

## Psychosocial impact of sports events on Qatar population

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### Abstract:

**Background:** Mass gatherings, like sporting events and festivals, provide the perfect environment for stressors to affect the population's quality of life. The World Cup was held in Qatar in the months of November and December of the year 2022, and it had an impact on various aspects of life in Qatar, including the health sector. **Aim:** This research was conducted to assess the psychological impact of sports events along with the social impact of sports events on the Qatar population. Data were analyzed using SPSS software. **Methodology:** This cross-sectional study uses A paper-based questionnaire delivered to 1000 residents in Qatar, 3 months before the commencement of the FIFA football world cup. **Results:** The study substantiates that a positive impact was perceived by the Qatari and non-Qatari residents who participated in this study when the 2022 Qatar FIFA World cup championship was hosted, despite the controversial media reports about the lack of logistics .

**Keywords:** Mass gatherings, Stressors, Qatar.

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### Introduction:

Sport mega events' development, consolidation, and expansion have been simply spectacular. FIFA's membership has grown from seven founding members in 1904 to more than 200 national associations during the next century (depending on suspensions and the status of applications). (1) Since the first World Cup in 1930, when only sixteen nations competed and there was no real qualifying stage, the tournament has grown to include thirty-two teams in its quadrennial final, which is based on worldwide qualifying phases in which every national association in the

world is eligible to participate. Today, the Olympics, which began as a stage for the physical, corporeal performance of privileged European and North American male elites, welcomes all nations to its Summer Games. <sup>(1)</sup>

### **Quality of life in the context of mega-sport events**

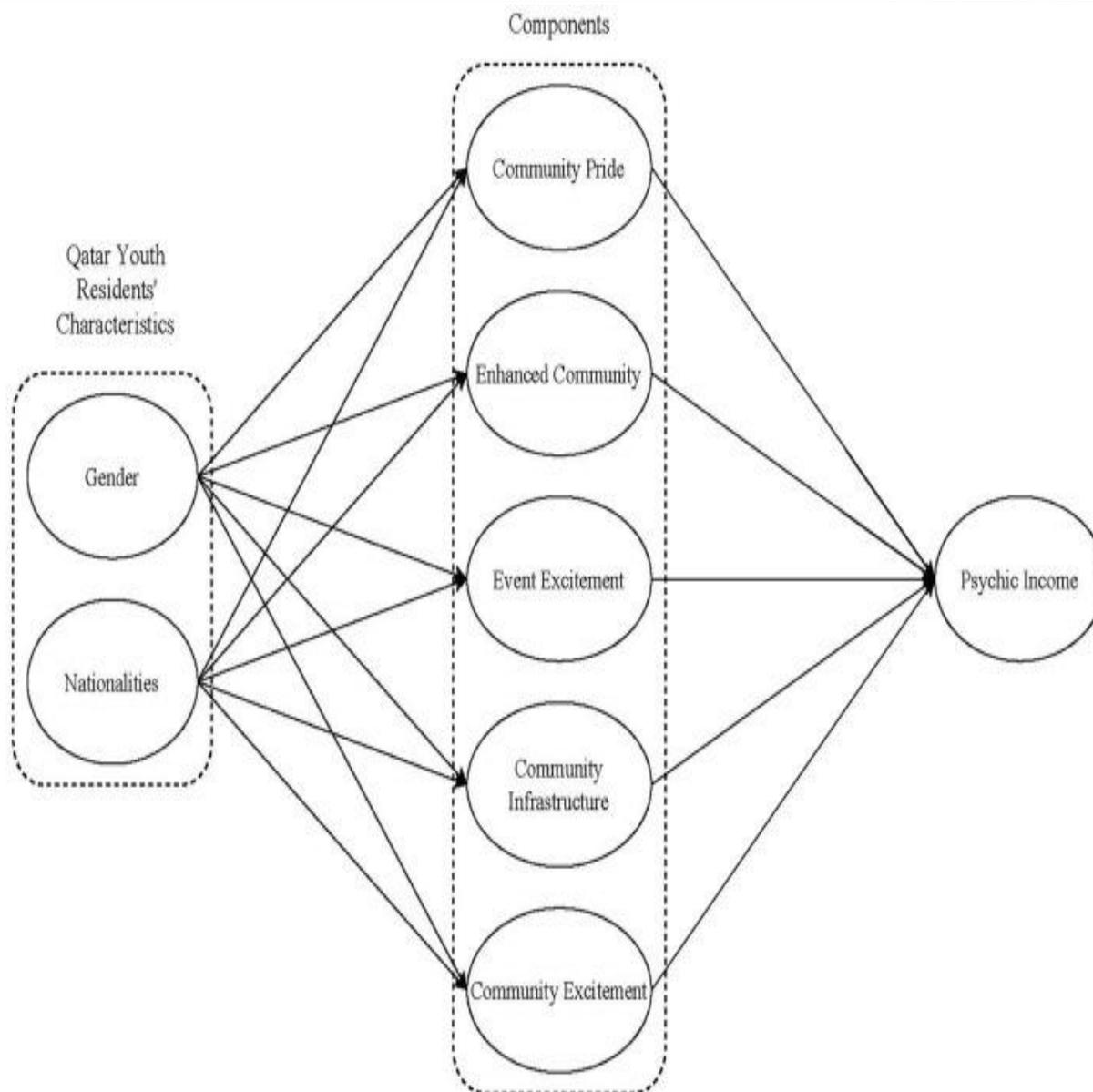
According to the WHO, one's assessment of their place in life "in the context of the culture and value systems in which they live, and in connection to their objectives, aspirations, standards, and concerns" constitutes their quality of life. The WHO's measurement tools, which suggest a four-dimensional framework with a physical, social, psychological, and environmental domain, are most widely used to assess the quality of life. As far as we know, no empirical studies have looked at the four dimensions of quality of life in relation to the hosting of major events. <sup>(2)</sup> There is suggestive evidence that the act of hosting an event has no main impact on the quality of life of residents of the host city, according to earlier research that used straightforward overall measures of quality of life (and cross-sectional samples, where cause-effect relationships and individual changes are still unclear). <sup>(2)</sup>

