THE NATIONAL CENTER FOR SPECTATOR SPORTS SAFETY AND SECURITY (NCS4) AT THE UNIVERSITY OF SOUTHERN MISSISSIPPI (USM)



Industry Report





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## **ABOUT NCS<sup>4</sup>**

Established in 2006, the NCS<sup>4</sup> is the United States' only academic center devoted to the study and practice of spectator sports safety and security. The NCS<sup>4</sup> is located in the Trent Lott National Center at The University of Southern Mississippi (USM), a top-tier (R1) Carnegie Classified institution for its very high research activity.



We will support the sports and entertainment industries through innovative research, training, and outreach programs. Our mission is realized by working closely with diverse organizations and subject matter experts to better understand the threat environment, identify vulnerabilities, communicate risk-mitigation techniques, and close capability gaps.

# Our Vision

We will be a leading partner with government, private sector, and sports and entertainment organizations to create and deliver critical resources for enhancing safety and security.



## **EXECUTIVE SUMMARY**

The sporting world will forever remember the years 2020 and 2021 as the industry continues to face the challenges of a global pandemic—a crisis unlike anything experienced before in the history of the venue and event management business. Sport and entertainment industries came to a standstill at one point, eventually returning with limited capacities and the added assurances of recommended public health safety and security precautions. Nonetheless, the economic impact was devastating, especially for smaller venues and events.

This study aims to gauge spectators' perceptions of safety and security at events they have attended, their awareness of measures to help reduce and prevent problems, and their support for policies in place as the public returns to live events at this stage of the COVID-19 pandemic. The COVID-19 threat has evolved over the past 18 months, forcing the industry to consider certain precautions in planning efforts as temporary measures and for the long term.

The IRB-approved spectator survey consisted of 63 questions divided into three parts: Part 1 - general demographics and attendance habits, Part II – perceptions of general safety and security practices, and Part III – perceptions of COVID-19 related safety and security practices. An online data collection and analysis organization was utilized to distribute the survey on July 14 and 19, 2021. Individuals 18 years or older who had attended a live professional or intercollegiate sporting event within the last three years completed the survey.

## **Participant Demographics and Attendance Habits**

- 609 total participants representing 528 ZIP codes across the continental U.S.
- Ages ranged from 18 to 75+ years old, with most between 25-44 years of age (43.7%).
- Approximately 40% have attained a bachelor's degree or higher, and the primary income range is \$25K-\$99K (62.4%).
- Most popular sporting events attended include Major League Baseball (49.9%), National Football League (37.1%), and college football (31.9%).
- 21% were season ticket holders.
- 62.4% typically pay for tickets in the \$56-\$65 range or less.
- Majority of participants arrive at their event 30 minutes before start time.
- 89.3% indicated that 10-30 minutes is the most acceptable amount of time to wait in line before entry.

## **Perceptions of General Safety and Security Practices**

- 73.2% (agreed/strongly agreed) consider safety and security measures when deciding to attend an event and 77% (agreed/strongly agreed) prefer security measures to be visible at an event.
- Law enforcement presence, venue security personnel presence, screening detection technologies, bag searches, security cameras, security wands, ability to report an incident, and the use of K-9 units were highly supported measures.
- More women than men indicated disagreement or strong disagreement with a no-bag policy.
- Most participants were aware of their event's safety and security measures before attendance (63.9% agreed/strongly agreed) and 76.8% know how to seek emergency help at an event.
- Participants primarily receive safety and security-related information via the website, signage inside the venue, venue entry point, and venue announcements.
- Before an event occurs, the preferred methods for receiving safety and security information were website, email, and ticket.

