



Analysis about the Influence of Sports Venues and Multi-event Sports in Improving the Community Perceptions through Gathering and Integration of People’s Opinion

Wei Zhang*

Ed.D. Candidate, Department of Education, International College, Krirk University, Bangkok, 10220, Thailand

astyzw@163.com

Min Zhao

Professor, Department of Education, International College, Krirk University, Bangkok, 10220, Thailand

18235224826@163.com

<i>Article History</i>	<i>Abstract</i>
<p>Received: 01 March 2023 Revised: 18 April 2023 Accepted: 16 May 2023</p>	<p>In this study, we analyzed public perceptions of the National Games of China, focusing on sports event image, satisfaction, motivation, stadium atmosphere, and environmental impact. Data was collected from 715 individuals (average age 28.1) through a comprehensive questionnaire. The study revealed that the National Games were positively received, with entertainment being a major factor for attendance. The study revealed a strong link between individuals' participation in the event and their views on various aspects like the event's reputation, their own satisfaction, motivational factors, the ambiance of the stadium, and environmental considerations. It was also noted that people living closer to the stadiums perceived the National Games' societal impact more profoundly. Contrarily, no notable connection was observed between participants' gender and these aspects. These outcomes highlight the significant societal influence of major sports events like the National Games and emphasize the need for careful consideration of public opinion and environmental effects in organizing future events.</p>
<p>CC License CC-BY-NC-SA 4.0</p>	<p>Keywords: <i>Data Gathering, Data Integration, Correlation, National Games, Stadium Environment, Stadium Management, Intelligent Open Management, Citizen Satisfaction</i></p>

1. Introduction

The development of sports in China can be traced back to ancient times, with a rich history and diverse sports culture. The modern era of sports in China began with the establishment of the Chinese Olympic Committee in 1910. However, it was in the 1980s, when sports development was given significant attention by the Chinese government, leading to impressive results. China has participated in every Summer Olympics since 1952, winning a total of 608 medals, including 237 gold medals (Statista 2022). Additionally, China hosted the 2008 Summer Olympics in Beijing, which was considered a success both in terms of organization and performance, as China won a record 51 gold medals. In recent years, the Chinese government has also invested heavily in

promoting sports and physical education among its citizens, intending to create a healthier and more active nation.

The National Games of China (NGC) is often regarded as a crucial indicator to evaluate the country's sports development and progress. Similar to the NGC, it encompasses various competitions and serves as a miniaturized version of large-scale sporting events such as the Asian Games and the Olympics. The Chinese government has been actively promoting the NGC, as it not only carries significant historical value but also provides an opportunity for athletes and coaches from different provinces to gather and share their experiences [4],[8]. Research in relation with sporting events have been conducted extensively in China. Various studies have examined the impact of both small and large sporting events in China [51]. Research on local events includes analyzing Wuhan marathon spectators' experiences [7] and the aspirations and future behaviors of marathon runners in China [8]. Conversely, the larger spectacles, like the Beijing Olympics, have been evaluated for their economic effects [26], [29] and public reactions, especially to significant moments like the opening ceremony [23], [24]. This range of studies highlights the diverse research interests in the field, from individual participant perspectives to broader economic and societal impacts.

While previous research has addressed sports events, it often lacks a holistic exploration of aspects like public perceptions of the event's image, attendee satisfaction, motivational factors, and the environmental and atmospheric conditions of the venues. This demands collection and aggregation of complex data which mines the opinion about the people, which is very versatile and robust. This is further aggravated by the large budget required for sports events, such as NGC, raises questions about their impact on the community. While previous studies have focused on mega sports events like the Olympics and the Southeast Asian and Asian Games, there is a need to investigate local and multi-sport events. So, this study first uses an data collection mechanism through questionnaire that is spread out on six NGC domains: sports event image, community motivation, satisfaction, stadium atmosphere and surroundings, and community perception of event impact. The integration and further analysis of the data is done based on the relationships between these conceptions and explanatory variables including gender, residence, and sports participation.

2. Methodology

2.1. Research Site

A cross-sectional research was conducted between 15 to 27 September 2021 in Shaanxi, China, where the national sports event occurred. Shaanxi is a province in China with a total area of 205,800 km², and it is located in the northwest region of the country. The data gathering in this region is done by collecting comprehensive questionnaire. According to the Human Development Index (HDI), the province has made great progress in recent years and has an average score of 0.733, which is higher than the national average of 0.758 (National Bureau of Statistics of China 2022). However, environmental pollution is a problem in some parts of the province due to industrialization and urbanization. The regional sports event was held in several cities and districts, including Xi'an, Xianyang, Baoji, and Weinan. This research was conducted in all these cities and districts post the COVID-19 pandemic. The data integration is done by proposing separate hypothesis which analyses the relationship among the variables. The correlation study on the data integrates the insights about the variables, rather than just fusing them to form a derived or hybrid data.

2.2. Study Participants

The research was conducted in Shaanxi, China, near several sporting events. The study was offered to spectators, community members, players, and coaches at these places. Viewers, community members, athletes, and coaches participated. The data gathering method adopted in this work is the Purposive sampling where a group of non-probability sampling is done based on the characteristics that is expected from the sample. This is totally judgmental as the method depends on researcher's judgment to achieve the research objective. Hence, in this work the samples data included committee members, community members, athletes, and trainers as well as non-participants (such as viewers). 715 participants were 18 to 57 years old, with a mean of 22.9 years and a standard deviation of 5.35. All participants were Shaanxi residents. Table 1 lists participants' personal and background information.

Table 1. Respondent Demographics (n = 715)

Category	Details	Frequency	%ge
Gender	Male	445	62
	Female	270	38
Involvement in NGC	Involved	142	20
	Not involved	573	80
Occupation	Student	125	17
	Employee (Contract)	197	28
	Employee (Public)	82	11
	Police	44	6
	Entrepreneur	136	19
	Not Mentioned	118	17

2.3. Research Variables

In this study relating to the National Games of China (NGC), a pre-examined questionnaire was utilized to evaluate six different integrations related to the games. These includes brand image, satisfaction, the incentive to watch, stadium atmosphere, environmental atmosphere, and perceived impact. During the data integration, each of these constructs was recognized as a potential response variable. The Sports Event Image (SEI) instrument, which had originally been developed by [16],[18], [19] was modified and altered so that it could be used to evaluate the image of NGC as a means of integrating or fusing the data. The first version of the SEI consisted of 13 questions and was laid up as a semantic differential scale, with the possible responses ranging from 1 to 7. Despite this, the first form of 13 questions was used for this investigation because the other two questions continued to be pertinent in the context of the NGC in China.

