

Report on the effectiveness of environmental awareness raising actions in stadiums: a survey of professional football supporters

conducted within the TACKLE project

co-funded by the European Commission under the LIFE Programme





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Published in March 2022

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1. Introduction

The present report was prepared in the context of action B.4 “Fans and supporters information and awareness raising” of the European (LIFE co-founded) project named TACKLE – “Teaming up for A Conscious Kick for the Legacy of Environment”.

In order to validate the actions carried out as part of the project and to consider them as the content of the Guidelines, we carried out an assessment of the level of awareness of football supporters and fans *before* and *after* the implementation of environmental awareness campaigns.

In particular, at the beginning of the action B.1, in a sample of selected stadiums where the awareness actions were planned to be carried out, we analysed the level of awareness of supporters on environmental and waste management topics through specific questionnaires that were collected during football matches ([link to the first report](#)). The results of this initial survey were used to measure the baseline of the level of awareness and to plan the actions to be implemented.

At the end of the task, a new survey was carried out in the same stadiums involved in the awareness campaigns in order to evaluate the effectiveness of the awareness raising actions. The results of this final survey, detailed in this report, have also been used to plan the project’s replicability activities foreseen in the action B5.



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2. Methodology and Sample

As a first step, we reviewed relevant literature and we designed our survey accordingly. Next, we asked three academicians and practitioners to review the suitability and contents of our survey questionnaire. In this way, we further improved the quality of our survey questionnaire. Afterward, we translated the survey questionnaire into Italian and Swedish. Finally, we disseminated translated survey questionnaires among supporters. A total of 728 usable survey questionnaires were collected throughout the survey campaign (see Table 1).

Table 1: Questionnaires collected

Country	Date	Stadium	Match	Number of questionnaires
Sweden	09/10/2021	Friends Arena, Stockholm	Sweden - Kosovo	176
Sweden	12/10/2021	Friends Arena, Stockholm	Sweden - Greece	180
Italy	12/11/2021	Olympic stadium, Rome	Italy - Swiss	150
Italy	20/11/2021	Olympic stadium, Rome	Lazio - Juventus	222

The sample is mainly composed of young male adults: in particular, more than 60% of respondents are male, while the remaining some 40% are female (Figure 1). Over 50% of respondents are under 34 years old, of which the most populated age group in the sample is between 15 and 24 years old (more than 35%), followed by the age group between 25 and 34 years old (almost 17%). The third most populated age group is between 35 and 44 years old, which represents about 14% of the sample, while less than 10% of the sample is over 55 years of age and around 15% of the sample is aged between 45 and 54. Only 8% of respondents are under the age of 15. (Figure 2).



Figure 1: Gender of respondents

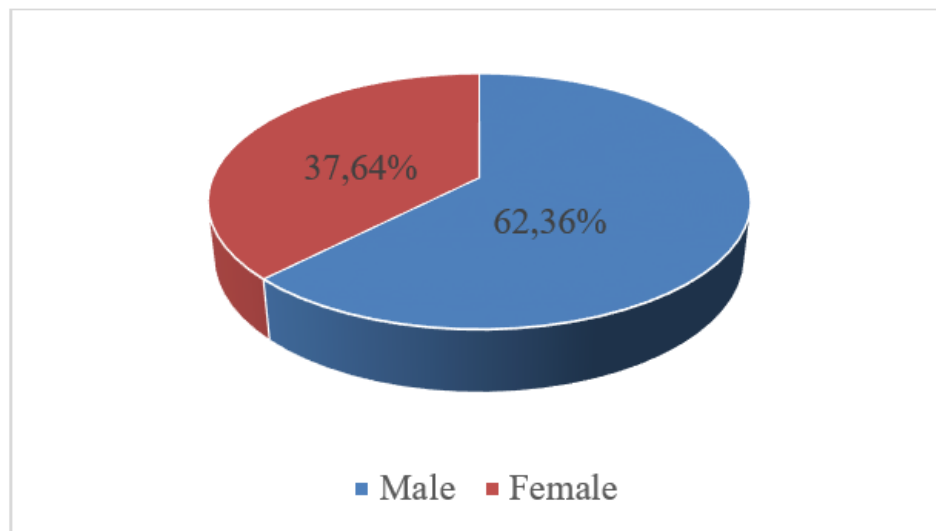
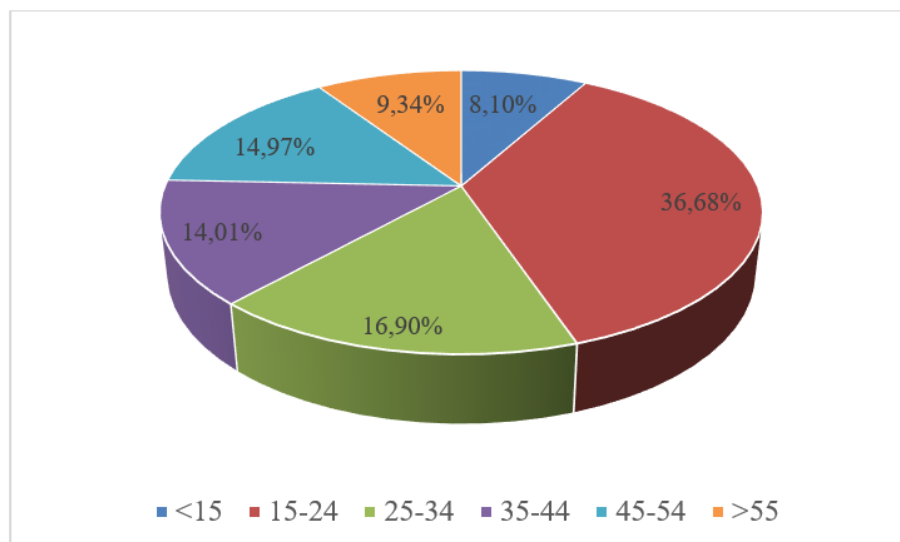
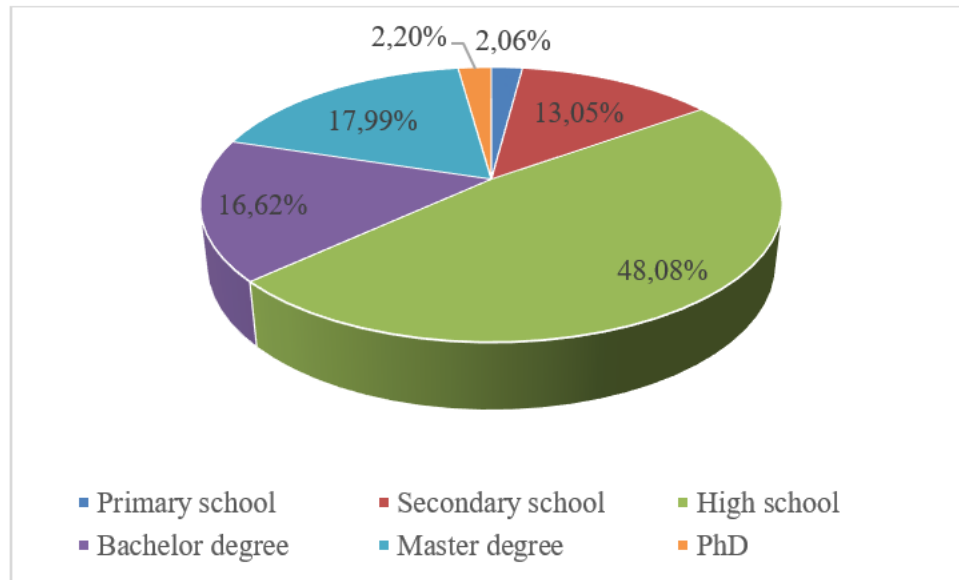


