

Article

# A Tourist-Based Model of Authenticity of Heritage Sporting Events: The Case of Naadam

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**Abstract:** As one of the important forms of intangible cultural heritage, heritage sporting events are becoming a potential catalyst of tourism. Commodification of heritage sporting events becomes popular for local authorities to boost economic development and express cultural authenticity, given that authenticity creates genuine performances and moving tourism experiences. However, commodification of heritage is a double-edged sword. It is a dilemma to commercialize a heritage sporting event while keeping its authenticity. Therefore, this study proposes a tourist-based model of authenticity to solve this problem, in which the authenticity of heritage sporting events incorporates “cool” and “hot” factors. The model examines these factors and their impact on tourist satisfaction and loyalty using Naadam as the example. Seven hundred questionnaires were distributed at six sites located from east to west of the Inner Mongolia, China. Factor analysis shows there are two factors in cool and hot authenticity, respectively. Both factors of cool authenticity have direct impacts on hot authenticity, satisfaction, and loyalty. Though both intrapersonal and interpersonal factors of hot authenticity have direct positive impacts on tourist satisfaction, only the former affects loyalty directly. The results show the authenticity of event culture is the most important and effective authentic factor, while authentic auxiliary products—the direct expression of commodification—is indispensable for authenticity. This study is helpful for maintaining authenticity and cultural sustainability of heritage sporting events as a destination tourism attraction, given the fact that commodification and the marketing of heritage sporting events has become popular for heritage destination development.

**Keywords:** heritage sporting event; cool authenticity; hot authenticity; satisfaction; loyalty; Naadam

## 1. Introduction

Event-led strategies and event tourism are increasingly recognized as a potential catalyst for tourism and local sustainable development [1–3]. Tourism and sport have been the largest and fastest growing industries in the world [4,5]. Integrating heritage tourism, sport tourism, and event tourism, heritage sporting events have been not only vehicles for social, political, and economic initiatives, but major attractions for both sport tourism and heritage tourism. However, currently they are analyzed mainly in the scope of nostalgia tourism [6]. This is unfavorable for the sustainable development of heritage sporting events, especially the social and cultural sustainable development of ethnic minority regions. Therefore, using Naadam as an example, this study intends to perform further investigation of heritage sporting events from heritage management and tourism perspectives. We construct a tourism-based model to show how authenticity is formed and how it affects tourist satisfaction and loyalty.

Heritage sporting events are authentic interactive systems including environment, people, and management of tourism destinations. This authentic system is an exceptional way to trigger both active and passive sport tourism at the same time [7,8]. In this system, heritage sporting events are concrete expressions of cultural identity and promoters of non-sport heritage, therefore they could genuinely and vividly show traditional culture and resident lifestyles and values [9]. Heritage sporting event-goers could take part as active sport tourists (e.g., athletes) and passive sport tourists (e.g., fans, visitors). Both kinds of tourists could experience different authenticities, either objective or subjective authenticity, which would then arouse tourist consumption emotion and joyance [9,10]. Residents demonstrate and experience authenticity as both inheritors and interpreters of heritage sporting events [10]. Therefore, authenticity is a crucial construct for cultural heritage marketing and a key factor for the success of the sustainable tourism of heritage sporting events [11].

However, commodification of heritage is often a double-edged sword [11]. That tourism turns culture into commodity, which often results in a loss of authenticity [12]. Therefore, the contradiction between “authenticity” and “commodification” of the development of heritage sporting events is an inescapable dilemma. Not all commercialized heritage sporting events are fictitious or reduce event-goers’ authentic experiences, but the overemphasis of commodification might have a negative influence on event authenticity [7,13]. Despite the growing interest in event authenticity in the tourism theoretical research field, studies on the formation process of event authenticity are still scarce, which makes it hard for various stakeholders of heritage sporting events to target themselves [14]. Furthermore, quantitative studies and empirical studies are rather scarce, though they are the most valuable way to explore the principles of cultural event authenticity and the relationship between authenticity and tourists’ loyalty of festivals and events [15–19]. Although there are some studies investigating the relationship among heritage event authenticity, quality, satisfaction, and loyalty, to the best of the authors’ knowledge, little research has concerned the interactive relationship between inner factors of authenticity and other constructs such as satisfaction and loyalty of event-goers.

To address the issues outlined above and to begin to fill the gaps in the previous research, the purposes of this study are to construct a tourist-based model of authenticity for heritage sporting events. As shown in Figure 1, this structural model explores the “cool” and “hot” parts of sport event authenticity and their influences on tourist satisfaction and loyalty. The theoretical contribution might be as follows: first, we clarify the factors of “cool” and “hot” authenticity of heritage sporting events; second, we provide a structural model to demonstrate the relationship of sporting event authenticity, tourist satisfaction, and loyalty; third, we demonstrate the formation process of authentication from the “cool” side to the “hot” side.

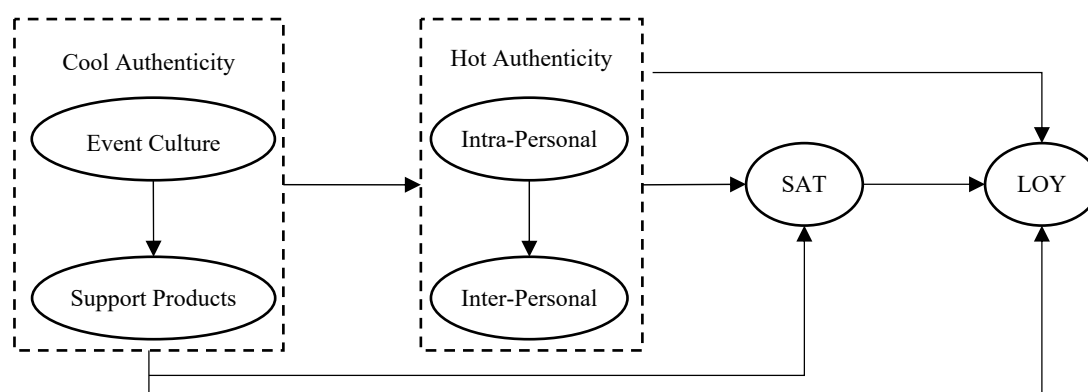


Figure 1. Conceptual model.

## 2. Literature Review

### 2.1. Authenticity: Cool and Hot

In his pioneering research, MacCannell found that mass tourists seek out authentic experiences and quests for authenticity, though they frequently encounter “staged authenticity” [20,21]. From then on, multiple ontological and epistemological perspectives have been used on authenticity, therefore objectivist, constructivist, and postmodern perspectives were introduced to analyze authenticity [22]. In particular, Selwyn regarded authenticity not only as social or emic, but scientific or etic, therefore he provided a dichotomy method of authenticity, which was named as “hot” and “cool” authenticity [22,23]. Hot authenticity applies to the aspect of the imagined world of tourist make-believe and tourist myths [23], which concerns questions of the authentic self and the authentic other. The second type, cool authenticity, is a proposition that claims a kind of legitimacy [23]. Under the social process perspective, all existing categories of authenticity (objective, constructive, existential, and postmodern) are authenticated through social processes [16]. In these processes, hot authenticity is based on belief and social ritual, while cool authenticity is formal and based on scientific knowledge, expertise, and proof [24]. As shown in Table 1, hot authenticity emphasizes the subjectivist perspective, while cool authenticity stresses on both the objectivist perspective and the constructivist perspective.