The data integration is done through correlation analysis. One of the items, titled "Healthy Unhealthy," had a low correlation coefficient value of $r = 0.201$ and $p = 0.31$, as shown by a test that was carried out in 68 different areas. In spite of this, the item was nonetheless included in the research despite the fact that the research was conducted post the COVID-19 epidemic. The validity and reliability ratings for the other items ranged from 0.341 to 0.637 and, correspondingly, from 0.675 to 0.710, which showed that these items could be used in the research without any problems.

The Sports Audience Satisfaction Scale (SASS), a modified version of Huang et al. [13], Lita and Ma'ruf and kori'c [27], was used to assess community satisfaction with NGC . Eleven objects were selected for their high factor loading values and event compatibility.

The test showed validity and reliability values of 0.635–0.776 and 0.913–0.921, respectively. Each SASS item has a Likert scale with five responses, from "completely upset" to "extremely satisfied". The instruments assessed the following four constructs with questions ranging from strongly disagreeing (1) to strongly agreeing (5). Snelgrove et al. [38] and Balaji and Chakraborti [1] 's instrument was adjusted with three subscales to determine the community's motivation to watch the event. Entertainment, beauty, and vicarious achievement were subscales. Eleven items resulted from these considerations. In this investigation, validity varied from 0.677 to 0.831 and reliability from 0.944 to 0.949 [51].

Guntoro and Putra's Questionnaire on the Impact of Sports Events on the Community (QISEC) was used to assess the NGC's impact on the community. QISEC has 26 components. This study simplified and retested ten high-validity questions. Four economic, three psychosocial, and three infrastructure items comprised these ten items. Reliability was 0.933 and validity was 0.940. Validity values were 0.694–0.838.

A modified version of the Stadium Atmosphere Scale (SAC) developed by Balaji and Chakraborti [1] was used to evaluate the atmosphere of the stadium. This scale takes into account a variety of aspects, such as the physical layout of the facility, the aesthetics of the facility, the entertainment experience, and the social interaction. The validity and reliability of the selected items were found to range between 0.705 and 0.799 and 0.833 and 0.867, respectively, when tested in the field after they had been chosen based on their high factor loading values. This was done by selecting four items with high factor loading values. Regarding the environment of the stadium, Cho et al. [5] developed the Stadium Environment Scale (SEC), which includes the following five subscales: parking, cleanliness, fan control, food service, and crowding, as well as the willingness to remain. We chose and analyzed six items based on their high factor loading values. The ranges of their validity and reliability were 0.317–0.749 and 0.759–0.880, respectively. In addition, information regarding demographic factors such as gender, event attendance, distance traveled from residence, and occupation was gathered. Direct participation in the event was defined as serving on the organizing committee, as an officer of security, as an athlete, or as a trainer. Indirect participation was understood to mean attending the event as a spectator. The correlations that gender, participation in the event, and distance from residence to stadiums had with each of the six components were investigated as potential explanatory variables.

2.4 Data Collection Process

Developing and modifying the research instrument in accordance with the objectives of the study was the first step in the data gathering procedure. To accomplish this, we need the support of English and Chinese language experts who were unaffiliated with the project and operated independently. The finished Chinese version of the instrument was then field-tested on a representative sample of individuals living in areas that hosted the National Games of China (NGC). Initial testing was conducted online using a Google form, and the findings of validity and reliability tests were included into the final version of the study instrument. The data gathering follows purposive sampling method.

After confirming that the research instrument was valid and reliable, we recruited and trained fifteen senior athletes as enumerators. These were given to the locations where the NGC was being held to inform each potential respondent of the objective and scope of the study. Before starting with the actual investigation, consent from the respondents was required. When respondents had trouble comprehending the questions, the enumerators clarified them. Each respondent provided their responses. Moreover, research does not show a clear link between satisfaction and perceived value, but it does show that public engagement may moderate expectations, contentment, and perceived quality and worth. As a result, resident engagement is included in our approach rather than perceived worth. Due to these factors, we developed the following hypotheses as a means of gaining insights into data through data integration (Figure 1):

- H1: Residents' engagement is strongly connected with health literacy.
 - H2: Participation is strongly connected with residents' expectations.
 - H3: Residents' pleasure is associated favourably with their engagement.
 - H4: Residents' happiness is strongly connected with health literacy.
 - H5: Expectations and satisfaction among inhabitants are positively correlated.
- Written informed consent prior to participation in the study, which was collected.

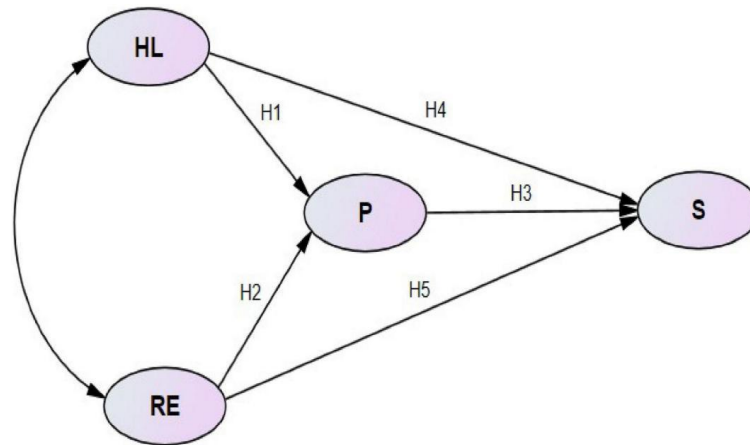


Figure 1. Conceptual Model Framework

2.5 Statistical Analysis

In the analysis, descriptive statistics like average values, standard deviation, and percentages were employed for an initial understanding of the collected data. The association between variables was assessed using Pearson's product-moment correlation. IBM SPSS version 26 was the tool used for this statistical analysis, with a significance level set at a p-value below 0.05. The detailed methodology is briefed in Figure 2.