Figure 2: Age of respondents



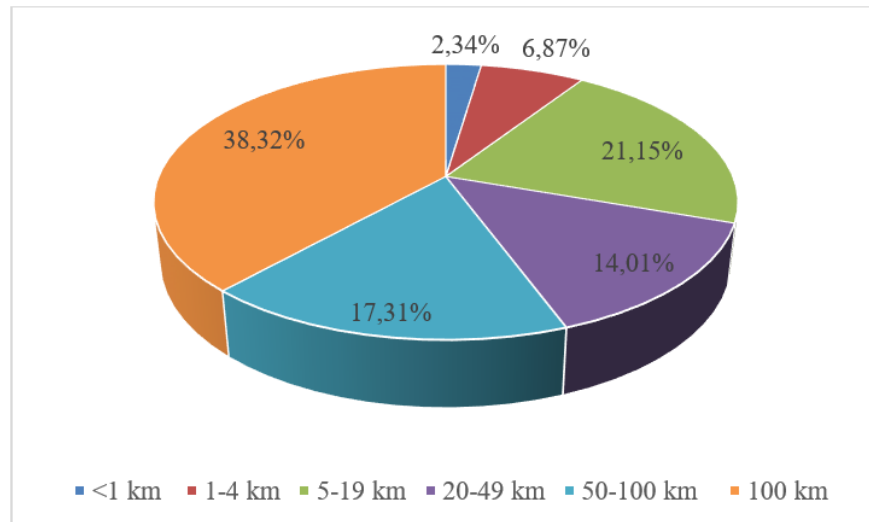
With regard to the level of education, almost half of the respondents have completed high school, while around 16% hold a bachelor's degree and almost 18% hold a master's degree. Around 13% of respondents have completed secondary school, while very few have a doctorate degree (2%) or have completed primary school only (2%) (Figure 3).

Figure 3: Level of education of respondents



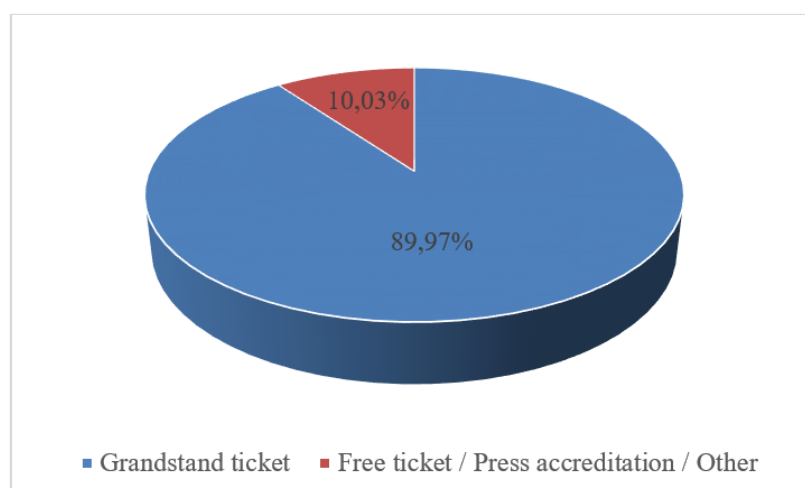
In terms of the distance travelled by fans and spectators to reach the stadium, most of the respondents in the final sample (around 38%) travelled more than 100 km. More than 20% of respondents travelled between 5 and 19 km, while some 17% travelled between 50 and 100 km. Less than 10% travelled less than 5 km. In fact, only 6.87% travelled between 1 and 4 km, while only 2.34% less than 1. Since more than half of the supporters travelled more than 50 km to reach the stadium, these data are noteworthy in terms of the environmental impact related to the mobility of supporters (Figure 4).

Figure 4: Travel distance to the stadium



As for the type of ticket held by spectators and supporters involved in the survey, most of the respondents (around 90%) owned a single ticket to attend the match. It was not possible to separate single ticket with season ticket since most of the match were national matches where only single tickets are available and because even for the national league match due to Covid-19 limitations, clubs decided to not sell season ticket. Only about 10% of respondents owned a free ticket or obtained accreditation to attend the match (e.g., journalists) (Figure 5).

Figure 5: Type of ticket held





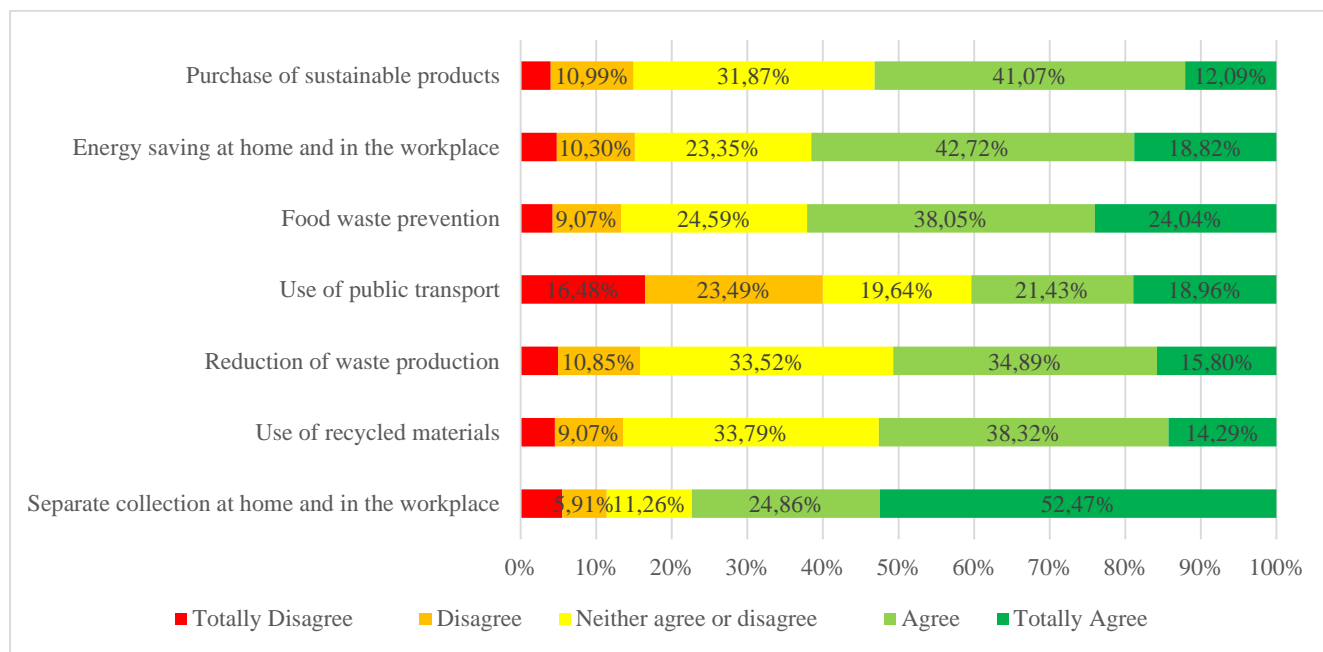
3. Measuring the environmental awareness of supporters