### **Country Environment and sports events.**

The atmosphere is a representation of all the emotionally engaging stimuli that are present when the event is being hosted. What follows provides justifications for why the perceived environment may affect how the host Using the four aspects mentioned above, city dwellers assess their quality of life when a mega-sport event is being held. Environmental psychology's conceptual models give a theoretical foundation for how people are affected by their environment. <sup>(3)</sup>

First, when a mega-sport event is held in their hometown, city inhabitants who feel that the atmosphere is pleasant should experience better physical (subjectively evaluated) health outcomes. Residents may perceive their surroundings as a healing environment if they take in the ambiance, which includes the music performed at fan fests and the pleasant feelings communicated by cheerful people who celebrate in the city. The diversion from daily living can ease physical discomfort. Additionally, people who feel like they live in a pleasant environment should be more energetic. <sup>(2)</sup>

On the other hand, the athletic event may have a positive or bad impact on the population's environment, since it may produce environmental crowding, mass gathering, and traffic jams, which may have an impact on their health. Few studies investigated the relationship between sports events and the overall mental health conditions in the general population. Watching sporting events is a common pastime for many people. It is estimated that more than 30 million people regularly watch football.<sup>(5)</sup> The Sydney Olympics had a positive social impact on Sydney residents. Positive associations have also been found between sports team identification and psychological well-being. Sports events are, however, also associated with some public health problems. One study but not another showed that sports fans were more likely than nonfans to have alcohol-related problems. Sports spectators have been found to have affective, cognitive, and behavioral responses like those of athletes.<sup>(3,4)</sup> Fans of losing soccer teams scored higher than winning fans on boredom and anger and lower on relaxation. The majority of the soccer fans in an Irish study even exhibited a clinically significant degree of psychological distress as a result of the relegation of their team from the English Premier League.<sup>(7)</sup> Few studies have reported on the relationship between other lifestyle behaviors (such as dietary habits) and watching sports events. In 2002, the Federation International de Football Association (FIFA) World Cup tournament attracted about 28.8 billion viewers across 213 countries. A substantial increase in admissions for acute myocardial infarction, sudden cardiac death, and a reduction in emergency psychiatric admissions were reported during the World Cup finals. Very few, if any of these studies, were population-based. The FIFA World Cup is a perfect example of a mega-event held in a different country every four years. Because of this, Qatar has invested significant resources to make its bid the best possible one. However, the Qatar Olympic Committee (QOC) has announced a schedule of sporting events for 2022. The most important is the FIFA World Cup Qatar 2022, held from November 21 to December 18, 2022.<sup>(6)</sup>



