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Motivational Antecedents, Value Co-Creation Process, and Behavioral Consequences in Participatory Sport Tourism

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Abstract: This study was designed to examine the structural relationships among tourists' participation motivations, the value co-creation process (VCCP), and value co-creation behavior (VCCB) in terms of in-role and extra-role contributions. Based on a comprehensive review of literature, participation motivations were measured with four constructs, including need for uniqueness, need for self-control, need for social interaction, and need for leisure and entertainment. Research participants ($N = 445$) who had participated in two or more marathon events in China were recruited to respond to an on-site or online survey. Conducting structural equation modeling analyses, three motivational factors of need for uniqueness, need for social interaction, and need for leisure and entertainment were found to exert significant ($p < 0.05$) and positive impact on VCCP, which in turn had significant ($p < 0.05$) influence on in-role and extra-role contributions associated with VCCB. Discussions are centered on promoting specific areas of participants' motivations in an effort to empower and energize the process of value co-creation and to ultimately activate and sustain participants' in-role and extra-role behaviors.

Keywords: sport tourism; participation motivations; value co-creation; value co-creation behavior; participatory sport



Citation: Jiang, X.; Kim, A.; Kim, K.; Yang, Q.; García-Fernández, J.; Zhang, J.J. Motivational Antecedents, Value Co-Creation Process, and Behavioral Consequences in Participatory Sport Tourism. *Sustainability* **2021**, *13*, 9916. <https://doi.org/10.3390/su13179916>

Academic Editor: Juan Ignacio Pulido-Fernández

Received: 26 July 2021

Accepted: 31 August 2021

Published: 3 September 2021

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1. Introduction

In recent years, the sport industry in China has gained considerable growth. China's economic and social development, with the gross domestic product (GDP) being close to \$15 trillion and per capita GDP exceeding \$10,000 for the first time in 2019, shows the rapid growth of middle-class residents [1]. The wealth growth has led to a greater demand for high-quality sport products and services, thereby providing greater opportunities for the development of the sport industry. Of the 1.4 billion people living in China, in 2018, one third frequently participated in sports or at least some form of physical activities. The value of the Chinese sport industry reached \$151.5 billion, accounting for 1.1% of the annual national GDP, with the growth rate also being maintained at greater than 10% for ten consecutive years [2]. Both the growth rate of the total scale and the added value of the sport industry are far higher than the GDP growth rate, highlighting the tremendous potential of the sport industry overall.

As China's sport industry continues to grow, both "sports+" and "tourism+" programs have become important for guiding diversified development of the sport industry; as a result, the market share of sport tourism has been gradually increasing. Currently, the scale

of sport tourism in China is \$25.5 billion. It is estimated that by 2021, sport-tourism-related consumption will exceed \$150 billion, and the number of sport tourism participants will reach 1 billion [3]. Sport tourism refers to travel that involves observing or participating in a sporting event while staying away from the tourists' usual environment. In recent years, traveling away from home and actively participating in sport competition events has increasingly become a core component of tourism [4]. Specifically, participatory sport tourism has rapidly become a popular form of leisure and entertainment in China. The growth of participatory sport tourism is manifested in both its increasing demand and supply. In terms of increasing demand, higher incomes and increased work pressure have intensified people's need for health enhancement activities, leisure, and entertainment. Consumers' demands for sports are to meet their multi-faceted needs, such as physical and mental relaxation and the pursuit of a quality life through sport participation. On the supply side, China has effectively developed and postulated new sport-related policies to stimulate investments, implemented sport program development plans, improved infrastructure for participatory sport tourism, and widely promoted and campaigned for national programs and projects for sport participations.

The positive changes have encouraged sport organizations and companies to offer sport tourism event, programs, and activities and expand their product and service supply. Of various sports, the urban marathon has been the fastest-growing sector of the sport industry. These are quite influential road races in China. In 2019, the number of marathon events reached 1828 throughout China, increasing by 247 events (15.62%) from 1581 events in 2018 [5]. These events have attracted millions of participants. In addition to registration fees, other income opportunities include, but are not limited to, concessions, sponsorship, hotel accommodations, media income from the sale of event broadcast rights, and cultural and tourism activity consumptions. The total marathon-related annual consumption in 2019 reached \$2.7 billion; the indirect revenue driven by annual events reached \$4.3 billion; and the total annual road race output reached \$11.2 billion, substantially contributing to China's economy [5]. Although the development of China's participatory sport tourism presents unprecedented opportunities, many challenges still exist. For instance, participants' value perceptions are not fully understood, leading to an uncertain future for event providers. A part of this issue is attributed to the fact that event organizers have primarily focused on generating profits, instead of offering values to consumers and meeting their needs and wants [6]. When the benefits for event participants are ignored, it might impede cultivating consumer loyalty. Therefore, sport event organizers should enhance value for event tourists by creating an effective interactive platform that can promote value creation opportunities [7].

