

## The safety and comfort of football stadiums in Indonesia: an analysis based on spectator perspectives

La seguridad y la comodidad de los estadios de fútbol en Indonesia: un análisis basado en la perspectiva de los espectadores

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**Abstract.** This research aims to analyze the aspects of safety and comfort in Indonesian football stadiums. This analytical survey research was conducted in three stadiums in Indonesia that have FIFA standards and are always used in national or international matches to analyze and describe the factors of security and comfort variables. There were five stages in this study: the first stage was observation, the second stage was collecting evidence of scientific articles, the third stage was instrument validation with focus group discussion (FGD), the fourth stage was data collection, and the fifth stage was research reporting with scientific articles. Then, there were six dimensions of the survey category, namely Stadium Construction, Physical Security, Social Security, Communication and Coordination, Recommendations and Feedback, and Clarity to the Spectators. The initial identification results were 3,090 spectators, 2,408 men and 682 women. They were aged 14 – 47 years, averaging  $23.66 \pm 7.2$  years. The number of visits to the stadium in one year was two to six times. The spectators' experience in visiting different stadiums was two to seven stadiums. The following result, the Kruskal-Wallis test, showed the Asymp. The sig value was  $0.319 > 0.05$ , meaning there was no difference in answers based on the spectators visiting the three stadiums. The publication of this study can provide valid and clear information insights to stadium managers to pay more attention and strive to provide the best service to football spectators. Because indirectly, supporters who watch the match will provide greater moral support to the football team.

**Keywords:** Stadium, Football, Supporters, Stadium Facilities

**Resumen.** Esta investigación tiene como objetivo analizar los aspectos de seguridad y comodidad en los estadios de fútbol de Indonesia. Esta investigación de encuesta analítica se llevó a cabo en tres estadios en Indonesia que tienen estándares de la FIFA y siempre se utilizan en partidos nacionales o internacionales para analizar y describir los factores de las variables de seguridad y comodidad. Hubo cinco etapas en este estudio: la primera etapa fue la observación, la segunda etapa fue la recopilación de evidencia de artículos científicos, la tercera etapa fue la validación del instrumento con discusión en grupo focal (FGD), la cuarta etapa fue la recopilación de datos y la quinta etapa fue el informe de investigación con artículos científicos. Luego, hubo seis dimensiones de la categoría de la encuesta, a saber, Construcción del estadio, Seguridad física, Seguridad social, Comunicación y coordinación, Recomendaciones y retroalimentación, y Claridad para los espectadores. Los resultados de identificación inicial fueron 3.090 espectadores, 2.408 hombres y 682 mujeres. Tenían entre 14 y 47 años, con un promedio de  $23,66 \pm 7,2$  años. El número de visitas al estadio en un año fue de dos a seis veces. La experiencia de los espectadores en la visita a diferentes estadios fue de dos a siete estadios. El siguiente resultado, la prueba de Kruskal-Wallis, mostró el Asymp. El valor sig fue  $0,319 > 0,05$ , lo que significa que no hubo diferencias en las respuestas en función de los espectadores que visitaron los tres estadios. La publicación de este estudio puede proporcionar información válida y clara a los administradores de los estadios para que presten más atención y se esfuercen por brindar el mejor servicio a los espectadores de fútbol. Porque indirectamente, los seguidores que miran el partido brindarán un mayor apoyo moral al equipo de fútbol.

**Palabras clave:** Estadio, Fútbol, Aficionados, Instalaciones del Estadio

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### Introduction

Football stadiums in Indonesia are essential places for football fans to enjoy the game and celebrate the spirit of sports. Football stadium is significant for supporters because it become a place where they can feel the atmosphere of the match directly, express support directly for their favourite team, and share emotions with thousands of other supporters (Edensor et al., 2023). In Indonesia, football can create an immersive social and cultural experience. Therefore, maintaining safety and comfort in the stadium is very important to ensure that everyone can enjoy the experience, support their favourite team, and familiarize themselves with other supporters so that they can watch the match safely and comfortably (Yusuf et al., 2020; Ali et al., 2023). In recent years, the growth in popularity of football in Indonesia has increased significantly, causing an increase in the number of spectators attending the stadium to support their favourite team (Tamami, 2021; Istini, 2023; Brataatmaja, 2023; Wijaya et al., 2023). However, with

