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## **Sport venue quality: Measurement, and its impact on spectator's sustained consumption intentions**

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Sport venue quality: Measurement, and its impact on spectator's sustained consumption  
intentions

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Mississippi State University  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy  
in Kinesiology  
in the Department of Kinesiology

Mississippi State, Mississippi

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The aim of the current study was to reconstruct the sport venue quality dimensions as an autonomous quality with a utilitarian perspective and examine the impact on spectators' perceived risk, price perception, and sustained consumption intentions. Venues for National Basketball Association (NBA) and Major League Baseball (MLB) games that mostly represent indoor and outdoor sporting facilities were chosen, and subjects were spectators who have experience of attending professional team sport events in sport venues. The study employed an online survey for data collection, and a total of 595 samples were utilized for data analyses. The data set was randomly split into two halves for a principal component analysis and a confirmatory factor analysis, respectively. Results of the PCA generated 11 factors for venue quality including seating comfort, facility aesthetics, layout accessibility, safety, cleanliness, seating view, space allocation, facility system, electronic device, parking, and signage. The reliability and validity of the measurement model were also confirmed. In the structural model analyses, venue quality was found to be significantly associated with perceived value, perceived risk, and sustained consumption intentions. The relationships among perceived value, perceived risk, and sustained consumption intentions were also positively significant. The mediating effects

of perceived value and perceived risk were found in the relationship between venue quality and sustained consumption intentions. The findings of the current research will contribute to the sport management literature by providing meaningful insights on capturing the essence of sport venue quality, based on an autonomous quality, and how it affects spectators' price perception, alleviates perceived risk, and leads to sustained consumption intentions.

## DEDICATION

My deep gratitude goes first to my family for the encouragement which helped me in completion of this work. Specifically, I would like to dedicate this dissertation and give special thanks to my beloved wife, Jiyoung Suh, whose sacrificial care for me and our lovely daughter made it possible for me to complete my degree.

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I would also like to express a special feeling of gratitude to my loving parents, Jaekwan Kim and Sungjae Cho, who have always loved me unconditionally. Without their mental and physical support none of my success would be possible.

Last, but not least, I would like to express my gratitude and thanks to my advisor and mentor, Dr. Younghan Lee for his support, patience, and encouragement throughout my graduate studies.

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## CHAPTER I

### INTRODUCTION

Spectator sport has rapidly prospered with the growth of professional sport and become one of the large industry groups (Ko, Zhang, & Cattani, 2011). This phenomenon has caused the sport industry a competitive marketplace where sport marketers give consideration to consumers' wants and needs, and spectators can have an initiative choice in various options provided by sport organizations or teams to spend their time and money (Byon, Zhang, and Baker, 2013). At the same time, sport organizations have also faced a hard task to maintain and increase spectator attendance attracting their attention at sporting events (Clemes, Brush, & Collins, 2011). Many researchers pointed out the importance of supplemental services to solve a major task because the quality of the core sport product, such as the player's performance or outcome of the game which are unpredictable is beyond managerial control (Byon et al., 2013; Clemes et al., 2011; Fernandes & Neves, 2014; Wakefield, Blodgett, & Sloan, 1996; Yoshida & James, 2010). Moreover, within this context, scholars have emphasized the impact of the physical environment on spectators' perception, behaviors, and service experience (Byon et al., 2013; Clemes et al., 2011; Fernandes & Neves, 2014; Hightower, Brady, & Baker, 2002). Hightower et al. (2002) asserted that the sport venue is considered a key variable influencing spectator service perception, and Byon et al. (2013) also highlighted venue quality which is a one of dimensions in peripheral service quality is a significant predictor of spectator's perceived value and behavioral intentions.

Although the quality-value-consumption model has been well established in the context of sports and leisure (Byon et al., 2013; Hightower et al., 2002; Kell & Turley, 2001; Ma & Kaplanidou, 2020; Theodorakis & Alexandris, 2008; Zhang et al., 2004), the effect of the perceived risk on spectator's behavioral intentions has gained less academic attention. Perceived risk has been known as a constraint that has a negative influence on consumer's perceived value and behavioral intentions in the context of consumer behavior (Agarwal & Teas, 2004; Artuger, 2015; Beneke, Flynn, Greig, & Mukaiwa, 2013). However, the study was not carried out to investigate the role of perceived risk in the quality-value-consumption model when the effects of all factors are simultaneously considered within the context of sport management.

Another research gap is that extant literature fails to specifically address the dimensions of sport venue as an autonomous quality that may influence spectators' service experiences and consumption levels (Fernandes & Neves, 2014; Heide & Gronhaug, 2006). Rather, venue quality has been perceived as a combination of the facility's physical attributes, atmosphere, ambiance, employee service, social environment, and even game experience (Balaji & Chakraborti, 2015; Brady & Cronin, 2001; Byon et al., 2013; Clemes et al., 2011; Ko et al., 2011; Shonk & Chelladurai, 2008; Theodorakis, Kaplanidou, & Karabaxoglou, 2015; Xiao, Ren, Zhang, & Ketlhoafetse, 2020; Yoshida & James, 2010). This broad perspective raises a few issues. First, it is difficult to understand the influence of sport venue itself as one of autonomous qualities. The outcome variables could possibly be affected by the dimensions or items more closely related to employee service, social environment, atmosphere, ambiance or other factors. Venue quality can only be considered as one of the sub-dimensions of the physical environment. Second, the scale to measure venue quality does not capture the full spectrum of the physical attributes of the venue. For example, Wakefield and Blodgett (1996) and Wakefield et al. (1996) identified the

dimensions of the servicescape, and the factor representing the electronic equipment and displays only included the scoreboard quality. Also, other attributes that have not been part of factors before and may affect spectator's perceptions and behavioral intentions should be taken under consideration.

Therefore, the aim of the current study was to reconstruct the sport venue quality dimensions as an autonomous quality with a utilitarian perspective and examine the impact on spectators' perceived value, perceived risk, and sustained consumption intentions in order to estimate how venue quality leads to spectator's perception and behavioral intention.

## CHAPTER II

### REVIEW OF LITERATURE

#### **Conceptualization and Measurement of Service Quality**

Since service has unique features which are intangibility, heterogeneity, perishability, and inseparability of production and consumption, service quality is an abstract and its construct is elusive (Parasuraman, Zeithaml, & Berry, 1985). To improve general understanding of its construct and effects, many service marketing scholars have argued the concept of service quality in different ways for over 30 years (Theodorakis, Kambitsis, Laios, & Koustelios, 2001; Clemes et al., 2011). Parasuraman et al. (1985, p. 48) defined the service quality as “a function of the differences between expectation and performance along the quality dimensions”. In a similar venue, Roest and Pieters (1997, p.345) suggested that “perceived service quality is a relativistic and cognitive discrepancy between experience-based norms and performances concerning service benefits”. On the other hand, Cronin and Taylor (1994) considered service quality as a form of attitude representing an overall evaluation, and Bitner, Booms, and Mohr (1994, p. 97) also viewed it as “the consumer’s overall impression of the relative inferiority / superiority of the organization and its services”. In the sport context, Yoshida (2017, p. 432) defined service quality as “consumers’ judgement about the overall excellence or superiority of ancillary services that are provided in the service encounter as complementary parts of the core sport product”.

In line with conceptualizing the construct of service quality, several researchers in the sport and leisure industry have paid substantial academic attention to the dimensionality of the service quality construct, and they have attempted to measure service quality in the sport and leisure context. Parasuraman et al. (1985) developed the SERVQUAL which is a multi-dimensional instrument to measure the difference between consumer expectations and perceptions in the service industry (Parasuraman et al., 1988). SERVQUAL has five dimensions of service quality: tangible (e.g., physical facility, equipment, and appearance of personnel), reliability, responsiveness, assurance, and empathy. This SERVQUAL instrument is the generic model which has been used most in various service industries and has been adapted to the specific areas of the spectator sport and event (Crompton, MacKay, & Fesenmaier, 1991; Howat, Absher, Crilley, & Milne, 1996; Ko et al., 2011; McDonald, Sutton, & Milne, 1995; Wright, Duray, & Goodale, 1992). McDonald et al. (1995) developed the TEAMQUAL scale to measure service quality in professional sports by modifying the original SERVQUAL dimensions specifically to reflect the sport context. TEAMQUAL has 39 items in 5 dimensions: physical characteristics, reliability, responsiveness, assurance, and empathy. However, frameworks originated in SERVQUAL and studies used those scales heavily relied on the interactions between service providers and service consumers, even though they included the physical environment dimension such as tangible or physical characteristics (Westerbeek & Shilbury, 2003; Yoshida, 2017). Furthermore, Ott (2008) highlighted that those frameworks adapted to the sport and recreational industry are still insufficient to fully estimate service quality in those fields (Cevik, Simsek, & Yilmaz, 2017).