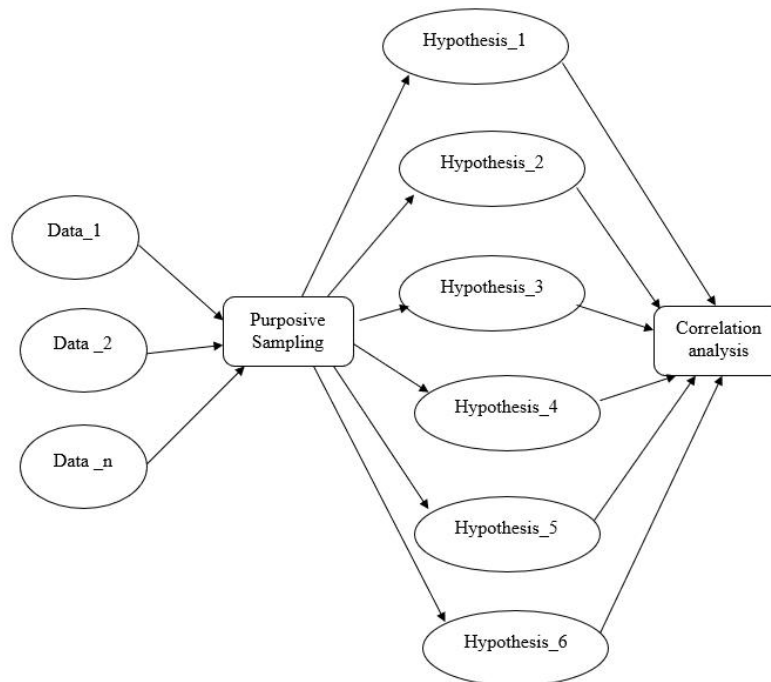


Figure 2. Data Gathering and Integration Methodology

3. Results

3.1 Descriptive Statistics of Response Variables

The findings presentation commenced with a descriptive analysis of the response variables. This was followed by an assessment of the links between constructions and correlations between explanatory variables such as gender, distance from residence to the stadiums, and respondents' involvement in the National Games of China (NGC) and the six constructs analysed for this study. The conclusion of the lecture was a discussion of the ramifications of the findings. The descriptive statistics and evaluation of normalcy for the data collected from the six structures are provided in Table 2. The research indicated that the data from all six frameworks exhibited a normal distribution pattern, especially concerning interference, multi-path fading, and noise. This suggests a potential need for advanced signal processing techniques to effectively address these issues.

Table 2. Descriptive Analysis and Normality of the Data

Variables	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
NGC Image	12	90	55.25	18.90	-0.736	-0.434
Community satisfaction	10	56	39.39	13.70	-0.548	-1.032
Community motivation	10	56	39.87	13.95	-0.655	-0.993
Venue environment	7	29	20.46	7.71	-0.354	-1.003
Stadium atmosphere	5	19	14.62	5.09	-0.597	-0.979
NGC impact perception	11	49	35.19	11.75	-0.586	-0.876

The image construct was assessed, and the outcomes are shown in Table 3 reveal that the public depicted the NGC positively, with statistics such as Satisfied (43%), accomplished (43%), motivating (35%), joyful (44%), healthy (39%), exciting (47%), valuable (44%), beautiful (51%), adventurous (40%), relaxing (40%), inspiring (47%), and supportive (47%).

Table 3. The Community Images of NGC (in %)

Domain	Semantic Scale							Domain
	1	2	3	4	5	6	7	
Unsatisfied	17	12	4.5	5.7	10	8.8	43	Satisfied
Substandard	21	6.3	4.6	5.3	11	12.2	43	Accomplished
Motivating	35	19	11	6.8	8.2	6.2	15	Demotivating
Sad	17	9.3	5.8	5.1	8.8	9.5	44	Happy
Healthy	39	18	8	9.4	7.2	5.4	11	Unhealthy
Boring	13	9.5	4.5	4.6	9.7	11.1	47	Exciting
Valuable	44	24	7.2	5.8	5.6	4.4	11	Worthless
Unattractive	12	8.2	6.8	5.8	5.8	10.1	51	Attractive
Unadventurous	20	9.5	4.5	8.1	9.2	9	40	Adventurous
Distressing	13	8.2	8.3	11.2	11.2	9.1	40	Relaxing
Inspiring	47	18	8.5	6.8	4.5	4	10	Uninspiring
Unsupportive	15	8.2	5.6	6.8	7.7	10.2	47	Supportive

Regarding community satisfaction with the execution of the NGC, the results indicate that more than half of respondents (58.20%) thought it to be satisfactory, although 26.90% had contrasting views (Figure 3).

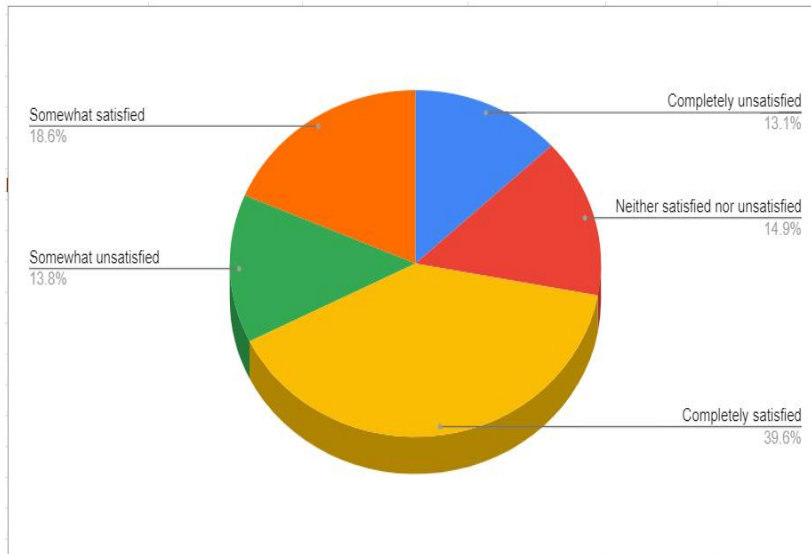


Figure 3. Community Satisfaction in NGC

53.20% of the reasons individuals watched the NGC were connected to amusement, 27.80% to aesthetics, and 19.0% to vicarious achievement (Figure 4).