**Table 1.** The Difference of Cool and Hot Authenticity.

Cool Authenticity	Hot Authenticity	Source
Be reserved for propositions which claim legitimacy from those in the former category.	Subjected perspective. Tourists seek their own authentic selves. An aspect of the imagined world of tourist make-believe and myths. Concerning with questions of self and society.	Selwyn, 1996 [23]
A museum-linked usage of the authenticity of the originals or a result of social construction.	A state of being, associated with having a sense of one’s own identity, where “one is true to oneself”. Taking place within a backdrop of touristic communities.	Wang, 1999 [25] Steiner & Reisinger, 2006 [26] Kim & Jamal, 2007 [27]
Can be empirically demonstrated to have occurred, to building and/or sites, still extant and visible, of proven antiquity.	Produces responses from the emotions, rather than from intellects.	Jones, 2010 [28]
Objective authenticity. Based on scientific knowledge, expertise, and proof. Practiced by declaration, certification, and accreditation.	Based on belief, commitment, and devotion. Practiced by ritual, offerings, communal support. Experiencing feelings of existential authenticity.	Cohen & Cohen, 2012 [16]
The more objective associated with external validation of sites as being authentic based on some objective, usually historic criteria.	The more experiential based upon public participation and belief.	Mkono (2013) [29] Trinh, Ryan, and Cave 2014 [30]
Taking place via formal acts informed by scientific knowledge and performed by an agent with a legitimate mandate.	Encapsulating incremental, participatory processes by public practice. Reiterative, informal, self-reinforcing, highly subjective, and contestable emotionally laden	Lamont 2014 [31]
A scientific or historical ‘artefact’.	Engaging the individual. Personal experiences of existential authenticity.	Zhou et al. 2015 [10]
The object is deemed original i.e. certified as such and is often linked to personal experiences of object authenticity.	Self-reinforcing process with the performative practices of visitors building the authenticity of the event or site.	Szmigin et al. 2017 [7]
Something is declared to be “original, genuine, or real, rather than a copy, fake, or spurious”.	It is emotionally loaded and typically based on belief rather than proof.	Moufahim & Lichrou, 2019 [32]

Authenticity has long been a key concept to the description of genuineness and the reality of various cultural heritages for nearly three decades, which is very important for the success of cultural festivals and events [15,33]. As for tourists, authenticity usually indicates their perception of genuineness of tourism attractions and experiences [15]. In his innovative paper, Wang stated that authenticity seems not to be black or white, but a spectrum that includes various kinds of color [11]. Various concepts are used to describe this feature of authenticity, such as objective authenticity, constructive authenticity, existential authenticity, and hyper-reality [25,34,35]. To integrate these constructs, recent research began to emphasize the formation process of authenticity and to regard authenticity as a coordinate process between tourism destinations and tourists. In fact, this process is the tourists' perceptions and feelings produced by the interactions between the real world and themselves [36]. In light of this statement, the authenticity of heritage sporting events includes not only objective attributes of events, such as ceremony, costume, food, etc., but the process of tourists' perceptions and feelings about heritage sporting events as well. This process, however, concerns tourists' rational and emotional involvement, the effect of which is related with many factors such as the tourists' own experiences, knowledge levels, time intervals, service environments, etc. Therefore, the perception of heritage sporting event authenticity could be viewed as an authentic spectrum that spans from rationality to sensibility, from objection to subjection, and from "cool" to "hot".

The cool and hot authentic spectrum provides an integrative perspective, which makes the authentication of festivals and events be probed from not only the supply side, but also the demand side of an event [36]. Recent studies from the supply-side perspective mainly investigated the objective authenticity of tourism attractions and festivals, which could be defined as cool authenticity. On the contrary, other studies from the demand-side perspective mainly concerned the authenticity from the interaction between tourists and tourism attractions, which is defined as hot authenticity. The former—cool authenticity—is a type of authenticity about knowledge, which is based on evidence. The latter—hot authenticity—is a kind of authenticity about perception, which is based on belief [37]. Therefore, the formation of the authenticity spectrum of a heritage sporting event is a process that begins from the perception of cool authenticity to the experience of hot authenticity. Perception of cool authenticity is rational, and experience of hot authenticity is emotional, therefore, the former is based on judgment and the latter is based on perception. As the main type of the cool festival authenticity, rational authenticity describes the operation approaches of tourism festival activities, whose characteristics are standard and normal. Aesthetic authenticity, one type of hot authenticity, describes the meaning and value of tourism, which makes tourists search for egos and real personal relationships. In light of this statement, subjectivity and experience are the main characteristics of the spectrum of authenticity [19]. As for the intangible cultural heritage like heritage sporting events, authenticity is largely measured by subjective standards, while objective standards are mainly used to measure material cultural heritage.

## 2.2. Dimensions of Cool Authenticity and Hot Authenticity

Tourists' evaluations of objective authenticity are formed by their perceptions and explanations of cool authenticity, thus eventually they could identify the whole spectrum of authenticity from tourism attractions [38]. Cool authenticity could identify whether tourism attractions such as sporting events are original and genuine by providing various testimonies or official statements [36]. This means cool authenticity is authoritative and assertive because it depends on various clues of knowledge, expert skill, or personal experience about tourism attractions [16]. One type of such clues is the museumification of tourism attractions. Tourists often expect a cultural heritage such as ethnic minorities to be quaintly traditional in a state of "museumification," or the "freezing" of culture [39], which is free from modern popular culture and includes traditions, antiques, traditional costumes, customs, etc. This kind of museumification needs the bargaining between heritage sporting event organization and different stakeholders including governments, corporations, and residents.

Tourists' perceptions of cool authenticity include both tangible and intangible factors, which provide the approach for them to acknowledge the inner dimensions of cool authenticity [17]. For example, intangible factors for authentic perception of a heritage sporting event might include local culture, festival atmosphere, environment design, organization, and management. By contrast, tangible factors for authentic perception might include food, ceremony, traditional costumes, etc. For example, the clues to perceive cool authenticity are dances, parades, historical shows, and souvenirs in a Scotland cultural festival [23]. As one type of the most important intrinsic factors of cool authenticity, souvenirs need to be of uniqueness, craftsmanship, beauty, utility, match with history, and provide a good shopping experience [40]. In light of the current research of tangible cultural heritage, architecture, traditional commodity, and folk custom are the main types of cool authenticity within tangible cultural heritage [18]. Architecture is mainly the ancient buildings of tourism destinations. Traditional commodity is mainly the auxiliary products and services such as handicrafts, souvenirs, traditional foods, and lifestyles. Folk custom is mainly traditional culture and ceremony, including traditional costumes, songs, festivals, legends, and folklores.