this increased interest, safety and comfort issues in the stadium are also a significant concern. Violence, riots and other inconveniences within the stadium have become a severe concern to the relevant authorities and football fans (Sokoy et al., 2023; Amin et al., 2024). In addition, other problems in football stadiums also harm the reputation of the sport, disruption to the mental well-being of fans, financial losses for clubs and governments, as well as the importance of maintaining safe and comfortable public assets for society as a whole (Putra & Setiasih, 2023; Biglari et al., 2024). It seriously challenges stadium managers, security forces, and governments to maintain order and ensure an enjoyable experience for all spectators (Daddi et al., 2022).

The Heysel and Hillsborough stadium tragedies were two major incidents in football history caused by stadium security and management issues. The Heysel tragedy occurred on May 29, 1985 in Brussels during the Champions League final between Liverpool and Juventus, which killed 39 people due to clashes between supporters (Veuthey & Freeburn, 2012). Other reports also explained that the

deaths of supporters were also caused by poor stadium infrastructure and lack of security, which caused the stadium walls to collapse and supporters to be trampled (Steen, 2016). Meanwhile, the Hillsborough tragedy occurred on April 15, 1989 in Sheffield during the FA Cup semi-final between Liverpool and Nottingham Forest, where 97 people died due to overcrowding in the stands due to overcapacity (Scruton, 2023). Then other search results showed that poor management by the police, and the unsafe stadium design, caused many supporters to be trapped and crushed (Dickie, 2018). These two tragedies prompted significant changes in stadium safety standards, including increased security and better management of crowd capacity in football stadiums.

One of the issues regarding stadium safety and comfort, especially in Indonesia, occurred in Kanjuruhan Stadium, Malang Regency, in 2022. Apart from the information in media and issues that were not yet validly known, the tragedy at Kanjuruhan Stadium was the primary reference in this study, especially in public places, in managing stadium and supporters at football matches. This incident provided valuable insight into various factors that can trigger accidents, resulting in a crowd's loss of life (Daddi et al., 2022; Junaedi et al., 2023). Factors affecting safety at the stadium include overcrowding, lack of oversight and effective regulation, and inadequate stadium design regarding evacuation routes and emergency infrastructure (Wiyono et al., 2023). Previous studies have examined tragedies in Kanjuruhan stadium from the point of view of government policy, media coverage, and the use of tear gas (Utama et al., 2022; Nasvian et al., 2023). However, scientific research findings regarding stadium design have yet to be analyzed from this point of view. Thus, the problems in the Kanjuruhan stadium encourage analyzing the level of safety and comfort in Indonesian stadiums.

Therefore, the purpose of this study is to dig deeper into the aspects of safety and comfort in Indonesian football stadiums. The results of this study analyze which focuses on the audience's perspective on their needs and expectations through the aspects of safety and comfort towards the experience of watching matches in the stadium. Thus, with a better understanding of the factors that affect the safety and comfort of spectators, more effective measures can be taken to improve conditions inside the stadium and minimize the risk of unwanted incidents (Brechtbühl et al., 2020; Waluyo & Kharisma, 2023). This research is expected to significantly contribute to improving the experience of watching football matches in Indonesian stadiums, as well as helping create a safer and more comfortable environment for all parties involved.

## Methods

### Procedure

This research is an analytical survey that uses survey data to analyze and understand factors on certain variables. Another analytical survey method can be used for a specific

purpose, namely evaluating the effectiveness of programs, policies, or interventions that have been carried out. The advantage of the method used in this study is that it can obtain a comprehensive understanding of the characteristics and behaviour of the population. Furthermore, it helps football organizations, governments or institutions to identify problems, which can then be used to measure spectator satisfaction. In the end, it can provide valuable insights for designing an effective stadium design or innovating on a stadium that has been built with various renovations and improvements. The time required to complete this research is 9 months, starting from July 2023 – March 2024. Then, below is the sequence of research stages.