**Figure (1): A conceptual framework of sociodemographic factors**

**Figure (1):** examine the relationships between the different variables mainly by measuring the impact generated between the main five dimensions: Community pride, Enhanced community attachment, Pride to improve infrastructure, Event excitement, and Community excitement, with respect to the psychic income. In addition, there is an ongoing debate among scholars on whether sports events generate positive or negative psychosocial impacts on host communities. <sup>(8)</sup> Burnett (2007) defined sociocultural impacts as mutually beneficial relationships,

networking, and social integration. Saayman (2001) stated that sporting events and tours have socially beneficial effects and are encouraged by government policies to familiarize citizens with other parts of their country and build appreciation for their homeland. <sup>(5)</sup>

This study aimed to assess the psychological impact of sports events along with the social impact of sports events on the Qatar population. In such a way that, [on this](#) occasion, sports events and tourists affect the behavior of local people and their relations during their visit. In this case, when meeting and getting to know each other, a favorable situation develops in which an appreciation of each other's character and qualities is supposed to form. The sports event provides a perfect setting for this. <sup>(8)</sup>

## Research Design:

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The research adopted a cross-sectional study by administering the survey to the citizens and residents in the public malls and markets by four healthcare practitioners from the quality and patient safety research team under the supervision of the principal investigator. A paper-based questionnaire, an interview questionnaire delivered to 1000 residents in Qatar, 3 months before the commencement of the FIFA football world cup. The participants for survey research were recruited by the investigators and a team of four healthcare practitioners under the supervision of principal investigators from the Quality and Patient Safety Research team in public malls /markets.

## Subject selection and description:

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A convenient sampling technique was utilized to select the participants for the present study due to geographical proximity, the inclusion criteria were that the Age of participants is 18 years and above while those less than 18 years were excluded.

## Data Collection Methods :

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A self-administered interview-based questionnaire was utilized to obtain data from participants. this questionnaire was validated initially on 10-15 participants. The set of 1000 citizens were recruited by a team of four healthcare practitioners under the supervision of principal investigators from the Quality and Patient Safety Research team. They distributed the study questionnaire in public areas after explaining the study's nature and purpose to those who accept participation. The interviewers were fully trained to conduct face-to-face in-public interviews.

## Data Analysis :

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The first step for data analysis was data preparation. Descriptive statistics approach was used where the Median and range described the continuous variables with normal distribution. Frequencies and proportions used for categorical variables. Differences between groups by evaluating the t-test or Wilcoxon signed-rank test for nonparametric continuous variables, and the  $\chi^2$  test or Fisher exact test for categorical variables.

Spearman and Pearson correlation coefficient was used to evaluate the Correlation between variables. We also used Cronbach's  $\alpha$  value (0.95) in this research to indicate that the usability questionnaire Because of the large sample size in our study, the p-value was set to 0.05 or less to detect true statistical significance and thus avoid Type I errors (Tabachnick and Fidell 2007). Tests of homoscedasticity and normality of error distribution of the model variables did not reveal any violations; thus, the analysis continued with the regression tests. Multicollinearity tests revealed no concerns as variance inflation factor values of less than 10 were observed (Kutner, Nachtsheim, and Neter 2004).