Recently, a dichotomous approach was used to measure the authenticity of cultural heritages, which divided authenticity into two opposite parts: cool authenticity and hot authenticity. Yi, Lin, Jin, and Luo divided the authenticity of a cultural heritage into two parts: cool authenticity and hot authenticity [18]. The former is measured by architectural heritage, traditional customs, and folk culture, and the latter is measured by intrapersonal and interpersonal authenticity. According to their measurement approach of heritage authenticity, traditional customs are the authenticity of auxiliary products of an intangible cultural heritage, which should include traditional skills of local craftsmen, local lifestyle, local food, and tourism souvenirs. In the same way, the measurement items of folk culture include costumes, decorations, ornaments, artistic writing, paintings, sculptures, local stories, and traditional daily appliances [18]. Similarly, Castéran and Roederer stated that there are three aspects for a tourist to evaluate authenticity, which are auxiliary product, authenticity of event culture (AEC), and interpersonal authenticity [38]. In conclusion, there might be two dimensions of cool authenticity for a heritage sporting event, which include event culture and auxiliary product. The first dimension, AEC, is a type of original authenticity including various cultural activities such as traditional dances, ceremonies, celebrations, parades, etc. The second dimension, auxiliary products, is a type of manmade authenticity including food and beverage, souvenirs, and hospitality services. These two dimensions correlate with each other, for commercialized auxiliary products may add or change the cultural meaning of a heritage sporting events, but they could also enforce the whole authenticity of a festival or an event to some extent [41].

Tourists could discover the meaning of life and search for a sense of belonging by experiencing hot authenticity of a heritage sporting event. In this way, existential authenticity is formed, which includes intra- and interpersonal authenticity [11]. Intrapersonal authenticity shows tourists' personal experiences and self-positioning, while interpersonal authenticity describes the interactive relationships between tourists, residents, and other tourists. Both types of hot authenticity make tourists get away from their daily routine lives and experience unusual festival programs and performances to temporarily relinquish their life barriers and experience their self-existences and tourism communities. This means the tourist experience of existential authenticity is achieved based on hot authenticity [35]. In light of this statement, this study divided hot authenticity into two dimensions, namely, intrapersonal and interpersonal authenticity.

According to the literature review, we hypothesize that the internal dimensions of cool authenticity are event culture and auxiliary products. The internal dimensions of hot authenticity are also hypothesized as intrapersonal authenticity and interpersonal authenticity.

### 3. Research Model and Hypothesis

#### 3.1. Relationship of Cool and Hot Authenticity

From the process perspective of authenticity, perceptions and explanations of cool festival authenticity eventually trigger the formation of tourists' perceptions of the authentic spectrum about a heritage sporting event. This indicates that there might be a hidden link between subjective authenticity and objective authenticity. In this way, event-goers obtain the feeling of hot authenticity of heritage sporting events. In fact, hot authenticity is the tourists' own fantasy worlds where they concern themselves and their communities and search for the meaning of themselves and others [37].

Perceptions and explanations of cool authenticity create the opportunities to search for hot authenticity and gain the experience of existential authenticity [27]. This suggests there might be a correlation between the hot authenticity and the cool authenticity of heritage sporting events. For example, the most important source of hot authenticity comes from various factors of cool authenticity such as festival environment, site atmosphere, ceremony, ritual, and food and beverage [42,43]. Thus, hypothesis 1 is proposed:

**Hypothesis 1.** *Cool authenticity positively influences hot authenticity.*

Because there are two dimensions of cool authenticity and hot authenticity respectively, the following four sub-hypotheses are proposed:

**Hypothesis 1-1.** *Authenticity of event culture (AEC) positively influences intrapersonal authenticity (AIR).*

**Hypothesis 1-2.** *Authenticity of auxiliary product (AAP) positively influences intrapersonal authenticity (AIR).*

**Hypothesis 1-3.** *Authenticity of event culture (AEC) positively influences interpersonal authenticity (ITA).*

**Hypothesis 1-4.** *Authenticity of auxiliary product (AAP) positively influences interpersonal authenticity (ITA).*

Intrapersonal authenticity shows the tourists' senses of being. Interpersonal authenticity shows tourists' feelings of community. This means that tourists first search for intrapersonal authenticity so as to gain senses of being themselves, then observe others to gain the experiences of interpersonal authenticity, including interacting with family members, friends, local residents, and other tourists beside them [11,18,27]. This suggests there might be a close relationship between intra- authenticity and interpersonal authenticity. Consequently, the following hypothesis is proposed:

**Hypothesis 2.** *Authenticity of event culture (AEC) positively influences authenticity of auxiliary products (AAP).*

**Hypothesis 3.** *Intrapersonal authenticity (IRA) positively influences interpersonal authenticity (ITA).*

#### 3.2. Relationship of Authenticity, Satisfaction, and Loyalty

High level authentic experiences lead to satisfaction because the unique core function of tourism is to observe tourists' true selves, consider life choices, and search for better lives [16]. The improvement of authenticity will raise the value of tourism, enforce tourist consumption experience, and thereby improve attribute satisfaction and overall satisfaction [44]. Authenticity has been found to be a central factor to the understanding of behaviors and intentions of repeat event-goers [15]. The stronger the authenticity of event culture and auxiliary product is, the higher intention of revisiting a festival [33]. This suggests that there might be effects of festival authenticity on event-goers' satisfaction and loyalty. Therefore, the following hypotheses are proposed:

**Hypothesis 4.** *Cool authenticity positively influences tourist satisfaction (SAT).*

**Hypothesis 5.** *Hot authenticity positively influences tourist satisfaction (SAT).*

There are two dimensions of cool authenticity and hot authenticity, respectively. Therefore, according to the above hypotheses (H3 and H4), the following four sub-hypotheses are proposed:

**Hypothesis 4-1.** *Authenticity of event culture (AEC) positively influences tourist satisfaction (SAT).*

**Hypothesis 4-2.** *Authenticity of auxiliary products (AAP) positively influences tourist satisfaction (SAT).*

**Hypothesis 5-1.** *Intrapersonal authenticity (IRA) positively influences tourist satisfaction (SAT).*

**Hypothesis 5-2.** *Interpersonal authenticity (ITA) positively influences tourist satisfaction (SAT).*

The more authentic a cultural heritage is, the higher level its tourists' loyalty [27,38]. It has been found that authenticity of the key service of events could raise tourist loyalty. For example, not only food authenticity is positively related with tourist loyalty, but legends and traditional food could enhance tourist satisfaction and loyalty as well [43,44]. This suggests that authenticity provides a good approach to explaining the reasons of tourist loyalty. For example, as the expression of hot authenticity of a heritage sporting event, the personal experience, self-expression, and development of interpersonal relationships are core concepts to understanding tourist loyalty [38]. Furthermore, the two dimensions of cool authenticity are closely related with tourist loyalty [38]. Tourists who often experience hot authenticity have higher loyalty [7]. Therefore, the following three hypotheses are proposed:

**Hypothesis 6.** *Cool authenticity positively influences tourist loyalty (LOY).*

**Hypothesis 7.** *Hot authenticity positively influences tourist loyalty (LOY).*

**Hypothesis 8.** *Tourist satisfaction (SAT) positively influences tourist loyalty (LOY).*

Because there are two dimensions of cool authenticity and hot authenticity respectively, four sub-hypotheses are proposed:

**Hypothesis 6-1.** *Authenticity of event culture (AEC) positively influences tourist loyalty (LOY).*

**Hypothesis 6-2.** *Authenticity of auxiliary product (AAP) positively influences tourist loyalty (LOY).*

**Hypothesis 7-1.** *Intrapersonal authenticity (IRA) positively influences tourist loyalty (LOY).*

**Hypothesis 7-2.** *Interpersonal authenticity (ITA) positively influences tourist loyalty (LOY).*

According to the above literature review and analyses, the research could be conceptualized in the theoretical model as depicted in Figure 2.