Theodorakis and Kambitsis (1998) developed the SPORTSERV to measure spectators' perception of service quality, and they estimated the service quality on spectators' satisfaction in

the professional basketball games through the SPORTSERV scale. The SPORTSERV scale (Theodorakis et al., 2001, p. 433) consists of not expectation-performance statements but perception performance statements including 22 items in 5 dimensions: “access (e.g., parking being available), reliability (e.g., the team delivering its services as promised), responsiveness (e.g., the team’s personnel providing prompt service), tangibles (the stadium being visually appealing), and security (e.g., feeling safe inside the stadium)”. Clemes et al. (2011) identified the sub-dimensions of service quality in the professional rugby and suggested a hierarchical framework based on the Perceived Service Quality Questionnaire (PSQQ) by Brady and Cronin (2001) to examine the relationship among service quality, value, satisfaction, fanship, and behavioral intentions. The instrument they developed consisted of 11 sub-dimensions in 3 primary dimensions: interaction quality (security employee performance, food and beverage service, and player interaction with spectators), physical environment quality (social environment, visuals and sound, stadium access, seating, and cleanliness and design), and outcome quality (atmosphere, game quality, and match day entertainment). This hierarchical framework based on the three-order factor conceptual model in the work of Brady and Cronin (2001) can be traced in studies by Brady, Voorhees, Cronin, and Bourdeau (2006), Chen et al. (2012), Theodorakis et al. (2015) in the sport and leisure context.

Another hierarchical model in the context of sport is the Scale of Event Quality for Spectator Sport (SEQSS). Ko et al. (2011) proposed the Model of Event Quality for Spectator Sport (MEQSS) with the development of the SEQSS. They also identified the sub-dimensions of service quality using a convenience sample of spectators attending Major League Baseball games. The SEQSS (Ko et al., 2011, p316) includes 5 primary dimensions consisting of 12 sub-dimensions in a hierarchical model: game (skill, hours, and information), augment service



(entertain and concession), interaction (staff-fans and inter-fans), outcome (valence and sociability), and environment (ambience, design, and signage). Specifically, ambience in the physical environment quality dimension consists of 3 items which represent non-visual aspects of service environment, such as temperature, light, noise, scent, music, and the cleanliness and maintenance (e.g., “The stadium’s ambience is what I’m looking for in a spectator sport setting”). Design includes 4 items representing functional and aesthetic design of the facility, such as facility design, safe, and layout. Lastly, signage also consists of 4 items and represents ease of viewing and aesthetic aspects of signs (e.g., “Scoreboard is aesthetically attractive”). Furthermore, Yoshida and James (2010) highlighted that it is difficult to control ambient conditions in sporting events unlike other service industries. Through the literature review, they also indicated the previous research’s limitation that researchers included game atmosphere in the dimension of facility’s functional service quality. Overall, through the literature review, the current study identified items and dimensions representing the quality of venue itself, and how those factors have been utilized for several studies with various classification in the sport, recreation, and leisure contexts.

### **Venue Quality and Its Measurement**

In the marketing literature, the term of environment referred to “the conscious design of the space in order to create certain emotions on the customer and thereby lead to an increased likelihood of purchase” (Koter, 1973; as cited in Fernandes & Neves, 2014, p. 2). Bitner (1992, p.58) defined servicescape as physical surroundings that are primarily associated with built environment (i.e., the manmade, physical surroundings as opposed to the natural or social environment) and affects behaviors of both service employees and customers in service organizations because organization’s environment should support the needs and preferences of

both employees and customers simultaneously. In other words, the physical environment is considered the facility where the service experience is created (Cevik et al., 2017). The servicescape terminology defined by Bitner (1992) has been used with diverse perspectives in different service settings, sportscape and physical environment are the main terminologies that explain the physical surroundings of sport venues.

The primary dimensions identified by Bitner (1992) are: (a) ambient conditions, (b) spatial layout and functionality, and (c) signs, symbols, and artifacts, and these dimensions have been adapted to several studies in the sport and leisure context (Ko et al., 2011; Wakefield & Blodgett, 1996; Wakefield et al., 1996; Wakefield, & Sloan, 1995; Yoshida & James, 2010). In the sport and leisure context, based on Bitner's (1992) research, Wakefield and Blodgett (1996) suggested 5 primary dimensions of the servicescape which represent facility attributes. They excluded, however, ambient conditions (e.g., weather, temperature, air quality, noise, music, and odors) among the dimensions suggested by Bitner (1992) to focus on the features which can be controlled by managers. The first factor is layout accessibility, and it refers to "the way in which furnishings and equipment, service areas, and passageways are arranged, and the spatial relationships among these elements" (Bitner, 1992; as cited in Wakefield and Blodgett, 1996, p. 47). Second one is facility aesthetics that represent a function of architectural design including interior design, color, and décor. The third feature is seating comfort affected by both the physical seat itself and the space between the seats. Fourth factor is electronic equipment and displays, but it only referred to the scoreboard quality (Wakefield & Blodgett, 1996). Other attributes, such as lighting, acoustics, or internet connection that may affect spectator's perceptions of value and risk should be included to lead to positive behavioral intentions. However, the effect of the scoreboard quality on spectator's perceived quality of servicescape

was not statistically significant in the baseball samples. The last factor is cleanliness of restrooms, concessions, walkways, and exits in the facility. In a separate empirical study, to support the relationship between the quality of servicescape and pleasure, Wakefield et al. (1996) excluded the cleanliness factor and included space allocation and signage factors which influence spectator's perceived crowding through layout accessibility. They also included the stadium parking factor to estimate the effect of stadium accessibility. Fernandes & Neves (2014) applied the concept of service experience to the spectator sport context to examine the role of servicescape as a driver of customer value in experience-centric service organizations. In the research, they constituted five dimensions based on the work of Wakefield et al. (1996), and the factors are layout accessibility combining with the signage factor from Wakefield et al.'s (1996) research, facility aesthetics, seating comfort, electronic equipment which is the quality of the scoreboard, and facility cleanliness, with 35.5% of variance explained in the perceived quality of servicescape.

Meanwhile, Byon et al. (2009) developed the Game Support Programs Scale (GSPS) to apply to a broader market environment of professional team sports based on the Scale of Game Support programs (SGSP) developed by Zhang, Lam, Connaughton, Bennett, and Smith (2005). Byon et al. (2013) adapted the GSPS to investigate the impact of peripheral service quality on spectators' consumption behavior through perceived value, and GSPS included three dimensions: game amenities, ticket services, and venue quality. Specifically, venue quality consisted of 6 items that represent staff courtesy, restroom availability, arena/stadium cleanliness, ease of entrance, security, and parking. Although venue quality directly and indirectly affected on spectator's perceived value and behavioral intentions, there is a limitation that it is difficult to know which features of venue quality attracted consumers' perceptions

because it was comprised of 6 items as a unidimensional factor. More recently, Ma and Kaplanidou (2020) adapted venue quality as a single factor with 3 items (e.g., stadium cleanliness, ease of entrance, and security) in the GSPS.

In the literature review, previous studies have focused on the quality of event or game and atmosphere to estimate its effect on spectator's perception and behavioral intentions developing various scales. Moreover, several researchers in the sport and leisure context have adapted attributes of the physical environment, servicescapes, stadium facility, or peripheral service quality to their studies. However, those items and factors do not fully capture the spectrum of physical attributes in the venue as an autonomous quality combining with various components together, such as employee service or quality of interaction.

In this study, therefore, venue quality is considered one of the dimensions in the service quality and only refers to the spectator's evaluative perceptions of the physical attributes in the sport venue based on his/her interactions with seating comfort, seating view, layout accessibility, quick and easy access through gates, space allocation, signage, parking, electronic device, facility system, cleanliness, facility aesthetics, and safety.

### **Perceived Value**

Perceived value is considered one of the most prominent variables to predict customer consumption behaviors, and it has drawn a considerable attention from scholars in various academic fields (Byon et al., 2013; Zeithaml, 1988). McDougall and Levesque (2000) mentioned that perceived value is broadly defined as “the results or benefits customers receive in relation to total costs” (p. 394). Based on past studies, Zeithaml (1998) identified meanings of value into four different groups, which were (a) value is low price, (b) value is whatever I want in a product, (c) value is the quality I get for the price I pay, and (d) value is what I get for what I

give. In the context of business marketing, the majority of the literature has focused on the last definition (Bojanic, 1996; He & Song, 2009; Zeithaml, 1985), and Zeithaml (1988, p. 14) also defined perceived value as “the customer’s overall assessment of the utility of a product based on perceptions of what is received and what is given”. He and Song (2009) highlighted that since perceived value captures the quality received relative to the price incurred, customers usually consider both quality and price for the product or service when they assess value. In other words, perceived value is strongly influenced by service quality perceptions (Ma & Kaplanidou, 2020).