## Results:

Table (1): Distribution of sociodemographic variables among studied participants :

Age (years)		
18 to 28	191	19.1%
29 to 38	499	49.9%
39 to 48	229	22.9%
49 to 58	70	7.0%
59 or more	11	1.1%
Gender	No. (1000)	%
Male	608	60.8%
Female	392	39.2%
Marital status	No. (1000)	%
Single	195	19.5%
Married	805	80.5%
Occupation	No. (1000)	%
Professional jobs	290	29.0%
Government workers	251	25.1%
Corporate employees	124	12.4%
Service job workers	115	11.5%
College students	65	6.5%
Housewives	61	6.1%
Business owners	4	0.4%
Others	90	9.0%
Nationality	No. (1000)	%
Qatari	226	22.6%
Non-Qatari	774	77.4%

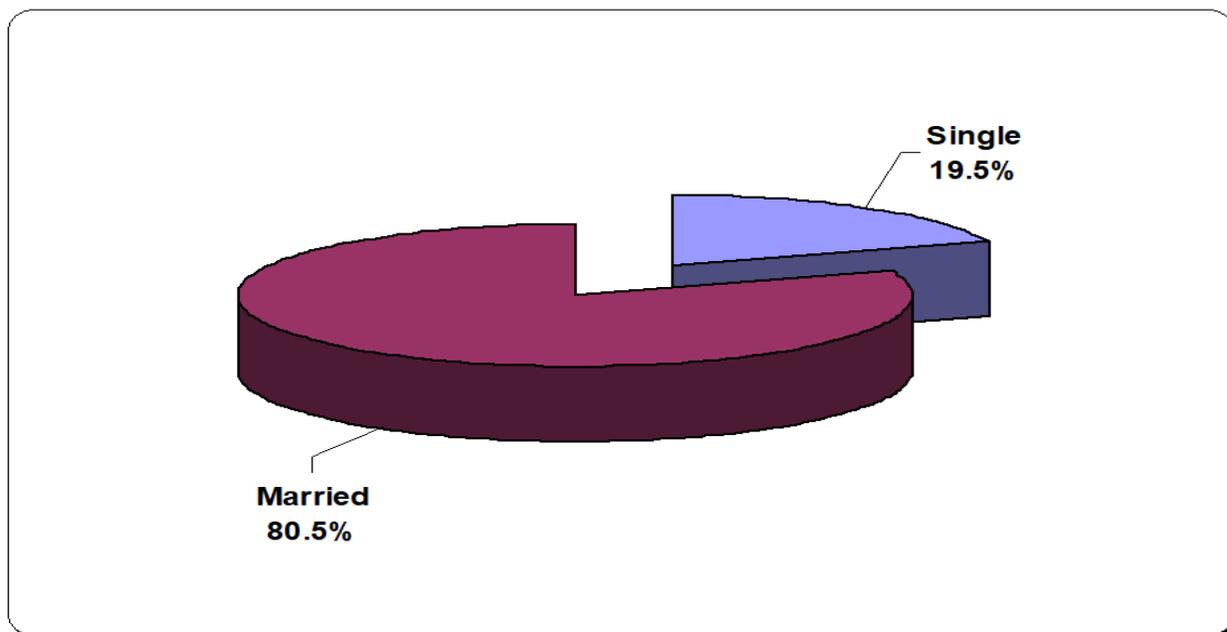


Figure (2): Distribution of respondents according to marital status

**Table (1):**

shows the distribution of the sociodemographic characteristics of the males and females who participated in the study, a higher proportion of participants were seen in individuals aged( 29 )to (38) years ( 49.9 %). More than half of the participants were males (n=608, 60.8%). Furthermore, most participants were married (80.5 ) % and from different nationalities with (77.4%) , the percentage of Qataris participants were (n=226 with 22.6) .

**Table (2): Distribution of the studied participants according to the level of education.**

Level of education	No. (1000)	%
High school or below	193	19.3%
College/ university	448	44.8%
Graduate/ postgraduate	359	35.9%

**Table (2):** shows that most participants have a college degree with 44.8% while more than a third have graduate /postgraduate degrees and the remaining have a high school or below 19.3 %.