Consumers have transitioned into a role where they are no longer simply passive recipients of value but rather value co-creators alongside the service providers [7,8]. Reasonably, the service providers' responsibility should be focused on the ability to anticipate and detect potential risks and problems that prevent the organization from reaching its goals. When customers are viewed as stakeholders, service providers are expected to promote individual motivations and satisfaction, organizational values, commitment and interaction, individual contribution, and interpersonal relationships [9]. When customers are viewed as a part of stakeholders. To a great extent, the traditional value creation perspective is being replaced by value co-creations made by both service providers and users [8,10]. In the sport event tourism industry, tourists seek additional value and invest their emotional, intellectual, and physical resources in the ongoing value co-creation process (VCCP) for products and services, alongside sport service providers [7,11]. To increase competitive advantage and market share, event management is now expected to extend from simply improving internal efficiency to facilitating tourists' co-creation of value [12]. As value co-creation has become a new research focus for participatory sport tourism, scholarly interest in VCCP has received increased research attentions. Even so, to date, scholars have thus far mainly focused their inquiries on developing frameworks for studying spectator sport tourism [11], examining value co-creation in fitness centers [13],

or consumer behavior issues associated with spectator sports [7]. The role of tourists in value co-creation in participatory sport tourism remains under-explored. Although several scholars have investigated participatory sport tourists' VCCP in China (e.g., [4,14]), little is known how sport tourists' motivations lead to VCCP and its outcomes. Therefore, the purpose of this study was to explore participatory sport tourists' psychographic behavior in VCCP of the event tourism industry, particularly in terms of how event participation motivations influence VCCP, which in turn leads to value co-creation behavior (VCCB).

2. Review of Literature

2.1. Sport Tourism and Participatory Sport Tourism

Sport tourism is an emerging form of integration of the sport industry and the tourism industry. In recent years, its industrial scope has been continuously expanded and the industrial chain has been improved. Its contribution to the local and national economies has become increasingly significant. Event tourism is a general term that captures such traveling destination activities as cultural celebration tourism, cultural and entertainment event tourism, business and exhibition tourism, sport event tourism, science and education event tourism, leisure event tourism, political event tourism, and private event tourism. As an important part of event tourism, sport tourism has attracted the attention of many scholars [15]. Hinch and Hingam (2001) defined the concept of sport tourism from the connotation and time attributes. They believe that sport tourism is carried out in a limited time, based on the characteristics of sport elements such as competition, regularity, interest, and leisure, and the coinciding with travel activities [16]. From the perspective of impact of events on sport tourism, Margaret (2004) emphasized that event tourism is the essence of sport tourism and the core of the entire industry chain, as well as a new extension of the sport event industry [17]. In this regard, Wang and Yang (2011) believe that sport event tourism is the main motivation for the public to visit and watch or actively participate in various sports competitions so as to achieve physical wellbeing, mental pleasure, and leisure and enjoyment [18,19]. As there are different ways the public participates in event tourism, event tourism can be broadly divided into two categories, including viewing event tourism and participating event tourism. Participatory event tourism is a way for tourists to travel to tourist destinations with participation in sport events as the primary purpose. These participatory sport events are usually grassroots and the participants are mostly recreational sport-oriented people who regularly engage in running and other sport activities, pursue an active lifestyle, and ultimately attain physical, psychological, and social benefits of sport participation.

The COVID-19 outbreak has brought tremendous stresses and interruptions to all areas of global societies and human lives, including but not limited to economic, social, political, and cultural contexts. At the same time, participatory sport tourism has become an important means of reducing anxiety, coping with stress, and dealing with mental health issues. Outdoor individual or small-group physical activities such as running, biking, hiking, and boating have become popular sport choices for people throughout the globe [20]. Since even before the pandemic, in recent years, road running, road races, and various forms of marathon-based participatory event tourism have been growing rapidly in China and other parts of the world. It has become a form of sports tourism with great market vitality and development potential, and has gradually changed the traditional tourism perception of tourists. The COVID-19 pandemic has further highlighted the viability of running activities and events by utilizing natural resources. With today's lasting high infection rate, lingering impacts for years to come, and getting prepared for future pandemic crisis, it would be prudent for researchers and professionals to effectively and efficiently operate outdoor individual sport events and use the events to help promote personal and social wellbeing.

In general, event sport tourism, sport tourism, and participatory sport event tourism are of progressive relationships from top to bottom. In essence, an event tourist is the most general concept that captures all individuals attending any form of events (e.g., cultural,

political, professional, entertainment, sport). A sport tourist is an individual who attends a sport event as a participant of sport competitions or as a spectator to watch and witness the competition. A participatory sport tourist describes an individual who travels to participate in sport competitions that inevitably lead to some consumption behaviors as a visitor. In brief, this study operationally defines participatory sport event tourism as travel behavior in which people use leisure time to go to a destination to achieve the purpose of participating in sport events and obtain unique experiences. The tourism process integrates competition, entertainment, experience, health benefits, among others.

2.2. Value Co-Creation

The concept of value co-creation first appeared in industrial studies in the 19th century, which focused primarily on improving company productivity and efficiency. Von Storch [21] emphasized that the service process requires cooperation between producers and consumers. This notion became the source of the concept of value co-creation, which includes the idea that services require the participation of both producers and users [8]. While some previous studies adopted the concept of good-dominant logic where value is embedded in service itself [8], the recognition of the role consumers play has garnered much attention in more recent years. Vargo and Lusch [8] proposed the concept of service-dominant logic, shifting the focus of value co-creation from the traditional industrial production perspective to modern marketing management. The core ideas of service-dominant logic are that service becomes the fundamental basis for all economic exchanges, and consumers are thereby co-creators of value. With the emergence of service-dominant logic, it is now believed that consumers are always co-producers, and companies can only put forward value propositions [8]. From the service-dominant logic perspective, interaction, integration, customization, and co-production are important for service offerings. Value is created and determined only when consumers actually use a product or service in a consumption process [8]. This process occurs when providers and consumers interact directly or through a medium of commodities.