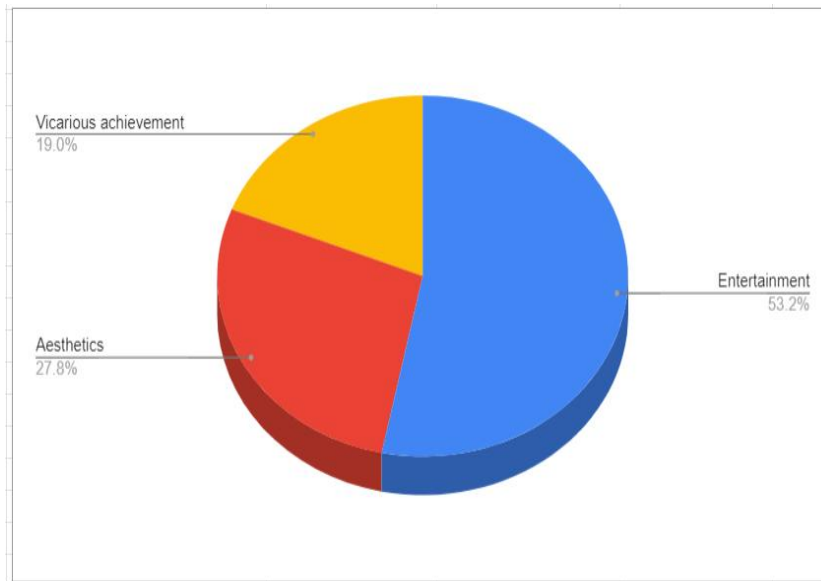


Figure 4. Motivation to Watch NGC

Considering the perception of the NGC's effects on the economic, psycho-social, and infrastructure elements, the community reported that the economic impact was bigger than the other two (Figure 5).

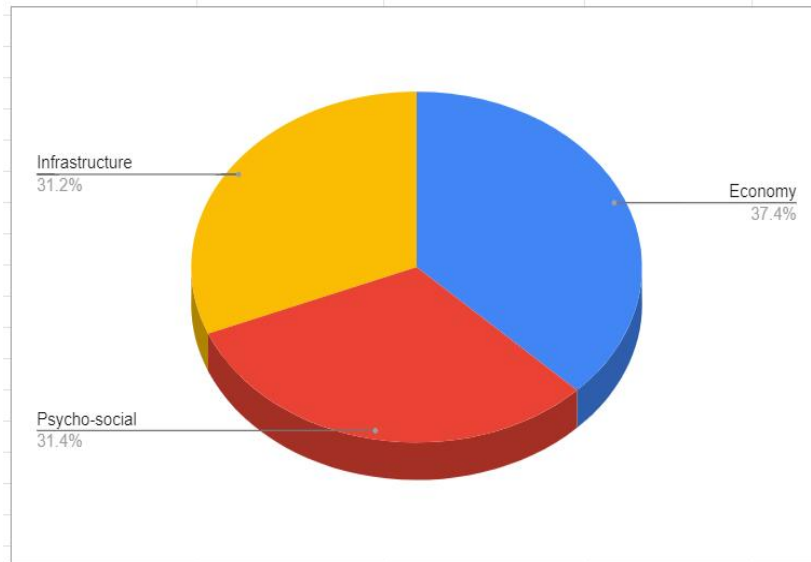


Figure 5. Perception of the impact of NGC in Shanxi

Positive evaluations were offered for stadium environment elements, including parking, cleanliness, and food (Table 4). Hence, "glad at the stadiums" received a significant proportion of agree and strongly agree responses (19.70% and 38.22%). Responses regarding stadium size were balanced, with a positive view of the stadium atmosphere as shown in Table 4. Nearly half of the participants, 48.32%, either agreed or strongly agreed that signage was adequate. In terms of artistic decoration, a slight majority, 52.60%, had similar levels of agreement. For the statement about the stadium experience being enjoyable, the same percentage of respondents agreed or strongly agreed. Additionally, a slightly higher percentage, 55.15%, either tended to agree or strongly agreed that the environment was sociable.

Table 4. Detailed Responses Regarding Stadium Environment and Stadium Atmosphere Constructs

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Stadium environment					
Stadiums having large parking space	12.2	14.08	16.02	19.72	38.21
Event area was kept clean	12.61	13.95	16.75	18.98	37.77
Rude viewers monitored by the security system around the stadiums	13.49	12.45	17.47	20.32	36.32
Delicious food and drinks around the stadiums	10.68	16.88	22.36	18.53	31.57
Stadiums are small	23.28	21.05	20.18	12.93	22.68
Happy to stay in these stadiums	12.01	14.08	16.01	19.72	38.24
Stadium atmosphere					
Sign boards inside the stadiums are enough	14.98	19.58	19.57	33.34	14.98
Artistic interior decorations	14.55	17.18	20.43	36.76	14.55
Watching match inside stadiums is a fun experience	13.18	15.42	21.47	39.42	13.18

Ability to get socialized with other spectators.	11.28	14.82	19.12	43.86	11.28
--	-------	-------	-------	-------	-------

3.2. Association between the Answer Variables

Table 5 provides a concise summary of the relationships that were found between the different response components which is a part of data integration. Each characteristic had a statistically significant correlation with the overarching impression left by the NGC. The strongest association was found to be between satisfaction with the atmosphere of the stadium and attendance ($r = 0.901$, $p 0.01$).

Table 5. Correlation Test results Between Variables

	A	B	C	D	E	F
Perception of the impact of NGC	1	0.813**	0.821**	0.798**	0.811**	0.821**
Community satisfaction		1	0.898**	0.821**	0.900**	0.905**
Community motivation to watch			1	0.821**	0.858**	0.864**
Image of NGC				1	0.788**	0.811**
Stadium environment					1	0.902**
Stadium atmosphere						1

** Significant at the 0.01 level (2-tailed)

3.3 Determinants of Response and the Factors That Affect Them

Table 6 displays the correlations that exist between the explanatory variables (gender, involvement of the respondent in the NGC, and distance from dwelling to stadiums) and the answer variables (six different constructs). This is an attempt to explore the relationships among the variables, which is a way of data integration. According to the findings of our study, there was no correlation between gender and six response factors. On the other hand, there were significant relationships between participation in the NGC and all six of the answer components. The perception of the effects of the NGC was the sole factor that was correlated with the distance from residences and the stadiums of the NGC (Table 6).