**Table(3): Image and status:**

Image and status	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sports events in Qatar, Promoted human resources development	15	1.5	18	1.8	122	12.2	610	61.0	235	23.5
Sports events in Qatar, Improved citizens' etiquette	11	1.1	37	3.7	147	14.7	565	56.5	240	24.0
Sports events in Qatar brought Technology advancement to the nation	8	0.8	27	2.7	113	11.3	517	51.7	335	33.5
The succession of Sports events in Qatar, Improved the image of Qatar Internationally	6	0.6	20	2.0	100	10.0	462	46.2	412	41.2
In line with Sports events in Qatar, New landmarks and iconic facilities were established	5	0.5	25	2.5	110	11.0	474	47.4	386	38.6
In the future, Qatar can host more sports events as I witnessed the Demonstration of economic capability during Sports events in Qatar	10	1.0	21	2.1	128	12.8	462	46.2	379	37.9

**Table (3):** shows the image and status Regarding human resources two-thirds of participants agreed that Sports events in Qatar, Promoted human resources development (61%), while more than half agreed that Sports events in Qatar, Improved citizens' etiquette (56.5)% and Sports events in Qatar brought Technology advancement to the nation(51.7)%, minor of participants disagreed that Sports events in Qatar, Promoted human resources development (1.8%), more than third of participants strongly agreed that In the future, Qatar can host more sports events as I witnessed the Demonstration of economic capability during Sports events in Qatar( 37.9%) In addition to near half strongly agreed that The succession of Sports events in Qatar, Improved the image of Qatar Internationally (41.2%).

**Table (4): Environment pollution and security concerns**

Environment pollution and security concerns	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
I experienced noise pollution during Sports events in Qatar	48	4.8	167	16.7	197	19.7	346	34.6	242	24.2
I experienced Air pollution during Sports events in Qatar	56	5.6	175	17.5	202	20.2	346	34.6	221	22.1
I experienced disturbance and disorder by external visitors during Sports events in Qatar	69	6.9	181	18.1	201	20.1	313	31.3	236	23.6
The crime rate Increased during Sports events in Qatar	159	15.9	284	28.4	246	24.6	245	24.5	66	6.6

**Table (4):** shows that more than a third agreed that they experienced noise pollution during Sports events in Qatar (34.6%), while 28.4 strongly disagreed that the crime rate increased during Sports events in Qatar.

**Table (5): Economic and tourism development**

Economic and tourism development	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
The economic condition is improving after Sports events in Qatar	17	1.7	45	4.5	205	20.5	549	54.9	184	18.4
Employment opportunities are increasing after Sports events in Qatar	21	2.1	62	6.2	218	21.8	496	49.6	203	20.3
Tourism development is enhanced in line with international sports events	12	1.2	37	3.7	160	16.0	541	54.1	250	25.0

**Table (5)** shows that more than half agreed that the economic condition is improving after Sports events in Qatar (54.9%) and Tourism development is enhanced in line with international sports events (54.1%).

**Table (6): Psychological impact**

Psychological impact	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
Feeling nervous, anxious, or on edge during sports events or mega sports	172	17.2	286	28.6	234	23.4	189	18.9	119	11.9
Not being able to stop or control worrying during sports events or mega sports	172	17.2	330	33.0	234	23.4	164	16.4	100	10.0
Worrying too much about different things during sports events or mega sports	192	19.2	329	32.9	204	20.4	176	17.6	99	9.9
Trouble relaxing	179	17.9	319	31.9	235	23.5	185	18.5	82	8.2
Being so restless that it is hard to sit still	182	18.2	340	34.0	232	23.2	148	14.8	98	9.8
Becoming easily annoyed or irritable	188	18.8	356	35.6	216	21.6	131	13.1	109	10.9
Feeling afraid, as if something awful might happen	192	19.2	332	33.2	194	19.4	154	15.4	128	12.8
Feeling nervous, anxious, or on edge	211	21.1	320	32.0	196	19.6	150	15.0	123	12.3

**Table (6) :**

shows the psychological impact on the population where nearly half of the participants disagreed and strongly disagreed that they were Feeling nervous, anxious, or on edge during sports events or mega sports (45.8%) additionally, Half of the participants disagreed that they were Worrying too much about different things during sports events or mega sports(52.1%), the minority of the sample strongly agreed that they were trouble relaxing (8.2%).