In general, value co-creation emphasizes the fact that consumers are the core element of the realization of value [22], and organizations should encourage consumer participation in the value creation process. Therefore, consumers' participatory experience of service is the basis of value co-creation; without active consumer involvement, service providers are unable to create value for consumers [22]. The idea of understanding consumers has shifted from a process by which service providers play a dominant role in the value creation process while consumers are mere participants, to one where service providers and consumers jointly produce and create value together through their interactions and resource integration. Subsequently, service providers offer a value co-creation platform for consumers, and the consumers create value [8,10]. In the current study, value co-creation is defined as a process whereby tourists participate in event tourism and create value through their active interactions with event organizers.

2.3. The Need for Understanding Value Co-Creation in Sport Tourism

With organizations increasing emphasis on the role of consumers, the concept of value co-creation has been applied in a variety of industries. However, to date, the application of value co-creation in the sport tourism context has not been given much attention. Tourism activities and tourist experience have a positive impact on various human life perspectives, such as individual and family wellbeing, social and cultural activities, and leisure and entertainment [23]. Recently, scholars have begun to adopt the value co-creation concept to advance a tourism research paradigm. Nina and Lene (2011) discussed the strategies, related countermeasures, and impacts of tourism value co-creation [24]. Zhang (2011) analyzed the process of co-production and co-creation of value, which divided the driving factors of tourist participation into external participation and endogenous participation [25]. Chouki and Peter (2013) combined tourism experience value co-creation and tourism marketing and proposed a new research framework for establishing a tourism experience

network [26]. Liu (2016) proposed a value co-creation tourist management concept for scenic spots, including tourist preference, capacity, experience value, and tourist behavior, to build a tourist interaction platform to achieve management innovation and linkage and ultimately enhance the value of both parties [27]. Bao (2014) built a conceptual model of rural high-end tourism development based on the theory of co-creation of tourism experience value and demonstrated the positive correlation between tourism experience value and tourist satisfaction [28]. Elaine and Hyelin (2015) studied tourism experience co-creation and its impact on tourist behavior, tourist co-creation satisfaction, and tourist loyalty [29].

According to Cabiddu et al. [30], tourism scholars should incorporate the concept of value co-creation because of the following two reasons. First, value co-creation involves not just service providers and consumers, but also various stakeholders in the entire industry. Here, the roles of stakeholders become important because value is not created merely by presenting service to consumers. Value is co-created through the interactions among consumers and all stakeholders by integrating reciprocal resources and knowledge [7,8]. For example, sport event organizers have begun to digitalize their venues by adopting smartphone applications [31]. This allows spectators and stakeholders to get connected and co-create entertainment value with each other. Second, value co-creation allows for a thorough examination of the tourism industry's characteristics, such as the interaction of stakeholders and the core role of consumers. Therefore, the concept of value co-creation helps participatory sport tourism integrate the demands of the government, sport organizations, and consumers by considering consumers as an important part of the value creation process in sport tourism. Li [32] highlights the need for more personalized tourism experiences, for which the value co-creation concept can be used to incorporate tourists' pursuit of personalized sport tourism, experience, and desire to actively participate in tourism product development.

A key aspect of the value co-creation theory emphasizes that consumers are no longer the recipients of product compliance or the selection of simple comparisons of products. Their role has changed to become the creator of the product, integrating their own needs, knowledge, skills, and resources into the product. In the production process, if one is willing, one can participate in any link of product production. The degree of participation, the manner of participation, and the form of participation are flexible. In the value co-creation of participating sports products, due to the organization of the events and the participants being a group of people who are relatively fixed on a certain sport tourism sport, value co-creation moves the consumption part of sport tourists forward to attain objectives of tourism. Progressing from pure experience of participating in sport activities in a sport tourism destination, sport tourists can participate in the selection and design of sport activities in a sport tourism destination. From merely having the ability to control whether to participate in the competition event to being able to contribute to detailed designs of sports tourism events, sports tourists have more voices and choices; in this process, their sense of experience and engagement have been strengthened, leading to a deeper level of participation. In the context of marathon tourism, event organizers should jointly create experience value through continuous interactions and dialogues with the event participants. The focus of attention should shift from the organization and operation of marathon tourism to interactive quality and an interactive environment for the participants to create a good experience. Prahalad (2014) pointed out that in value co creation, direct interaction with consumer groups is very important. Producers must understand consumers' inner thoughts as much as possible through rich dialogues and stimulate their feedback so that producers and consumers can jointly shape consumers' expectations and experiences. In the whole process of value creation, there can be multiple interaction points at any time and place, which means that all points of interaction between producers and consumers are very important for value creation, such as before, during, and after marathon tourism, and via online and offline procedures. The task of the event organizer is to create a strong consumer experience environment and focus on the quality

of interactions [10]. Without a doubt, value co-creation is a useful concept that can help better understand tourists in participatory sport tourism.