Table 6. Factors Correlated With Response Variables

Variable	Perception of Impact		Sport Image Event		Satisfaction		Motivation		Stadium Environment		Stadium Atmosphere	
	Mean ± SD	F	Mean ± SD	F	Mean ± SD	F	Mean ± SD	F	Mean ± SD	F	Mean ± SD	F
Male	34.92 ± 11.86	0.625	54.95 ± 19.243	0.226	39.48 ± 13.88	0.068	40.22 ± 14.24	0.648	20.60 ± 7.35	0.575	14.05–15.05	0.26

Female	35.65 ± 11.56		55.95 ± 18.45		39.22 ± 13.49		39.32 ± 13.52		20.21 ± 6.88		14.14– 15.36	
Involvement												
Yes	39.72 ± 4.22	26.908 **	63.64 ± 4.43	26.188 **	45.05 ± 3.35	31.152 **	46.13 ± 9.45	37.149* *	22.74 ± 4.24	18.088 **	16.05– 17.25	28.663 **
No	34.02 ± 5.23		53.06 ± 6.68		37.92 ± 5.26		38.23 ± 14.45		19.89 ± 5.44		13.64– 14.56	
Distance from residence												
Less than 1 Km	34.02 ± 5.23	3.694 *	52.62 ± 20.72	2.935	37.91 ± 14.43	2.082	38.15 ± 14.51	2.482	19.76 ± 7.68	1.589	13.23– 14.74	2.804
Between 2 to 4 Kms	36.78 ± 11.02		56.13 ± 18.07		40.68 ± 12.43		41.11 ± 12.98		20.92 ± 6.32		14.55– 15.74	
More than 5 Kms	35.24 ± 11.56		56.62 ± 17.89		39.56 ± 13.98		40.28 ± 14.11		20.70 ± 7.25		14.15– 15.33	

* Significant at the 0.05 level.

** Significant at the 0.001 level

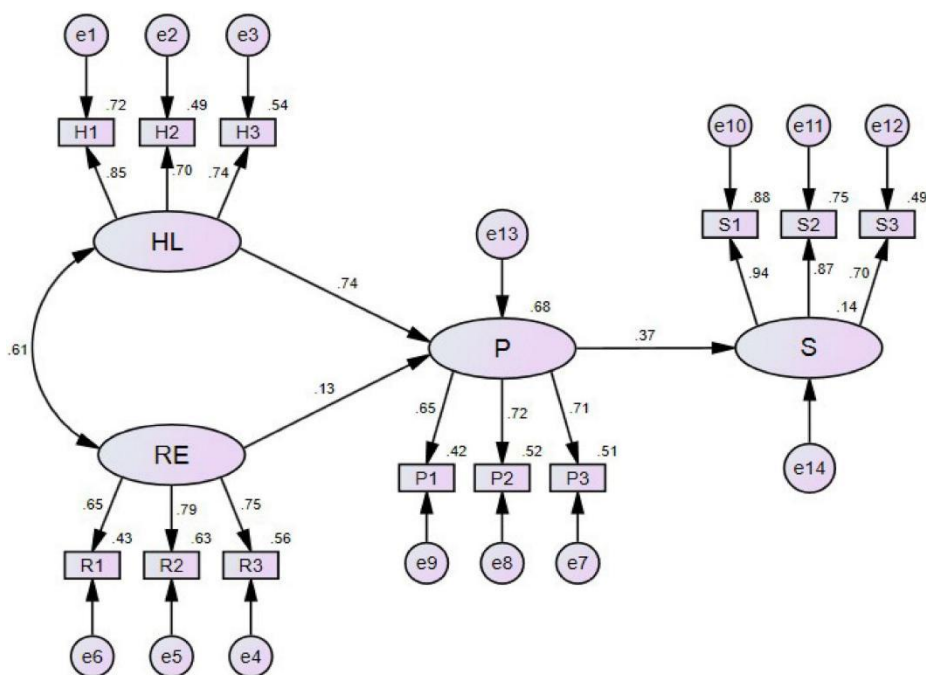


Figure 6. Final Structural Equation Mode

In the structural equation model presented, "HL," "RE," "P," and "S" are designated as dimension variables, while "H," "R," "P," and "S" serve as the observed variables. The model includes error terms represented by "e" and the arrows are annotated with standardized estimate parameters. Here, "HL" stands for Health Literacy, "RE" represents resident expectations, "P" indicates participation, and "S" is for satisfaction, as detailed in Figure 6.

4. Discussion

The purpose of this research is to deploy the purposive non probabilistic sampling method which collected only specific data from the overall data. The work investigate six aspects of the National Games of China 2021 (NGC), which will be the largest athletic event ever held in China: The study investigates aspects like community image, satisfaction, motivation for attendance, stadium atmosphere, environmental ambiance, and societal impact perceptions. Additionally, it analyzes the relationship between gender, event involvement, and proximity of residences to the stadiums, utilizing the six previously mentioned categories.

4.1. NGC Constructs

The majority of individuals who witnessed NGC had favorable impressions about the event. On the "unattractive-attractive" axis, the majority of respondents evaluated NGC as attractive. This is hardly surprising given that China has constructed some world-class sports infrastructures for the event, as well as the natural beauty of the host region. According to Li and Gao [46], the region's natural, cultural, historical, and sports tourism assets have made the event more appealing. The "inspiring and thrilling" facet also received a high score, indicating that NGC inspired the community. The event's planning faced numerous challenges, including geographical constraints, limited human resources, infrastructure support, security issues, and the impact of the COVID-19 pandemic. Despite these hurdles, the collective efforts of the community, the Chinese government, and the National Sports Committee turned the event into a triumph. President Xi Jinping acknowledged and praised the government and committee's successful management. This success story underlines how the National Games Committee (NGC) managed to draw attention and inspire many, overcoming significant obstacles in the process.

The majority of respondents were pleased with NGC in terms of community satisfaction. This finding aligns with the conclusions of prior research on major sports events. Dolan's work, for example, highlights the positive influence these events have on spectators' emotions, notably enhancing their happiness and overall life satisfaction. In a similar line, Mitchell and Stewart [32] researched big sports events and found that residents of locations hosting sporting events will

experience enjoyment, satisfaction, and pride. In the context of NGC, respondents indicated that the government and committee organised the event effectively.