**Table (7):** shows the Psychosocial impact of Sports Events according to age

Psychosocial impact	Age (years)					P-value
	18 to 28	29 to 38	39 to 48	49 to 58	59 or more	
	Mean ± SD					
Image and status	4.11 ± 0.65	4.13 ± 0.62	4.12 ± 0.66	4.30 ± 0.49	4.06 ± 0.14	0.231
International exchange and cooperation	3.90 ± 0.73	3.94 ± 0.64	4.01 ± 0.67	4.12 ± 0.58	3.94 ± 0.47	0.134
Inconvenience of life	3.86 ± 0.89	3.87 ± 0.89	3.76 ± 0.97	3.88 ± 0.96	3.58 ± 0.75	0.509
Environment pollution and security concerns	3.47 ± 0.94	3.36 ± 0.98	3.17 ± 1.02	3.28 ± 1.08	2.89 ± 0.72	<b>0.016*</b>
Economic and tourism development	3.84 ± 0.82	3.86 ± 0.70	3.90 ± 0.75	4.01 ± 0.67	3.85 ± 0.54	0.479
Public infrastructure	3.99 ± 0.76	3.96 ± 0.69	4.01 ± 0.75	4.14 ± 0.65	3.91 ± 0.46	0.333
Psychological impact	2.91 ± 1.07	2.70 ± 1.20	2.50 ± 1.00	2.59 ± 1.19	2.19 ± 1.04	<b>0.003*</b>

**Table (7):** shows the Psychosocial impact of Sports Events according to age regarding image and status participants who were aged 49-58 appeared with a higher mean value ( $4.30 \pm 0.49$ ), there was no statistically significant relationship between age and image status, international exchange and cooperation, Inconvenience of life, Economic and tourism development, Public Infrastructure ( $P > 0.05$ ). while there was a statistically significant relationship between age and Environment pollution and security concerns, the psychological impact ( $P < 0.05$ ).

**Table (8):** Psychosocial impact of Sports Events according to gender

Psychosocial impact	Gender		P-value
	Male	Female	
	Mean ± SD	Mean ± SD	
Image and status	4.12 ± 0.63	4.16 ± 0.63	0.396
International exchange and cooperation	3.96 ± 0.67	3.97 ± 0.65	0.673
Inconvenience of life	3.83 ± 0.94	3.86 ± 0.88	0.545
Environment pollution and security concerns	3.39 ± 0.99	3.23 ± 0.99	<b>0.012*</b>
Economic and tourism development	3.86 ± 0.76	3.89 ± 0.69	0.510
Public infrastructure	4.00 ± 0.70	3.98 ± 0.73	0.680
Psychological impact	2.73 ± 1.14	2.59 ± 1.12	0.061

**Table (8):** shows the Psychosocial impact of Sports Events according to gender. There was no statistically significant relationship between gender and Image status, international exchange and cooperation, Inconvenience of life, Economic and tourism development, public infrastructure, and psychological impact regarding the Psychosocial impact of Sports Events according to gender ( $P < 0.05$ ). There was a statistically significant relationship between gender and Environment pollution and security concerns regarding the Psychosocial impact of Sports ( $P > 0.05$ ).

**Table (9):** Psychosocial impact of Sports Events according to marital status

Psychosocial impact	Marital status		P-value
	Single	Married	
	Mean $\pm$ SD	Mean $\pm$ SD	
Image and status	4.04 $\pm$ 0.73	4.16 $\pm$ 0.60	<b>0.016*</b>
International exchange and cooperation	3.86 $\pm$ 0.74	3.99 $\pm$ 0.64	<b>0.017*</b>
Inconvenience of life	3.81 $\pm$ 0.91	3.85 $\pm$ 0.92	0.596
Environment pollution and security concerns	3.32 $\pm$ 0.93	3.33 $\pm$ 1.01	0.964
Economic and tourism development	3.78 $\pm$ 0.79	3.90 $\pm$ 0.71	<b>0.041*</b>
Public infrastructure	3.96 $\pm$ 0.75	3.99 $\pm$ 0.70	0.545
Psychological impact	2.79 $\pm$ 1.13	2.65 $\pm$ 1.14	0.135

**Table (9):** shows the Psychosocial impact of Sports Events according to marital status there was a statistically significant relationship, between marital status and Image and status, international exchange and cooperation, and Economic and tourism development regarding the psychosocial impact ( $P > 0.05$ ).