2.4. Model Development

In the present study, we proposed a research model that included participation motivations, VCCP, and VCCB. Participation motivations were identified as antecedents of VCCP, because participation motivations are important driving factors of value co-creation [33]. Participation motivations were categorized into four elements: need for uniqueness, need for self-control, need for social interaction, and need for leisure and entertainment [34–37]. As an outcome of VCCP, VCCB consists of in-role behavior (i.e., participation behavior) and extra-role behavior (i.e., consumer citizenship behavior) [38]. The model is presented in Figure 1.

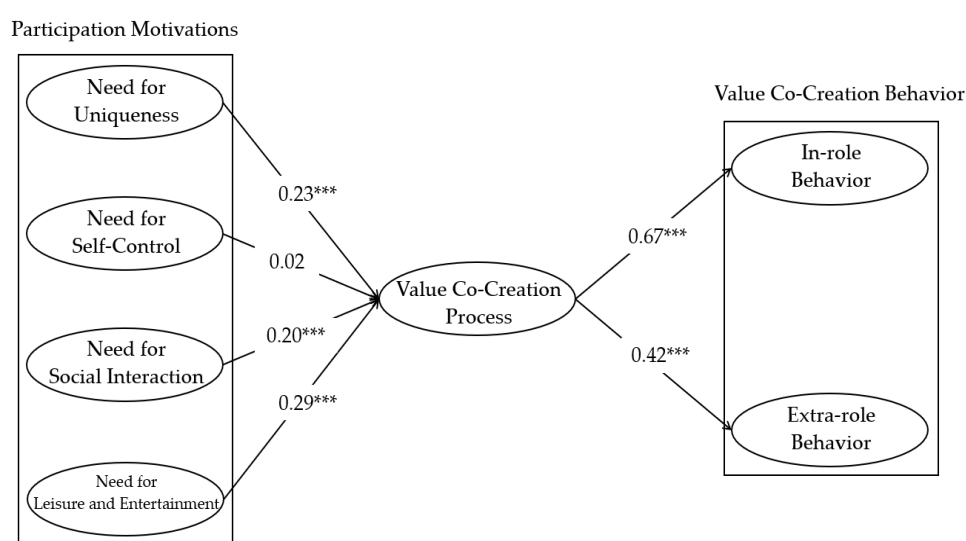


Figure 1. Research Model with Path Coefficients. (Note. *** $p < 0.001$).

2.5. Research Hypotheses

2.5.1. Need for Uniqueness and Value Co-Creation Process

The concept of the need for uniqueness was first proposed by Snyder and Franking [39], which refers to an individual's pursuit for abnormality, relative to others. Dholakia et al. [36] indicate that consumers pursue the need for uniqueness to satisfy their needs, which become behavioral representations of their state of mind. In the literature, there has been a considerable increase in consumers' sense of autonomy, which leads to more attention being paid to consumers' need for uniqueness [40,41]. The need for uniqueness is important for understanding tourists' motivations to engage in value co-creation in event tourism. Consumers' need for uniqueness can be met by directly purchasing unique event-related products or participating in events and services [42,43]. Event organizers can provide tourists with unique event-related products and services to satisfy their need for uniqueness, thereby prompting greater in-depth participation. At the same time, driven by these needs, tourists are more likely to participate in events actively and share their knowledge and skills. Hence, the following hypothesis (H) was proposed.

Hypothesis 1. (H1). *There is a positive relationship between individual need for uniqueness and the value co-creation process for marathon event participants.*

2.5.2. Need for Self-Control and Value Co-Creation Process

The need for self-control refers to an individual's capacity to regulate one's behavior, thoughts, and emotions [44]. It is both stable (in terms of its characteristics) and dynamic (in terms of changes in the contextual state). Ryan and Deci [45] contend that self-control is

a basic human desire, and the motivation for voluntary action originates from self-interest and choice. Self-control has thus been found to alleviate the perceived risk caused by information asymmetry, enhance the sense of security, and lead to a generally positive effect on behavior. Uziel and Baumeister [46] further suggested that the need for self-control can be satisfied by consciously altering one's emotional state, cognition, performance, and participation behavior.

Self-control plays a vital role in marketing decision-making. Because there have been diverse forms of event tourism, participants' needs have become more complex. By enhancing consumers' interactions with event organizers, tourists are likely to have a deeper and more comprehensive understanding of the product or service development process, thereby providing the consumers with autonomy and a voice. Therefore, tourists with more self-control tend to have a stronger desire to become opinion leaders and take more active roles in VCCP. Tourists with less self-control, on the other hand, are more likely to play the follower role and have less involvement in VCCP. Based on this reasoning, H2 was developed:

Hypothesis 2. (H2). *There is a positive relationship between the individual need for self-control and the value co-creation process for marathon event participants.*

2.5.3. Need for Social Interaction and Value Co-Creation Process

Self-determination theory posits that the need for relatedness is a driving factor of behavior [45]. Individuals satisfy their social needs by acquiring a sense of belonging, friendship, emotional support, care, cooperation, and rewards through social interaction [6]. The fact that event tourism usually attracts interest-related groups allows tourists to meet others who have similar interests, thereby expanding their interpersonal network and providing social support and a sense of belonging through the participation of the same activity [6]. Interactions and discussions among tourists, and between tourists and event organizers, can facilitate both knowledge sharing and communication. Driven by the need for social interaction, tourists are likely to use an event as a social platform and interact with other tourists and share knowledge, skills, and experience. Similarly, the realization of value from sport events depends on the interaction between consumers, event organizers, and social resources. Social interaction is the basic premise for participation in value co-creation of an event. Hence, the following hypothesis was proposed.