## Perceptions of COVID-19 Related Safety and Security Practices

- 75.4% of participants plan to attend an event in 2021 and those who do not plan to attend an event selected COVID-19 as the primary reason (74.7%).
- Approximately 68% have received the maximum number of available COVID-19 vaccines and two-thirds of those not vaccinated do not plan to get vaccinated.
- About one-third (28.2%) of the participants have attended a sporting event without vaccination.
- Participants selected high percentages of agreement or strong agreement for temperature checks, digital health passes (proof of vaccination or negative test), and enhanced cleaning and sanitizing services.
- The most important policy for participants in their decision-making to attend future sporting events was a facility certificate of hygiene/disinfectant compliance (M=3.79), with 62.3% of participants agreeing or strongly agreeing.
- 18-24 year olds trended more towards the importance of contactless/cashless operations, designated areas for drinking/eating, and mask requirements when deciding to attend an event than other age groups.
- Most respondents would attend events with capacity restrictions. The indicated attendance for these respondents decreased slightly at 100% capacity.
- Approximately 70% of participants were willing to pay a minimal ticket fee to offset the cost of safety and security measures, ranging from \$0.50 - \$5.00.



## INTRODUCTION

Since sports are susceptible to various risks and threats, policies, procedures, and measures relative to safety and security are vital components to the planning, organization, and execution of a sporting event. Although spectators' willingness to attend live sporting events is based on several factors, their overall experience and sense of personal safety will significantly determine whether they return.

The purpose of this survey is to gauge spectators' perceptions of safety and security at events they have attended, their awareness of measures in place to help reduce and prevent problems, and their support for safety and security practices in place as the public returns to live events during the evolving COVID-19 threat. Understanding spectators' perceptions of safety and security practices, their sense of safety, and related technologies while attending events can help venue and event directors plan accordingly to ensure the optimal spectator experience.

The survey consisted of 63 questions divided into three parts: Part 1 - general demographics and attendance habits, Part II – perceptions of general safety and security practices, and Part III – perceptions of COVID-19 related safety and security practices. Survey development included input from both academics and practitioners. Feedback was solicited from NCS<sup>4</sup> staff, affiliated research fellows, and industry professionals.

A survey and data collection and analysis organization was utilized to distribute the survey on July 14 and 19, 2021. The sample population criteria were individuals 18 years of age or greater who had attended a live professional or intercollegiate sporting event within the last three years. Participants were ensured anonymity. A total of 609 participants from across the continental U.S. successfully completed the survey.

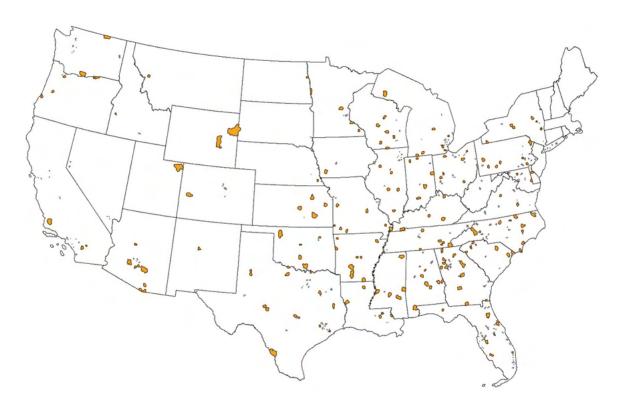
The project was approved by USM's Institutional Review Board (IRB), which reviews academic research involving human subjects to ensure that it follows federal and university requirements. The NCS<sup>4</sup> will administer the spectator survey annually to investigate the general perceptions of industry safety and security practices and the potential impact of related current events among sports spectators, such as COVID-19 in 2021.



# PARTICIPANT DEMOGRAPHICS AND ATTENDANCE HABITS

A total of 609 participants completed the survey, representing 528 ZIP codes across the continental U.S. (Figure 1). The majority of participants were female (58.5%). Participants ranged in age from 18 to 75+ years old, with most respondents between 25-44 years of age (43.7%). Most participants indicated white ethnicity/race (71.9%), followed by Black or African American (15.3%). Income levels ranged from less than \$25K to more than \$200K, with most participants (60.0%) falling within the income range of \$25K - \$99K. Participants also shared their highest level of education, with 39.9% having attained at least a bachelor's degree or higher. Table 1 presents the overall participant demographics.