The first stage in the preparation of this study was direct observation of FIFA-standard and national-standard stadiums. The purpose of the first stage was to collect evidence and identify problems with the construction and atmosphere during the match. The observation procedure refers to previous research (Akinsola et al., 2012; Gitter & Rhoads, 2014; van Heck et al., 2021) which is done in three situations, the first is during the match and no match, the second is in the afternoon and evening, the third is in sunny and rainy weather, because it is in accordance with the situation of football matches in Indonesia. Then, the observation procedure also includes unstructured interviews with visitors about the advantages and disadvantages of the stadium. The time needed in the first stage is two months from July 2023 - August 2023. The observation stage to the stadium has obtained a special observation permit with the number B/192/UN/34.16/DL.16/2023.

The second stage was to collect evidence through articles that have been published scientifically. In addition, the second stage was also carried out to form instruments that will be used for data collection. The third stage was to conduct a Focus Group Discussion (FGD) to validate the instrument as a questionnaire for data collection. The second and third stages will be explained in the Measurements section, this stage will take one month.

The fourth stage was data collection, which was carried out during football matches. Then, the questionnaire was distributed to the spectators after the match. The questionnaire filling time was 15 minutes for each spectator respondent. The researcher also showed a special research permit for the time of data collection with respondents with the number B/1480/UN34.16/PT.01.04/2023. In data collection, the time required is five months from October 2023 - February 2024.

The fifth stage was research reporting in the form of scientific articles. This scientific article analyzed stadium safety and comfort factors based on spectator perspectives. The time required to complete the final stage is one month.

### Participants

The sample of this study was randomly and voluntarily

selected football spectators. Thus, no samples had particular criteria for answering this research questionnaire. After the football match, questionnaires were offered and distributed to spectators at the stadium exit. The results of the initial data on the questionnaire were collected from as many as 3,090 spectators, consisting of 2,408 men and 682 women. The initial identification results reported a maximum age of 47 years, a minimum age of 14 years, and an average age of  $23.66 \pm 7.2$  years. The number of visits to the stadium during football matches in a year was found six times, and at least twice. The calculation of the number of visits was also included before Covid-19. Then, spectators' experience visiting different stadiums was found at most seven stadiums, and at least two stadiums.

### Measurements

Instruments were prepared in the second and third stages; the second stage was collecting materials based on results from previous studies, and the third stage was in-

strument validation. The collection of previous research results through the Google Scholar database with the keywords 'stadium' OR 'design' OR 'safety' OR 'comfort' OR 'environment'. The results of previous studies also analyzed articles in Indonesian and English. In the third stage, it was carried out with a *Focus Group Discussion* (FGD) involving experts such as architecture, building construction engineering experts, 20 people who have bachelor's degrees in their fields and have experience in building and renovating stadiums. In this role, they will be tasked with evaluating the construction of the stadium building safety. Then the party from the Indonesian football organization and lecturers who are experts in sports and health, 20 people. In this role, they will be tasked with evaluating the management protocol to the situation and circumstances during the match. The total involved in instrument validation was 40 experts. The questionnaire consisted of six dimensions with 30 statement items, filling out this questionnaire using a scale of 1-4. The following are the validation results for the questionnaire that will be used for data collection (Table 1).

Table 1.