Hypothesis 3. (H3). *There is a positive relationship between the individual need for social interaction and the value co-creation process for marathon event participants.*

2.5.4. Need for Leisure and Entertainment and Value Co-Creation Process

Entertainment is an important feature of sport tourism. An important motivator for participating in event tourism is to gain pleasure and relaxation. Beard and Ragheb [47] suggested that the need for leisure and entertainment stimulates engagement in entertainment activities, which has a positive effect on participation behavior. Li [48] emphasized that the need for leisure and entertainment is an internal psychological process that guides the achievement of goals toward leisure activities, thereby highlighting the role of leisure motivation. Therefore, when participating in event tourism, awareness of the embedded leisure and entertainment is an important factor that can influence participation behavior. From a physiological perspective, tourists are able to engage in physical exercise and improve their own physical fitness by participating in sport events. From a psychological perspective, tourists participate in VCCP through a variety of channels, such as information collection, service experience, and sharing viewpoints, so as to express emotion, release stress, and entertain the body and mind. Hence, H4 was proposed as follows.

Hypothesis 4. (H4). *There is a positive relationship between the individual need for leisure and entertainment and the value co-creation process for marathon event participants.*

2.5.5. Value Co-Creation Process and Value Co-Creation Behavior (in-Role and Extra-Role Behaviors)

Previous studies have shown that the more value consumers obtain from VCCP, the more likely they are to become loyal consumers and generate positive recommendations. Yi and Gong [38] conceptualized VCCB as in-role and extra-role behaviors. In-role behaviors refer to transactional behaviors that are beneficial to the consumption process, such as information search, information sharing, responsible behavior, and interpersonal interaction. Extra-role behaviors go beyond traditional transactional behaviors by bring additional value to service providers. Extra-role behaviors include feedback, recommendations, assistance, and tolerance.

In terms of VCCB in event tourism, tourists' in-role behaviors include participating in live sport events, watching broadcast games on television or through media, and purchasing team merchandise. Extra-role behaviors include not only purchasing transactions but also cooperating with sport tourism organizers to better perform management functions and helping potential participating groups through knowledge sharing [49]. Tourists thus work with sport organizations and other participants to create value that can be experienced by multiple stakeholders. Through the exchange of value propositions and resource integration, interactions among tourists and between tourists and sport organizers help create value and lead to VCCB. Gu [50] demonstrated that value co-creation had a positive effect on value perceptions and consumer loyalty. Yoshida et al. [49] found that value obtained by consumers through interactions and resource exchanges could lead to increased sport consumption, positive word-of-mouth, and improved management cooperation. Hence, H5 and H6 were proposed as follows.

Hypothesis 5. (H5). *The value co-creation process by marathon event participants has a significant positive effect on individual in-role behaviors.*

Hypothesis 6. (H6). *The value co-creation process by marathon event participants has a significant positive effect on individual extra-role behaviors.*

3. Method

3.1. Participants and Procedure

To test the proposed model, the questionnaire was distributed to individuals who had participated in two or more marathon events held in China over a period of 1 month in 2019. Respondents could complete the survey either on-site or online. When advanced statistical analyses such as confirmatory factor analysis (CFA) and structural equation modeling (SEM) were conducted, the desirable item-to-response ratio was 1:10, or a minimum number of 200 samples [51]. Considering the total number of variables this study employed, including 21 observed variables, securing a minimum number of 210 responses was desirable. A total of 500 questionnaires were distributed; of these, 445 valid responses were collected, resulting in a response rate of 89% and justifying the sample size of the study. Participants between 20 and 55 years old accounted for 90.1% of the research participants, and people over 55 years old were 9.9%. The proportion of college students and graduate students was high, among which 40.7% were college students and 53.1% were graduate students. In terms of age and educational background, the characteristics of research participants were consistent with those reported in the Comprehensive Analyses of China's Sports Consumption Market in 2019, indicating that the sample source was valid [52]. A total of 98.6% of the respondents had experience of participating in at least two marathon events, and 55.5% of them participated in three or more events. In general, the participants of this study had participated in marathon competitions for a relatively long time, which also ensured that the survey information collected was relatively comprehensive and in depth. In this study, we investigated the possible interference of control variables to the model and included age and education level as control variables in the structural model for testing. Examining the moderating effects of sociodemographic background variables

followed procedures adopted by Paulson et al. [53] in their study on global, regional, and national progress towards sustainable development. The results showed that control variables had no significant influence on other variables and paths.