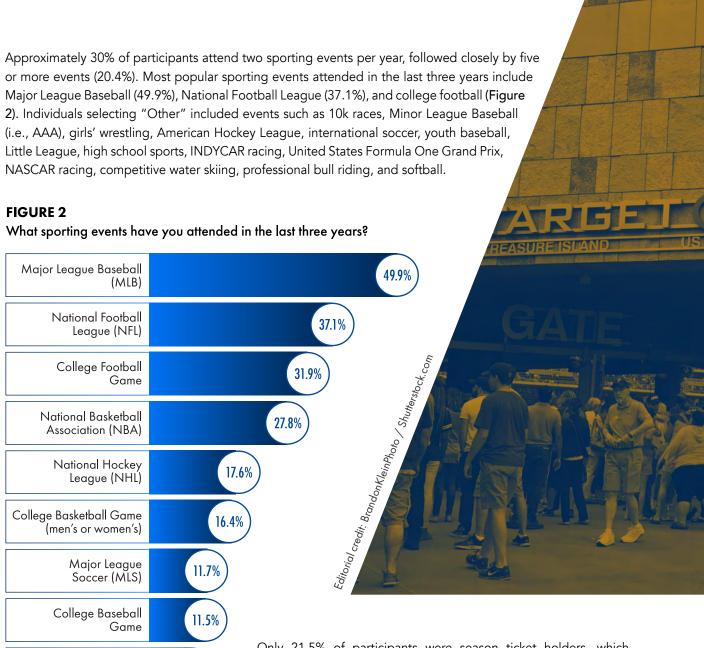
**FIGURE 1**Participant Zip Codes





**TABLE 1**Participant Demographics

	N	%		N	%
AGE			EDUCATION		
18-24	70	11.5	No schooling	7	1.1
25-34	131	21.5	Nursery to 8th grade	2	0.3
35-44	135	22.2	Some high school	19	3.1
45-54	84	13.8	High school graduate	116	19.0
55-64	76	12.5	Some college	132	21.7
65-74	78	12.8	Trade/vocational training	22	3.6
75+	35	5.7	Associates degree	68	11.2
			Bachelor's degree	156	25.6
GENDER			Master's degree	63	10.3
Male	247	40.6	Professional degree	9	1.5
Female	356	58.5	Doctorate degree	15	2.5
Non-binary	5	0.8			
Self-described	1	0.2	INCOME		
Jen described	·	0.2	Less than \$25K	122	20.0
ETHNICITY			\$25K - \$49K	193	31.7
			\$50K - \$99K	187	30.7
White	438	71.9	\$100K - \$199K	80	13.1
Hispanic or LatinX	50	8.2	\$200K+	9	1.5
Black or African American	93	15.3	Prefer not to say	18	3.0
Native American	4	0.7	. Total flot to say	10	3.0
Asian	18	3.0			
Pacific Islander	2	0.3			
Other	4	0.7			



8.9%

5.7%

3.8%

Other

(WNBA)

Women's National

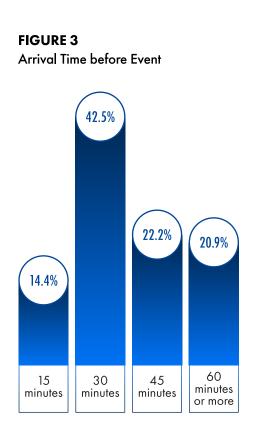
National Women's

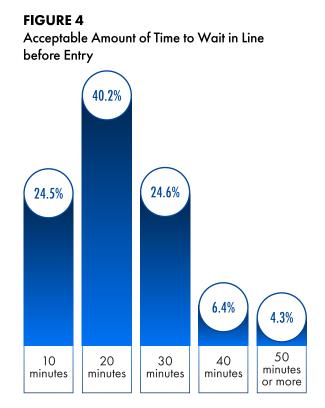
Basketball Association

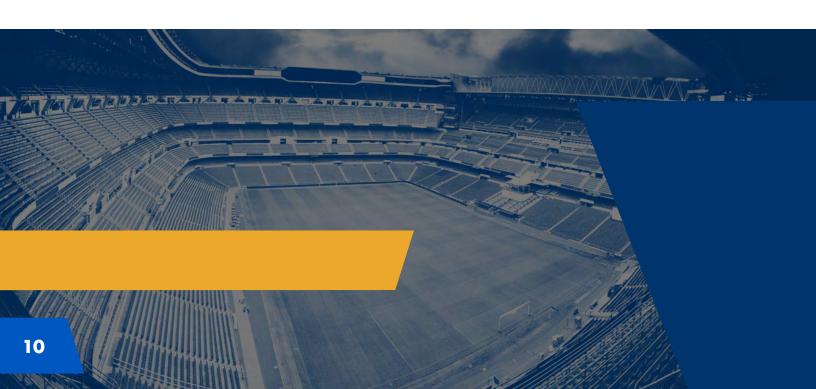
Soccer League (NWSL)