In the sports and leisure contexts, service quality is an antecedent of perceived value, which then leads spectator’s behavioral intentions (Byon et al., 2013; Hightower et al., 2002; Kell & Turley, 2001; Ma & Kaplanidou, 2020; Theodorakis & Alexandris, 2008; Zhang et al., 2004). Byon et al. (2013) measured perceived value by a unidimensional construct focusing on value for the cost and confirmed the direct and indirect effects in the relationship among venue quality, perceived value, and spectators’ consumption behaviors in the professional team sport. Accordingly, in the current study, perceived value was also measured by adapting the unidimensional construct that represents the value for the cost (Byon et al., 2013).

### **Perceived Risk**

In the consumer behavior literature, risk is defined as “exposure to chance of injury or loss, a hazard or dangerous chance or the potential to lose something of value” (Reisinger & Mavondo, 2005, p. 212). Carroll, Connaughton, Spengler, and Byon (2014, p. 81) adapted the risk definition to the context of spectator sport and defined perceived risk as “a person’s perceptions of the uncertainty and negative consequences derived from attending a sporting event”. Perceived risk has been generally measured by six dimensions consisting of performance, financial, social, psychological, physical, and time in the consumer behavior literature (Carroll et

al., 2014; Roselius, 1971). Based on previous research, Carroll et al. (2014) first conceptualized a multi-dimensional construct of perceived risk for the college spectator sport, and suggested 6 dimensions: financial, time, performance, physical, social, and psychological risk. However, since items in the social and psychological risk loaded onto the same factor, they combined those factors and named it as psychosocial risk.

The relationships among perceived quality, perceived risk, and perceived value have been well established in the consumer behavior, and the products/service quality and perceived value were known as a contrary relationship with perceived risk (Beneke et al, 2013; Snoj, Korda, & Mumel, 2004). Also, Beneke et al. (2013) mentioned that perceived value played a mediating role in the relationship between perceived risk and customer purchase intention. To date, perceived risk as a constraint, however, has gained less attention in sport management context. Carroll et al. (2014) pointed out that few studies have investigated perceived risk as a constraint to attend at sporting events, and most of these studies have focused on perceptions of constraints associated with terrorism at mega sporting events, such as the FIFA World Cup (Kim & Chalip, 2004; Toohey, Taylor, & Lee, 2003) and Olympic game (Boo & Gu, 2010; Taylor & Toohey, 2007; Toohey & Taylor, 2008). According to Carroll (2009), high perceived time, physical, and performance risk led to spectator's low sustained consumption intentions that represent attendance and recommendation intentions. Furthermore, time, financial, physical, and performance risk were negatively associated with merchandise consumption intentions. Guseman (1981) pointed out that time loss was the most important factor when consumers purchased service at the sport centers. However, considering few studies in the sports context, additional research is needed to clarify the role of perceived risk how it is affected from venue quality and

how it leads spectator's perception of the value for the cost and behavioral intentions when the effects of all factors are simultaneously considered within the context of sport management.

### **Behavioral Intentions**

Fishbein and Ajzen (1975, p. 288) defined behavioral intentions as “an individual's subjective probability of performing specific conducts and is a major determinant of actual usage behavior”. In other words, behavioral intentions are viewed as antecedents to actual behavior and are indications of an individual's willingness toward a given task (Ajzen, 2005, Carroll, 2009). Trail, Anderson, and Fink (2005) also asserted that behavioral intentions have been the best predictors to estimate actual consumption behaviors. However, Carroll (2009, p. 26) highlighted that “a person may exhibit high behavioral intentions toward a task but may be prevented from the desired action by outside factors (i.e., cost) or unforeseeable and/or uncontrollable events (i.e., weather)”.

In the service marketing context, Cronin, Brady, Brand, Hightower, and Shemwell (1997) investigated the relationship between service quality and purchase intentions with perceived value in the consumer decision-making process using three items as a unidimensional measure of behavioral intentions. In the context of sport management, Byon et al. (2013) also utilized five items representing willingness to recommend to others and attendance intentions to measure the effect of core and peripheral service quality on spectator's consumption behaviors by employing a unidimensional approach. On the other hand, Carroll (2009) used a multi-dimensional construct to examine the effect of perceived risk on spectator's consumption intentions that included sustained consumption intentions (e.g., recommendation to other and attendance intentions, 8 items) and merchandise consumption intentions (4 items). Zeithaml, Bitner, and Gremler (2006, p. 149) mentioned that “among the most important generic behavioral intentions are willingness

to recommend the service to others and repurchase intent". Thus, in the current study, the measurement of representing sustained consumption intentions suggested by Carroll (2009) was used to estimate effects of venue quality, perceived value, perceived risk on spectator's behavioral intentions.

### **Relationships among Venue Quality, Perceived Value, and Behavioral Intentions**

The conceptual framework of the relationships among physical environment quality, perceived value, and customer's behavioral intentions has been long studied in sport and leisure contexts with several measurements adapted from the SERVQUAL (Parasuraman et al., 1985), the TEAMQUAL scale (McDonald et al., 1995), the SPORTSERV (Theodorakis & Kambitsis, 1998), the PSQQ (Brady & Cronin, 2001), the SEQSS (Ko et al., 2011), servicescape (Bitner, 1992; Wakefield & Blodgett, 1996; Wakefield et al. (1996), and GSPS (Byon, et al., 2009). Venue quality as a dimension in the physical environment or servicescape directly and indirectly affected on spectator's perceived value and behavioral intentions (Byon et al., 2013; Hightower et al., 2002; Kell & Turley, 2001; Ma & Kaplanidou, 2020; Theodorakis & Alexandris, 2008; Zhang et al., 2004). Kell and Turley (2001) found that facility access and concessions among service quality attributes were found to be positively related to game attendance of college basketball fans. Zhang et al. (2004) revealed that audiovisual and venue accessibility were positively associated with game attendance. Theodorakis and Alexandris (2008) found that tangibles factor of service quality was significantly related to spectators' behavioral intention in professional soccer. Hightower et al. (2002) reported that service quality of servicescape at a minor league baseball stadium was significant predictors of service value, and value was also directly influence spectator's behavioral intentions including repurchase intentions, word-of-mouth, loyalty, and willingness to pay a price premium. Similarly, Byon et al. (2013) found that



among game amenities, ticket service, and venue quality factor in peripheral service quality dimensions, both game amenities and venue quality had direct effects on behavioral intentions of professional team sport spectators. Furthermore, only venue quality factor among those factors had a direct influence on spectator's perceived value, and perceived value then played a mediating role in the relationship between venue quality and behavioral intentions. More recently, Ma and Kaplanidou (2020) also supported the VQ-PV-BI (venue quality-perceived value-behavioral intentions) relationship. The direct path from venue quality to behavioral intentions of the Chinese professional baseball spectators was significant, and perceived value also mediated the relationship between venue quality and behavioral intentions. However, in the MLB sample, the direct relationship between venue quality and behavioral intentions was not significant, but a mediating role of perceived value was statistically supported. Therefore, the current study also taken into account mediating role of spectators' perceived value, and these findings led to the following hypotheses:

*Hypothesis 1: Venue quality is positively associated with sustained consumption intentions.*

*Hypothesis 2: Venue quality is positively associated with perceived value.*

*Hypothesis 3: Perceived value is positively associated with sustained consumption intentions.*

## **Relationships among Venue Quality, Perceived Risk, Perceived Value, and Behavioral Intentions**

To date, several studies measured and confirmed the relationships among product/service quality, perceived risk, and perceived value (Agarwal & Teas, 2004; Beneke, Flynn, Greig, & Mukaiwa, 2013; Snoj et al., 2004). Snoj et al. (2004) found that perceived quality was negatively associated with perceived risk and positively related to perceived value of a mobile phone. Also, perceived risk had a negative influence on perceived value, and there was a mediating effect of perceived risk between the relationships. Similarly, Beneke et al. (2013) reported that strong relationships among perceived product quality, perceived risk, and perceived product value were found to exist, and perceived risk mediated the influence of perceived product quality on customer's perceived value. Agarwal and Teas (2004) examined the perceived risk-value model and found that the perception of financial risk was negatively associated with the perception of value. Beneke et al. (2013) suggested the role of perceived value as a mediator in the relationship between perceived risk and customer behavioral intention and found that perceived value mediated the influence of perceived risk on a customer's willingness to buy products at the 5% level. Thus, through the literature review, venue quality and perceived risk were viewed as antecedent variables to perceived value, and perceived risk was also considered a mediator between venue quality and perceived value in the current study. Based on these research findings, the following hypotheses were proposed:

*Hypothesis 4: Venue quality is negatively associated with perceived risk.*

*Hypothesis 5: Perceived risk is negatively associated with perceived value.*

In the tourism literature, Quintal, Lee, and Soutar (2010) mentioned that perceived risk (e.g., financial, performance, physical, psychological, social, and convenience loss) was negatively associated with tourists' attitudes toward travels. Artuger (2015) highlighted the importance of the perceived risk to the tourists' behavioral intention to revisit, and major risk factors were financial, time, physical, performance, and socio-psychological risk, respectively. In a research of college football spectator behavior, Carroll (2009) found that risk factors (e.g., time, physical, and performance risk) had a direct influence on spectators' sustained consumption intentions representing attendance and recommendation intentions.