3.2. Instruments

Development of the questionnaire was based on a comprehensive review of literature and adoption and modification of scales and items based on the actual situation of China. Items identified in literature published in English journals were first translated into Chinese. Double translations were conducted to ensure translation accuracy. Four items were used to measure need for uniqueness adapted from Wang and Liu [33]. We measured need for self-control with three items from Hsieh and Chang [54]. Three items were used to measure need for social interaction [33,55], and three items were used to measure need for leisure and entertainment [36,56]. VCCP was measured with four items adapted from Wang and Liu [33] and Petrick [57]. To measure in-role and extra-role behaviors, we adapted four items for each construct from Yi and Gong [38] and Yoshida, Gordon, Nakazawa, and Biscaia [49] (see Table 1 for all items). All items were rated on a 5-point Likert scale (1 = strongly disagree or not important to 5 = strongly agree or important). After the survey form was first formulated, it was submitted to a panel of five experts doing research in sport tourism, who assessed relevance, representativeness, and clarity of each item. After making some revisions and editing, the panel members approved the instrument.

Table 1. Findings of measurement model testing.

Construct	Item	Factor Loading	AVE	CR
Need for uniqueness	I want to realize my unique ideas through in-depth participation in marathon events.	0.79	0.62	0.87
	I like to propose suggestions for improving marathon events.	0.78		
	I think it is necessary to improve the products and services of events to meet my individual needs.	0.78		
	I prefer customized products and services rather than uniform and fixed ones.	0.80		
Need for self-control	I feel that I have full autonomy when expressing opinions on how to improve the products and services of events.	0.78	0.76	0.91
	I feel that I play an important role in the process of events.	0.91		
	When participating in events, my behavior can affect others significantly.	0.93		
Need for social interaction	I have established friendships with the staff and other participants of the events.	0.94	0.82	0.93
	Participating in marathon events has expanded my social circle.	0.91		
	I participate in marathon events to find people with similar attributes and shared hobbies.	0.86		
Need for leisure and entertainment	I feel that participating in marathon events is fun and exciting.	0.82	0.63	0.83
	Participating in marathon events is a leisurely way to spend my free time.	0.75		
	Participating in marathon events makes me feel relaxed and helps me forget my troubles.	0.81		

Table 1. Cont.

Construct	Item	Factor Loading	AVE	CR
Value co-creation process	I will take the initiative to learn relevant information before participating in events.	0.76	0.62	0.87
	I know the capabilities of the service operations of the event organizers and will actively express my needs.	0.85		
	I will actively communicate with event organizers and staff.	0.77		
	I will take relevant actions to ensure that the event services are implemented as expected.	0.77		
In-role behavior	I plan to participate in more events in the future.	0.78	0.68	0.89
	I will buy products related to this event in the future.	0.87		
	I will consume other travel-related products during the period of the events.	0.86		
	I will watch sports broadcasts of the events through a subscription on television or Internet in the future.	0.74		
Extra-role behavior	I will try to cooperate with the event organizers' team through multiple channels.	0.78	0.67	0.89
	I often communicate with other participants to discuss issues related to the event organization.	0.89		
	I can accept the imperfections of the event organization.	0.87		
	It is very likely that I will recommend this event to my friends.	0.71		

3.3. Data Analyses

Descriptive statistics for sociodemographic were estimated. Next, a CFA was conducted to examine a measurement model. To examine the goodness of the fit, several fit indices were considered, including normed chi-square (χ^2/df), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean residual (SRMR). To test the reliability and validity of constructs, Cronbach's alpha scores, average variance extracted (AVE) values, composite reliability (CR), and factor correlations were estimated. SEM analyses were conducted to examine the hypothesized structural relationships. AMOS 24.0 was used for CFA and SEM analyses. It is necessary to note that researchers typically use the SEM technique to test a proposed theoretical model, which allows many relationships to be calculated and tested at once in the single proposed model with many links instead of investigating each relationship individually [58]. This study analyzed the hypothesized structural model in Figure 1 by using a partial least square approach, which is advantageous over other regression-based methods when evaluating different latent constructs with several manifest variables. Throughout our analyses, we qualify statements as statistically significant if the posterior probability of that statement exceeds 95% [59].

4. Results

4.1. Measurement Model Testing

Table 2 shows the significant correlations among all constructs. Reliability was examined with Cronbach's alpha and CR. The results of Cronbach's alpha showed internal consistency of the scales [60]: need for uniqueness (0.87), need for self-control (0.90), need for social interaction (0.93), need for leisure and entertainment (0.83), VCCP (0.87), in-role behavior (0.89), and extra-role behavior (0.88). CR values for all constructs were above 0.70, satisfying construct reliability [61].

Table 2. Correlations of constructs.

	1	2	3	4	5	6	7
1. Need for uniqueness	1						
2. Need for self-control	0.60	1					
3. Need for social interaction	0.47	0.53	1				
4. Need for leisure and entertainment	0.36	0.40	0.29	1			
5. Value co-creation process	0.25	0.23	0.25	0.27	1		
6. In-role behavior	0.43	0.41	0.37	0.41	0.46	1	
7. Extra-role behavior	0.43	0.45	0.49	0.36	0.22	0.36	1

Note. All correlation values were significant at the 0.01 level.

Construct validity was examined with convergence validity and discriminant validity. Table 1 shows that factor loadings of all items ranged from 0.71 to 0.94, suggesting that items were highly representative of corresponding constructs [51]. All AVE values were above 0.60, showing good convergent validity [61,62]. Discriminant validity was supported, as all AVE scores were greater than the squared correlations of all pairs of constructs [61].