The purpose of the present study was to examine the audience's motivation and assessment of the stadium environment during the NGC, the largest athletic event in Shaanxi, China. Consistent with past studies on crowd motivation at athletic events, the study discovered that the primary motivator for the audience was entertainment [42],[44]. Notwithstanding the problems provided by the COVID-19 pandemic, the motivation to witness the tournament remained high because it was not only a big national sporting event, but also the first time Papua had been entrusted to host the event [51],[11],[41].

Several aspects of the stadium environment, including parking, cleanliness, and food availability, were seen positively by respondents. The majority of respondents (57.92%) appreciated lingering at locations. These results are consistent with Cho et al [2].'s study, which highlighted the direct effect of the stadium atmosphere on the desire to stay and even return to the location where an event was held. At this event, the stadium, extensive parking spaces, and other supporting infrastructure were in excellent condition.

In addition, the study concluded that the stadium environment was suitable to socialising, given that the NGC is the largest multi-sport event in China, featuring the best athletes, and attracts a vast number of spectators [11],[27]. This conclusion is consistent with findings from earlier research showing sporting events promote sociability and community interaction. The NGC's big viewership allowed community involvement, which is supposed to build communal solidarity and fraternity.

According to the majority of respondents in China, the economic impact of athletic events on the community is greater than the infrastructure and psychosocial components. This finding is consistent with previous studies on sporting events, such as those of Kim et al. [21],[22],[23], [2],[47]. It is well known that sporting events attract a substantial number of spectators, hence generating economic benefits for the host community [33]. When China was selected to host the sports event, the government erected stadiums, hotels, motorways, and other support systems, which were well respected by society. Infrastructure scored the second-highest score, which is not surprising given that many associate the sporting event with government-led expansion. Athletic events can have far-reaching consequences on society, including infrastructure, culture, and others. In comparison to the other two criteria, the psychosocial influence was of lesser importance. Nonetheless, sporting events make citizens of the region/country feel proud since they indicate foreign acknowledgment and confidence in the region/country [47].

4.2 Coefficients of Correlation Between Responder Variables

The study confirms a link between various factors at sports events, such as the event's image, motivation, satisfaction, stadium atmosphere, and environmental perception. It aligns with prior research, particularly in highlighting how community perceptions of sports events' impacts (economic, infrastructural, and psychosocial) are influenced by multiple elements. The study also notes that aspects related to stadium atmosphere and environment significantly affect crowd pleasure, underscoring the importance of these factors in enhancing spectator satisfaction. Essentially, the environmental and atmospheric conditions at and around the stadium play a crucial role in shaping audience enjoyment.

4.3 Variables linked with Response Factors

In our research, we discovered that respondents' participation in the National Games of China (NGC) was significantly related to all six components (response variables). In all dimensions, the average scores of respondents who participated in the NGC event were significantly higher than those who did not. This is because committees, athletes, officials, and security had direct effects on responders who were actively associated with the event. Hence, affected residents tended to actively experience the event's effects. These conclusions are supported by [12]. Our research also revealed that the distance between houses and NGC sites was substantially related to the impression of the NGC's impact. Those who reside closer to the stadiums may experience discomfort owing to the event's congestion and crowds. This conclusion is similar to the findings of [30]. This research revealed that there was no correlation between gender and any of the six categories, indicating that

males/females tend to rank sports event image, motivation, pleasure, stadium atmosphere, surroundings, and the perception of sports event impacts similarly.

However, many researches has been conducted by taking these parameters, but our research is the only research which has taken all the components together such as sports event image, motivation, satisfaction, stadium atmosphere, environment, and perception of the impacts. This study has highest data size and study has been covering the area of 205,800 km² and many districts after COVID-19 pandemic. That's show the uniqueness and Novelty of the research.

4.4. Limitations and Further Scope

The present research has some shortcomings that need to be acknowledged. Firstly, the data was collected during the NGC event, which may have influenced the respondents' responses due to the excitement and enthusiasm surrounding the event.

Secondly, the study did not investigate the image destination aspect, even though China has many internationally recognized destinations.

To overcome these limitations, future research should collect data before, during, and after the event. Also, incorporate relevant variables such as destination image, life satisfaction, and others.

Strength and Weakness of the Study:

Our research also revealed that the distance between houses and NGC sites was substantially related to the impression of the NGC's impact. Those who reside closer to the stadiums may experience discomfort owing to the event's congestion and crowds. Stadium environment was suitable to socialising, given that the NGC is the largest multi-sport event in China. The community's direct involvement affected sports event image, satisfaction, motivation, stadium atmosphere, environment, and views of sporting events' influence.

Weakness

The study did not investigate the image destination aspect, even though China has many internationally recognized destinations.

5. Conclusion

The National Games in China, being a major multi-sport event, have the potential to positively influence community perspectives in various areas, such as the perception of the sports event's image, attendee satisfaction, motivational aspects, the ambiance of the stadium, environmental factors, and the overall impact of the event. The aggregation of complex and versatile data based on the opinion of the scientific community is done by purposive sampling technique. The National Games also had a significant association with the six components. The community's direct involvement affected sports event image, satisfaction, motivation, stadium atmosphere, environment, and views of sporting events' influence. This is studies using correlation analysis which integrates the people's opinion and the hypothesis formulated in the study after the purposive sampling. Only the perceived impact of the National Games was correlated with distance from the stadiums, but gender was not associated with any of the six categories. The National Games are well-received by the public and may boost the economy. Sports event image, motivation, satisfaction, stadium atmosphere, and stadium surrounds greatly influence public perception of athletic events' impact. The organizing committee should prioritize the stadium atmosphere and surroundings to satisfy the community.

References

- [1] M.S. Balaji, Rajdeep Chakraborti, "Stadium Atmosphere: Scale Development and Validation in Indian Context," *Journal of Indian Business Research*, vol.7, pp. 45–66, Mar. 2015.
- [2] Briedenhann, Jenny, "Economic and Tourism Expectations of the 2010 FIFA World Cup—A Resident Perspective," *Journal of Sport and Tourism*, vol. 16, pp.5–32, May. 2011.
- [3] Brown, Graham, Andrew Smith, Guy Assaker, "Revisiting the Host City: An Empirical Examination of Sport Involvement, Place Attachment, Event Satisfaction and Spectator Intentions at the London Olympics," *Tourism Management*, vol. 55, pp.160–72, Aug. 2016.

