# Consumption behavior of ice and snow sports under the impact of the 2022 Beijing Winter Olympics

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#### **Abstract**

The success of the 2022 Beijing Winter Olympic Games is of great significance and international influence. In China, more and more consumers have been coming to ski resorts to participate in and experience winter sports in the last two years. This study focuses on the participation of Beijing residents in ice and snow sports. It explores the specific situation of the purpose and love of ice and snow sports consumption in Beijing under the influence of the Olympic Winter Games. The study also explores how to capture residents' enthusiasm for snow and ice sports under the influence of the Winter Olympics to achieve the effect of increasing residents' participation and consumption of snow and ice sports. Using literature, and mathematical statistics, questionnaires were distributed within Beijing to give a differentiated background to the sample, centralized recovery, and data statistics. The results found that, under the premise of hosting the Winter Olympic Games, the level of love for sport and motivation to participate in snow and ice sports among different groups of residents have a positive impact on snow and ice sports consumption. Thus it contributes to local residents' overall economic development and consumption levels. To an extent, it enriches the research results of consumer behavior. It expands the theoretical analysis horizon, suggesting that the ice and snow industry should correctly capture the herd mentality of residents for promotion and marketing and expand the value of the snow and ice service chain.

**Key Words:** 2022 Beijing Winter Olympic Games, ice and snow sports participation, ice, and snow sports consumption purposefulness, ice and snow sports consumption behavior.

# Research objectives

The 2022 Beijing Winter Olympic Games opened on 4 February 2022 and closed on 20 February 2022, Beijing time. The two-week-long Olympic Games brought to life the important values of the Olympic Movement, which promote peace and prosperity throughout the world and understanding and identity among all humankind and made an important contribution to the development of the international Olympic cause and the spread of the Olympic spirit. Thomas Bach, President of the International Olympic Committee, hailed the Beijing Winter Games as setting a "new Olympic benchmark," a major feat destined to go down in the history of the modern Olympics for many years. It also means that the rapid development of skiing is an inevitable trend following the success of the 2022 Winter Olympics in China. The holding of the Beijing Winter Olympics has an important impact on future sports development strategies and is significant to the development of Chinese sports.

In March 2019, China introduced a series of relevant plans and policies to vigorously call for making skiing more accessible to more people and thus joining the sport. The rapid development of ice and snow sports is an inevitable trend after the success of hosting the Winter Olympics, and this opportunity should be seized to vigorously develop skiing and promote public participation and consumption of ice and snow sports, thus promoting the economic strides of China's ice and snow industry. Nowadays, more and more skiing enthusiasts meet at snow parks every winter, and skiing has now become one of the increasingly popular sports among friends. For the Chinese nation, the significance of lighting the torch for snow and ice sports in the historical coordinates of the new era is by no means limited to the Winter Olympics itself, as sport carries the dream of China's national strength and revitalization.

## **Objectives of the study**

The development of China's ice and snow sports industry is inseparable from the participation of people across the country in ice and snow sports and the consumption generated from the sports. Under the influence of the Beijing Winter Olympic Games background, the enthusiasm and interest brought by ice and snow sports are better felt by the residents of Beijing. In the course of this research, the researcher consulted a large amount of relevant information, learned a lot of valuable experience at home and abroad, and with the help of successful cases, combining theory and practice, conducted a questionnaire survey on the participation of Beijing residents in ice and snow sports and the purpose of participation in sports respectively, and analyzed the factors affecting the consumption of Beijing snow and ice Sports. It is hoped that the research and purpose of ice and snow sports in Beijing will provide a strong preference for the consumption of ice and snow sports and promote the development of ice and snow sports in Beijing or other regions.

#### **Research Questions**

The following research questions are raised for this study.

- 1) Do sporty groups generate more consumer behavior on snow and ice sports than non-sporty groups?
- 2) What motivates people to be more likely to engage in snow and ice sports behavior?
- 3) Does Beijing's hosting of the Winter Olympics in 2022 boost snow and ice sports behavior?
- 4) Does hosting the Beijing Winter Olympics increase the love of snow and ice sports among Beijing residents?
- 5) Does hosting the Beijing Winter Olympics make it possible for more Beijing residents to be motivated by a herd mentality to participate in snow and ice sports?