Only 21.5% of participants were season ticket holders, which included season tickets for MLB, NFL, Major League Soccer (MLS), National Basketball League (NBA), National Hockey League (NHL), National Women's Soccer League (NWSL), Women's National Basketball League (WNBA), college football, men's or women's college basketball, college baseball, and minor league baseball events. On average, most participants paid a ticket price of \$46-55, with 62.4% of them typically paying in the \$56-65 range or less.

Forty percent of participants travel 30+ miles to attend a sporting event. Participants usually attend sporting events in parties of two (38.9%), with most participants attending in groups of two to four (81.1%). The majority of participants (42.5%) arrive at their event 30 minutes before start time (Figure 3). This coincides with the indicated acceptable amount of time to wait in line before entry to a sporting event, with most respondents (89.3%) stating 10-30 minutes (Figure 4).







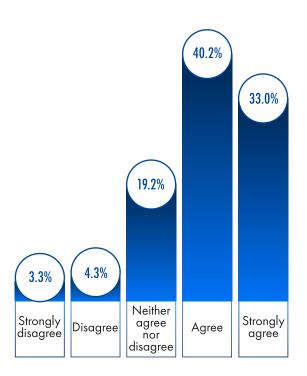
# PERCEPTIONS OF GENERAL SAFETY AND SECURITY POLICIES, PROCEDURES, AND MEASURES

Survey participants were asked to what extent they agreed with various safety and security practices on a 5-point Likert Scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, 5 = Strongly Agree).

Most participants consider safety and security measures when choosing to attend a sporting event (73.2% agreed/strongly agreed) (Figure 5). Similarly, most participants agreed or strongly agreed (77.6%) that they feel safe and secure when attending a sporting event. While 38% indicated that security measures entering the event inhibited their experience, participants preferred to have visible security measures at sporting events (77% agree/strongly agree (Figure 6).

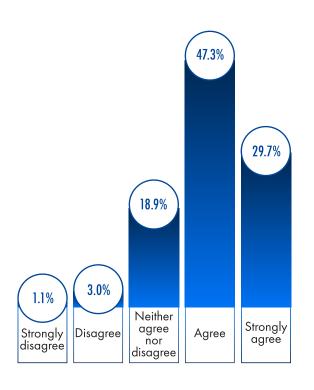
#### FIGURE 5

I consider safety and security precautions when choosing to attend a sporting event.



#### FIGURE 6

I prefer safety and security measures to be visible.



Given the participants' desire for security measures to be visible, law enforcement presence (M=4.19), venue personnel presence (M=4.21), screening detection technologies (M=4.23), bag searches (M=4.01), security cameras (M=4.30), security wands (M=4.21), ability to report an incident (M=4.11), and the use of K-9 units (M=3.94) were highly supported. Furthermore, the support of these measures increased as participant age increased. The support for facial recognition (biometrics), social media monitoring, and a no-bag policy was not as favorable as other measures; however, many participants indicated higher levels of neutrality (neither agreed nor disagreed) rather than exhibiting levels of disagreement, as shown in Table 2.