- [4] Chen, Xiaoying, Brian H. Yim, Ziqing Tuo, Liangjun Zhou, Ting Liu, James J. Zhang, “One Event, One City: Promoting the Loyalty of Marathon Runners to a Host City by Improving Event Service Quality,” *Sustainability*, vol.13, p.3795, Mar. 2021.
- [5] Cho, Heetae, Hyun Woo Lee, Do Young Pyun, “The Influence of Stadium Environment on Attendance Intentions in Spectator Sport: The Moderating Role of Team Loyalty,” *International Journal of Sports Marketing and Sponsorship*, vol.20, pp. 276–290, May. 2019.
- [6] Dolan, Paul, Georgios Kavetsos, Christian Krekel, Dimitris Mavridis, Robert Metcalfe, Claudia Senik, Stefan Szymanski, Nicolas R. Ziebarth, “The Host with the Most? The Effects of the Olympic Games on Happiness,” *CEP Discussion Papers, London: Centre for Economic Performance, LSE*, Aug.2016. doi: <https://doi.org/10.2139/ssrn.2818834>.
- [7] Duan, Yanling, Bing Liu, “Spectator Satisfaction Model for Mass Participant Sport Events: Antecedents and Consequences,” *International Journal of Sports Marketing and Sponsorship*, vol. 22, pp. 385–406, Apr. 2021.
- [8] Duan, Yanling, Bing Liu, Yan He, “Study on Relationships among Sports Spectator Motivations, Satisfaction and Behavioral Intention: Empirical Evidence from Chinese Marathon,” *International Journal of Sports Marketing and Sponsorship*, vol.21, pp. 409–425, Jul. 2020.
- [9] Fahriani, Marhami, Samsul Anwar, Amanda Yufika, Bakhtiar Bakhtiar, Elly Wardani, Wira Winardi, Kaitlyn Akel, Abram Wagner, Harapan Harapan, “Disruption of childhood vaccination during the COVID-19 pandemic in Indonesia,” *Narra*, vol.1, no. 1, Apr. 2021.
- [10] Girish, Vaishnav, Choong Ki Lee, “The Relationships of Brand Experience, Sports Event Image and Loyalty: Case of Jeju International Ultramarathon Race,” *International Journal of Sports Marketing and Sponsorship*, vol.20, pp. 567–82, Aug. 2019.
- [11] Guntoro, Setyo, Miftah, Putra, “The development and validation of sports events impact on locals questionnaire,” *Jurnal Sositologi*, vol. 20, pp. 176–87, 2021.
- [12] Hallmann, Kirstin, Anita Zehrer, “Event and Community Involvement of Sport Event Volunteers,” *International Journal of Event and Festival Management*, vol. 8, pp. 308–23, Oct. 2017.
- [13] Huang, Haiyan, Luke Lunhua Mao, Junqi Wang, James J. Zhang, “Assessing the Relationships between Image Congruence, Tourist Satisfaction and Intention to Revisit in Marathon Tourism: The Shanghai International Marathon,” *International Journal of Sports Marketing and Sponsorship*, vol.16, pp. 46–66, Jul. 2015.
- [14] Jeong, Yunduk, Suk Kyu Kim, Jae Gu Yu, “Determinants of Behavioral Intentions in the Context of Sport Tourism with the Aim of Sustaining Sporting Destinations,” *Sustainability*, vol. 11, p.3073, May. 2019.
- [15] Jeong, Yunduk, Euisoo Kim, Suk Kyu Kim, “Understanding Active Sport Tourist Behaviors in Small-Scale Sports Events: Stimulus-Organism-Response Approach,” *Sustainability*, vol.12, p. 8192, Oct. 2020.
- [16] Kaplanidou, Kyriaki, Christine Vogt, “Do Sport Tourism Events Have a Brand Image?” *Northeastern Recreation Research Symposium*, pp.9–11, 2006.
- [17] Kaplanidou, Kyriaki, Christine Vogt, “The Interrelationship between Sport Event and Destination Image and Sport Tourists’ Behaviours,” *Journal of Sport and Tourism*, vol. 12, pp. 183–206, 2007.
- [18] Kaplanidou, Kyriaki, Christine Vogt, “The Meaning and Measurement of a Sport Event Experience among Active Sport Tourists,” *Journal of Sport Management*, vol. 24, pp. 544–66, 2010.
- [19] Kavetsos, Georgios, Stefan Szymanski, “National Well-Being and International Sports Events,” *Journal of Economic Psychology*, vol. 31, pp. 158–71, 2010.
- [20] Kim, Nam Su, Laurence Chalip, “Why Travel to the FIFA World Cup? Effects of Motives, Background, Interest, and Constraints,” *Tourism Management*, vol. 25, pp.695–707, Dec. 2004.
- [21] Kim, Min Kil, Suk Kyu Kim, Jae Ahm Park, Michael Carroll, Jae Gu Yu, Kyunga Na, “Measuring the Economic Impacts of Major Sports Events: The Case of Formula One Grand Prix(F1),” *Asia Pacific Journal of Tourism Research*, vol. 22, pp. 64–73, 2017.