# 1.4 Research Objectives

## The research objectives of this study are as follows:

- 1) To explore the relationship between the level of love of sport and people's participation in snow and ice sports consumption behavior.
- 2) To explore the relationship between motivation to participate in snow and ice sports and the occurrence of people's consumption behavior in participating in snow and ice sports. To explore the relationship between hosting the Beijing Winter Olympics and the occurrence of people's consumption behavior in participating in snow and ice sports.

- 3) To explore the relationship between hosting the Beijing Winter Olympics and the level of love for the sport.
- 4) To investigate the relationship between hosting the Beijing Winter Olympics and people's motivation to participate in snow and ice sports.

# **Conceptual Framework of Study**

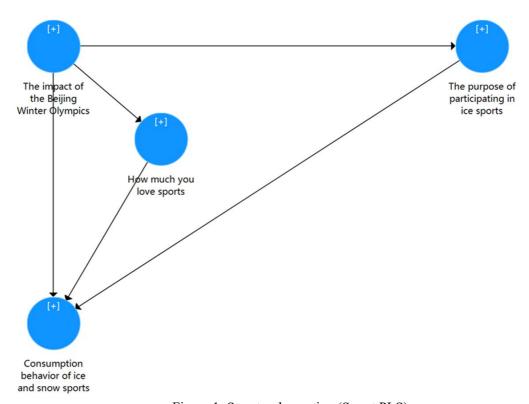


Figure 1: Structural equation (Smart PLS)

# Level of love for sport -> Ice and snow sports consumption behaviour

There is a correlation between my degree of love for snow and ice sports and my consumption behaviour towards generating snow and ice sports. Based on my understanding of the research literature related to factors affecting the demand and behaviour of sports consumption, it is easy to see that the degree of love influences the demand and behaviour of residents' sports consumption to a certain extent. In my opinion, the degree of love for snow and ice sports is positively correlated with consumption behaviour.

# **Findings**

- H1 Level of love for sport -> Ice and snow sports consumption behaviour.
- H2 Purposeful participation in snow and ice sports -> Snow and ice sports consumption behaviour.
- H3 Beijing Winter Olympics impact -> Ice and snow sports consumer behaviour.
- H4 Beijing Winter Olympic Games impact -> Passion for sport.
- H5 Beijing Winter Olympics impact -> Participation in snow sports purposeful.

#### **Assumed certification**

Explanation of regression model table analysis-Impact analysis

## For research objective 1

As shown in Table 5-1, the coefficient of determination,  $R^2 = 0.311$ , indicates that love of sport can explain 31.1% of the consumption level variables. The standardized coefficient  $\beta = 0.560$  and has significant explanatory power (p < 0.001), indicating that the higher the level of love for the sport, the higher the consumption behaviour of participation in snow and ice sports. Therefore, hypothesis H1 of this study is valid holds and is presented in Figure 5.1 below.

**Table 5.1: Regression model: Love for Sport** 

H1 Regression model of love of the sport on consumption behaviour (influential analysis)

	Non-stand	Non-standardized coefficients		Standardized coefficients		
	coeffici					
	B-estimates	B-estimates Standard		t	Significance	
		Error				
(Constant)	1.289	1.163		7.922	0.000	
Love of	0.538	0.043	0.560	12.601	0.000	
sport-sum						

Dependent variable: ice and snow sports consumption behaviour  $R^2 = 0.313 \ \ Adjusted \ R^2 = 0.311 \ \ F = 158.796$   $N = 350 \ ***p \le 0.001$ 

# For research objective 2

Table 5.2 shows that the coefficient of determination,  $R^2$  = 0.346, indicates that 34.6% of the consumption level variables can be explained by different motivations for participating in ice and snow sports. The standardized coefficient  $\beta$  = 0.590 and has significant explanatory power (p < 0.001), indicating that the more purposeful one is towards ice and snow sports, the higher the consumption behaviour of participation in snow and ice sports. Therefore hypothesis H2 of this study holds and is presented in Figure 5.1 below.