**TABLE 2**General Safety and Security Policies, Procedures, and Measures: Means, Standard Deviations, and Frequencies

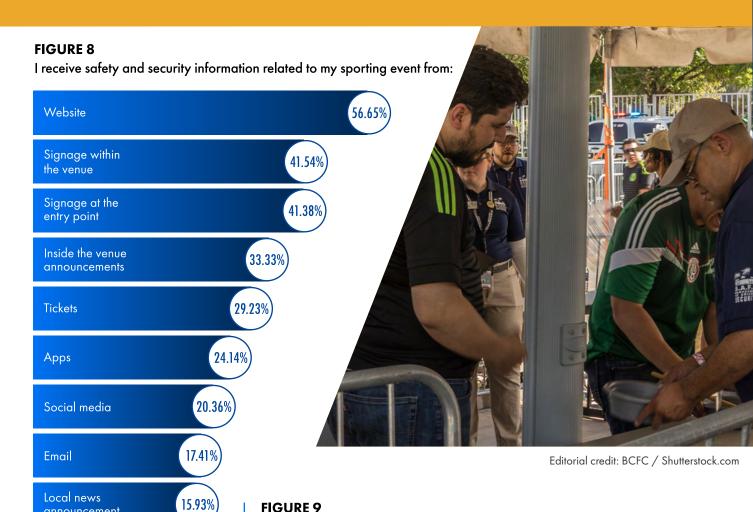
	м	SD	Strongly Disagree %	Disagree %	Neither Agree nor Disagree %	Agree %	Strongly Agree %
Law enforcement presence	4.19	0.83	1.6	1.1	13.3	44.3	39.6
Venue security personnel presence	4.21	0.77	0.8	1.5	12.0	47.8	37.9
Walk-through screening detection technologies	4.23	0.80	0.7	2.5	11.8	43.2	41.9
Facial recognition	3.46	1.18	7.1	14.0	26.4	31.2	21.3
Social media monitoring	3.14	1.29	15.4	14.4	26.9	27.3	15.9
Security wand metal detection	4.21	0.81	1.1	2.1	11.0	45.6	40.1
Bag searches	4.01	1.18	1.5	5.9	15.3	44.7	32.7
No-bag policy	3.34	1.16	5.4	21.8	24.0	30.9	17.9
Security cameras	4.30	0.92	5.4	21.8	24.0	43.8	45.3
K-9 units	3.94	0.99	2.5	6.9	16.4	42.7	31.5
Ability to report an incident inside the facility	4.11	0.79	1.0	1.6	15.4	49.3	32.7

The no-bag policy, in particular, had a mixed response. Because women tend to carry bags more often than men, the opinions of women and men were examined separately. More women (31.2%) than men (21.2%) indicated strong disagreement or disagreement with a no-bag policy, and more men (55.4%) than women (44.1%) indicated agreement or strong agreement. As social media is a relatively new phenomenon often engaged in by younger generations, the use of social media monitoring was examined by age group. Participants aged 44 years and younger tended to exhibit stronger agreement than those aged 45 years or older.

The survey also included questions pertaining to safety and security policy communications and messaging, specifically participants' awareness of safety and security policies, communication methods, and their preferred method of communication before attending an event.

Most participants were aware of their event's safety and security measures before attendance (Figure 7) and 76.8% know how to seek emergency help at a sporting event. Participants receive event safety and security information primarily through the website (56.7%), signage inside the venue (41.5%), venue entry point signage (41.4%), and venue announcements (33.3%) (Figure 8). Preferred safety and security informational communication methods before an event include the website (51.1%), email (43.5%), and tickets (38.3%) (Figure 9).

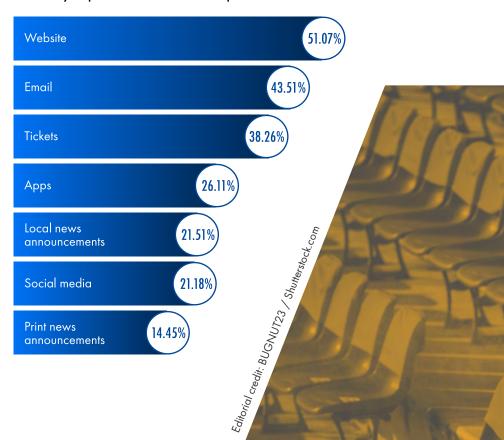
FIGURE 7 I am aware of the venue's security measures before attending an event. 44.2% 25.6% 19.7% 9.2% 1.3% Neither Strongly agree Strongly disagree Disagree Agree agree nor disagree



#### FIGURE 9

15.60%

How do you prefer to be informed of policies before the event occurs?