- [22]Konstantaki, Maria, "Social and Cultural Impact of the London 2012 Olympic Games: A Lecturers' and Students' Perspective," in *International Tourism 2 Conference*, Alanya, Turkey, 2008, pp. 1–23.
- [23]Konstantaki, Maria, Eugenia Wickens, Feng Yi Perris, "Themes and Content of the London 2012 Olympic Games Opening Ceremony: A Comparison between Pre-Games Perspectives of British Residents and Actual Ceremonial Elements," *Tourism and Hospitality Research*, vol. 19, pp. 40–53, Dec.2016.
- [24]Lai, Kun, "Influence of Event Image on Destination Image: The Case of the 2008 Beijing Olympic Games," *Journal of Destination Marketing and Management*, vol. 7, pp. 153–63, Mar. 2018.
- [25]Lamla, Michael Josef, Martin Straub, Esther Mirjam Girsberger, "On the Economic Impact of International Sport Events: Microevidence from Survey Data at the EURO 2008," *Applied Economics*, vol. 46, pp. 1693–703, Feb.2014.
- [26]Lita, Ratni Prima, Ma'ruf, "2015 Relationship Model among Sport Event Image, Destination Image, and Tourist Satisfaction of Tour de Singkarak in West Sumatera," *Journal of Economics, Business & Accountancy Ventura*, vol. 18, 2015.
- [27]Lutan, Rusli, "Indonesia and the Asian Games: Sport, Nationalism and the 'New Order'," *Sport in Society*, vol. 8, pp.414–24, 2015.
- [28]Madden, John, Matthew Crowe, " Estimating the Economic Impact of the Sydney Olympic Games," *Current Issues in Tourism*, vol. 5, pp. 7–20, 1998.
- [29]Maksum, Ali, Adang Suherman, M. Sofyan Hanif, "Dampak psiko-sosial SEA Games 2011: Survei pada masyarakat Palembang," *Jurnal Iptek Olahraga*, vol. 14, pp. 243–57,Jan. 2012.
- [30]Milovanovi ´c, Ivana, Radenko Mati ´c, Kostas Alexandris, Nebojša Maksimovi ´c, Zoran Miloševi ´c, Patrik Drid, "Destination Image, Sport Event Quality, and Behavioral Intentions: The Cases of Three World Sambo Championships," *Journal of Hospitality and Tourism Research*, vol. 45, pp. 1150–69, 2021.
- [31]Mitchell, Heather, Mark Fergusson Stewart, "What Should You Pay to Host a Party? An Economic Analysis of Hosting Sports Mega-Events," *Applied Economics*, vol. 47, pp.1550–61, Jan. 2015.
- [32]Preuss, Holger, "The Economic Impact of Visitors at Major Multi-Sport Events," *European Sport Management Quarterly*, vol. 5, pp. 281–301, Sep. 2006.
- [33]Putra, "How is Indonesia's achievement in the SEA Games, Asian Games, and Olympics? Reflection on 38th National Sports Day," *Jurnal Olahraga Pendidikan Indonesia*, pp. 108–29, 2021.
- [34]Putra, Saharuddin, " Profile of Papua athlete physical capability: Study towards Papua PON XX," *Jurnal Keolahraaan*, vol. 7, pp. 135–45, 2019.
- [35]Rozmiarek, Mateusz, Joanna Poczta, Ewa Malchrowicz-mo ´sko, "Motivations of Sports Volunteers at the 2023 European Games in Poland," *Sustainability*, vol. 13, Jun. 2021.
- [36]Škori ´c, Sanela, Josip Mikuli ´c, Petra Bariši, "The Mediating Role of Major Sport Events in Visitor'Satisfaction, Dissatisfaction, and Intention to Revisit a Destination", *Societies*,vol.11, p. 78, 2021.
- [37]Snelgrove, Ryan, Marijke Taks, Laurence Chalip, Christine Green, "How Visitors and Locals at a Sport Event Differ in Motives and Identity," *Journal of Sport and Tourism*, vol. 13, pp.165–80, Aug. 2008.
- [38]Thomson, Alana, Katie Schlenker, Nico Schulenkorf, "Conceptualizing Sport Event Legacy. Event Management," *Ingenta*, vol. 17, pp. 111–22, 2013.
- [39]Waite, Gordon, "Social Impacts of the Sydney Olympics," *Annals of Tourism Research*, vol. 30, pp. 194–215, Jan. 2003.
- [40]Wandik, Yos, Tri Setyo Guntoro, Putra, "Training Center in the Midst of the COVID-19 Pandemic: What Is the Indonesian Papuan Elite Athletes' Happiness Like?," *American Journal of Humanities and Social Sciences Research*, vol. 5, pp. 103–9, Oct. 2021.
- [41]Wann, Daniel, Frederick, Grieve, Ryan Zapalac, Dale Pease, "Motivational Profiles of Sport Fans of Different Sports," *Sport Marketing Quarterly*, vol. 17, pp. 6–19, 2008.

- [42]Widiastono, Ari, Liza Angriani, “Analysis and Evaluation of the Papua Province Tourism Geographic Information System,” *ILKOM Jurnal Ilmiah*, vol. 10, pp. 33–37, 2018.
- [43]Wiid, Johannes, Michael, “Sport Fan Motivation: Are You Going To The Game? ” *International Journal of Academic Research in Business and Social Sciences*, vol. 5, pp. 383–98, 2015.
- [44]Wilson, Robert, “The Economic Impact of Local Sport Events: Significant, Limited or Otherwise? A Case Study of Four Swimming Events,” *Managing Leisure*, vol. 11, pp. 57–70, 2006.
- [45]Yuli Agustina,Subagyo,Lulu NurulIstant, “How money circulates in Indonesian SMEs: An analysis of Financial Literacy, Business Performance, Financial Management Behavior,” *Financial Attitude Educational Administration: Theory and Practice*, vol. 28, pp. 122-132, 2022.
- [46]Muthmainnah, Ahmed Obaid, Raghda Salam Al.Mahdawi, Haitham Abbas Khala, “Adoption Social Media-Movie Based Learning Project (SMMBL) To Engage Students' Online Environment,” *Educational Administration: Theory and Practice*, vol. 28, pp. 022-036, 2022.
- [47]Ahmed, Ali, “Usage of traditional chinese medicine, western medicine and integrated Chinese-western medicine for the treatment of allergic rhinitis,,” *SPR*,” vol. 1, pp. 01-10, 2021.
- [48]Chen, Xiaoying, Brian Yim, Ziqing Tuo, Liangjun Zhou, Ting Liu, and James Zhang, “‘One Event, One City’: Promoting the Loyalty of Marathon Runners to a Host City by Improving Event Service Quality,” *Sustainability*, vol. 13, 2021.
- [49]Duan, Yanling, Bing Liu, “Spectator Satisfaction Model for Mass Participant Sport Events: Antecedents and Consequences,” *International Journal of Sports Marketing and Sponsorship*, vol. 22, pp. 385–406, 2021.
- [50]Guntoro, Setyo, Miftah, “ The development and validation of sports events impact on locals questionnaire,” *Jurnal Sosioteknologi*, vol. 20, pp.176–87, 2021.
- [51]D. Guo and M. Zhao, “The Use of 5G Network Technology to Reform and Innovate the Culture of Opening Ceremony in Chinese Winter Olympics,” *International Journal of Communication Networks and Information Security (IJCNIS)*, vol. 15, no. 2, pp. 114-127, Oct. 2023.