For the role of perceived risk as a mediator, there has been no empirical study to estimate the mediating effect of perceived risk in the relationship between venue quality and spectator's behavioral intentions. In the literature review, however, service quality was an antecedent variable to perceived risk (Beneke et al., 2013; Snoj et al., 2004) and spectator's behavioral intentions (Byon et al., 2013), and perceived risk also had a directly influence on spectator's behavioral intentions (Carroll, 2009). Therefore, perceived risk was considered a mediator between venue quality and spectator's behavioral intentions in the current study, and the following hypothesis was proposed:

*Hypothesis 6: Perceived risk is negatively associated with sustained consumption intentions.*

These theoretical findings from previous studies suggest relationships among venue quality, perceived value, perceived risk, and consumer's behavioral intentions. Accordingly, the following research model was proposed (Figure 1).

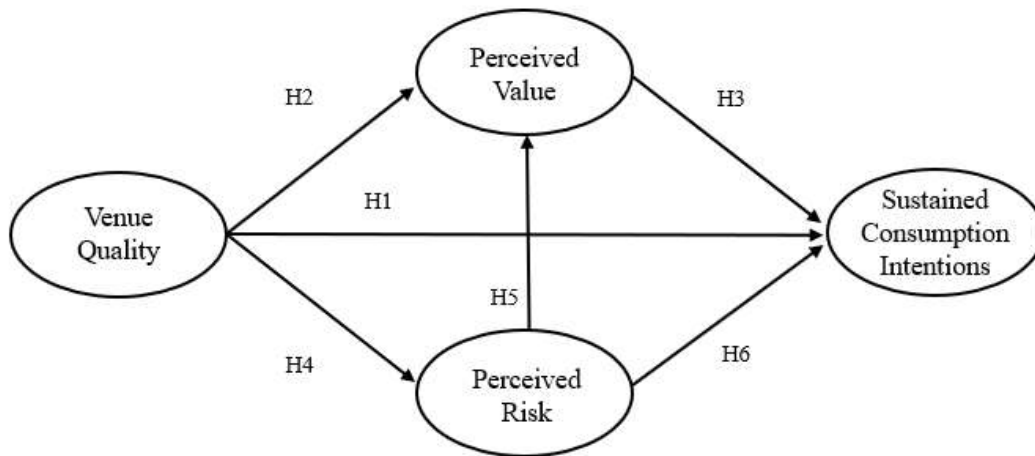


Figure 1. Proposed research model.

## CHAPTER III

### METHOD

#### **Participants**

The subjects were spectators who have experience of attending professional team sport events in sport venues. The study employed an online self-administered survey, and the data were collected through Amazon's Mechanical Turk (MTurk). Participants were asked about overall perceptions of venue experience during the most recent attendance and future behavioral intentions, and they received a direct cash benefit after the survey. To estimate the impact of the professional sport leagues' venue qualities in the United States, the current study chose venues for National Basketball Association (NBA) and Major League Baseball (MLB) games that mostly represent indoor and outdoor sporting facilities. Furthermore, to gather a more representative sample from each sport's spectators, about 300 survey responses were collected, respectively. Data collection was conducted after obtaining approval from the Institutional Review Board (IRB) at Mississippi State University (IRB-21-412).

A total of 595 cases were collected and the final sample consisted of 293 from NBA spectators and 302 from MLB. From the sample, 65.7% were male, and the age group represented the most was 18-24 years of age (41%). Other age groups included 25-34 (30.1%), 35-44 (14.8%), 55-65 (6.4%), 45-54 (6.1%), and 65 and above (1.7%). 42.2% of respondents were students, followed by office workers (27.2%), and self-employed (20.8%). About 52.6% of respondents possessed an undergraduate degree or higher level of education, followed by college

students (43.5%). The majority of respondents were Caucasians (73.9%), followed by Hispanic (8.7%), African American (8.7%), and Asian/Pacific Islander (4.4%). 57% of them were single and 41.8% were the married. Annual household income level was widely distributed among categories. Of the participants, about 60% were non-season ticket holders, followed by season ticket holders for a year (17%), for two years (16.1%), and three years or over (6.7%).

Table 1

*Frequency Distributions for the Sociodemographic Variables (N=595)*

Variables	Category	Frequency	%
Gender	Male	391	65.7
	Female	201	33.8
	Other	3	0.5
Age	18-24	244	41.0
	25-34	179	30.1
	35-44	88	14.8
	45-54	36	6.1
	55-65	38	6.4
	65 or older	10	1.7
Occupation	Student	251	42.2
	Self-employed	124	20.8
	Government officer	15	2.5
	Office worker	162	27.2
	Housewife	5	0.8
	Unemployed	8	1.3
	Other	30	5.0
Education level	High school	23	3.9
	College student	259	43.5
	College graduate	233	39.2
	Advanced degree	80	13.4
Ethnicity	Caucasian	440	73.9
	African American	48	8.1
	Hispanic	52	8.7
	Asian/Pacific Islander	26	4.4
	American Indian	6	1.0
	Interracial	2	0.9
	Other	21	3.5

Table 1 (continued)

Variables	Category	Frequency	%
Marital status	Single	339	57.0
	Married	249	41.8
	Other	7	1.2
Number of people in household	1	81	13.6
	2	124	20.8
	3	153	25.7
	4	156	26.2
	5 or more people	81	13.6
Annual household income	Below \$25,000	113	19.0
	\$25,000 - \$49,999	112	18.8
	\$50,000 - \$74,999	126	21.2
	\$75,000 - \$99,999	98	16.5
	\$100,000 - \$149,999	78	13.1
	\$150,000 or more	68	11.4
Season-ticket purchase	A season-ticket holder for a year	101	17.0
	A season-ticket holder for 2 years	96	16.1
	A season-ticket holder for 3 years or over	40	6.7
	Non-holder	358	60.2

### Measures

A questionnaire was developed based on previous studies and consists of five sections: (a) venue quality, (b) perceived value, (c) perceived risk, (d) sustained consumption intentions, and (e) demographics.

The scale for venue quality in this study was developed and modified based on multi-item scales validated in previous research (Athanasopoulou et al., 2012; Bitner, 1992; Brady & Cronin, 2001; Chen, Lin, & Chiu, 2013; Clemes et al., 2011; Jeon & Kim, 2012; Kim, Bae, Kim, & Lee, 2016; Ko et al., 2011; McDonald et al., 1995; Parry & Hall, 2014; Theodorakis et al., 2001; Wakefield & Blodgett, 1996; Wakefield et al., 1996; Wakefield & Sloan, 1995). The scale is comprised of forty-two items under twelve factors by multi-dimensional structure: seating comfort (4 items), seating view (4 items), layout accessibility (4 items), quick & easy access (2

items), space allocation (4 items), signage (2 items), parking (3 items), electronic device (3 items), facility system (4 items), cleanliness (4 items), facility aesthetics (4 items), and safety (4 items).

Seating comfort, layout accessibility, space allocation, and signage factors were adapted from Wakefield et al. (1996) scales, and seating view factor was adapted from Parry and Hall (2015) scale. To quick and easy access through stadium gates, two items were adapted from Athanasopoulou et al. (2012) scale. Parking factor was adapted from Wakefield and Sloan (1995) scale. Electronic device factor represents stadium lighting on the playing field, electronic bulletin board / screen, and acoustics that are related to spectating, and was adapted from Chen et al. (2013). Four items representing facility systems, such as the light level for visual comfort in the stadium, temperature, humidity, air quality, HVAC (Heating, Ventilation, and Air-conditioning) system were adapted from Kim et al. (2016) scale. Cleanliness and facility aesthetics factors were adapted from Wakefield & Blodgett (1996) scales. Safety factor was adapted from Jeon and Kim (2012) scale that measured the servicescape of the international airport service environment. The original items were slightly modified to be reflective of the venue for the professional sport team. All venue quality items will be measured on a 7-point Likert scale, ranging from 1 = strongly disagree to 7 = strongly agree.

A total of three items measuring perceived value were adapted from Byon et al. (2013) scale. The current study adopted a unidimensional measure for perceived value that represents perceived value for the cost. A 7-point Likert scale was adopted, ranging from 1 = strongly disagree to 7 = strongly agree.

To measure perceived risk, a total of thirteen items under three factors were adapted from Carroll et al. (2014) scale: time risk (5 items), financial risk (5 items), and physical risk (3



items). In the study by Carroll et al. (2014), psychosocial risk representing psychological risk and social risk was not associated with both spectator's sustained consumption and merchandise consumption intentions. Also, performance risk refers to "the possibility that attending the sport event will not deliver expected benefits or fulfill the spectator's needs and requirements" (p. 59). This risk is perceived from the performances of the athletes or teams and associated with core sport service quality. Therefore, psychosocial risk (5 items) and performance risk (3 items) in the original scale were excluded for the current study. The original items were slightly modified, and all perceived risk items will be measured on a 7-point Likert scale, ranging from 1 = strongly disagree to 7 = strongly agree.