Questionnaire

Dimension	Indicator	Sub-Indicator
Stadium Construction	Building Materials	Stadium construction using concrete, steel, or other materials that support the strength and stability of the building
		Emergency ladder and door safety equipment, fire extinguishing systems, and evacuation signs Structural robustness and resilience of buildings to loads and stresses
	Spectator Capacity	The quality of spectator seats is robust, sturdy and able to withstand the weight of the spectators. There are many variations of spectator stands, such as regular stands, VIP stands, and VVIP stands. Considerable number of seats available
Physical Security	Availability of Security Equipment	Availability of security personnel in spectator areas Availability of CCTV around the Stadium Availability of clear and easily accessible emergency exits
	Stadium Physical Condition	Good condition of guardrail The clean and tidy condition of the grandstand Availability of emergency medical facilities
Social Security	Spectator Surveillance	The presence of security officers who monitor spectator behaviour Rapid handling of riots or conflicts among spectators
	Spectator Personal Experience	Feeling safe inside the stadium Attend matches without significant security incidents.
Communication and Coordination	Security Officer Communications	Ease of access to security information before and during the game Availability of callable security personnel in emergencies
	Coordination between Security Officers	The suitability of security personnel's actions in dealing with emergencies Effectiveness of communication between security personnel in various areas of the stadium
Recommendations and Feedback	Comfort and Satisfaction	Availability of other adequate public facilities (toilets, changing rooms, disability stairs) There is a stand selling food and soft drinks in the stadium courtyard. Security guard (friendly, polite, responsive)
	Recommendations and Feedback	I recommend this stadium to friends or family because I feel safe there. Excellent and prompt response when providing feedback on security issues to stadium authorities
Clarity in the Spectators	Match Conditions	Field quality and smooth view from the seat Brightness of the lighting inside the stadium Ability to see the match clearly at night
		The quality of the audio system and its ability to convey the announcement sound
		Image quality and clarity of information on screens and scoreboards

### Stadium Profile

This research was conducted at three stadiums in Indonesia; the first place is Gelora Bung Karno Stadium in Jakarta City. The stadium was built in 1960, and then, in 2016-2017, the stadium underwent renovation. The building area of this stadium is 65,888. The capacity of this stadium is 78,000 spectators. The second place is Maguwoharjo Stadium in Sleman Regency. This stadium was built in 2005 and underwent renovation in 2007 due to the 2006

earthquake. The building area of this stadium is 11,000 m<sup>2</sup>. The capacity of this Stadium is 40,000 spectators. The third place is Mahanan Stadium in Solo City. This stadium was built in 1989 and then underwent renovation in 2019. The area of this stadium building is 33,300 m<sup>2</sup>. The capacity of this Stadium is 40,000 spectators. Researchers chose these three stadiums because the stadiums had FIFA standards. Then, in international matches, the three stadiums are suitable for use, such as the 2018 Asian Games, FIFA U-17,

AFF U-16, and AFC U-23 events.

### Statistical Analysis

The data in this study was analyzed by using descriptive and different assessment results tests at the stadium using Kruskal-Wallis ( $p < 0.05$ ). However, reporting the results of this study also shows the results of validity tests on the instrument using the Aiken V formula in Figure 1.

$$V \text{ Aiken's: } \frac{\sum S}{n(c-1)}$$

S : r - lo

Lo : lowest rating score

C : highest rating score

r : the score given by the assessor

Figure 1. Aiken formula

## Results

### Questionnaire Validity Test

Forty experts carried out the validity test on the questionnaire. The following are the results of the questionnaire validity test using the Aiken formula (Table 2).

Table 2.  
Questionnaire Validity Test Results

Dimensions	Indicators	Items	Aiken	Description
Stadium Construction	Building Materials	Item 1	858	Feasible
		Item 2	0.891	Feasible
		Item 3	941	Feasible
	Spectator Capacity	Item 4	0.975	Feasible
		Item 5	866	Feasible
		Item 6	0.900	Feasible
Physical Safety	Availability of Security Equipment	Item 7	0.875	Feasible
		Item 8	0.975	Feasible
		Item 9	0.891	Feasible
	Stadium Physical Condition	Item 10	0.925	Feasible
		Item 11	0.900	Feasible
		Item 12	0.900	Feasible
Social Safety	Spectator Surveillance	Item 13	0.833	Feasible
		Item 14	0.908	Feasible
	Spectator Personal Experience	Item 15	858	Feasible
		Item 16	0.900	Feasible
Communication and Coordination	Security Officer Communications	Item 17	0.883	Feasible
		Item 18	0.883	Feasible
	Coordination between Security Officers	Item 19	0.908	Feasible
		Item 20	958	Feasible
Recommendations and Feedback	Comfort and Satisfaction	Item 21	958	Feasible
		Item 22	858	Feasible
		Item 23	866	Feasible
	Recommendations and Feedback	Item 24	0.875	Feasible
		Item 25	0.891	Feasible
		Item 26	0.891	Feasible
Clarity in the Spectators	Match Conditions	Item 27	0.816	Feasible
		Item 28	0.891	Feasible
		Item 29	850	Feasible
		Item 30	850	Feasible

Based on the results of Table 2, the validity value of Aiken V in each item is high, so this questionnaire is declared feasible for research use when collecting data (Lewis. R. Aiken, 1985).