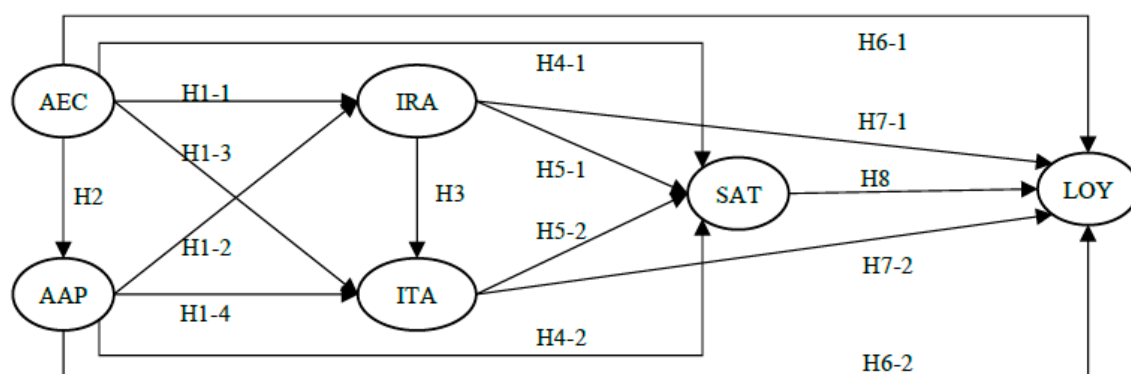


Figure 2. Hypotheses model.

## 4. Methodology

### 4.1. The Process of In-Depth Interview

Naadam Grassland festival is one of the major cultural celebrations of traditional sports of Inner Mongolian in China, which is a good opportunity to share traditional culture and festival atmosphere with tourists. In this heritage sporting event, traditional sporting activities include archery, horse racing, and wrestling, which are called ‘Three Manly Games’ of Mongol warriors by Chingis Khan. There are various Mongolian traditional foods on site, such as Khuushuur, a kind of pastry with meat or meat pies. This is a type of sport as heritage, where events and accomplishments of athletes are a part of a grander narrative [1]. During the Naadam festival, traditional arts and sports are put together in harmony. The Naadam festival represents a powerful emotion that drives residents and tourists to revisit Mongolian history. Tourists can choose to enjoy the games with other visitors and listen to famous throat singing. In the game of archery, archers usually wear traditional Mongolian costumes. In the game of wrestling, players usually perform a traditional dance as a warm-up to show the elegance and strength of their traditional sport and culture.

For this study, we chose a semi-structured, in-depth interview because it is relatively flexible and adaptable to get information from the respondents [45]. The interview questions were open-ended. Therefore, respondents could express their own views freely and provide possible new ideas. The semi-structured interview included five open-end questions. The first question asked how one perceives the authenticity of Mongolian wrestling, archery, and horse racing. The second question asked how one perceives the performance, food and beverage, and environment. The third question asked what the most attractive factors of Naadam are. The fourth question asked what one thought about authentic experiences of Naadam. The fifth question asked what factors affect the authenticity of Naadam. We interviewed with 20 respondents, including two folklorists, two psychologists, one management staff from local tourism administrative bureau, six college professors with majors in tourism, four sports reporters, and five tourists who have patronized Naadam more than two times. From the semi-structured interview, tourists of Naadam experience authenticity by watching art performances, admiring handicrafts, tasting and making traditional foods, participating in traditional ceremonies, buying souvenirs, and listening to legends and folk stories. After experiencing these items of cool authenticity, tourists begin to know themselves and care about the world and others.

### 4.2. Instruments of Measurement

The process of the tourists’ perceptions and experiences of festival event authenticity is so complicated that the measurement of multi-factors is suggested to be used to evaluate the process of authenticity effectively [46]. Because of this, the study identified the factors of heritage sporting event authenticity by using a comprehensive literature review and multiple semi-structured interviews. This was helpful in designing the questionnaire, which includes the measurements of festival



authenticity, event-goers' satisfaction, and their loyalty. Event-goers' demographic characteristics are also included in the questionnaire.

Several pioneering studies have made many efforts to measure authenticity of cultural festivals. For example, Chhabra, Healy, and Sills found the authenticity of the Scottish Highland Games could be measured by event culture (dances, parades, history, game settings), auxiliary product (Scottish souvenirs), and hot authenticity (family gatherings, interacting with clans) [23]. Hu, Tan, and Pan measured the cool authenticity of the cultural tourism of an ancient town by cultural factors and product factors [47,48]. According to their measurement approach, cultural factors are measured by folk performance and traditional ceremony, and product factors are evaluated by local product, traditional food, and tourism souvenirs [18,19].

A self-administered questionnaire was designed for data collection that contained two parts. The first part of the questionnaire contained 21 questions to measure the items (also called manifest variables). Twenty-one items were grouped into four categories when forming the survey questionnaire (please refer to Table 3) to measure the related constructs (see Figure 1), which were named cool authenticity, hot authenticity, satisfaction, and loyalty.

The second part of the questionnaire investigated event-goers' demographic characteristics. It included the questions of the respondents' genders, ages, monthly incomes, and visiting times to the festival. For the first part of questions, the questionnaire used a seven-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neutral, 5 = slightly agree, 6 = agree, and 7 = strongly agree). A seven-point Likert scale was chosen because "scales with small numbers of response categories yield scores that are generally less valid and less discriminating than those with six or more response categories" [49]. Respondents were asked to rate according to their festival experiences about six constructs—event culture authenticity, auxiliary products authenticity, intrapersonal authenticity, interpersonal authenticity, satisfaction, and loyalty.

Based on the comprehensive literature review and the semi-structured interviews, this study designed the scales of the authenticity of heritage sporting events, tourist satisfaction, and loyalty to the Naadam festival (see Appendix A). AEC was measured by five items named as traditional festival, holding time, ceremony of sacrifice, folk costume, and folk dance, which were taken and modified in accordance with previous studies [17]. AAP was measured by four items named as souvenirs, handicrafts, booth design, and shop design. Intrapersonal authenticity was measured by three items named as self-development, pleasure and enjoyment, and self-realization. Interpersonal authenticity was measured by three items named as "with local people", "with family members", and "with other travelers". Satisfaction was measured by three items named as "good decisions", "good event", and "good feeling" [50]. Loyalty was measured by three items named as "will recommend festival", "will introduce festival", and "will revisit festival" [51].

#### 4.3. Data Collection and Sampling

A pilot test was used to investigate the reliability and the validity of the questionnaire in July of 2016. Using the convenient sampling method, this study investigated the tourists who joined the Naadam Grassland festival in Inner Mongolia in July of 2016. There were three main reasons for choosing the Naadam Grassland festival as the location for conducting the survey: (1) it is one of the national intangible cultural heritages of China; (2) it is the most important sport event of Mongols in China; (3) it is held on July every year and lots of tourists take part in this event from many places.

Following the pilot test, 700 questionnaires were distributed in six cities located in the east, central, or west of Inner Mongolia in China. In the end, 530 questionnaires were collected. After discarding 17 incomplete or self-contradictory questionnaires, the researchers obtained 513 valid samples. The valid questionnaire feedback rate was 73.3%. The demographic characteristics of the samples are shown in Table 2.