Sustained consumption intentions to measure spectator's behavioral intentions were adapted from Carroll et al. (2014) scale. The original items were slightly modified, and a total of eight items represent willingness to recommend to others and attendance intentions. All sustained consumption intentions items will be measured on a 7-point Likert scale, ranging from 1 = strongly disagree to 7 = strongly agree.

### **Procedures**

A preliminary questionnaire was developed based on a comprehensive literature review in various fields including service, marketing, consumer behavior, tourism, and sport management. Following its development, the questionnaire was modified in the areas of item adequacy, item relevance, and wording clarity with a panel of experts in leisure and sport management for content validity purpose. With the modified questionnaire, a pilot study was conducted with a sample of sport spectators who had an experience of attending at professional team sport events. Following the pilot study, a survey packet was developed, and then data collections were conducted through Amazon's Mechanical Turk (MTurk). Data where the

duration of response was less than two minutes were excluded to ensure a good representation of professional team sport spectators because the survey included 75 items including demographics. Missing data were also inspected during the initial data screening process.

### **Data Analyses**

The purpose of this study was to refine the sport venue quality scale and further investigate the relationships pertaining to perceived value, perceived risk, and sustained consumption intentions.

The IBM SPSS version 28.0 was used to conduct descriptive statistics for demographics, venue quality, perceived value, perceived risk, and sustained consumption intentions variables and a principal component analysis (PCA). After data collection, the total of 595 samples were randomly split into two halves. The first half of the data ( $n = 297$ ) was used for the PCA. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value was calculated, and then, a principal component extraction method with oblique rotation (promax) was performed on the 42 items of venue quality. The following criteria were used to retain factors and items: (a) a factor had to have an eigenvalue greater than or equal to 1, (b) an item had to have a factor loading equal to or greater than .50, (c) no cross-loading was permitted, and (d) the identified factors and items had to be interpretable (Hair, Black, Babin, Anderson, & Tatham, 2005). Then, internal consistency reliability was examined to calculate Cronbach's alpha coefficients ( $> .70$ ; Fornell & Larcker 1981) for identified factors.

The second half of the data ( $n = 298$ ) was used for a confirmatory factor analysis (CFA) of the measures. AMOS version 28.0 was used to conduct the CFA with Goodness of fit indices, including the chi-square statistic ( $\chi^2$ ,  $p < .001$ ), normed chi-square ( $\chi^2/df$ ,  $< 3.0$ ), comparative fit

index (CFI, > .90), Tucker-Lewis index (TLI, > .90), root mean square error of approximation (RMSEA, < .06), and standardized root mean residual (SRMR, < .08; Kline, 2015).

A convergent validity test was examined in order to ascertain the aspect of construct validity by evaluating indicator loadings (> .70; Anderson & Gerbing, 1988), Cronbach's alpha coefficients (> .70; Fornell & Larcker 1981), Composite Reliability (CR >.70; Fornell & Larcker, 1981), and Average Variance Extracted values (AVE > .50; Bagozzi & Yi, 1988). Furthermore, discriminant validity was investigated in order to measure the extent to which the constructs were distinct from one other by applying examination of the inter-factor correlations (< .85; Kline, 2015) and comparison of the AVE values with squared correlation of any of two latent constructs (Fornell & Larcker, 1981). According to Fornell and Larcker (1981), a more conservative indicator of discriminant validity is if the squared correlation between two constructs is lower than the AVE for each construct.

Lastly, the full data set (N = 595) was submitted to a structural equation modeling (SEM) to test the proposed structural relationships among venue quality, perceived value, perceived risk, and sustained consumption intentions by employing the same fit index criteria as with the measurement model. A bias-corrected 95% confidence interval with 1000 bootstrap samples was employed to estimate the mediating effects.

## CHAPTER IV

### RESULTS

#### **Principal Component Analysis**

The total sample of 595 was randomly split into two halves, and an PCA was performed to examine the factor structure among venue quality items and its internal reliability using the first half of the data set ( $n = 297$ ). The Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity (BTS) were conducted to estimate the appropriateness of factor analysis. As a result, the KMO value was .922 ( $> .70$ ; Kaiser, 1974) and BTS was 10853.595 ( $p < .001$ ); thus, factor analysis was deemed as an appropriate technique for analyzing the data set.

After determining the appropriateness of factor analysis, 11 factors were extracted with 40 items explaining 82.86% of total variance. Among total of 42 items in the scale of venue quality, 2 items were dropped from the analysis (e.g., Quick and Easy Access 1 and 2: quick access and minimal service time at gates) due to the lower item loading than .50 (Hair et al., 2005) and the higher cross-loading than .32 on two factors (Tabachnick & Fidell, 2001). Consequently, all factors consisted of 40 items had factor loadings greater than .50, ranging from .971 to .545. Cronbach's alpha values for the factors were greater than .70, ranging from .938 to .878 that indicates the measures for venue quality were all internally consistent and reliable. Moreover, Alpha coefficients for perceived value, time risk, financial risk, physical risk, and sustained consumption intentions were .916, .949, .957, .952, and .966, respectively. The rotated factor matrix for the scale of venue quality is presented in Table 2.

Table 2

*Rotated Factor Matrix for the Scale of Venue Quality: First Half of Data (n = 297)*

Factors	Items	Loadings	Eigen value	% Of variance	Total of variance explained	Cronbach's alpha
1. Seating comfort	SC1	.952	16.348	40.869	40.869	.933
	SC3	.917				
	SC2	.887				
	SC4	.798				
2. Facility aesthetics	FA3	.971	3.266	8.164	49.033	.930
	FA2	.909				
	FA4	.909				
	FA1	.829				
3. Layout accessibility	LA2	.945	2.177	5.443	54.476	.922
	LA1	.906				
	LA4	.888				
	LA3	.879				
4. Safety	S3	.935	1.954	4.884	59.360	.919
	S4	.905				
	S2	.861				
	S1	.843				
5. Cleanliness	C3	.926	1.830	4.576	63.936	.938
	C4	.896				
	C2	.878				
	C1	.876				
6. Seating view	SV2	.954	1.583	3.957	67.893	.898
	SV1	.909				
	SV3	.887				
	SV4	.712				
7. Space allocation	SA3	.882	1.415	3.537	71.430	.896
	SA2	.866				
	SA4	.858				
	SA1	.758				
8. Facility system	FS2	.970	1.298	3.244	74.674	.878
	FS3	.866				
	FS4	.831				
	FS1	.545				
9. Electronic device	ED1	.942	1.220	3.051	77.725	.886
	ED3	.900				
	ED2	.826				

Table 2 (continued)

Factors	Items	Loadings	Eigen value	% Of variance	Total of variance explained	Cronbach's alpha
10. Parking	P1	.968	1.052	2.629	80.354	.924
	P3	.901				
	P2	.869				
11. Signage	Sig2	.948	1.002	2.506	82.860	.925
	Sig1	.907				

Note.  $\alpha$  = Cronbach's alpha, oblique rotation (promax)

### Confirmatory Factor Analysis

The second half of the data ( $n = 298$ ) was submitted to a CFA to estimate the reliability and validity of the measurement model. Chi-square value ( $\chi^2 = 3956.261$ ,  $df = 1832$ ,  $p < .001$ ) was significant, and the normed chi-square ( $\chi^2 / df = 2.160$ ) met the suggested cut-off value (i.e.,  $< 3.0$ ; Bollen, 1989). The RMSEA value was .062 and slightly over the ideal threshold ( $< .06$ ). However, Hu and Bentler (1999) suggested that the RMSEA value between .06 and .08 also indicates acceptable fit although the value less than .06 indicates a close fit. Also, TLI value was .891 and slightly less than the suggested threshold ( $> .90$ ; Kline, 2015). However, a similar measure, CFI value (.901) met the recommended level ( $> .90$ ; Kline, 2015), and SRMR value (.044) also showed acceptable model fit of the measurement model ( $< .08$ ; Kline, 2015).

All of the standardized factor loadings were statistically significant and greater than the suggested cut-off value of .70 (Anderson & Gerbing, 1988). Cronbach's alpha coefficients were over the threshold ( $> .70$ ), ranging from .841 to .972, and the composite reliability values were also greater than the suggested threshold ( $> .70$ ), ranging from .77 to .96 (Fornell & Larcker 1981). All of the AVE values exceeded the cut-off value ( $> .50$ ) suggested by Bagozzi and Yi

(1988). Based on the overall information of reliability, convergent validity was confirmed (see Table 3).

