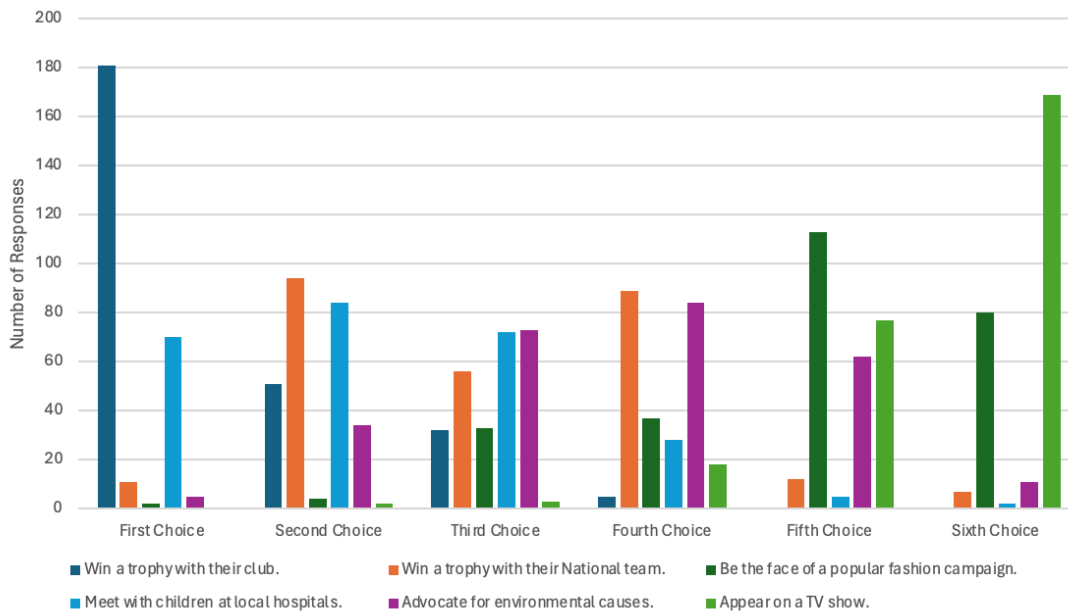
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*Appendix K - Fan Rankings of who they would support in a sustainability campaign*



This graph shows the numbers of fans who ranked each of the options from ‘Individual players’, ‘The whole team’, ‘Management or Partners’ and ‘Fan Volunteers’ as an influence on them supporting a sustainability campaign. This was used to inform the points system graph which shows the overall rankings fans gave each option.

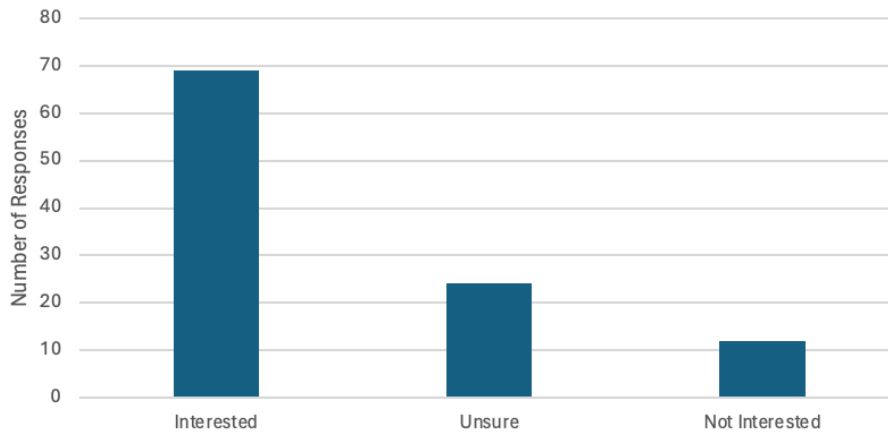
*Appendix L - Fan preferences of what a professional footballer should do*



This graph shows the numbers of fans who ranked each of the options from ‘win a trophy with their club’, ‘Win a trophy for their national team’, ‘be the face of a popular fashion campaign’, ‘meet with children at local hospitals’, ‘advocate for environmental causes’ and ‘appear on a TV show’ as something they consider should be something a football player does. This was used to inform the points system graph which shows the overall rankings fans gave each option.

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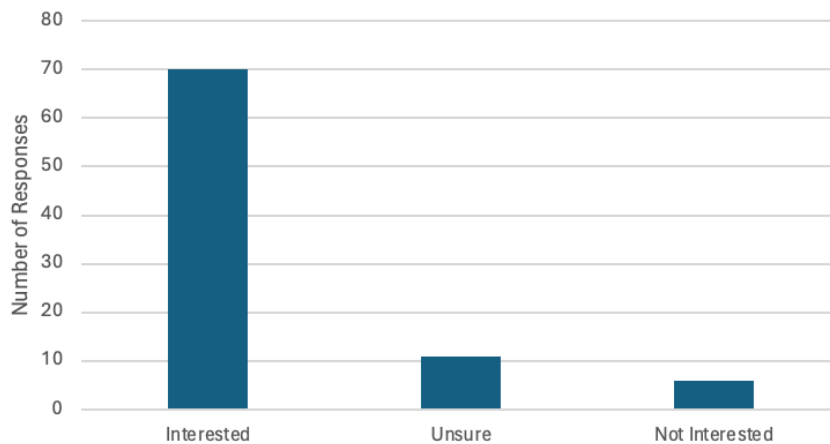
*Appendix M - Interest in a Green Game for fans who most often watch AC Milan games on TV*



This graph shows the number of respondents who indicated interest in a Green Game and watching most of the AC Milan games on the TV. The overall number of fans who supported a Green Game was discussed in the paper, and as this data followed the overall pattern of the broader demographic, the split of who watched mostly on the TV was not included.

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*Appendix N - Interest in a Green Game for fans who most often attend matches live*



This graph shows the number of respondents who indicated interest in a Green Game and watching most of the AC Milan games live.. The overall number of fans who supported a Green Game was discussed in the paper, and as this data followed the overall pattern of the broader demographic, the split of who watched games mostly live was not included.