Understanding the level of environmental awareness of supporters is crucial for designing and implementing environmental actions that are oriented towards supporters. More specifically, the level of environmental awareness of supporters can serve in the planning phase as a preliminary measure to design and tailor adequate dissemination campaigns aimed at raising the environmental awareness of supporters, as well as in the phase of performance measurement as a benchmark to assess the effectiveness of those implemented initiatives. The level of environmental awareness has been proved to be one of the main elements that influence people's responsiveness to environmental actions performed by organisations. Moreover, a greater level of environmental awareness partially explains the greater behavioural intentions of people in protecting the natural environment. Ultimately, measuring the level of environmental awareness can be the first step for a process that aims to trigger positive behavioural change on people. This section of the report assesses football supporters' environmental awareness by investigating their environmental behaviour in daily life. A specific question with multiple items was referred in the questionnaire to this environmental aspect measured. The result of this question is presented in the figures below.

One of the aims of raising environmental awareness among football supporters is to promote their environmentally responsible behaviours in daily life, both at home and during sport events. Sport organisations and policy makers can implement various marketing campaigns, such as the use of green advertising or the involvement of sport athletes and celebrities to trigger behavioural change. In order to identify the environmental practices that need to be fostered among supporters, it is necessary to measure their current level of engagement with those environmental practices. Moreover, assessing the supporters' environmental behaviour in daily life allows to empirically validate the relationship between values and actual behaviours, theoretically discussed by many scholars. Behaviours in daily life are measured in this report by assessing supporters' frequency of adoption of seven sentences, each corresponding to a good practice of environmental behaviour.



Figure 6: Environmental behaviour in daily life



“*Separate collection at home and in the workplace*”, “*Food waste prevention*” and “*Energy savings at home and in the workplace*” emerge to be the most implemented environmental behaviours. The three behaviours have in common to refer to environmental actions rather than environmental products. Among the three, “*Separate collection at home and in the workplace*” has the most widespread adoption with more than 75% of respondents that have always or often adopted such environmental behaviour. Most likely, the legal obligation to comply with this practice in many municipalities has raised the frequency of its adoption.

“*Food waste prevention*” is often or always adopted by almost 62% of respondents, while “*Energy savings at home and in the workplace*” by 60%. Good levels of adoption of these environmental behaviours can be explained with the personal benefits associated with those environmental practices.

They are win-win solutions since safeguarding the natural environment allows supporters to save money, such as paying cheaper energy bills.



The same consideration is not easily replicable with the environmental behaviours that belong to the category of environmental products, i.e., “*Use of recycled materials*” and “*Purchase of sustainable products*”. Lower levels of adoption are associated with those behaviours. Management scholars in the field of environmental sustainability demonstrated that green purchasing intentions are strongly influenced by price and quality. If prices of greener products are higher and/or their quality is lower, consumers are not willing to buy those products. This scientific evidence may be empirically confirmed by the data of this report, where 2 out of the 4 least adopted environmental behaviours belong to the category of environmental products.

“*Reduction of waste production*” also received negative feedback. Thus, despite the attention on separate waste collection, respondents did not pursue waste prevention strategies.

Finally, the level of adoption of the behaviour “*Use of public transport*” needs to be individually discussed. Taking a bus or other public transports is an environmental behaviour where many factors are taken into account by citizens, such as time of travel, quality, availability of the service and comfort. Therefore, the 40% of the respondents who answered that they never or rarely used public transports evaluated the poor performance of the abovementioned factors together with the potential environmental benefits. As a managerial consequence, local authorities and municipalities should try to increase the performance of such services in order to incentivize the use of public transports by supporters, and more in general by citizens.



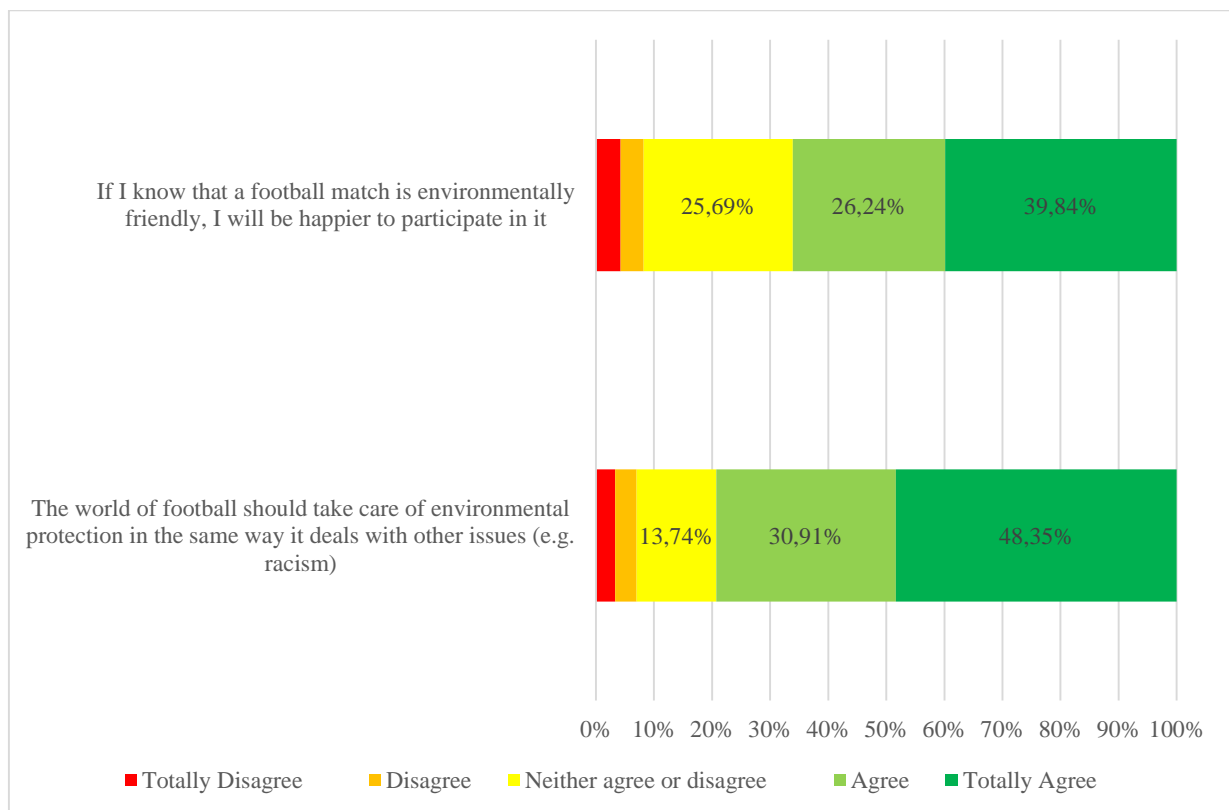
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4. Perceptions and expectations of fans on the environmental management of football