### Descriptive

The following are the results of spectator characteristics that have been collected to be identified at an early stage.

This spectator identification consists of four characteristics, including gender, age, spectator visit to the stadium for one year, and spectator visit experience to different stadiums.

Table 3.  
Characteristics of spectators in the stadium

		Spectators at Stadium 1	Spectators at Stadium 2	Spectators at Stadium 3
Gender	Male	737	801	769
	Female	293	220	261
Age	Highest	46.8±2.1	47.1±0.2	46.3±7.2
	Lowest	14.1±2.2	14.8±4.7	15.2±0.3
	Average	23.6±7.8	24.3±1.7	23.1±9.4
Stadium visit in 1 year	Highest	5	5	6
	Lowest	2	3	3
Experience a visit to a different Stadium	Highest	8	7	7
	Lowest	3	3	2

Based on Table 3, the total number of visitors at Stadium 1 was 1,030, consisting of 737 men and 293 women; the average age of spectators was 23.6 years, with the highest age of 46.8 years and the lowest age of 14.1 years; spectator visits to stadiums in 1 year were at most five times and at least two times; spectator experiences in visits to different stadiums were at most eight stadiums and at least three stadiums. The total number of visitors in Stadium 2 was 1,030, consisting of 801 men and 220 women. The average age of spectators was 24.3 years, with the highest age of 47.1 years and the lowest age of 14.8 years; spectator visits to stadiums in 1 year were at most five times and at least three times; spectator experiences in visits to different stadiums were at most seven stadiums and at least three stadiums. Total visitors in Stadium 3 were 1,030, consisting of 769 men and 261 women; the average age of spectators was 23.1 years, with the highest age of 46.3 years and the lowest age of 15.2 years, spectator visits to stadiums in 1 year at most six times and at least three times; spectator experiences in visits to different stadiums were at most seven stadiums and at least three stadiums.

Then, the report of the overall questionnaire results was based on the scores in Stadium 1, spectators in Stadium 2, and spectators in Stadium 3, namely the highest score collected was 120, and the lowest score was 78 with a scale of 4 points. In order for the report of the results of this study to be easily understood by readers, the researcher divided the value of this questionnaire answer based on the dimensions listed in the questionnaire and the spectators in the stadium.

Based on Table 4, the dimensions of Stadium Construction, the average value of spectators in Stadium 1 was ±97.8 (max.118 value and min.81 value), in Stadium 2 was ±90.4 (max.119 value and min.85 value), and in stadium 3 was ±92.7 (max.118 value and min.80 value). For the Physical Safety dimension, the average value of spectators in Stadium 1 was ±90.7 (max.117 value and min.82 value), in Stadium 2 was ±92.3 (max.119 value and min.80 value), and in Stadium 3 was ±89.2 (max.119 value and min.81 value).

The average value of spectators for the Social Security dimension in Stadium 1 was ±100.3 (max.118 value and

min.81 value), in Stadium 2 was  $\pm 98.2$  (max.118 value and min.78 value), and in Stadium 3 was  $\pm 94.8$  (max.119 value and min.84 value). For Communication and Coordination Dimension, the average value of spectators in Stadium 1 was  $\pm 97.6$  (max.119 value and min.82 value), in Stadium 2 was  $\pm 99.2$  (max.119 value and min.82 value), and in Stadium 3 was  $\pm 95.1$  (max.117 value and min.80 value).

For the dimension of Recommendation and Feedback, the average value of spectators in Stadium 1 was  $\pm 89.3$  (max.115 value and min.78 value), in Stadium 2 was  $\pm 90.7$  (max.116 value and min.80 value), and in Stadium 3 was  $\pm 89.8$  (max.116 value and min.80 value). For the Clarity in the Spectators dimension, the average value of spectators in Stadium 1 was  $\pm 106.3$  (max.120 value and min.89 value), spectators in Stadium 2 was  $\pm 104.8$  (max.120 value and min.90 value), and in Stadium 3 was  $\pm 104.4$  (max.120 value and min.89 value).