**Table 2.** Demographic Profile of Sample (N = 513).

Variables	Categories	Percent %
Gender	Male	44.1
	Female	55.9
Age	<20	11.1
	21–30	37.0
	31–40	19.3
	41–50	14.0
	51–60	9.0
	>60	9.6
Monthly Income	<2000 RMB	14.6
	2001–3000 RMB	19.3
	3001–4000 RMB	21.2
	4001–5000 RMB	23.2
	>5000 RMB	21.6
Visiting Times	one time	69.4
	two times	16.2
	three times	9.0
	>three times	5.5

#### 4.4. Content Validity and Construct Validity

The test of content validity needs to examine the extent to which a questionnaire item is fairly representative of the domain that the researchers seek to measure, while construct validity refers to the extent to which inferences can legitimately be constructed from the operationalization of this research. To test content validity and construct validity of the questionnaire, the study adopted a scale which mainly came from the related prior research and interviews with experts and tourists. To insure the content validity, internal consistency of the questionnaire was tested by reliability analysis. The overall coefficient of reliability of cool authenticity was 0.91, and the coefficients of reliability of the hot authenticity, satisfaction, and loyalty were 0.89, 0.88, and 0.90, respectively, which shows that the data are suitable for exploratory factor analysis (EFA).

## 5. Results

### 5.1. Reliability Analysis and Exploratory Factor Analysis

To test the appropriateness of EFA, the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity were used. The KMO value of cool authenticity was 0.902, the value of hot authenticity was 0.853, and the KMO value of the total authenticity scale was 0.910 (see Table 3). The results of Bartlett's test of sphericity also show that these constructs are appropriate for EFA ( $p < 0.05$ ). Two factors of the cool authenticity were obtained by using EFA, which were named as event culture and auxiliary product. As shown in Table 3, the reliability coefficients of the two factors of cool authenticity were 0.89 and 0.88, respectively. Similarly, the exploratory factor analysis also showed there were two factors in the hot authenticity of the Naadam festival, which were interpersonal and intrapersonal authenticity. As shown in Table 2, the reliability coefficients of hot authenticity of the Naadam festival were 0.91 and 0.86, respectively. Both values being above 0.7 suggests that the reliability is adequate and therefore the items are both theoretically and empirically acceptable.

**Table 3.** Results of Exploratory Factor Analysis.

Factors	Mean	SD	Loading	Eigenvalue	VE (%)	$\alpha$
<b>Event Culture (AEC)</b>				5.20	57.78	0.89
Traditional Festival	5.62	1.38	0.86			
Holding Time	5.35	1.40	0.84			
Ceremony of Sacrifice	5.44	1.33	0.82			
Folk Costume	5.51	1.44	0.70			
Folk Dance	5.46	1.45	0.71			
<b>Auxiliary Products (AAP)</b>				1.31	14.54	0.88
Souvenirs	5.32	1.40	0.82			
Handicrafts	5.40	1.40	0.85			
Booth Design	5.13	1.50	0.86			
Shop Design	5.26	1.46	0.69			
<b>Intrapersonal Authenticity (IRA)</b>				3.90	64.9	0.91
Self-Development	7.40	2.11	0.91			
Pleasure & Enjoyment	7.29	2.02	0.89			
Self-Realization	7.34	2.01	0.83			
<b>Interpersonal Authenticity (ITA)</b>				1.04	17.3	0.86
With Local People	7.35	2.09	0.79			
With Family Members	6.96	2.17	0.86			
With Other Travelers	7.26	2.13	0.88			
<b>Satisfaction (SAT)</b>				2.48	82.6	0.89
Good Decision	5.24	1.35	0.93			
Good Event	5.25	1.37	0.90			
Good Feeling	5.21	1.39	0.90			
<b>Loyalty (LOY)</b>				2.45	81.8	0.89
Will Recommend Festival	5.28	1.34	0.93			
Will Introduce Festival	5.30	1.40	0.89			
Will Revisit Festival	5.19	1.36	0.89			
Total Variance Explained	71.17%		Validity (KMO) of CA		0.902	
Total Scale Reliability	0.923		Bartlett's test, CA		0.00	$p < 0.05$
Total Scale Validity (KMO)	0.910		Validity (KMO) of HA		0.853	
Bartlett's Test	0.00	$p < 0.05$	Bartlett's test, HA		0.00	$p < 0.05$

Note: SD = standard deviation; CA = cool authenticity; HA = hot authenticity.

## 5.2. Conformatory Factor Analysis

To perform structural equation modeling (SEM) analysis, measurement models and structural models needed to be analyzed. The measurement model was tested by confirmatory factor analysis so as to evaluate the degree of misspecification and to suggest necessary modifications of a structure model. As shown in Table 4, Chi Square ( $\chi^2$ ) was 532.233 ( $p = 0.000$ ),  $\chi^2/df$  was 3.059, RMSEA was 0.063 ( $<0.08$ ), RFI was 0.912 ( $>0.9$ ), CFI was 0.954 ( $>0.9$ ), NFI was 0.934 ( $>0.9$ ), and PNFI was 0.703 ( $>0.5$ ), all of which meet the recommended standards, therefore the measurement model was deemed reasonable and acceptable. Table 3 shows the values of significance of the factor loads, squared multiple correlation (SMC), and average variance extracted (AVE). These values were above the acceptable standards, which showed that the measurement model was accepted. All values of the factor loader in the model were significant. Additionally, all values of SMC were bigger than 0.5, which shows the endogenous variables could be explained by measurement model. Furthermore, the values of the AVE of the AEC, auxiliary product, intrapersonal authenticity, interpersonal authenticity, satisfaction, and loyalty were 0.70, 0.65, 0.78, 0.68, 0.75, and 0.73, respectively, thus all were bigger than 0.5. Therefore, the validity of the measurement model was accepted.

**Table 4.** Results of Confirmatory Factor Analysis.

Factors	Loading	SE	<i>t</i> value	SMC	AVE	CR
<b>Event Culture (AEC)</b>					0.70	0.89
Traditional Festival	0.763	0.052	17.925	0.58		
Holding Time	0.771	0.052	18.088	0.60		
Ceremony of Sacrifice	0.833	0.050	19.860	0.69		
Folk Costume	0.783	0.054	18.455	0.61		
Folk Dance	0.775	N/A	NA	0.60		
<b>Auxiliary Products (AAP)</b>					0.65	0.88
Souvenirs	0.818	0.057	18.409	0.67		
Handicrafts	0.858	0.058	19.297	0.74		
Booth Design	0.782	0.061	17.533	0.61		
Shop Design	0.751	N/A	N/A	0.56		
<b>Intrapersonal Authenticity (IRA)</b>					0.78	0.91
Self-Development	0.904	0.042	26.666	0.82		
Pleasure & Enjoyment	0.897	0.040	26.386	0.81		
Self-Realization	0.852	N/A	N/A	0.73		
<b>Interpersonal Authenticity (ITA)</b>					0.68	0.86
With Local People	0.828	0.44	21.289	0.69		
With Family Members	0.771	0.47	19.532	0.59		
With Other Travelers	0.866	N/A	N/A	0.75		
<b>Satisfaction (SAT)</b>					0.75	0.90
Good Decision	0.834	0.42	25.313	0.70		
Good Event	0.905	0.43	23.020	0.82		
Good Feeling	0.845	N/A	N/A	0.71		
<b>Loyalty (LOY)</b>					0.73	0.89
Will Recommend Festival	0.813	0.46	23.635	0.66		
Will Introduce Festival	0.897	0.48	22.165	0.80		
Will Revisit Festival	0.851	N/A	N/A	0.72		

Note: Authenticity of event culture = AEC; authenticity of auxiliary products = AAP; intrapersonal authenticity = IRA; interpersonal authenticity = ITA; satisfaction = SAT; standard error = SE; squared multiple correlations = SMC; average variance extracted = AVE; construct reliability = CR; *t* value is not available = NA (regression coefficient is fixed to 1.0).