In order to understand and better evaluate the ongoing cultural shift regarding environmental management of football matches we have asked football fans to indicate their perception of the importance of environmental management of football matches on a scale of five different options ranging from “totally disagree”, “disagree”, “neither agree or disagree”, “agree” and “totally agree”.

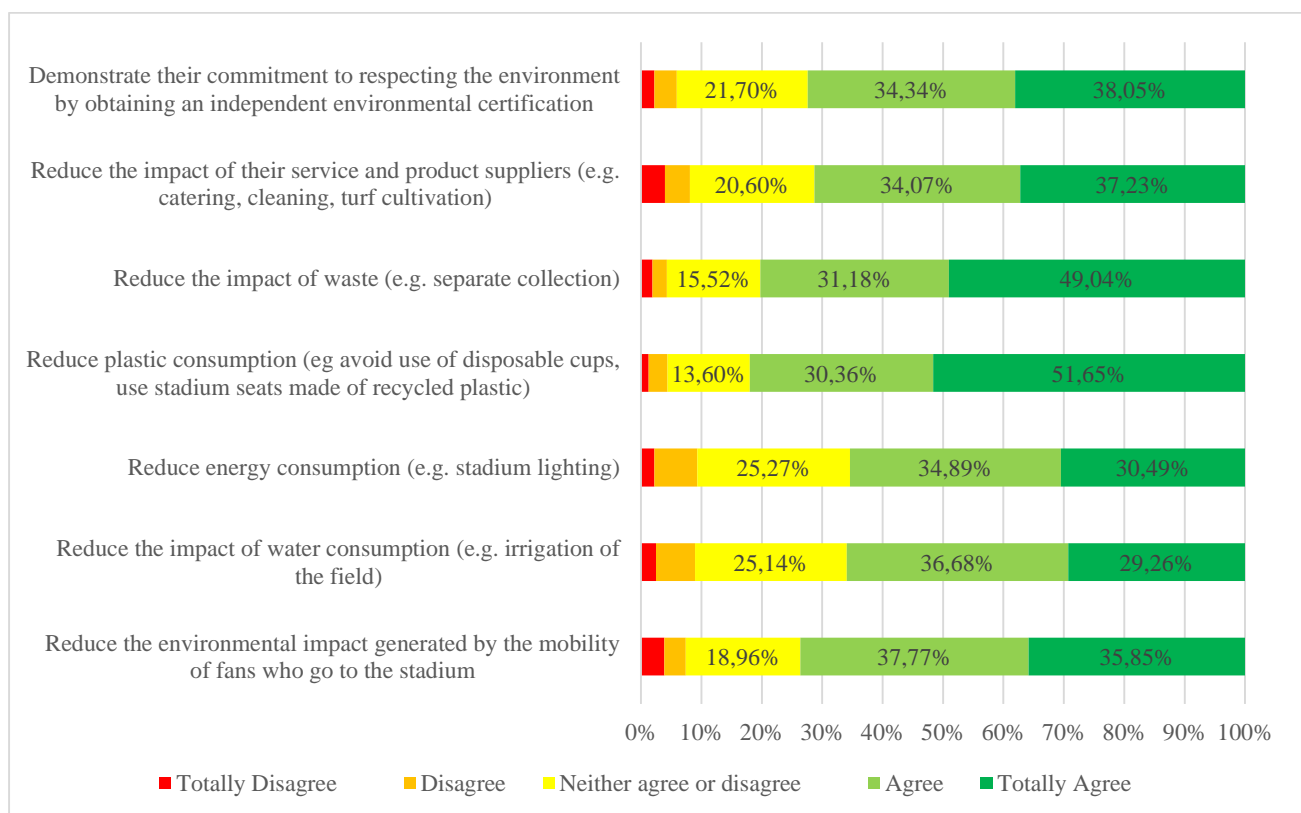
Figure 7: Fans’ expectations on environmental management by the world of football



Respondents have generally shown that amongst fans there is an overall concern towards the environmental impacts of football matches. Well above the majority of respondents, in fact around 80% of fans that answered the questionnaire, have declared that they “agree” or “totally agree” that football should take care of environmental protection in the same way it takes care of other issues such as discrimination. Similarly, around 65% of respondents answered that they “agree” or “totally agree” that they would be much happier to attend a football match if they knew it was environmentally friendly. However, more than 25% of respondents had selected the option “neither agree nor disagree” to show that they would feel indifferent if the matches they attended were environmentally friendly.

Respondents were also asked about their expectation with regard to the commitment that the world of football should give to seven different environmental topics. As for the previous questions, respondents could give their opinion by selecting one of five options: “totally disagree”, “disagree”, “neither agree nor disagree”, “agree”, and “totally agree”.