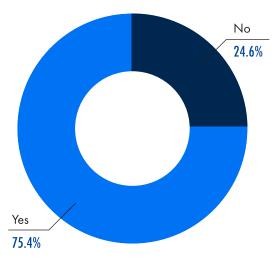
announcement

Video boards

# PERCEPTIONS OF COVID-19 RELATED SAFETY AND SECURITY POLICIES, PROCEDURES, AND MEASURES

Most participants (87.0%) would like to attend a sporting event in 2021; however, 75.4% actually plan to attend an event (Figure 10).







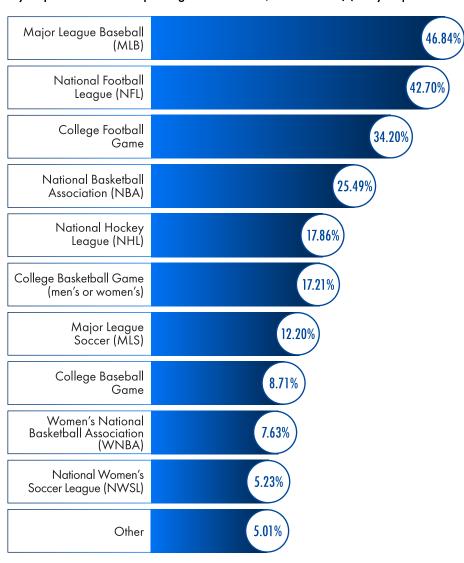
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Figure 11 highlights the types of events that respondents plan to attend in 2021. The more favorable events mirror those attended in the past three years – MLB, NFL, and college football. Participants who selected "Other" events included World Wrestling Entertainment, softball, professional water skiing, running races, professional bull riding, NASCAR, North American Hockey League, minor league baseball, youth/little league and high school sports, American Hockey League, and INDYCAR events.

Individuals who do not plan to attend an event in 2021 selected COVID-19 as the primary reason (74.7%), followed by ticket cost (56.7%). Participants selecting "Other" included reasons such as accessibility, current health, compromised immune system, time constraints, work commitments, personal mobility issues, sickness, the team is not good, and absence of a local venue (Figure 12).



FIGURE 11
If you plan to attend a sporting event in 2021, which event(s) do you plan to attend?



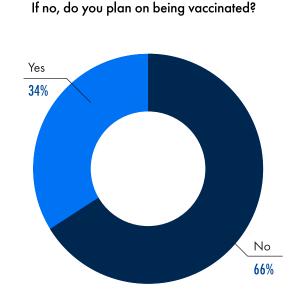


Approximately 68% of participants have received the maximum number of available COVID-19 vaccines and two-thirds of those not vaccinated do not plan to get vaccinated (Figures 13 and 14). Additionally, 28.2% of the respondents have attended a sporting event without vaccination. Attendance at a sporting event without being vaccinated was highest for those 35-44 years of age (40%).

FIGURE 14

FIGURE 13
Have you received the maximum number of COVID-19 vaccines?

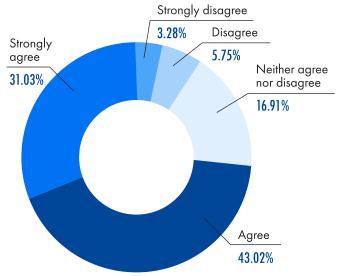
No
32.3%



When asked about the use of COVID-19-related policies and technologies, participants selected high percentages of agreement or strong agreement for temperature checks, digital health passes (proof of vaccination or negative test), and enhanced cleaning and sanitizing services (Figures 15-17). As shown in Figure 18, most respondents indicated agreement with the use of cashless/touchless payment options within the venue (58.7% agreed/strongly agreed), although there was a high level of neutrality.

FIGURE 15
I support the use of temperature checks as a safety and security measure.





#### FIGURE 16

I support the use of digital health passes as a safety and security measure.

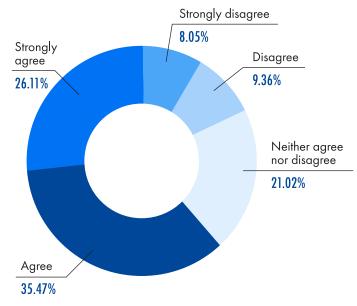


FIGURE 17
Added cleaning and sanitizing services and procedures at the sporting venue increases my sense of safety.