### 5.3. Modified Initial Structure Model

As shown in Table 5, the value of  $\chi^2/df$  of the initial model was 3.010 and the two paths of the structure model was not significant (auxiliary product and interpersonal authenticity, interpersonal authenticity and loyalty), which showed the structure model needed to be modified. After deleting the insignificant paths of the initial model, the modified model had good fit whose fit indices all reached the suggested level. The value of  $\chi^2/df$  of the modified model was 2.999 and all path coefficients were significant, therefore the modified model was accepted. All hypotheses were passed except for hypothesis H1-4 and H6-2 (see Table 6 and Figure 3).

**Table 5.** Fit Indices for the Structural Model.

	Absolute Fit				Incremental Fit				Parsimonious Fit		
	$\chi^2/df$	GFI	AGFI	RMSEA	NFI	RFI	IFI	TLI	CFI	PGFI	PNFI
Recommendation Levels	<3	>0.8	>0.8	<0.08	>0.9	>0.9	>0.9	>0.9	>0.9	>0.5	>0.5
Original Model	3.010	0.910	0.880	0.063	0.935	0.921	0.955	0.946	0.955	0.774	0.791
Modified Model	2.999	0.909	0.881	0.062	0.934	0.921	0.955	0.946	0.955	0.783	0.800

Note: goodness-of-fit index = GFI; adjusted goodness-of-fit index = AGFI; root mean square error of approximation = RMSEA; normalized fit index = NFI; relative fit index = RFI; incremental fit index = IFI; Tucker-Lewis index = TLI; comparative fit index = CFI; parsimonious goodness-of-fit index = PGFI; parsimonious normalized fit index = PNFI.

Table 6. SEM Results for the Original Model and the Modified Model.

Path between Variables	SRC and t Value		Results
	Original Model	Modified Model	
H1-1: AEC → IRA	0.388(5.895)	0.384(5.809)	Support
H1-2: AAP → IRA	0.217(3.352)	0.222(3.415)	Support
H1-3: AEC → ITA	0.235(3.685)	0.309(6.175)	Support
H1-4: AAP → ITA	0.109(1.800)	N/A	Not Support
H2: AEC → AAP	0.687(12.514)	0.690(12.543)	Support
H3: IRA → ITA	0.465(9.297)	0.480(9.671)	Support
H4-1: AEC → SAT	0.331(5.993)	0.331(5.901)	Support
H4-2: AAP → SAT	0.171(3.392)	0.172(3.397)	Support
H5-1: IRA → SAT	0.273(5.681)	0.273(5.653)	Support
H5-2: ITA → SAT	0.213(4.211)	0.214(4.216)	Support
H6-1: AEC → LOY	0.246(4.264)	0.255(4.380)	Support
H6-2: AAP → LOY	0.194(3.828)	0.191(3.756)	Support
H7-1: IRA → LOY	0.154(3.124)	0.171(3.702)	Support
H7-2: ITA → LOY	0.045(0.899)	N/A	Not Support
H8: SAT → LOY	0.331(5.204)	0.347(5.624)	Support

Note: Authenticity of Event Culture = AEC; Authenticity of Auxiliary products = AAP; Intrapersonal Authenticity = IRA; Interpersonal Authenticity = ITA; Satisfaction = SAT; standardized regression coefficients = SRC.

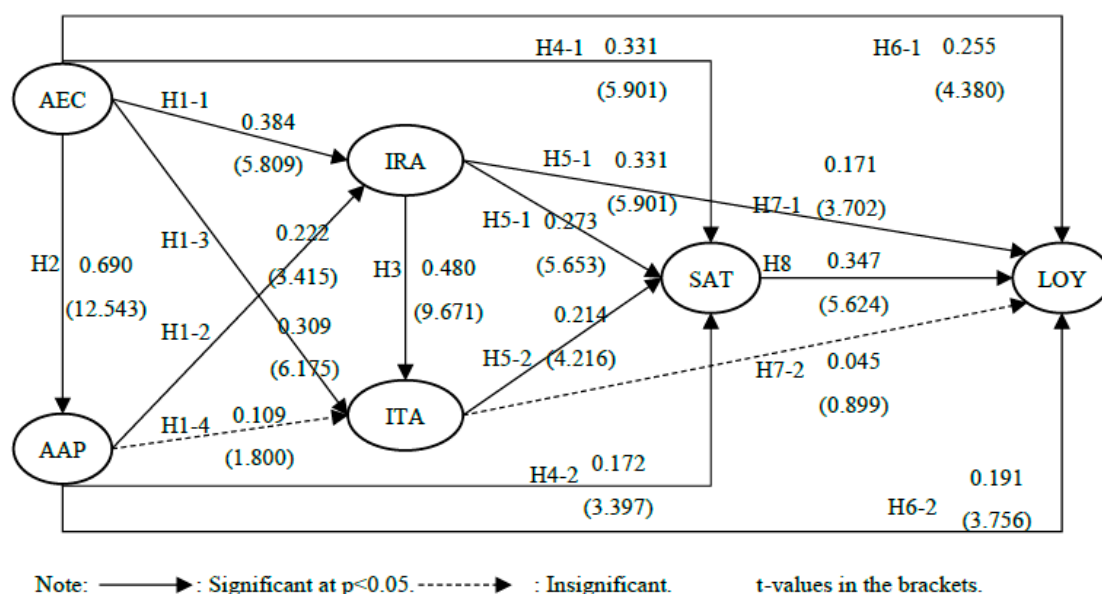


Figure 3. Estimated results of the model.

### 6. Discussion

The tourist-based model of authenticity shows that there are close relationships among cool authenticity, hot authenticity, tourist satisfaction, and tourist loyalty of heritage special events. Specifically, auxiliary products could also be a source of authenticity. This confirms that contemporary tourists are willing to buy authentic products and services by which they could get genuine experience. Authenticity has been a kind of co-created business environment of local residents and tourists as it is an important asset that could measure financial profit and a key determinant of tourist consumption [13,52]. Therefore, an event-led business strategy of heritage sporting tourism is feasible for local authorities to boost economic development and express cultural authenticity.

Cool authenticity includes AEC and AAP. According to the result, authenticity of event culture (AEC) has a significant effect on intrapersonal authenticity (IRA) (SRC = 0.384, t value = 5.809), interpersonal authenticity (ITA) (SRC = 0.309, t value = 6.175), satisfaction (SRC = 0.331, t value = 5.901),

and loyalty (SRC = 0.255,  $t$  value = 4.380). This shows authenticity of event culture (AEC) is vital for heritage sporting events, because it is not only essential for hot authenticity, but indispensable for tourist satisfaction and loyalty. AAP has a significant effect on intrapersonal authenticity (IRA) (SRC = 0.222,  $t$  value = 3.415), satisfaction (SRC = 0.172,  $t$  value = 3.397), and loyalty (SRC = 0.191,  $t$  value = 3.756). However, it does not have a significant effect on interpersonal authenticity (ITA) ( $t$  value = 1.800 < 1.96) (see Figure 3).