Figure 8: Fans’ expectations on the commitment that the world of Football should devote to environmental issues





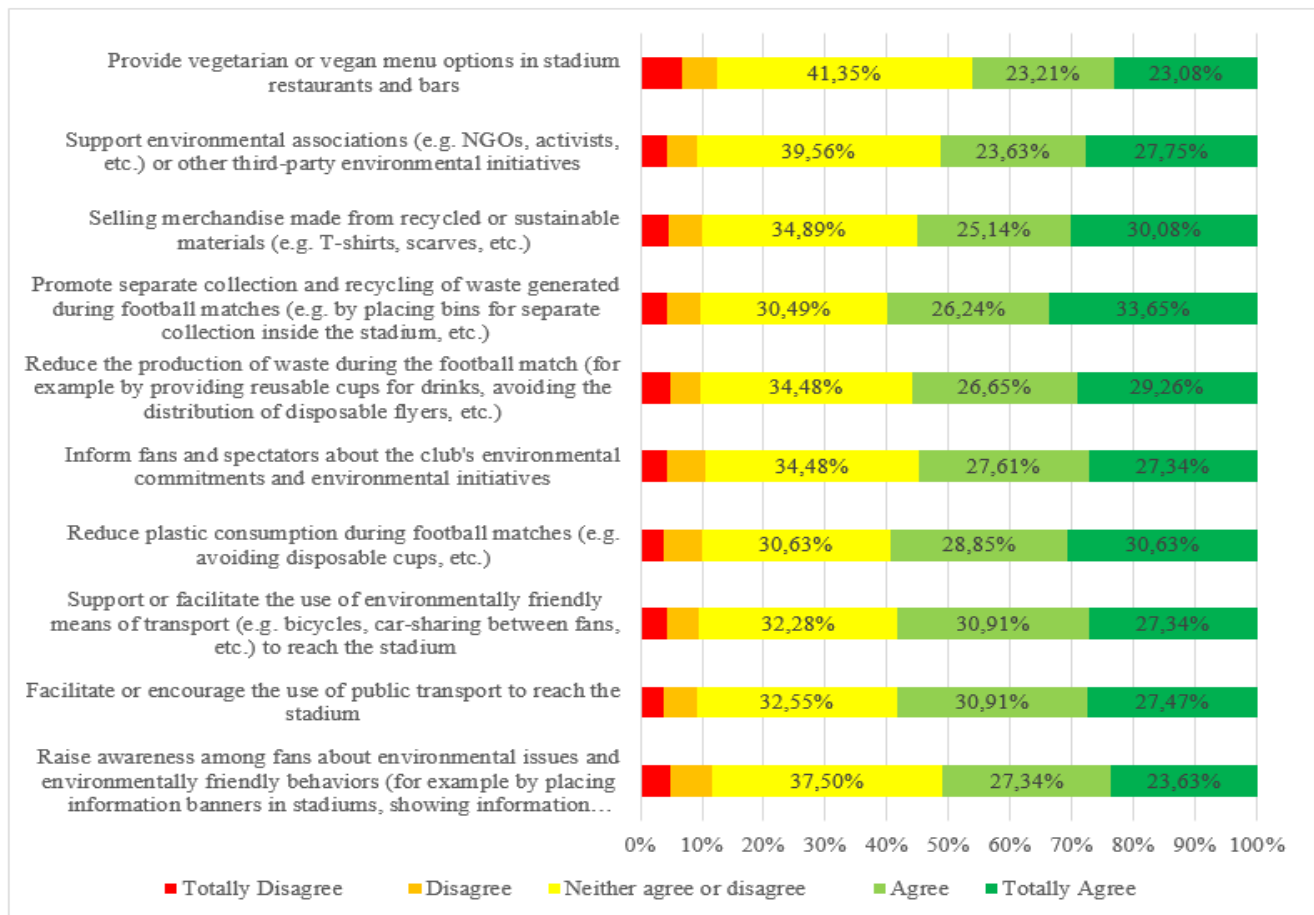
Overall, in all seven cases the majority of respondents “agreed” or “totally agreed” that the world of football should commit to these issues. Most fans (some 80%) believe that plastic reduction is an important environmental issue that the world of football should commit to. Waste reduction is the second most voted on topic, some 80% of respondents checked the boxes “agree” or “totally agree”. Reducing the environmental impact generated by the mobility of fans who go to the stadium is the third most voted topic (some 75%) said that they “agree or “totally agree”. When asked about whether the world of football should commit to reduce the impact of service and product supplier and to obtain an external environmental certification, the majority (some 70%) of respondents “agree” or “totally agree”, but the percentage of fans that remains indifferent increases to 20%.

The percentage of indifferent respondents increases also when asked about whether football should commit to the reduction of environmental impacts deriving from energy consumption and to reducing the environmental impact derived by water consumption (around 25%). Nevertheless, in both cases the majority of fans “agree” or “totally agree” that these topics are important and that the world of football should commit to them. Around 65% of respondents “agrees” or “totally agrees” that the ecological footprint linked to energy consumption is a key subject and that football should commit to reducing the environmental impact derived from water consumption.

Lastly, based on their perceptions and experience of football events, we questioned supporters how they would rate the current commitment of their favourite football team to reduce the environmental impact of football events.



Figure 9: Fans' perceptions of the current commitment of the football world in reducing the environmental impact of their events