Table 3

*Results of Confirmatory Factor Analysis: Second Half of Data (n=298)*

Variables/Items	$\lambda$	CR	AVE
<b>Venue Quality</b>			
<i>Seating comfort (<math>\alpha=.950</math>)</i>		.89	.84
1. There is plenty of knee room in the seats	.87		
2. There is plenty of elbow room in the seats	.91		
3. The seat arrangements provide plenty of space	.94		
4. This stadium provides comfortable seats	.92		
<i>Seating view (<math>\alpha=.906</math>)</i>		.87	.76
1. The whole playing area is easily visible from your preferred seating location	.83		
2. Your view is not obstructed from your preferred seating location	.88		
3. When the ball is in the air your view of it is not obscured from your preferred seating location	.88		
4. Your preferred seating location is close enough to the playing field	.79		
<i>Layout accessibility (<math>\alpha=.931</math>)</i>		.89	.79
1. The stadium layout makes it easy to get to the kind of concessions you want	.85		
2. The stadium layout makes it easy to get to your seats	.89		
3. The stadium layout makes it easy to get to the restrooms	.86		
4. Overall, this stadium's layout makes it easy to get where you want to go	.91		
<i>Space allocation (<math>\alpha=.920</math>)</i>		.88	.77
1. The concession stands are big enough to handle the crowds	.86		
2. The restrooms are large enough to handle the crowds	.86		
3. The walkways are wide enough to handle the crowds	.85		
4. This stadium allows enough space to handle the crowds	.88		
<i>Signage (<math>\alpha=.896</math>)</i>		.89	.81
1. Signs at this stadium help me know where I'm going	.87		
2. Signs at this stadium give clear directions of where things are located	.94		
<i>Parking (<math>\alpha=.896</math>)</i>		.77	.75
1. This stadium has ample parking	.87		
2. Stadium parking is easy to get out of after the game	.82		
3. Stadium parking is conveniently located	.90		
<i>Electronic device (<math>\alpha=.841</math>)</i>		.84	.65
1. Stadium lighting on the playing field is bright enough to enjoy the game	.83		
2. Electronic bulletin board / Screen of this stadium is great	.73		
3. Acoustics of this stadium is encouraging	.85		

Table 3 (continued)

Variables/Items	$\lambda$	CR	AVE
<i>Facility system</i> ( $\alpha=.843$ )		.82	.58
1. Lighting levels in the stadium are adequate	.75		
2. Temperature and humidity levels in the stadium are adequate	.77		
3. Air quality in the stadium are acceptable	.77		
4. Heating, Ventilation, and Air-conditioning (HVAC) system are well maintained	.76		
<i>Cleanliness</i> ( $\alpha=.943$ )		.91	.82
1. This stadium maintains clean restrooms	.87		
2. This stadium maintains clean food service areas	.88		
3. This stadium maintains clean walkways and exits	.92		
4. Overall, this stadium is kept clean	.92		
<i>Facility aesthetics</i> ( $\alpha=.924$ )		.91	.78
1. The stadium is painted in attractive colors	.87		
2. The stadium's architecture gives it an attractive character	.85		
3. The stadium is decorated in an attractive fashion	.87		
4. This is an attractive stadium	.89		
<i>Safety</i> ( $\alpha=.914$ )		.87	.78
1. Emergency equipment for fire safety (e.g., fire sprinkler, extinguisher, emergency lighting, etc.) is installed to protect you	.87		
2. Emergency / Safety signs are installed	.89		
3. Hazard detectors are installed	.88		
4. Antiskid tools are installed	.79		
<b>Perceived Value</b> ( $\alpha=.922$ )		.89	.80
1. The game experience was fairly priced	.91		
2. The game experience was reasonably priced	.90		
3. The game experience was economical	.87		
<b>Perceived Risk</b>			
<i>Time risk</i> ( $\alpha=.947$ )		.88	.83
1. It could involve important time losses	.83		
2. It may take up too much of my time	.92		
3. It could take too much of my time	.94		
4. It may lead to an inefficient use of my time	.90		
5. It could create time pressures on me	.84		
<i>Financial risk</i> ( $\alpha=.962$ )		.91	.87
1. I would worry that the financial cost may outweigh the benefits	.92		
2. It could prove to be a waste of money	.93		
3. I would be concerned that I would not get my money's worth	.91		
4. It could lead to an inefficient use of my money	.93		
5. It could involve potential financial loss	.89		



Table 3 (continued)

Variables/Items	$\lambda$	CR	AVE
<i>Physical risk</i> ( $\alpha=.953$ )			
1. I worry about being injured due to the crowd	.94	.89	.87
2. I would be concerned about my safety due to public safety issues of this stadium	.91		
3. I worry about being injured due to fan violence	.95		
<b>Sustained Consumption Intentions</b> ( $\alpha=.972$ )			
1. I am likely to attend one or more professional team sport events	.91	.96	.87
2. I will try to attend one or more professional team sport events	.93		
3. I intend to attend one or more professional team sport events	.91		
4. I plan to attend one or more professional team sport events	.89		
5. The probability that I will attend one or more professional team sport events is high	.93		
6. I will recommend attending a professional team sport event to other people	.87		
7. I am likely to encourage friends and relatives to attend a professional team sport event	.85		
8. I am likely to say positive things to others regarding attending a professional team sport event	.92		

Note.  $\lambda$  = standardized factor loadings; CR = composite reliability; AVE = average variance extracted;  $\alpha$  = Cronbach's alpha

The results of the correlations associated with all factors are presented in Table 4. The inter-factor correlations were lower than .85, and this satisfied the discriminant validity criterion (Kline, 2015). In addition, the AVE values were greater than the squared correlations between factors, indicating excellent discriminant validity (Fornell & Larcker 1981). Hence, discriminant validity was also confirmed.

### Structural Model Analysis

To test the hypothesized model, a SEM analysis was performed with the set of the full data (N = 595) using AMOS version 28.0. The same fit index criteria adopted for the measurement model were used for evaluating the structural model fit.

Table 4

*Construct Correlation Matrix, Means, and Standard Deviations: Second Half of Data (n = 298)*

	SC	SV	LA	SA	Sig	P	ED	FS	C	FA	S	PV	TR	FR	PR	SCI
SC	<b>.92</b>															
SV	.45	<b>.87</b>														
LA	.64	.64	<b>.89</b>													
SA	.54	.56	.69	<b>.88</b>												
Sig	.38	.47	.40	.54	<b>.90</b>											
P	.61	.41	.44	.43	.35	<b>.86</b>										
ED	.36	.68	.61	.52	.62	.36	<b>.81</b>									
FS	.47	.63	.59	.63	.66	.52	.73	<b>.76</b>								
C	.49	.56	.68	.69	.59	.48	.61	.67	<b>.91</b>							
FA	.41	.55	.64	.51	.47	.38	.74	.62	.66	<b>.88</b>						
S	.50	.58	.60	.58	.57	.48	.70	.75	.70	.72	<b>.88</b>					
PV	.60	.63	.68	.67	.55	.60	.64	.68	.70	.64	.77	<b>.89</b>				
TR	-.33	-.38	-.45	-.35	-.35	-.24	-.50	-.43	-.39	-.45	-.46	-.48	<b>.91</b>			
FR	-.36	-.41	-.46	-.39	-.40	-.35	-.53	-.48	-.47	-.47	-.56	-.62	.80	<b>.93</b>		
PR	-.18	-.50	-.37	-.37	-.30	-.15	-.53	-.46	-.45	-.50	-.52	-.45	.56	.54	<b>.93</b>	
SCI	.49	.56	.70	.62	.53	.41	.71	.63	.71	.75	.73	.78	-.62	-.58	-.52	<b>.93</b>
<i>M</i>	4.75	5.53	5.45	5.47	5.83	4.63	5.98	5.63	5.45	5.84	5.52	5.39	3.22	3.15	2.34	5.75
<i>SD</i>	1.45	1.09	1.17	1.14	1.00	1.48	.88	.91	1.15	.96	1.12	1.14	1.43	1.49	1.49	1.17

Note. All factor's loadings'  $p < .001$ . The bold numbers on the diagonal are the square root of the Average Variance Extracted (AVE). SC = seating comfort; SV = seating view; LA = layout accessibility; SA = space allocation; Sig = Signage; P = parking; ED = electronic device; FS = facility system; C = cleanliness; FA = facility aesthetics; S = safety; PV = perceived value; TR = time risk; FR = financial risk; PR = physical risk; SCI = sustained consumption intentions.

The overall model fit was acceptable ( $\chi^2 = 5573.932$ ,  $df = 1932$ ,  $p < .001$ ;  $\chi^2 / df = 2.885$ ; RMSEA = .055; CFI = .910; TLI = .906; SRMR = .056). The results of structural equation modeling including the path coefficients among the latent variables and their significance were reported in Figure 2 and Table 5.