Table 4.  
Result of Questionnaire Answers for Each Dimension

		Spectators at Stadium 1	Spectators at Stadium 2	Spectators at Stadium 3
Stadium Construction	Highest	118	119	118
	Lowest	81	85	80
	Average	$\pm 97.8$	$\pm 90.4$	$\pm 92.7$
Physical Safety	Highest	117	119	119
	Lowest	82	80	81
	Average	$\pm 90.7$	$\pm 92.3$	$\pm 89.2$
Social Safety	Highest	118	118	119
	Lowest	81	78	84
	Average	$\pm 100.3$	$\pm 98.2$	$\pm 94.8$
Communication and Coordination	Highest	119	119	117
	Lowest	82	82	80
	Average	$\pm 97.6$	$\pm 99.2$	$\pm 95.1$
Recommendations and Feedback	Highest	115	116	116
	Lowest	78	80	80
	Average	$\pm 89.3$	$\pm 90.7$	$\pm 89.8$
Clarity in the Spectators	Highest	120	120	120
	Lowest	89	90	89
	Average	$\pm 106.3$	$\pm 104.8$	$\pm 104.4$

### Kruskal-Wallis Test

The following are the results of the Kruskal-Wallis test using SPSS 26. The basis for decision-making is if the Asymp.Sig value is  $>0.05$ , then there is no difference, and if the Asymp.Sig value is  $<0.05$ , then there is a difference.

Table 5.  
Kruskal-Wallis Test Results

Test Statistics		Questionnaire Results
Kruskal-Wallis H		169
df		2
Asymp. Sig.		319

Based on the results of Table 5, the Asymp.Sig value was  $0.319 > 0.05$ , meaning there was no difference in spectators' questionnaire answers on Safety and Comfort between Stadium 1, Stadium 2, and Stadium 3.

### Discussion

Based on the results of this study, there was no difference in questionnaire results between spectators in Stadium

1, spectators in Stadium 2 and spectators in Stadium 3. Then, football spectators in stadiums in Indonesia have a fairly wide age range, from 14 to 46 years old, with an average age of 23. It shows that football attracts various age groups, especially the younger generation. This young average age reflects the great potential for the future development of the football spectator market, emphasizing marketing strategies and stadium facilities that can attract and meet the needs of young spectators. Previous research also explained that the football team supporters at the stadium were mainly in their teens and early adulthood (Brataatmaja, 2023). In addition, this age allows supporters to be very loyal to the supported team, so the more supporters present at the Stadium, the higher ticket sales will increase (Daddi et al., 2022). It will increase stadium managers' income to get funds to develop a broader and better stadium.

This study found that spectators visited the stadium two to six times a year. This varied frequency of visits indicates a fairly loyal group of regular spectators but also indicates room to increase the frequency of visits by improving the safety and comfort aspects of the stadium. Stadium organizers and managers need to think of ways to increase the frequency of these visits, for example, by offering promotions or loyalty programs that appeal to spectators. Another easy step is to sell free tickets during pre-season trial matches, but spectators must buy one of the team's jerseys, football boots, or scarves (Arisinta, 2022).

Data shows that spectators have the experience of visiting between two to eight different stadiums. This variation shows that spectators are loyal to one stadium or club and interested in exploring other stadiums. This indicates that football spectators in Indonesia are highly interested in diverse viewing experiences and may be looking for stadiums that offer better comfort and safety. Therefore, improving the standard of facilities and the quality of service of the management in various stadiums can attract more spectators to visit more stadiums regularly (Prayoga et al., 2024; Prabowo et al., 2024). Some ways to improve the standard of facilities include renovating field grass and spectator seating stands, improving bathroom facilities, and expanding vehicle parking (Wisdianti, 2022). Then, public road access to the stadium must also be considered so that spectators from outside the area or who visit for the first time can easily find the stadium's location (Siregar, 2022).