**Table 5.2: Regression model: motivation to participate** 

H2 Regression model of motivation to participate in snow and ice sports on consumption behaviour (impact analysis)

Non-standardised coefficients

Standardised coefficients

	B-estimates	Standard	Beta	t	Significance
		Error			
(Constant)	1.346	0.147		9.177	0.000
Motivation	0.519	0.038		13.626	0.000
to					
participate			0.590		
in snow					
and ice					
sports-sum					

Dependent variable: ice and snow sports consumption behaviour  $R^2\!\!=\!\!0.348~Adjusted~R^2\!\!=\!\!0.346~F\!\!=\!\!185.676$   $N\!\!=\!\!350~***p\!\!\leq\!\!0.001$ 

# For research objective 3

Table 5.3 indicate that the coefficient of determination,  $R^2 = 0.195$ , indicates that 19.5% of the consumption level variables can be explained by being influenced by the Beijing Winter Olympics. The standardized coefficient  $\beta = 0.445$  and has significant explanatory power (p < 0.001), indicating that the greater the influence of the Beijing Winter Olympics, the higher the level of consumption. Therefore hypothesis H3 of this study holds and is presented in Figure 5.1 below.

Table 5.3: Regression model: influence of the Winter Olympics

H3 Regression model of the influence of the Winter Olympics on consumer							
behaviour (influential analysis)							
Non-standardised							
	coefficients		Standardised coefficients				
	B-estimates	Beta	t	Significance			
Error							
(Constant)	1.314	0.217	0.445	6.056	0.000		

Beijing	0.497	0.054	9.260	0.000
Winter				
Olympic				
Games				
(Impact)-				
sum				

Dependent variable: Ice and snow sports consumption behaviour  $R^2 \!\!=\!\! 0.198 \;\; Adjusted \; R^2 \!\!=\!\! 0.195 \;\; F \!\!=\!\! 85.753$   $N \!\!=\!\! 350 \; ***p \!\!\leq\!\! 0.001$ 

# For research objective 4

Table 5. 4 presents the coefficient of determination,  $R^2 = 0.272$ , which indicates that 27.2% of the love of sport variables can be explained by being influenced by the Winter Olympics. The standardized coefficient  $\beta = 0.523$  and has significant explanatory power (p < 0.001), indicating that the higher the level of influence of the Winter Olympics, the higher the level of love for snow and ice sports. Therefore hypothesis H4 of this study is valid. as shown in Figure 5.1 below,

Table 5.4: Regression model: influence of the Winter Olympics on People's Love of Sport

H4 Regression model of the influence of the Winter Olympic Games on people's
love of sport (impact analysis)

	Non-standardised coefficients		Standardised coefficients		
	B-estimates	Standard	Beta	t	Significance
		Error			
(Constant)	1.307	0.215		6.081	0.000
Beijing	0.609	0.053	0.523	11.457	0.000
Winter					

Olympic Games (Impact)sum

> Dependent variable: love of sport R<sup>2</sup>=0.274 Adjusted R<sup>2</sup>=0.272 F=131.256 N=350 \*\*\*p<0.001

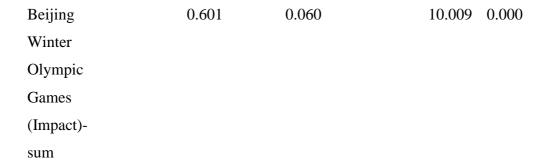
## For research objective 5

Table 5.5 shows that the coefficient of determination,  $R^2$  = 0.221, indicates that 22.1% of the motivation to participate in snow and ice sports variables can be explained by being influenced by the Winter Olympics. The standardised coefficient  $\beta$  = 0.473 and has significant explanatory power (p < 0.001), indicating that the higher the level of influence by the Winter Olympics, the higher the motivation (purpose) to participate in snow and ice sports. Therefore hypothesis H5 of this study is valid, as shown in Figure 5.1 below,

Table 5.5: Regression model: motivation to participate in snow sports as a result of the hosting (influence) of the Winter Olympics (impact analysis)