The above analysis shows that cultural exploration is one of the most important motivations for a tourist to participate in a festival event [14]. Our tourist-based model of authenticity also shows that only by offering genuine cultural programs and activities could a heritage sporting event meet contemporary tourists' needs. This may be the reason that authenticity is significant for all modern people, which has been an essential part of consumption emotion [10,53].

Hot authenticity includes IRA and ITA. According to the results, IRA has a significant effect on ITA (SRC = 0.480,  $t$  value = 9.671), satisfaction (SRC = 0.273,  $t$  value = 5.653), and loyalty (SRC = 0.171,  $t$  value = 3.702). This shows that intrapersonal authenticity plays a role during the process of authenticity consumption of a heritage sporting event. As a hot authenticity and existential authenticity [19,25], intrapersonal authenticity comes from the self-perception in a heritage sporting event, which is an internal state of being of event-goers. The results show that intrapersonal authenticity has a significant effect on interpersonal authenticity. ITA has a significant effect on satisfaction (SRC = 0.214,  $t$  value = 4.216). Interestingly, ITA does not have a significant effect on loyalty ( $t$  = 0.899 < 1.96) (see Figure 3). Satisfaction has a significant effect on loyalty (SRC = 0.347,  $t$  value = 5.624). This confirms that authenticity of event culture is the most important authentic factor of heritage sporting events. According to the above analysis, hot authenticity, including both intrapersonal and interpersonal authenticity, could be a powerful catalyst for tourists taking part in heritage sporting events and gaining high levels of satisfaction and loyalty to the heritage sporting events. This study had similar results as the study of the 2011 Tour de France [54]. Trip memories, such as the memories of Naadam, evoked new feelings of nostalgia and resulted in tourist satisfaction and loyalty.

This study shows that both hot authenticity and cool authenticity have nearly the same influence on tourist satisfaction. All four authenticity dimensions affect tourist satisfaction directly. The most influential authentic dimension is authenticity of event culture (0.331). The following factors are the two dimensions of hot authenticity: intrapersonal (0.272) and interpersonal (0.214) authenticity; the lowest influential dimension is the authenticity of auxiliary product (0.172). This means that both cool authenticity and hot authenticity have the same influential level on tourist satisfaction. This means authenticity could be relationship-oriented and object-oriented, therefore it is a negotiable—rather than primitive—concept [44,55]. Interestingly, this study also found the authenticity of heritage sporting events includes not only “cool” parts from the host perspective of tourism destinations, but “hot” parts from the guest perspective of tourists. This means the negotiations between various event stakeholders is essential to demonstrating cool authenticity and creating hot authenticity.

The results show that the intra-factors of cool authenticity, AEC and AAP, are related. AEC has a positive effect on AAP (SRC = 0.690,  $t$  value = 12.543). This shows that AAP is based on AEC. This means cultural authenticity could boost economic development by providing authentic products to tourists [5,9,56]. At the same time, the intro-factors of hot authenticity, IRA and ITA, are also related. IRA has a positive effect on ITA (SRC = 0.480,  $t$  value = 9.671). This study shows that there is no significant relationship between interpersonal authenticity and tourist loyalty. This means that only one of the two dimensions of hot authenticity—intrapersonal authenticity—has a direct impact on loyalty with a relatively low regression coefficient (0.171). Obviously, it is cool authenticity rather than hot authenticity that has stronger impact on tourist loyalty. This could be explained from the process perspective of authenticity. Firstly, cool authenticity arouses tourists' perceptions of authenticity, then hot authenticity is formed in tourists' experiences, thus tourist loyalty largely depends on the impact of cool authenticity. This study shows that cool authenticity is more important than hot authenticity to

the forming of tourist loyalty, which is largely based on the rational perception of cool authenticity of sport events.

Event authenticity is linked to the reproduction of traditional rituals and cultural activities [57]. Cool authenticity connects the experiences of the real world, which means that cool authenticity is a type of knowledge while hot authenticity links the experiences of the real self and therefore is a reflection of existential authenticity [43]. In heritage sporting events, festival-goers experience hot authenticity by relieving self-constraints and escaping the mainstream lifestyle. Therefore, hot authenticity is demand-driven authenticity, while cool authenticity is a type of supply-driven authenticity. As a typical form of existential authenticity, hot authenticity is based on tourists' emotions and feelings and makes tourism attractions or events more attractive [38]. Consequently, hot authenticity originates not only from the external clues of a heritage sporting event, but also from tourists' own emotions and beliefs, which involve tourists' commitment and self-involvement to become a self-enforcement and accumulating process of festival authentic experiences.

## 7. Conclusions and Implications

Little current literature focuses on the question of "How has authenticity been used?" [58]. This study provides not only an event organizer's perspective in dealing with the reproduction of sporting heritage, but also tourists' perspectives in analyzing the consumption experiences of the authenticity of heritage sporting events. Furthermore, the tourist-based model of authenticity of this study provides an integrative approach for organizers and local authorities to design a heritage sporting event which not only acts in accordance with traditional culture but meets tourist demands. In this model, both production and consumption authenticity, "cool" and "hot", were analyzed. To produce an authentic heritage sporting event, event organizers could not only design a "cool" side of authenticity, but also create a "hot" authenticity by providing interactive and impressive on-site atmospheres. As the tourist-based model shows, whether the authenticity of a heritage sporting event is cool or hot, it always affects tourist satisfaction and loyalty.

Our study shows "cool" authenticity of heritage sporting events incorporates two dimensions—AEC and AAP. In the demand side, hot authenticity includes two dimensions—IRA and ITA. Due to this tourist perspective, we found there is a delicate relationship between "authenticity" and "commodification" of heritage sporting events. However, this relationship means that one dimension of cool authenticity (auxiliary products) must follow the authenticity of event culture. Eventually, cool authenticity could follow sport heritage and traditional culture and be successfully demonstrated. Only in this commercial way, "authenticity" and "commodification" are not contradictory to some extent. Therefore, this study provides a feasible approach to resolving the dilemma between "authenticity" and "commodification" of the development of heritage sporting events.

As shown in this study, there are two dimensions in the cool authenticity of the Naadam festival, namely AEC and AAP. These two dimensions have direct impacts on satisfaction and loyalty. Cool authenticity could be measured by investigating authenticity of event culture and auxiliary product, and hot authenticity could be evaluated by examining intrapersonal and interpersonal authenticity. Our study shows that AEC is the most powerful part of authenticity for heritage sporting events. Specifically, this part not only affects the other part of cool authenticity (AAP), but has a direct positive effect on the two types of hot authenticity (intrapersonal authenticity and interpersonal authenticity), which are satisfaction and loyalty, respectively. The second dimension, AAP, only has a direct impact on intrapersonal authenticity. This shows that culture is a more important dimension than auxiliary product in the cool authenticity of heritage sporting events. Furthermore, event culture is the basis of other authenticity dimensions. Therefore, raising the authenticity of event culture would increase not only the whole authenticity of heritage sporting events but also the tourist satisfaction and loyalty. This suggests that festival organizations should unearth various kinds and forms of

local traditional cultures and diversify cultural performances and styles, which would enhance the authenticity of a heritage sporting event to raise tourist satisfaction and loyalty.