There was no statistically significant relationship between marital status and Inconvenience of life, Environment pollution and security concerns, public infrastructure, or psychosocial impact regarding psychosocial impact ( $P < 0.05$ ).

**Table (10): Psychosocial impact of Sports Events according to the level of education**

Psychosocial impact	Level of education			P-value
	High school or below	College/ university	Graduate/ postgraduate	
	Mean ± SD	Mean ± SD	Mean ± SD	
Image and status	4.07 ± 0.66	4.16 ± 0.59	4.14 ± 0.65	0.266
International exchange and cooperation	3.84 ± 0.69	3.98 ± 0.65	4.01 ± 0.65	<b>0.010*</b>
Inconvenience of life	3.86 ± 0.86	3.85 ± 0.95	3.82 ± 0.90	0.850
Environment pollution and security concerns	3.51 ± 1.02	3.40 ± 0.92	3.14 ± 1.03	<b>0.000*</b>
Economic and tourism development	3.89 ± 0.70	3.87 ± 0.70	3.86 ± 0.79	0.879
Public infrastructure	4.05 ± 0.64	3.99 ± 0.72	3.96 ± 0.74	0.308
Psychological impact	2.86 ± 1.24	2.73 ± 1.13	2.52 ± 1.06	<b>0.001*</b>

**Table (10):** shows the Psychosocial impact of Sports Events according to the level of education, there was a statistically significant relationship between the level of education and the image status, psychosocial impact ( $P < 0.05$ ).

## Discussion :

Researchers are interested in identifying the reasons behind organizing mega sports events in the Arab World. Few have addressed the influence on the community or targeted the psychosocial impact that can be achieved, while many have concentrated on the economic and political aspects. These occasions are crucial for uniting and tying together communities, boosting pride, and generating excitement (9). This work gets one step closer by assessing the psychosocial impact of sports events on Qatar's population, this study confirms that such intangible impact was significant, and indicates that the perceived impact on the population from different backgrounds and cultures was positive.

This study extends to measure the impact associated with subgroups of the population in Qatar in particular. This relative influence was consistent with prior work on the impact of hosting sports events considering different demographic

variables(6). The current study confirmed previous assertions that most of the focus was on positive as well as economic impacts. The results show that economic impacts mostly include benefits, such as new investment in infrastructures, new employment opportunities, increased tourism figures, and new tax revenues(10). Our study agrees with a study by Theodorakis et al. (2019), fans from the Middle East were highly involved with football, while males were more involved than females. Similarly, Al-Emadi et al. (2022) highlight that the context of football will generally attract more males compared to females given the more sociocultural norms that govern Qatari society. in contrast, Al-Emadi et al. (2022) highlighted that females in general have a higher concern regarding the hosting of the 2022 FIFA World Cup than males which could be due to some cultural challenges. The current study solved the argument about Previous studies which highlighted that the place where residents grew up influences their perceptions (Lankford, [1994](#); McCool and Martin, [1994](#); McGehee and Andereck, [2004](#)). Therefore, the authors argue that Arab youth nationals born and raised in Qatar can perceive a higher positive impact than non-Arab youth nationals which resulted in more psychological attachment by the Arab youth residents than the non-Arab youth residents. This study demonstrates the agreement of all nationalities on the positive impact of psychosocial and economic tourism dimensions.

The 2021 FIFA Arab Cup, a warmup for the 2022 FIFA World Cup, echoed this trend with 89% of ticket sales coming from within Qatar and only 11% from outside the country (The Peninsula, 2022). The Arabs of Qatar and visitors came to see their national teams play football despite the region's volatility and the fallout from Covid-19 (The Peninsula, 2021). Egypt, Tunisia, and Jordan were among the top nationalities purchasing tickets, while Egypt, Saudi Arabia, and Iraq were among the top nationalities and residents purchasing tickets (The Peninsula, 2022). In addition to domestic demand, we saw an increase in bookings from international travelers, particularly those coming from close by (The Peninsula, 2021). This bodes well for the 2022 FIFA World Cup in terms of generating higher psychic income for Arab nationals generally and among the youth in particular because support from Arab nations for the World Cup is in line with the positioning of the World Cup as representing the Arab World (Centre for International and Regional Studies).