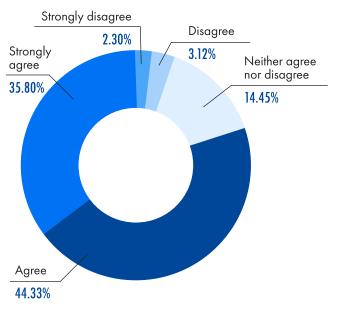
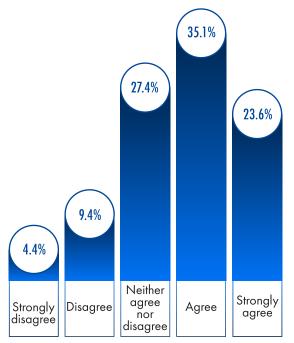


FIGURE 18
Cashless/Touchless Payment Options





Survey participants also indicated how important COVID-19 related safety and security practices factored into their decision-making to attend future events. Responses were captured on a 5-point Likert Scale (1 = Definitely Not Important, 2 = Somewhat Not Important, 3 = I Feel Neutral, 4 = Somewhat Important, 5 = Very Important).

Table 3 presents the importance levels of COVID-19-related policies and procedures when deciding to attend sporting events. Means ranged from M=3.12 to M=3.79. The most important policy for participants in their decision-making was a facility certificate of hygiene/disinfectant compliance (M=3.79), with 62.3% of participants agreeing or strongly agreeing with this item. This was followed closely by social distancing requirements (M=3.59), of which 60.4% of participants agreed or strongly agreed. Notably, most participants indicated neutrality, somewhat important, or very important on all items.

**TABLE 3**COVID-19 Related Safety and Security Policies, Procedures, and Measures: Means, Standard Deviations, and Frequencies

	M	SD	Definitely Not Important %	Somewhat Not Important %	Neutral %	Somewhat Important %	Very Important %
Designated entry time	3.44	0.99	4.9	7.4	41.7	31.0	14.9
Contactless/cashless operations	3.43	1.15	7.4	12.6	28.7	32.3	18.9
Designated areas for eating and/or drinking	3.32	1.17	9.5	12.5	31.5	29.7	16.7
Vaccinated seating areas	3.43	1.31	12.5	10.2	24.8	27.4	25.1
Facility certificate of hygiene/ disinfectant compliance	3.73	1.18	6.7	7.4	23.6	30.9	31.4
Tailgating opportunities	3.12	1.31	17.1	12.5	28.1	25.8	16.6
Mask requirements	3.45	1.32	12.2	11.8	21.3	28.1	26.6
Social distancing requirements	3.59	1.27	10.0	10.0	19.5	32.2	28.2

Further analysis determined that 18-24 year olds trended more towards the importance of contactless/cashless operations, designated areas for drinking/eating, and mask requirements when deciding to attend an event than other age groups.



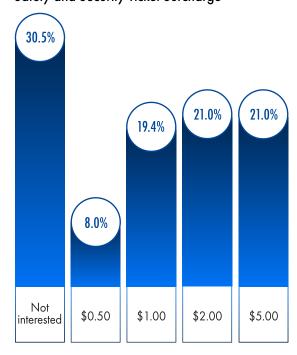
Table 4 shows the likelihood of sporting event attendance with respect to venue capacity limits. While likelihood trended towards attending for all capacities, participants indicated that they were slightly more likely to attend when venue capacities were restricted.

**TABLE 4**Sporting Event Attendance and Venue Capacity Restrictions

Venue Capacity	Definitely Will Not Attend %	Probably Will Not Attend %	Unsure of Attendance %	Probably Will Attend %	Definitely Will Attend %
25%	5.1	12.0	25.3	33.0	24.6
50%	5.4	9.5	21.7	39.2	24.1
75%	7.9	11.3	21.3	36.6	22.8
100%	13.6	12.8	20.7	26.4	26.4

Since the COVID-19 crisis emerged, venue operators and event organizers have implemented technology solutions, as well as new policies and procedures. Budget constraints may not be an issue for major sports venues and events to cover new costs associated with public health safety measures needed for spectators to return. However, smaller venues and events may not have adequate resources and thus seek new revenue streams to support enhanced measures. Charging a nominal security ticket fee for some organizations/ associations could generate funds dedicated to their security efforts. With that said, participants were asked if they would be interested in paying a minimal ticket fee for safety and security measures. Approximately 70% of respondents would be willing to pay such a fee, ranging from \$0.50 - \$5.00 (Figure 19).