Our study shows that both cool authenticity and hot authenticity are important for satisfaction. Therefore, it is recommended that sport event organizations should not only enhance cool authenticity from the supply side, but also improve hot authenticity from the demand side. Firstly, tourist demand should be stressed so that intrapersonal authenticity can be created by enhancing tourists' feelings of self-existence. Secondly, various opportunities of social interaction should be provided to heighten interpersonal authenticity, such as participative or interactive programs. Organizations of heritage sporting events should pay more attention to cool authenticity because it has more influence on tourist loyalty than hot authenticity.

In the reproduction of a heritage event, authenticity of auxiliary products is an indispensable part of cool authenticity. This means non-sporting culture and heritage may shed light on the improvement of authenticity of sporting heritage events. By providing souvenirs and handicrafts, tourists could perceive the authenticity of a heritage sporting event. Authenticity of auxiliary products, such as special designs of booths and shops, could make a heritage sporting event nostalgic and celebratory. This also improves the cool authenticity and increases tourist satisfaction. Though commodification of heritage sporting events may be discordant with sport event authentication, the study shows that auxiliary products are the essential part of the cool authenticity of sport events. Authentic auxiliary products, instead of doing any damage to sport event authenticity, devote to the inheritance of traditional culture, which reproduce traditional life of sport event destinations and let tourists experience authenticity conveniently. By modern technology, auxiliary products could even enhance sport event authenticity through the application of virtual reality (VR) and augmented reality (AR). Obviously, auxiliary products are not simply sport event commodification, but an essential part of the cool authenticity of intangible heritage. Therefore, it is recommended that the creative design of sport event auxiliary products be based on the basic values of cultural authenticity of heritage sporting events, which would be the core competencies of heritage sporting events and the development of sport event industry.

Confronting the trend of global authentic consumption, this study provides not only descriptive guidance for developing supporting festival products and unearthing sport event culture, but also methods of promoting cool authenticity and creating hot authenticity of heritage sporting events. This study also demonstrates the formation process of authenticity: tourists' perceptions of cool authenticity leads to the experience of hot authenticity, then these two kinds of authenticity lead to tourist satisfaction and loyalty. Our study provides a theoretical guidance and a practical approach to balancing "authenticity" and "commodification" of heritage sporting events.

As indicated by factor analysis, AEC includes not only traditional ceremonies, but costumes, dances, and sports. These traditional customs and activities are vital for a heritage sporting event. Therefore, event organizations and local authorities should focus on delving into traditional cultures of heritage sporting culture. These efforts could not only inherit traditional culture, but achieve the sustainable development of a heritage destination by successfully reproducing a sports heritage year after year.

## 8. Limitations and Future Research

The discussion of the results and conclusions needs to be accompanied by the limitations of the tourist-based model of authenticity of heritage sporting events, which might indicate future directions and improvements. To the authors' best knowledge, this study mainly has three limitations. First, this survey was conducted in Inner Mongolia of China. Six cities in Inner Mongolia were investigated, but we did not investigate the tourists of Naadam in Mongolia because we were limited by time and financial support. Mongolia Naadam was designated as intangible cultural heritage of humanity by UNESCO in 2010. Further studies of Mongolia Naadam would be better to test our tourist-based model of authenticity of heritage sporting events. Furthermore, more kinds of heritage sporting



events need to be investigated to explore specific characteristics of “cool” and “hot” authenticity, which would expand the knowledge about the supply and demand of authenticity for the sustainable development of heritage destinations. Further researches with cases of other heritage sporting events are recommended to test the tourist-based model of authenticity.

Second, this study only investigated tourists’ authenticity perceptions of the Naadam Grassland festival. The residents’ authenticity perceptions of Naadam were ignored, and following studies need to be performed to explore the factors of residents’ authenticity of heritage sporting events. Undoubtedly, authenticity is a significant concept for every modern people, including hosts [10]. As the inheritors and interpreters of Naadam, residents in Inner Mongolia are often involved in the organization of heritage sporting events, as their active participation, services, and products are essential for the sustainable development of Naadam. Our study, however, did not consider residents’ perceptions of authenticity of Naadam. Further studies on resident perception of authenticity might make the contribution to reproduction of heritage sporting events.

The third limitation relates to the specific context of research fields in Inner Mongolia to which the measurement scale was established. A scale of “cool” and “hot” authenticity was designed for heritage sporting events. However, due to the restriction of time and efforts, we did not test this measurement scale for other heritage sporting events. Inevitably, there are a lot of heritage sporting events, such as the Braemar Gathering in Schotland, the Palio di Siena in Italy, the dragon boat festival in China, the Hatsu Basho in Japan, the Monaco F1 Grand Prix, the Grand prix of Macau, and the Tour de France that were not included in this study. Therefore, further studies of other heritage sporting events still need to be performed in order to perfect the measurement scale of “cool” and “hot” authenticity of heritage sporting events.

Apart from the above research restrictions, our study might also shed light on further studies on the sustainable development of heritage tourism, sport tourism, and event tourism, given the increasing demand for sustainable development of heritage destinations, inheritance of traditional culture, and tourists’ quests for authentication. First, the tourist-based model of authenticity shows AAP does not have a significant effect on ITA. This might be the reason that tourists buy auxiliary products such as souvenirs for their own pleasure on-site. Further studies could explore the relationship between tourists’ authenticity perceptions and souvenir-purchasing behaviors of a heritage sporting event. Second, our study shows ITA does not have a significant effect on tourist loyalty. This is an interesting result, which might be the reason that tourists of Naadam could experience the same interpersonal authenticity at other tourism activities. Though tourists experience interpersonal authenticity such as family gatherings and friends’ communication in Naadam, they could also have the same authenticity perception by other forms of tourism. This possibly shows that loyal tourists’ quests for authenticity have special characteristics, therefore further studies could explore what authentic experience is so special that it could attract tourists’ re-patronage. This might contribute to the sustainable development of a heritage sporting event.

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## Appendix A. Questionnaire Items

Constructs	Indicators
Authenticity of Event Culture (AEC)	During my visit to Naadam, I perceived the event to be a traditional festival. During my visit to Naadam, I perceived the holding time to be traditional. During my visit to Naadam, I perceived the ceremony of sacrifice to be traditional. During my visit to Naadam, I perceived the folk costume to be original. During my visit to Naadam, I perceived the folk dance to be original.
Authenticity of Auxiliary Products (AAP)	During my visit to Naadam, I perceived the souvenirs to be traditional. During my visit to Naadam, I perceived the handicrafts to be traditional. During my visit to Naadam, I perceived the booth design to be traditional. During my visit to Naadam, I perceived the shop design to be traditional.
Intrapersonal Authenticity (IRA)	During my visit to Naadam, I perceived my various development. During my visit to Naadam, I perceived pleasure and enjoyment. During my visit to Naadam, I perceived self-realization.
Interpersonal Authenticity (ITA)	During my visit to Naadam, I perceived my communication with local people. During my visit to Naadam, I was with family members. During my visit to Naadam, I feel happy with other travelers
Satisfaction (SAT)	Visiting Naadam is a good decision. Naadam is a good event. Naadam gave me good feeling.
Loyalty (LOY)	I will recommend Naadam festival to my friends. I will introduce Naadam festival. I will revisit Naadam festival.

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