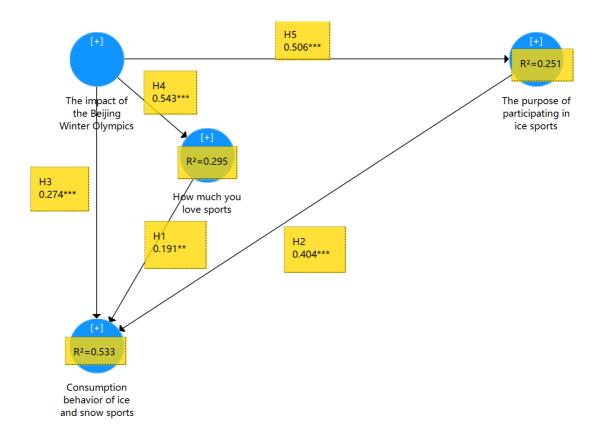
H5 Regression model of the motivation to participate in snow sports as a result of the hosting (influence) of the Winter Olympics (impact analysis)

	Non-standardised coefficients		Standardised coefficients		
	B-estimates Standard		Beta	t	Significance
		Error			
(Constant)	1.376	0.243	0.473	5.627	0.000



Dependent variable: motivation to participate in snow and ice sports  $R^2\!\!=\!\!0.224 \ Adjusted \ R^2\!\!=\!\!0.221 \ F\!\!=\!\!100.176$   $N\!\!=\!\!350 \ ***p\!\!\leq\!\!0.001$ 

Figure 5.1 Structural equation (SmartPLS) result



#### **5.2 Conclusion**

The results of this survey show that the level of love for sports and the motivation to participate in snow and ice sports among different groups of Beijing residents have a positive impact on snow and ice sports consumption, thus contributing to the growth of consumption levels, under the premise of the Beijing Winter Olympics. Against the backdrop of the success of the 2022 Beijing Winter Olympic Games, the motivation of Beijing residents to participate continues to increase, the scope of consumption choices is further expanded, and the consumption environment is steadily improving.

The favorable external influence effectively unleashes domestic demand for ice and snow consumption among Beijing residents in the region. There are still some differences in the propensity and level of consumption of residents participating in ice and snow sports in different regions within Beijing. Regional consumption differences need to be explained by a combination of factors such as GDP per capita, consumer behaviour, and the structure of the consumer population rather than income alone. The differences in participation in ice and snow sports consumption between different regions in Beijing are influenced by a combination of factors. The Winter Olympics will positively impact many aspects of China's socio-economic, cultural, cultural, and international influence. It could also bring opportunities for development and reform in the Chinese sports industry. Therefore, China may seize this opportunity to promote the progress of all aspects of society and sports in our society with the success of the Winter Olympics.

#### 5.3 Discussion

The questionnaire survey of Beijing residents showed that, under the influence of the Winter Olympic Games events, there was a significant increase in residents' attitudes towards ice and snow sports and a moderate increase in their motivation to treat ice and snow sports. Residents' participation in ice and snow sports consumption in the Beijing region is mainly influenced by factors such as the level of love for the sport, motivation to participate in ice and snow sports, and the

success of the Winter Olympics and publicity. Secondly, more than half of the survey respondents are frequent watchers of the opening and closing ceremonies and events of the Beijing Winter Olympic Games and purchasers of the range of products. This indicates that the rise in ice and snow sports consumption behaviour cannot be separated from the influence of the Beijing Winter Olympics.

## **5.4 Discussion-Revelations**

This paper presents a theoretical analysis of residents' participation in ice and snow sports and the purposefulness of their consumption behaviour from the perspectives of disciplines such as consumer behaviour, management, and statistics. It also attempts to construct a basic framework for the participation and consumption of snow and ice sports by the residents of Beijing, where the Winter Olympics was held, under the influence of the Winter Olympics, enriching the study's results on consumption behaviour to some extent.

This paper has expanded the horizon of theoretical analysis. At the same time, this paper also examines the current situation of the ice and snow industry in Beijing, the venue of some of the Winter Olympics events, and the residents' participation in ice and snow consumption needs. Purposive behaviours are geographically specific and can provide a more accurate and clear understanding of consumers' relevant consumption needs and behaviours, as well as relevant countermeasure suggestions to help. The study will also provide recommendations for the future sustainable development of snow and ice sports.