FIGURE 19 Safety and Security Ticket Surcharge



# CONCLUSION AND RECOMMENDATIONS

The purpose of this survey was to gauge sport spectators' perceptions of safety and security practices, including those related to COVID-19, as the sports industry prepares to return to full capacity stadiums and arenas.

Safety and security appear to be on spectators' minds as they consider attending sports events, and 77% of participants (agreed/strongly agreed) prefer security measures to be visible at events. Most participants were aware of their event's safety and security measures before they attend and know how to seek emergency help at an event once there. Before an event occurs, the preferred methods for receiving safety and security information were website, email, and ticket.

Participants highly supported general safety and security practices, such as law enforcement presence, venue security personnel, screening detection technologies, security cameras, wand detection, bag searches, incident reporting, and the use of K-9 units. Facial recognition, social media monitoring, and a no-bag policy were less favorable, although many participants indicated levels of neutrality rather than disagreement. Females more than males tended to disagree with the no-bag policy.

The majority of participants (75.4%) plan to attend an event in 2021, primarily MLB, NFL, or college football games. Those that will not attend an event selected COVID-19 as the main reason. Approximately 68% of respondents have received the maximum number of available COVID-19 vaccines, and two-thirds of those not vaccinated do not plan to get vaccinated.

Participants agreed/strongly agreed on the use of temperature checks, digital health passes (proof of vaccination or negative test), and enhanced cleaning and sanitizing services. The 18-24 year age group trended more towards the importance of contactless/cashless operations, designated areas for drinking/eating, and mask requirements when deciding to attend an event than other age groups.

The most important policy that participants factored into their decision-making process to attend future sports events was a facility certificate of hygiene/disinfectant compliance, followed closely by social distancing requirements. Venue capacity restrictions did not seem to overly affect the participants' willingness to attend events. Approximately 70% of participants would be willing to pay a minimal additional ticket fee for safety and security measures, ranging from \$0.50 - \$5.00.

In conclusion, spectators consider security prior to an event but also feel safe while attending their respective sporting events. They embrace the safety and security measures implemented by venue/event management, in particular, visible security measures. Furthermore, they were willing to encounter additional COVID-related safety and security measures, such as temperature checks, digital health passes, and touchless screening in order to



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return to live events. A major factor in decision-making is that the venue/event enhance their cleaning/hygiene protocols, specifically achieving a facility certificate of compliance.

### **Industry Recommendations**

- Communicate safety and security measures to spectators prior to the event via the venue/event website, email, and tickets. Continue to utilize venue signage and announcements to convey important information. Effective safety and security communications ensure spectators' awareness of policies, procedures, and measures. This can ultimately assist with expedited patron entry and less disgruntled fans as expectations are made clear prior to, during, and post-event.
- Use visible security measures, e.g. law enforcement presence, screening technologies, to enhance spectators' sense of safety.
- Include temperature checks, digital health passes (proof of vaccination or negative test), and enhanced cleaning and sanitizing services as part of COVID-19 safety and security measures.
- Obtain GBAC-STAR™ Facility Accreditation from the Global Biorisk Advisory Council. GBAC STAR™ is the cleaning industry's only outbreak prevention, response and recovery accreditation for facilities.
- Establish social distancing protocols within the venue/event, such as waiting in line for entry, concessions, restrooms, etc.
- Consider cashless/touchless operations. This may include digital ticketing, food/beverage ordering, merchandise ordering, and restroom facilities transitioned to motion sensors.
- Management may consider adding a minimal security ticket fee to offset costs associated with safety and security measures, ranging from \$0.50 \$5.00.

## **ACKNOWLEDGMENTS**

For further information or additional questions, please contact Dr. Stacey A. Hall, Executive Director, or Dr. Joslyn Zale, Senior Research Associate:

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