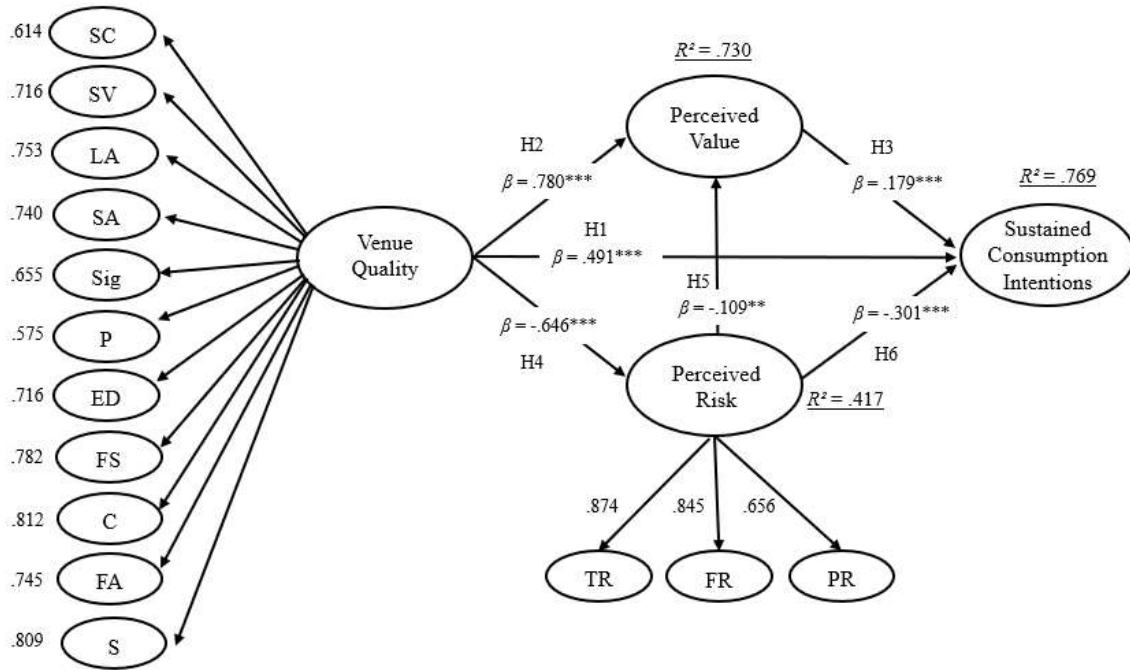


Figure 2. Final research model.

Note. \*\*  $p < .01$ ; \*\*\*  $p < .001$ , SC = seating comfort; SV = seating view; LA = layout accessibility; SA = space allocation; Sig = Signage; P = parking; ED = electronic device; FS = facility system; C = cleanliness; FA = facility aesthetics; S = safety; TR = time risk; FR = financial risk; PR = physical risk.

The presented path model in Figure 2 accounted for 73% of variance in perceived value, 41.7% of variance in perceived risk, and 76.9% of variance in sustained consumption intentions. Moreover, all paths in the model were statistically significant.

Table 5

*Results of Structural Equation Modeling (N = 595)*

Paths coefficients between factors	$\beta$	$t$	SE
H1: Venue Quality → Sustained Consumption Intentions	.491***	8.020	.080
H2: Venue Quality → Perceived Value	.780***	14.596	.066
H3: Perceived Value → Sustained Consumption Intentions	.179**	3.297	.057
H4: Venue Quality → Perceived Risk	-.646***	-11.098	.067
H5: Perceived Risk → Perceived Value	-.109**	-2.646	.044
H6: Perceived Risk → Sustained Consumption Intentions	-.301***	-7.785	.044

Note. \*\* $p < .01$ ; \*\*\* $p < .001$ , SE = standard error.

As shown in Table 5, venue quality revealed a significant positive effect on spectator's sustained consumption intentions ( $\beta = .491$ ,  $p < .001$ ), supporting Hypothesis 1. Venue quality had a direct positive influence on perceived value ( $\beta = .780$ ,  $p < .001$ ), and spectator's perceived value also indicated a significantly positive effect on their sustained consumption intentions ( $\beta = .179$ ,  $p < .001$ ). Thus, Hypothesis 2 and Hypothesis 3 were supported. Hypothesis 4 for predicting the direct negative effect of venue quality on perceived risk was supported ( $\beta = -.646$ ,  $p < .001$ ). Perceived risk also had direct negative effects on perceived value ( $\beta = -.109$ ,  $p < .01$ ) and sustained consumption intentions ( $\beta = -.301$ ,  $p < .001$ ), respectively, supporting Hypothesis 5 and Hypothesis 6.

Further analyses for the mediating effects of perceived value and perceived risk were conducted by calculating a bias-corrected 95% confidence interval (CI) with 1000 bootstrap samples (see Table 6). The indirect path from venue quality to perceived value was significant ( $\beta = .070$ ,  $p < .01$ ) with a 95% CI excluding zero (.021 to .130), indicating that the mediating effect of perceived risk was identified. Furthermore, the indirect path from perceived risk to sustained

consumption intentions was significant ( $\beta = -.019, p < .01$ ) with a 95% CI excluding zero (-.053 to -.004), indicating that the mediating effect of perceived value was identified. Another indirect path from venue quality to sustained consumption intentions was also significant ( $\beta = .346, p < .001$ ) with a 95% CI excluding zero (.225 to .465), indicating that perceived value and perceived risk partially mediated the relationship between venue quality and spectator's sustained consumption intentions.

Table 6

*Mediation Analysis: Total, Direct, and Indirect Effects with 95% Confidence Interval (N = 595)*

		PR	PV	SCI
VQ	Total effect	-.646***	.850	.837
	Direct effect	-.646***	.780***	.491***
	Indirect effect	.000	.070** [.021, .130]	.346*** [.225, .465]
PR	Total effect		-.109**	-.320
	Direct effect		-.109**	-.301***
	Indirect effect		.000	-.019** [-.053, -.004]
PV	Total effect			.179***
	Direct effect			.179***
	Indirect effect			.000

*Note.* Bias-corrected 95% confidence interval = [2.5%, 97.5%], VQ = venue quality; PR = perceived risk; PV = perceived value; SCI = sustained consumption intentions, \*\*  $p < .01$ ; \*\*\*  $p < .001$

## CHAPTER V

### DISCUSSION

#### **Theoretical and Practical Implications**

Since venue quality has been perceived as a combination of several attributes in the sport venues with diverse perspectives, it is difficult to know if outcome variables have been affected by venue quality independent of the dimensions that are more related to service quality, employee service, atmosphere, or social environment. Also, extant scales do not capture the full spectrum of the physical and controllable attributes of the sport venue itself. Therefore, the primary purpose of this study was to reconstruct the sport venue quality dimensions as an autonomous quality with a utilitarian perspective and examine the relationships that exist among venue quality of the professional sport leagues, spectators' perceived risk, price perception, and sustained consumption intentions. The findings in this study revealed several worthy issues to be discussed and have several theoretical implications.

Previous studies in sport settings used the sportscape or physical environment terminology to explain the physical surroundings of sport venues by adopting the servicescape from Bitner's (1992) research. Researchers also adapted items and factors in servicescape, and they used those factors selectively for their research purpose with diverse perspectives. In this study, it is found that factors of venue quality had not only physical attributes in sport venues but also intangible factors such as atmosphere, employee service, or social environment, so that existing scales with broad perspective had a limit to measuring venue quality as one of the sub-

dimensions of the physical environment. The study also found that existing scales did not fully reflect aspects of physical attributes in professional sport team venues. It should be noted that the new dimensions of venue quality and its scale refined based on various scales in service and sport settings may be able to complement the limitations caused by this broad perspective. However, continued efforts to add more factors that may affect spectator's perception and behaviors should be made to further develop and refine the venue quality measurement model.

All factors except for the quick and easy access through gates factor in venue quality were internally consistent and reliable, and cleanliness was found to be an important consideration of physical attributes in venue quality and this finding was consistent with previous studies (Kerin, Jain, & Howard, 1992; Wakefield & Sloan, 1995). Wakefield & Sloan (1995) asserted that spectators who attend with young children may particularly consider facility's cleanliness important. Therefore, professional sport team managers should pay close attention to maintaining restroom, food service area, walkway, and exit cleanliness throughout the hours of operation, and other physical attributes also should be well maintained.

The relationships among venue quality, perceived value, and sustained consumption intentions were positively significant. Specifically, venue quality directly affected on spectators' perceived value for cost and sustained consumption intentions, aligning with those of previous studies (Byon et al., 2013; Kell & Turley, 2001; Theodorakis & Alexandris, 2008; Wakefield & Sloan, 1995). According to Wakefield and Sloan (1995), spectators influenced by the stadium parking factor related to space and location and the stadium cleanliness of restroom, concession, walkways, and exits were found to be inclined to desire to stay at the football stadium. Similarly, Theodorakis and Alexandris (2008) found that tangible attributes of professional soccer stadiums, including facility aesthetics and cleanliness significantly predicted spectator's word-of-

mouth communications. Although they found security and access variables of venue quality in the soccer stadium were not positively related to spectators' behavioral intentions, the results of the current study revealed that both factors positively affected not only strengthening spectators' perception of value for cost but also encouraging their future consumption intentions. Byon et al. (2013) found that although game amenities and venue quality among peripheral service quality factors (e.g., game amenities, ticket service, and venue quality) were positively related to game consumption behaviors of professional team sport spectators, only venue quality had direct relationships with both perceived value and their behaviors.