#### **5.5 Recommendation:**

## Commercialization of sports in a scientific and rational way

From the 2022 Beijing Winter Olympic Games perspective, it is drawing on the Olympic movement's approach to economics (commercialization). This study

recommends that sport and economics could be reinforced mutually. However, as an educational and dissemination activity of advanced culture, sport cannot be profitoriented and is not subordinate to the economy; the development of the sport is dependent on the economy and is counter-productive to it.

The sole purpose of the commercialization of sport should be to establish a legal, sustainable, and effective self-generating mechanism for the development of the sport itself, with the profits generated being used for the promotion and development of the sport. Sports can be marketed under certain conditions and within certain limits. In doing so, it must not compromise the sport's ethics, aims, and proper direction, nor must it violate the law and public morality, breeding corruption and improper practices. The sports industry and related industries must operate according to objective economic laws and the laws of the market to develop in a coordinated, stable, and sustainable manner and prevent negative economic phenomena such as inflation. When sport is linked to capital, it is important to combat capital worship. While ensuring the population's participation, attention should also be paid to the public and the widespread nature of the consumer market.

## References

- Balbi, S., Giupponi, C., Perez, P., & Alberti, M. (2013). A spatial agent-based model for assessing adaptation strategies to climate and tourism demand changes in an alpine tourism destination. *Environmental Modelling & Software*, 45,29-
  - 51.https://doi.org/10.1016/j.envsoft.2012.10.004
- Baloglu, S., & McCleary, K. W. (1999). A model of destination image formation. *Annals of tourism research*, 26(4), 868-897.https://doi.org/10.1016/S0160-7383(99)00030-4
- Boo, S., Busser, J., & Baloglu, S. (2009). A model of customer-based brand equity and its application to multiple destinations. *Tourism Management*, 30(2), 219-231.

https://doi.org/10.1016/j.tourman.2008.06.003

- Bottero, M., Sacerdotti, S. L., & Mauro, S. (2012). Turin 2006 Olympic Winter Games: Impacts and legacies from a tourism perspective. *Journal of Tourism and Cultural Change*, 10(2),202-217.https://doi.org/10.1080/14766825.2012.683954
- Brownlie, L. (2021). Aerodynamic drag reduction in winter sports: the quest for "free speed". *Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology*, 235(4),365-404.https://doi.org/10.1177/1754337120921091

- Burakowski, E., & Magnusson, M. (2012). Climate impacts on the winter tourism economy in the United States.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of personality and social psychology*, *39*(5),752.https://doi.org/10.1037/0022-3514.39.5.752
- Chen, W., Zhou, P., & Bae, K. (2020). Research on development strategy of China ice-snow sports tourism industry based on SWOT-AHP model-case study on zhangjiakou. *International Journal of Contents*, 16(2),92-101.https://doi.org/10.5392/IJoC.2020.16.2.092
- Chu, K. M. (2018). Mediating influences of attitude on internal and external factors influencing consumers' intention to purchase organic foods in China. *Sustainability*, 10(12), 4 690.https://doi.org/10.3390/su10124690
- Cooper, C. P. (Ed.). (1991). Progress in tourism, recreation and hospitality management.
- Cornwell, T. B., Weeks, C. S., & Roy, D. P. (2005). Sponsorship-linked marketing: Opening the black box. *Journal of advertising*, *34*(2), 21-42.https://doi.org/10.1080/00913367.2005.10639194
- Donaldson, S. J., & Ronan, K. R. (2006). THE EFECTS OF SPORTS PARTICIPATION ON YOUNG ADOLESCENTS'EMOTIONAL WELL-BEING. *Adolescence*, 41(162), 369.
- Falk, M. (2008). A hedonic price model for ski lift tickets. *Tourism Management*, 29(6),1172-1184.https://doi.org/10.1016/j.tourman.2008.02.021
- Fleming, M. A., Wegener, D. T., & Petty, R. E. (1999). Procedural and legal motivations to correct for perceived judicial biases. *Journal of Experimental Social Psychology*, *35*(2),186 203.https://doi.org/10.1006/jesp.1998.1375
- Gonseth, C. (2013). Impact of snow variability on the Swiss winter tourism sector: implications in an era of climate change. Climatic change, 119(2), 307 320.https://doi.org/10.1007/s10584-013-0718-3
- Holt, N. L., Neely, K. C., Slater, L. G., Camiré, M., Côté, J., Fraser-Thomas, J., ... & Tamminen, K. A. (2017). A grounded theory of positive youth development through sport based on results from a qualitative meta-study. *International review of sport and exercise psychology*, 10(1), 1-49.https://doi.org/10.1080/1750984X.2016.1180704
- Huang, L. (2011). Research on effect of Beijing post-olympic sports industry to China's economic development. *Energy Procedia*, 5, 2097-2102.https://doi.org/10.1016/j.egypro.2011.03.362.
  Johar, G. V., & Pham, M. T. (1999). Relatedness, prominence, and constructive sponsor