We further tested common method bias by using one-factor confirmatory factor analysis. The goodness of fit of the one factor model was poor, with normed chi-square (χ^2/df) changing from 1.52 to 16.56, the RMSEA changing from 0.34 to 0.19, and the CFI dropping from 0.98 to 0.52. Therefore, we found that there was no serious problem with common method bias in the data set.

4.2. Hypotheses Testing

A maximum likelihood estimation was used to calculate the path coefficients and the goodness of fit. The results showed that the model's goodness of fit was satisfactory: $\chi^2/df = 1.52$, RMSEA = 0.03, NFI = 0.95, RFI = 0.94, IFI = 0.98, TLI = 0.98, and CFI = 0.98 (Hair et al., 2010). The standardized coefficient of need for uniqueness on VVCP was 0.23 ($p < 0.001$), indicating that the path had a significant positive relationship, supporting H1. There was no significant relationship between need for self-control and VVCP ($\beta = 0.02$, $p > 0.01$). Thus, H2 was not supported. H3 and H4 were supported, as need for social interaction ($\beta = 0.20$, $p < 0.001$) and need for leisure and entertainment ($\beta = 0.29$, $p < 0.001$) significantly and positively affected VCCP. VCCP had significant impacts on in-role behavior ($\beta = 0.67$, $p < 0.001$) and extra-role behavior ($\beta = 0.42$, $p < 0.001$). Therefore, H5 and H6 were supported (see Figure 1 and Table 3 for the results).

Table 3. The results of structural model testing.

	Path	β	SE	T-Value	Result
H1	Need for uniqueness → VCCP	0.23 ***	0.05	3.17	Supported
H2	Need for self-control → VCCP	0.02	0.05	0.30	Not supported
H3	Need for social interaction → VCCP	0.20 ***	0.04	3.45	Supported
H4	Need for leisure and entertainment → VCCP	0.29 ***	0.04	5.06	Supported
H5	VCCP → In-role behavior	0.67 ***	0.09	11.81	Supported
H6	VCCP → Extra-role behavior	0.42 ***	0.07	7.57	Supported

Note. *** $p < 0.001$. VCCP = value co-creation process. SE = standard error.

5. Discussion

Similar to pandemics like the 1918–1919 influenza outbreak, COVID-19 could be a once-in-a-century crisis. COVID-19 has affected people of all demographics and locations throughout the world [62]. The COVID-19 pandemic has brought all business organizations of all industries and contexts fluctuation, uncertainty, complexity, and ambiguity [9]. Resource constraints are a hallmark notion of COVID-19 [62] and participatory sport tourism resources are no exception. While outdoor individual sports provide relatively safe options for people to engage in physical activities, having participants involved in value creation for organized sport events would be a wise initiative for event managers and marketers,

particularly when resources are scarce [20]. Affected by the prevailing virus, there has been a cliff-like loss of sport tourism globally since 2020. Over a short period of two years, the loss of sport tourism is unprecedented. From the perspective of sport tourism consumption recovery, development of popular ecological sport tourism destinations, utilization of outdoor and natural resources, cooperation of spectator and participatory sport events, and reconstruction of sport heritage programs would be reasonable options to boost the recovery and growth of sport tourism in the coming years. While the world is still battling the pandemic, efforts need to be made redesign, revise, and readjust sport tourism products and program, pay attention to the value creation of participants in terms of both VCCP and VCCB, realize diversification and uniqueness of sport tourism products and services through high-quality programming and delivery, make careful and sufficient preparations for staging sport tourism events, and become better prepared for future epidemiological outbreaks. Other effective elements of better preparedness can include hallmark event development, destination image building, strengthening intellectual property, improving industrial support of environmental protection, ensuring consumer participation, promoting effective interactions within the industry, and forming an industrial culture that highly emphasizes value co-creation as the core components of sport tourism operations.

5.1. Theoretical Implications

According to service-dominant logic, event organizations are the initiators of the value proposition, and the organizations collaborate with event participants to co-create value. Event organizations should thus pay close attention to the needs of tourists and their focus should be on meeting the needs as perceived by the tourists. Value co-creation in the field of event tourism is mainly about meeting the diversified and personalized needs of tourists with resources integration (e.g., knowledge, skills, experiences) through a sport event as a platform [7,11]. Most existing studies on the motivations for sport tourist participation in value co-creation adopted the event organizer's perspective [63]. However, this approach ignores tourists' autonomous initiatives in value co-creation. The present study investigated the motivations for VCCP in sport event tourism from the tourists' perspectives, which advances the literature on participation motivations and value co-creation in sport tourism.