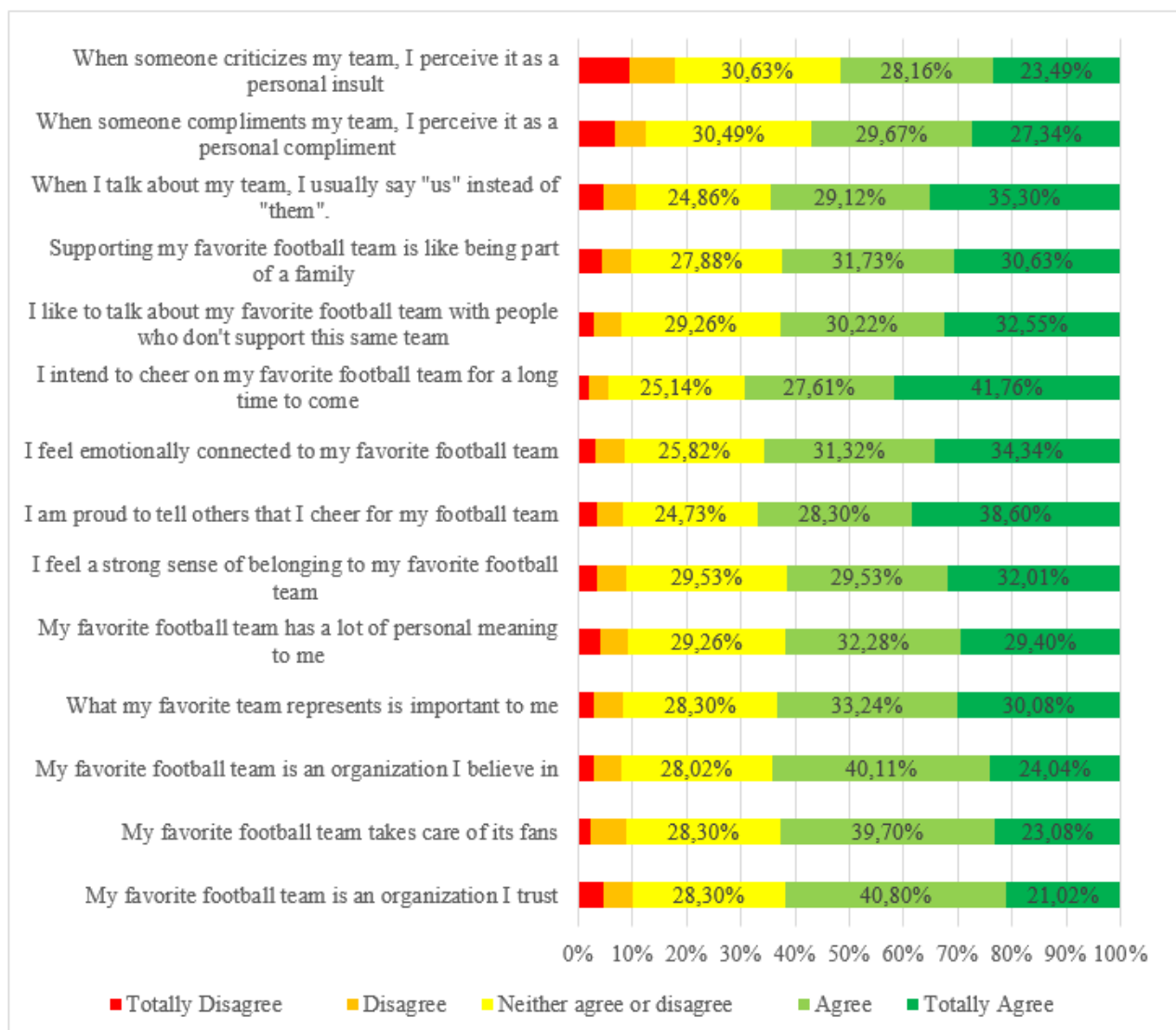


Despite more than half of the respondents “agreed” or “totally agreed” on the level of diffusion of all the listed environmental practices, generally between 35 and 40% of respondents are indifferent to this aspect. It is worth noting that the adoption of vegan and vegetarian food options in stadiums’ restaurants and bars is the only environmental practices where negative feedbacks are higher than positive. This growth of “neither agree nor disagree” may be dependent by two different factors. On one side, football organizations might actually implement environmental practices, but do not spread enough information towards supporters which are then unaware of green practices adoption. On the other side, supporters may be simply not interested in understanding the football organizations’ commitment towards sustainability.

5. Fans' relationship with their favourite football club

Respondents were also asked about their relationship with their favourite football club focusing especially on the personal attachment with their favourite football team.

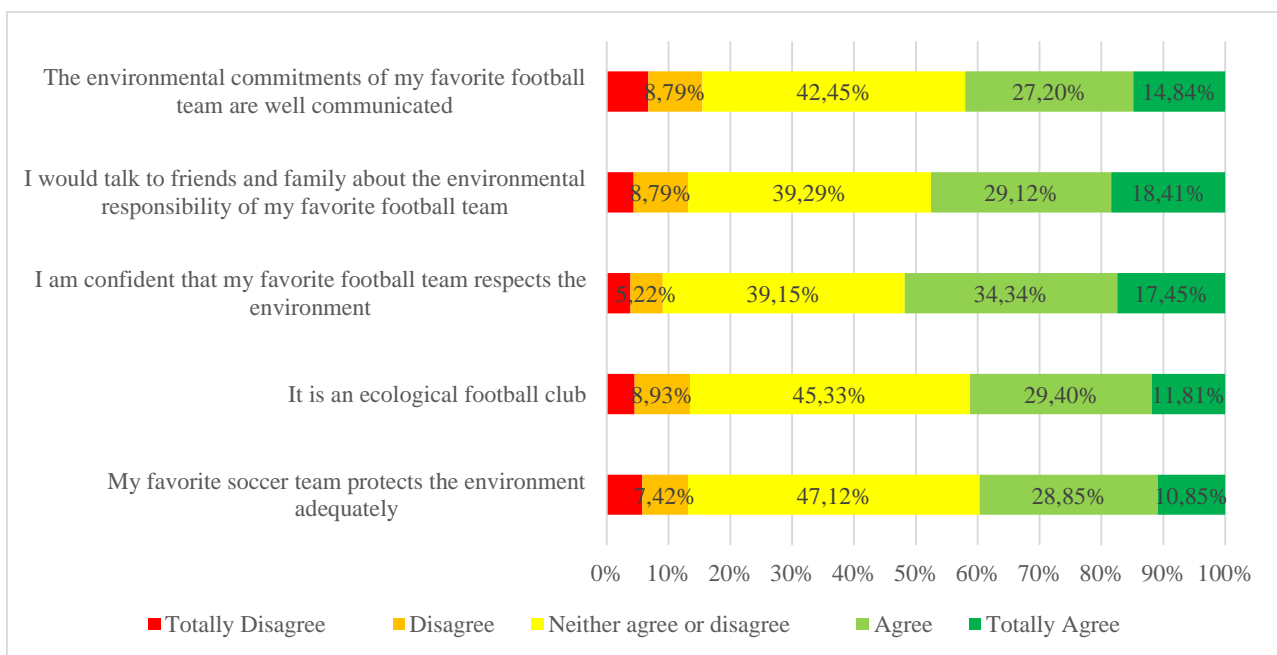
Figure 10: Fans' relationship and attachment with their favourite football team



Overall, results show that supporters identify with their favourite football team, demonstrating their emotional connection to it. In particular, the grand majority of respondents (60%) stated that will cheer on the club for a long time and they are very proud to tell others that they cheer on their club. The less positive feedback was received by perceiving a criticism to the team as a personal insult. However, in general, we registered a strong relationship and attachment between supporters and football clubs. The sense of belonging and identification of supporters with their team is an important aspect to take into consideration, as it can trigger among the fans a process of acceptance and emulation of the pro-environmental behaviours adopted by their football club.

Then, we asked fans to give their opinion on how the football team they support takes care of the environment.