- identification. *Journal of marketing research*, *36*(3), 299-312.https://doi.org/10.1177/002224379903600301
- Koronios, K., Psiloutsikou, M., Kriemadis, A., Zervoulakos, P., & Leivaditi, E. (2016).
  Sport sponsorship: The impact of sponsor image on purchase intention of fans. *Journal of Promotion Management*, 22(2),238-250.https://doi.org/10.1080/10496491.2016.1121739
- Lopez, R. E., & Yoon, S. W. (2020). Sustainable development: Structural transformation and the consumer demand. *Structural Change and Economic Dynamics*, *52*, 22 38.https://doi.org/10.1016/j.strueco.2019.09.011
- Peltier, J. W., Schibrowsky, J. A., & Schultz, D. E. (2003). Interactive integrated marketing communication: combining the power of IMC, the new media and database marketing. *International journal of advertising*, 22(1), 93-115.https://doi.org/10.1080/02650487.2003.11072841
- Priester, J., Wegener, D., Petty, R., & Fabrigar, L. (1999). Examining the psychological process underlying the sleeper effect: The elaboration likelihood model explanation. *Media Psychology*, *I*(1),27-48.https://doi.org/10.1207/s1532785xmep0101\_3
- Ritchie, B., & Adair, D. (2002). Editorial The Growing Recognition of Sport Tourism. Current Issues in Tourism.
- Siu, N. Y., Wang, C. C., Chang, L. M., & Hui, A. S. (2001). Adapting consumer style inventory to Chinese consumers: A confirmatory factor analysis approach. *Journal of International Consumer Marketing*, 13(2), 29-47.https://doi.org/10.1300/J046v13n02\_03Sneath, J. Z.,
- Finney, R. Z., & Close, A. G. (2005). An IMC approach to event marketing: The effects of sponsorship and experience on customer attitudes. *Journal of advertising* research, 45(4), 373-381.
- Söderman, S., & Dolles, H. (2008). Strategic fit in international sponsorship-the case of the Olympic Games in Beijing 2008. *International Journal of Sports Marketing and Sponsorship*, 9(2), 22- 37.https://doi.org/10.1108/IJSMS-09-02-2008-B005
- Söderman, S., & Dolles, H. (2015). Unlocking advertising, activation and sponsorship in an emerging market: The case of Beijing Olympics. *Sport, Business and Management: An International Journal*, *5*(5), 472-492.https://doi.org/10.1108/SBM-09-2015-0030
- Weeks, C. S., Cornwell, T. B., & Drennan, J. C. (2008). Leveraging sponsorships on the
  Internet: Activation, congruence, and articulation. Psychology & Marketing, 25(7),
  637- 654.https://doi.org/10.1002/mar.20229

- Williams, P., & Fidgeon, P. R. (2000). Addressing participation constraint: A case study of potential skiers. *Tourism Management*, 21(4), 379-393.https://doi.org/10.1016/S0261-5177(99)00083-7
- Zhao, Y., Hou, Z., Wang, J., & Yuan, S. (2022). Research on the Development
  Characteristics of Ice and Snow Industry from the Perspective of Winter Olympic
  Heritage. *Frontier s in Sport Research*, 4, 5055.https://doi.org/10.25236/FSR.2022.040109