Event tourism organizations have strived to meet a variety of tourists' needs, thereby attracting participants to their events. The current study explored how tourists' need for uniqueness, need for self-control, need for social interaction, and need for leisure and entertainment affected their VCCP. Moreover, the influences of VCCP on participants' in- and extra-role behaviors were also examined. The results showed that the needs of event tourists for uniqueness, social interaction, and leisure and entertainment were all found to have positive effects on tourists' VCCP, suggesting that tourists who are driven by their need for uniqueness, social interaction, and leisure and entertainment are more willing to participate in VCCP. Specifically, the need for leisure and entertainment had the greatest effect, followed by the need for uniqueness and the need for social interaction. Since the 1950s, the demand for uniqueness by Chinese people has been on the rise, and so has the promotion of uniqueness in social culture [64]. Since consumers need to show their own uniqueness through unique products, they will look for products with strong uniqueness in the market. When consumers believe that the homogeneity of products in the market is high enough to meet their unique needs, they will participate in value creation activities to meet their unique needs, so as to enhance the participation of consumers in creation activities [65]. However, the result revealed that there was no significant effect of need for self-control on VCCP, a result that was inconsistent with our prediction. The likely reason for this unexpected finding could be the research context of the current study. That is, marathon events generally include more public participants than professional athletes. Therefore, most participants' focus might be on relaxation and entertainment rather than competition. In addition, marathon events tend to have clear rules, and personalized demands are thus less likely to be met and satisfied.

The findings also indicated that tourists' participation in VCCP directly affected economic sustainability of event tourism because VCCP was found to increase repeated participation, sport and media consumption (i.e., in-role behavior), management cooperation, tolerance, and positive word-of-mouth recommendations (i.e., extra-role behavior). By participating in VCCP, tourists can enhance their understanding of an event and their interactions with event organizers and other stakeholders. Therefore, encouraging VCCP is likely to reinforce consumer loyalty and increase the number of consumers in the sport tourism market. As Figure 1 shows, the path coefficients from VCCP on in- and extra-role behaviors were 0.67 and 0.42, respectively, indicating that VCCP had a greater impact on in-role behavior than extra-role behavior. Existing studies tend to examine perceived value and consumer loyalty as outcomes of value co-creation [66,67]. However, we focused on tourists' role-based behaviors and found the significance of value co-creation between tourists and event organizers.

5.2. Practical Implications

The present study investigated participation motivations of event tourists as the main stakeholder of event tourism on VCCP and VCCB. The findings provide sport organizations and related marketing organizations with useful information on how participation motivations affect VCCP and how VCCP in turn affects tourists' future behaviors, thereby helping event managers and marketers better understand how to allocate their resources to increase VCCP and promote tourists' role-based behaviors. Specifically, we suggest the following recommendations.

First, the idea of providing standardized services might need to be reconsidered, and instead offering personalized products and services should be expanded. Tourists' cultural and educational backgrounds, work experiences, and expectations of event services are heterogeneous. Tourists who have a deeper understanding of events' products and services usually tend to pursue their uniqueness through event participation. Therefore, event organizers and operation managers should introduce creativity and innovation into event tourism and create environments and channels that encourage tourists to express their need for uniqueness to the fullest, thereby driving the participation and co-creation motivations forward.

Second, event tourists generally have a strong need for social interaction and want to interact with other stakeholders, help one another, and share event-related knowledge. Therefore, online and offline event communities should be established to promote communication between tourists and also organize a series of activities that enhance the tourists' sense of belonging, thereby satisfying their need for social interaction.

Third, event organizers should focus on creating memorable experiences for tourists and provide them with an "entertainment treasure box." The fast-paced lifestyles of modern society have increased people's stress levels, and thus the need to release life stress has intensified. As a leisure activity, event tourism has become an important channel for people to meet leisure and entertainment needs. Therefore, event organizers should pay considerable attention to usefulness, convenience, enjoyment, timeliness, responsiveness, and innovation aspects of event management and service provision processes. New technologies and methods should also be incorporated to satisfy tourists' needs for leisure and entertainment and to help tourists experience the pleasure of their participation fully.

Finally, event organizers should take the initiative and interact with tourists effectively to make the most of the positive effect of VCCP on in- and extra-role behaviors. According to the findings in the present study, in-role behaviors had a direct effect on the development of the event tourism industry, which is manifested as financial contributions. Extra-role behaviors play an important role in promoting event tourism and generating social value. Because of the importance of in- and extra-role behaviors that jointly influence the sustainability of event tourism, event managers should strive to create an environment and opportunity that encourage tourists to participate in VCCP.

5.3. Limitations and Future Study

As the present study is among the first to examine the concept of value co-creation in the Chinese sport tourism context, further improvement and refinement of the proposed model are required. Future research might take into consideration other value co-creation stakeholders (e.g., sponsors, media) in the research model. In addition, as the findings from the current study were based on the context of participatory events, the contributions to the literature in sport tourism is limited. Future studies should expand the research scope to the contexts of spectator sport and indoor sport activities.

Author Contributions: Conceptualization, X.J. and A.K.; methodology, X.J.; software, K.K.; validation, X.J., A.K. and K.K.; formal analysis, A.K.; investigation, X.J.; resources, J.G.-F.; data curation, A.K.; writing—original draft preparation, X.J.; writing—review and editing, J.J.Z.; visualization, Q.Y.; supervision, J.G.-F.; project administration, J.J.Z.; funding acquisition, Q.Y. All authors have read and agreed to the published version of the manuscript.

Funding: This work was supported in part by the National Social Science Fund of China (grant number 16BTY047) and Sichuan Sports Industry and Public Service Research Center (grant number SCTY2019YB21).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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