The questionnaire results showed that football spectators in stadiums in Indonesia were generally satisfied with the stadium's physical and architectural construction aspects, with an average score of 93 for this dimension. However, the wide variation in values indicated that there were perceptual differences that physical conditions between stadiums or individual preferences may cause. According to previous scientific reports, the difference was caused by each stadium manager's service quality service quality (Foroughi et al., 2019). The physical security dimension gets an average value of 90, indicating reasonable satisfaction. However, there is still room for improvement, especially regarding security facilities such as inspections and the

presence of security personnel. (Wiyono et al., 2023) Then, when the match starts, the security officer supervises the supporters so there is no chaos in the StadiumStadium.

The social safety dimension had the second highest average score of 97, indicating that the spectators felt relatively safe from distractions or conflicts among the spectators. However, a value of at least 78 indicated that some viewers still feel socially insecure. This lack of social safety can be attributed to the way the spectator speaks, whether it is mocking or racist, littering around the stands, or some supporters who smoke (Tamami, 2021). The communication and coordination dimension also has a high average value of 97, indicating that the information and coordination during the event are good in the eyes of the spectator. Nevertheless, a wide range of values indicates the existence of several situations in which communication and coordination can be further improved. Communication and coordination can be improved by providing an information board at each ticket purchase counter or stadium entrance or a particular officer who serves questions about stadium access (Martins et al., 2023)

The recommendation and feedback dimensions had the second lowest average value of 89, indicating that although feedback and recommendations from the spectators were accommodated, there was still room for improvement. Viewers may feel that their feedback could be better acted upon or that more mechanisms must be provided to provide effective feedback. It is due to the lack of means to convey feedback, while most spectators convey feedback verbally or through protest (Callies, 2023). Therefore, there is a need for solutions such as providing unique mailboxes to convey suggestions and opinions of spectators or providing online platforms in each Stadium (Jensen et al., 2021). Meanwhile, the dimension of clarity in the spectators had the highest average value of 105, indicating that the spectators felt very clear about the information provided during the event, such as directions, event schedule, and other information.

Based on the results of this study, there are several implications and recommendations that stadium managers and match organizers can consider to improve the viewing experience and safety of football spectators in Indonesia. First, improving facilities for young spectators, such as entertainment areas, good internet connectivity, and facilities that support social interaction, are essential. Second, safety aspects must be taken seriously. Spectators must feel safe at the stadium, with adequate security, clear evacuation procedures, and ready health facilities. Third, comfort in the stadium is also an essential factor. Providing comfortable seats, clean toilets, easy access to food and drink, and clear guidance inside the stadium can enhance the spectator experience. Fourth, to increase the number of annual visits, stadiums can implement loyalty programs or special offers for frequent attendees, such as ticket discounts, free merchandise, or exclusive access to certain events. In addition, given the spectators' interest in visiting several stadiums,

the standardization of facilities and services in various stadiums can ensure that spectators get a consistent and high-quality experience wherever they watch the match.

By implementing all these recommendations, it is hoped that it can improve the viewing experience in the stadium, attract more spectators to attend football matches regularly, and ensure the satisfaction and safety of football spectators in Indonesia.

## Conclusion

Football spectators in Indonesia have a wide age range, with an average age of 23. It shows that football attracts various age groups, especially the younger generation, which signifies a great potential for the future development of the football spectator market. Spectators also shows a loyal group of supporters and an interest in exploring various stadiums. Regarding spectator satisfaction, the Stadium Construction dimension shows quite good satisfaction with the physical aspects of the stadium. The Physical Safety Dimension indicates that although it is reasonably safe, there is still room for improvement in physical security aspects. The Social Security dimension shows spectators feel relatively socially safe inside the stadium. The Communication and Coordination dimension also shows that the spectators feel that the information provided and the coordination during the event is good enough. The Recommendations and Feedback dimension shows that despite the feedback mechanism, the spectators feel that there is still needed a room for improvement in accommodating their input. Meanwhile, the Clarity in the Spectators dimension shows that the spectators feel clear about the information provided during the event. It is expected that the publication of this study can provide valid and clear insights into information for stadium managers to pay more attention and strive to provide the best service to football spectators because indirectly the more spectators there are, the greater moral support for the football team.

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## Conflict of Interest

The researchers have no conflicts both with the researchers and the results of other studies.

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