## Conclusion:

The study emphasizes that both Qatari and non-Qatari residents who participated in the study perceived a positive impact when Qatar hosted the 2022 FIFA World Cup, despite controversial media reports suggesting otherwise. These findings demonstrate that hosting sports events, even in the face of critical advertising campaigns, can still benefit society. This study sheds light on an important aspect that has been overlooked in previous literature. By examining the psychosocial income received by different subgroups during and after the event, decision-makers can adjust their strategies to achieve greater impact and effectively reach their objectives. Furthermore, these results will contribute to a more accurate projection for the implementation of Qatar's 2030 vision objectives. Future studies should also investigate the psychological and societal changes that occur following large-scale sports events.

### Study limitations :

This study used a convenient sampling technique to sample from the whole Qatari and white-collar expatriate population. Thus, the results may generalize to the populations sampled. Future research can examine blue-collar workers' perceptions in Qatar to establish how financially and potentially socially disadvantaged populations perceive the World Cup preparations. In addition, the items generated were adapted to fit the cultural context of this study. Perhaps, in other countries, more relevant items have to be created and utilized. Furthermore, the cultural values of the host residents could be an antecedent of perceived impacts and could be investigated in a future study. Future research should also continue with a longitudinal design of this research.

### Ethics statement:

Hamad Medical Research Center IRB Committee reviewed and approved the studies involving human participants. All participants had to agree to consent in order to proceed with the study.

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### Conflict of Interest:

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### References:

1. Al-Emadi, A., Kaplanidou, K., Diop, A., Sagas, M., Le, K. T., and Al-Ali Mustafa, S. (2017). 2022 Qatar world cup: impact perceptions among Qatar residents. *J. Travel Res.* 56, 678–694. doi: 10.1177/0047287516652502.
2. Al-Emadi, A., Sellami, A. L., and Fadlalla, A. M. (2022). The perceived impacts of staging the 2022 FIFA world cup in Qatar. *J. Sport Tour.* 26, 1–20. DOI: 10.1080/14775085.2021.2017327.
3. The Peninsula (2021). Visitor Arrivals to Qatar Surge Due to FIFA Arab Cup 2021. Available online at: <https://thepeninsulaqatar.com/article/06/12/2021/visitor-arrivals-to-qatar-surge-due-to-fifa-arab-cup-2021> (accessed April 17, 2022).
4. The Peninsula (2022). The FIFA Arab Cup Qatar 2021 in Numbers. Available online at: <https://thepeninsulaqatar.com/article/07/02/2022/the-fifa-arab-cup-Qatar-2021-in-numbers> (accessed April 17, 2022).
5. Theodorakis, N. D., Wann, D., Chadwick, S., and Akindes, G. (2019). Attitudes and consumption behaviors of football fans in the middle east. *J. Sport Behave.* 42, 225–250.
6. Ishac W and Swart K (2022) Social impact projections for Qatar youth residents from 2022: The case of the IAAF 2019. *Front. Sports Act. Living* 4:922997. doi: 10.3389/fspor.2022.922997.



7. Kim, H. J., Gursoy, D., and Lee, S. B. (2006). The impact of the 2002 world cup on South Korea: comparisons of pre- and post-games. *Tour. Manag.* 7, 86–96. doi: 10.1016/j.tourman.2004.07.010.
8. van Wee, B. (2022). Accessibility and equity: A conceptual framework and research agenda. *Journal of Transport Geography*, 104, 103421.
9. John L. Crompton (2004) Conceptualization and alternate operationalizations of the measurement of sponsorship effectiveness in sport, *Leisure Studies*, 23:3, 267-281, DOI: 10.1080/0261436042000183695.
10. Salimans, T., Goodfellow, I., Zaremba, W., Cheung, V., Radford, A., & Chen, X. (2016). Improved techniques for training gans. *Advances in neural information processing systems*, 29.