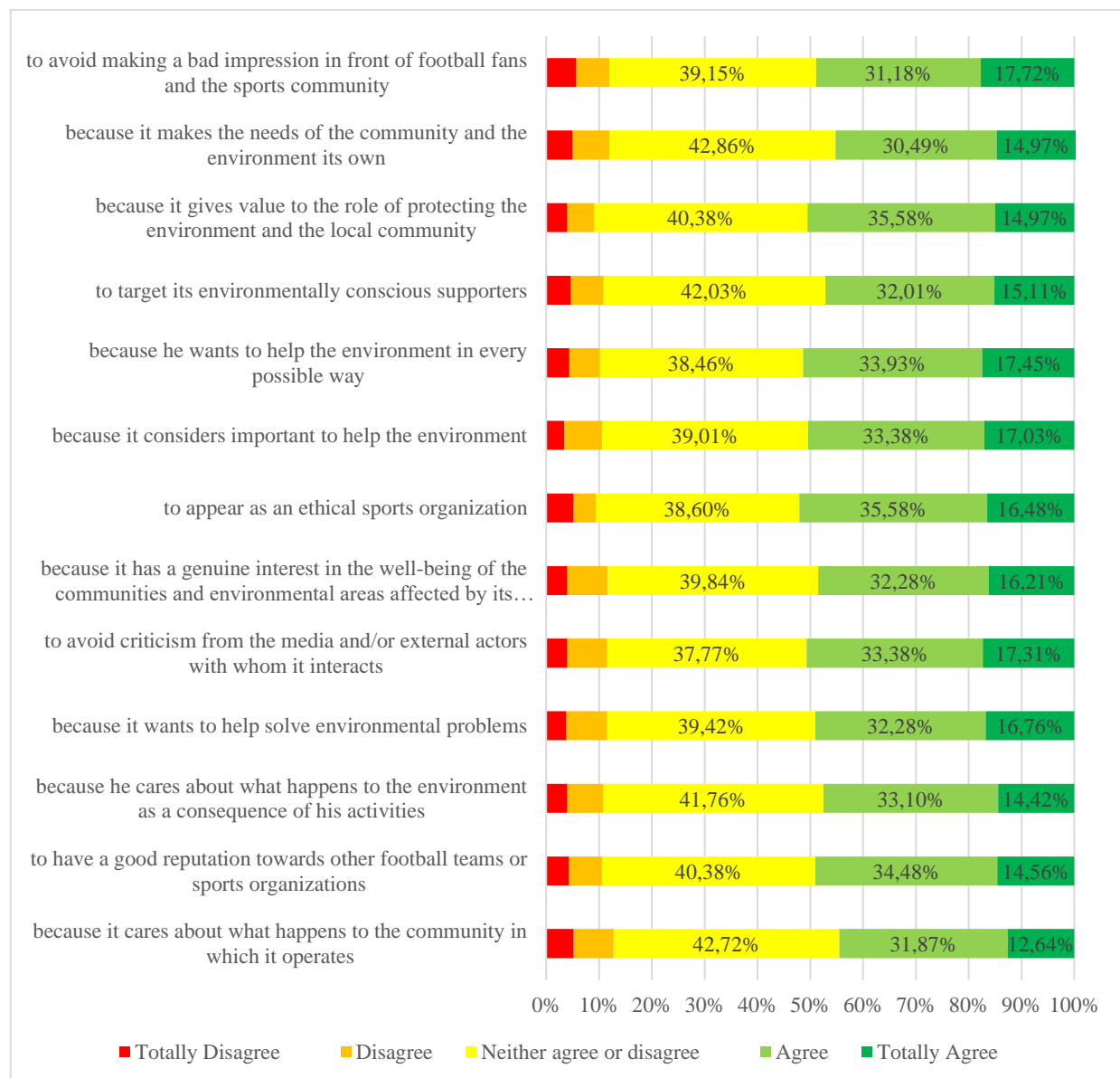
Figure 11: Fans' opinion on the way their favourite football club takes care of the environment



As for the perception that fans have of the way their favourite football club takes care of the environment, most respondents mainly “neither disagree nor agree” on all the statements. In particular, they are indifferent if their club is an ecological one or if it protects the environment adequately (more than 45%). Even in terms of communication of environmental commitment, some 42% declared to be indifferent. However, better results were registered in terms of talking with friends and family about the environmental responsibility of their favourite team.

Lastly, we asked supporters to indicate, according to their opinion, what are the most important drivers and reasons behind the adoption and implementation of sustainable practices by their favourite football team.

Figure 12: Fans' opinion on the drivers of environmental sustainability among football clubs

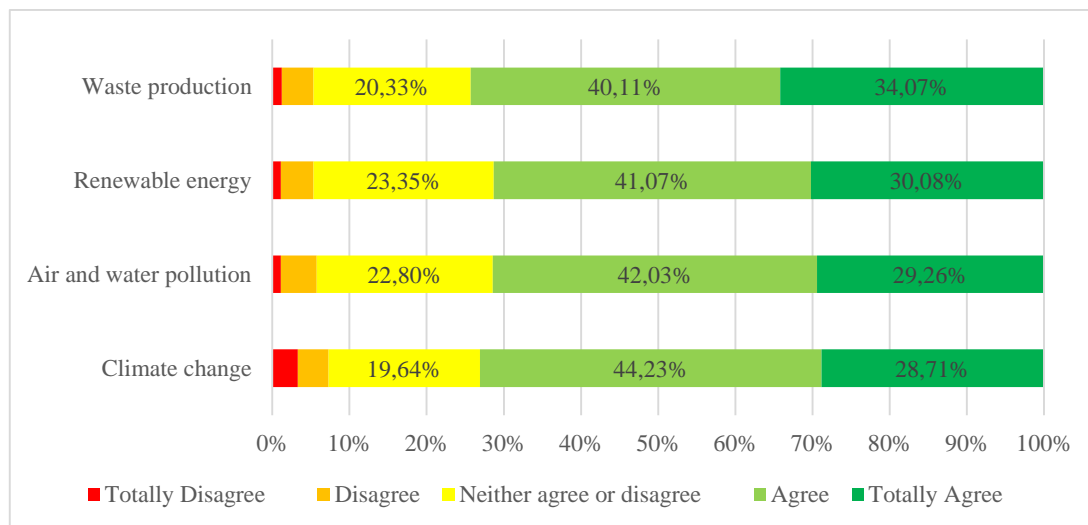


Unfortunately, this time most respondents indicated “neither agree nor disagree” as the main answers for all the statements (around 40%). Supporters have not clear in mind what drivers football organizations, even if around 40% of them “agree” or “totally agree” on appearing as an ethical club. However, this answer might indicate that supporters perceive the adoption of green practices as a greenwashing strategy. Further study may investigate this line of research.

6. The role and pro-environmental attitude and knowledge of fans during football events

We investigated the knowledge of fans on aspects related to the sustainability of our planet. In particular, they were asked to indicate their level of agreement with some statements concerning aspects relating to environmental protection considering their level of knowledge.

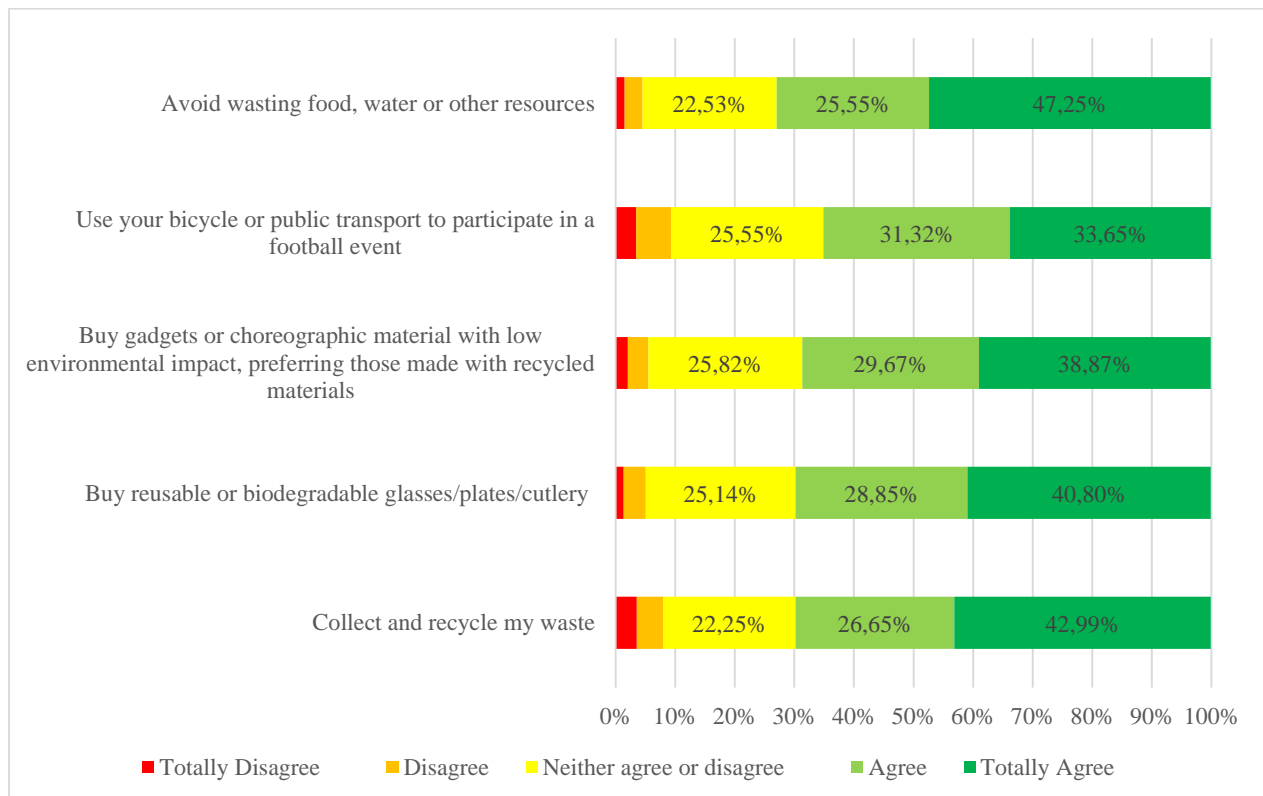
Figure 13: Fans' knowledge of environmental topics



Overall, fans declared to have a good knowledge of all the environmental topics investigated. However, this kind of questions should be taken with a pinch of salt. In fact, they might be conditioned by the social desirability bias. Social desirability is the tendency of some respondents to report an answer in a way they deem to be more socially acceptable than would be their "true" answer. They do this to project a favourable image of themselves and to avoid receiving negative evaluations.

Even if behavioural intentions do not correspond to actual behaviours, it is important to assess the supporters' level of willingness to adopt environmentally friendly behaviours, especially during football matches. Different environmental actions may correspond to different supporters' intentions. Many factors can influence the willingness to adopt a specific action, such as the level of knowledge concerning the environmental benefits caused by the action, or the cost to implement it. The following figure illustrates the supporters' answers concerning their willingness to adopt five different environmental behaviours.

Figure 14: Fans' willingness to adopt environmental behaviours during a football match





Almost 70% of supporters agree or strongly agree with the willingness to “*avoid waste of food, water or other resources*” and “*collect and recycle my waste*”. The first action is both economically convenient and environmentally friendly: a win-win behaviour that is easily adoptable. The second action does not require any effort in terms of money or time but a minimum effort in looking at the right bin where to put the right trash. The two actions are both well-known and frequently performed at home. This facilitates supporters’ willingness to adopt them also during football matches.

Regarding the environmental behaviours of “*buy reusable or biodegradable glasses/plates/cutlery*” and “*buy gadgets or choreographic material with low environmental impact, preferring those made with recycled materials*”, respondents result to have high but lower intentions to adopt them compared to the previous actions (less than 70% of respondents totally agree or agree with these two behaviours). For instance, these green purchasing intentions may lead to extra-costs for supporters. The price factor may be an explanation of respondents’ lower level of agreement. Moreover, the action of purchasing gadgets or choreographic material with low environmental impact, may also appear to be difficult to be interpreted and implemented.

Finally, a lower score compared to the others is attributed to the willingness to “*use your bicycle or public transports to participate in a football event*”. It is interesting to note that 10% of respondents strongly disagree or disagree with this environmental behaviour and 25% are indifferent. Such behavioural unwillingness of respondents may be explained by the negative influence of external factors concerning the use of public transport, which are not related to environmental issues, such as the scarce quality of the public transport service, the poor connections and comfort. Probably, the environmental benefits coming from the use of bikes or public transport do not balance the perceived inconvenience in terms of quality and comfort of the public transportation service.





7. Conclusions

The main aim of this survey was to assess the effectiveness of the awareness raising actions carried out in the framework of LIFE TACKLE. For this reason, we replicated the survey carried out at the beginning of the project in the same stadiums, aimed at measuring the baseline of the level of environmental awareness of football supporters.

Results from our sample reveals that football supporters show a positive environmental attitude and recognize environmental protection as an important issue. They also think that they have a good level of knowledge and understanding of the main environmental issues (e.g. climate change, waste, etc.) and that they are capable to effectively recognize greener products and to properly carry out separate waste collection. In this regard, they believe that the football world should also be responsible for and take action to protect the environment and limit its own adverse impacts.

Even though supporters keep having a biased perception of the most relevant impacts on the environment deriving from football matches, our survey registered a decrease of this bias. For instance, although the most relevant issue is still identified in waste production and the use of plastic, supporters' awareness on the impact of their mobility has increased.

Nevertheless, supporters keep enlisting waste prevention and separate waste collection as the most relevant impacts, whereas the use of public transport or bikes is the least chosen option when asked about which actions they would be willing to take during matches to reduce their own environmental impacts.

Overall, the survey demonstrates that the awareness raising actions carried out in stadiums as part of the project have generated positive effects on supporters. However, these effects are limited. This finding leads us to conclude that football organizations should continue focusing on environmental impacts especially by engaging, involving and, above all, empowering supporters. By combining different efforts (effective implementation of environmental practices and supporters' engagement), football organisations would encourage a behavioural change among spectators and fans, alleviating the environmental impact of football games derived from mobility choices.