Furthermore, this study found that perceived value for cost positively predicted spectators' sustained consumption intentions, and perceived value also mediated the relationship between venue quality and their behavioral intentions. These results are in line with previous studies that service quality is the antecedent of perceived value, which is positively associated with sport spectator's behavioral intentions (Byon et al., 2013; Hightower et al., 2002; Jang, Byon, & Yim 2020; Ma & Kaplanidou, 2020; Theodorakis & Alexandris, 2008; Zhang et al., 2004). Hightower et al., (2002) found that spectators' value perceptions influenced by service quality of servicescape in a minor league baseball stadium acted to affect their behavioral intentions. Jang et al. (2020) also mentioned that spectator's behavioral intention is a function of emotion, which is induced by sportscape factors of venues. Similarly, Byon et al. (2013) found that in the quality-value-consumption paradigm, only venue quality among factors of core sport quality and peripheral service quality had a positive influence on spectators' behavioral intentions mediated by perceived value.

As a result, these previous studies mentioned above support findings in the current study, and these findings indicate that venue quality of the professional team sports plays an important



part in shaping spectators' positive perception of value for cost in their minds and inducing spectators' behavioral intentions, such as recommending to others and attending more games. In other words, functional and utilitarian service attributes in professional team sport venues play a critical role to convince spectators that game attendance is worth their money, and the perception for economic value derived from high and satisfying venue quality makes them encourage game attendance to others and attend more professional team sport events. Based on the finding of the current study that once positive economic perception was induced by venue quality, it led to spectators' sustained consumption intentions, professional sport team managers and marketers should highlight physical attributes and quality of their venues to create spectator's positive perceived value for cost and to foster their behavioral intentions. In addition, functional and utilitarian aspects in the sport venue should be emphasized when promoting and operating game events.

The relationships among venue quality, perceived risk, and perceived value were positively significant. Specifically, venue quality negatively affected perceived risk, and perceived risk also had a negative influence on perceived value. Furthermore, perceived risk mediated the relationship between venue quality and perceived value. The findings are consistent with previous studies (Agarwal & Teas, 2004; Beneke et al., 2013; Snoj et al., 2004). Agarwal & Teas (2004) found a negative linkage between perceptions of risks and value highlighting customers' perceptions of value were greater when the perceptions of financial risk were lower. In this study, financial risk was found to be an important consideration of spectator's perceived risk, and negatively associated with spectators' perceived value for cost. This finding indicates spectator's perception of risk is a significant predictor of the perceived value. Beneke et al. (2013) and Snoj et al. (2004) found strong relationships among product quality, customer's

perceived risk and value, and in this relationship model, perceived risk partially mediated the relationship between quality and value. The findings of this study have several important theoretical implications for sport management and sport marketing research. First, the results indicate that pleased venue quality plays a crucial role in alleviating spectators' perceived risk that might be possible by attending professional sport games, and also low perception of risk helps spectators build positive perception of value for cost. If the managers and makers want to offer the highest economic value to their spectators, along with the high venue quality they should reduce risks perceived by spectators in the decision-making process. Second, although many researchers have applied the quality-risk-value framework to the business and service industries, there has been no empirical study to examine the framework and role of perceived risk in sport management and marketing setting. Thus, the findings in the study are valuable for advancing sport management and marketing research.

Regarding the relationships among venue quality, perceived risk, and sustained consumption intentions, all paths were statistically significant. In this study, both time risk and financial risk were found to be an important consideration of spectator's perceived risk, and perceived risk negatively affected spectators' sustained consumption intentions. These results are in line with previous research reported that perceived risk had a strong relation with college football spectator behaviors (Artuger, 2015; Carroll, 2009) and tourists' attitudes toward travels (Quintal et al., 2010), respectively. In addition, the study found the mediator role of perceived risk although there has been no empirical study to examine the mediating effect of perceived risk in the relation between venue quality and spectators' behavioral intentions in sport management and marketing. Similarly, mediating effect of perceived value in the relationship between perceived risk and their behavioral intentions were also found. According to Beneke et al.

(2013), customers' perceived value mediated the influence of perceived risk on customers' purchase intentions of cleaning products.

As a result, the findings of this study demonstrate a significant negative relationship between perceived risk and sustained consumption intentions, and the mediator role of perceived risk in the quality-risk-consumption and the role of perceived value in the risk-value-consumption framework. The findings indicate high quality of sporting venues is important to reduce perceived risk in professional team sport spectators' minds, the lower risk perception recognized by them both strengthens perceived value for cost and encourages their future consumption and word-of-mouth (WOM) recommendation intentions. In addition, spectator's economic value derived from the lower perceived risk also accelerates spectators' positive behavioral intentions. Based on the findings, sport managers and marketers should recognize the importance of venue quality, spectators' perceived risk, and value, and they should focus their efforts toward improving and maintaining their facilities in sporting venues that brings about alleviating spectators' risk perception, increasing economic value, and inducing sustained consumption intentions. Furthermore, to reduce the influences of spectators' perceived risk and increase perceived value, professional sport team managers or marketers should address part of their marketing and promotion strategies.

Overall, the empirical findings of this study add depth to our general knowledge and understanding of professional team sport venue quality's effects on spectator's sustained consumption intentions.

### **Limitations and Future Research Suggestions**

As with all studies, the current study has some limitations that should be acknowledge and may be able to affect the generalizability of the results. First, due to COVID pandemic, data

were collected through the online survey, and participants responded to the survey based on their most recent game attendance. These limited survey circumstances may not reflect recent tendency within the previous twelve months, and some of participants also may not provide their responses with specificity due to the decay of memory. Therefore, future study should consider sampling conditions to collect sport spectators' game experience and responses within a specific period.

Second, only NBA and MLB venue cases applied to this study to estimate venue quality and its impact on spectators' behavioral intentions. Although sporting venues for NBA and MLB games mostly represent indoor and outdoor sporting facilities, respectively, each professional team sport venue may have its unique characteristics between and within each professional sport league, and these factors of venue quality may affect spectators' behavioral intentions differently. Spectators' perception of venue quality may also vary according to the condition, age, and location of facilities, cultural norms in different countries, and level of competition, such as major and minor league and small-scale team sport events. Hence, future study needs to examine these speculations in order to better understand venue quality and its impact on spectators' perception and behavioral intentions.

Third, the purpose of this study was to refine the sport venue quality dimensions and develop the scale to measure its impact on spectators' behavioral intentions. To reconstruct the dimensions of venue quality, factors were adopted and adapted from various existing scales developed by previous researchers. However, more efforts should be made to reflect and include attractive and realistic quality factors of most recent professional team sport venues (e.g., internet accessibility, safety factor associated with sport venues, etc.) through a deep understanding of venue quality as an autonomous quality with a utilitarian perspective.

Lastly, it is critical to identify moderating variables and their effects among the relationships among venue quality, perceived risk, perceived value, and spectator's sustained consumption intentions. Team identification, perceived core service performance, or frequency of game attendance per season (e.g., light, medium, and heavy users) may play an important moderating role in the current proposed model. Identifying the specific moderating effect will help professional sport team managers or marketers better understand how sport venue quality creates spectators' perceptions and affects their decision-making processes.

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APPENDIX A  
QUESTIONNAIRE

## **The Impact of Sport Venue Quality on Spectator's Sustained Consumption Intentions**

This study is being conducted by Dae Eun Kim and a doctoral student of the Department of Kinesiology at Mississippi State University in order to better understand the impact of sport venue quality on consumer behaviors. Either no personally identifiable information will be collected and the steps that will be taken to ensure that identities are not discerned. The survey will last approximately less than 15 minutes. Your participation in the study is completely voluntary. If you choose to participate, your responses will be held in confidence. You are free to withdraw at any time without penalty. If the results of this study were to be written for publication, no identifying information will be used. If you have any questions about this study, please contact Dae Eun Kim; dk966@msstate.edu. This project has been reviewed by the Institutional Review Board (IRB) at Mississippi State University (IRB-21-412). Thank you for your cooperation.



## Venue Quality

With respect to the professional team sport event that you most recently attended, please rate the following statements that assess your overall perceptions of venue experience during your attendance. The range of individual items is from strongly disagree to strongly agree (e.g., 1=strongly disagree / 7=strongly agree).

### Seating Comfort

1. There is plenty of knee room in the seats.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. There is plenty of elbow room in the seats.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. The seat arrangements provide plenty of space.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. This stadium provides comfortable seats.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

### Seating View

1. The whole playing area is easily visible from your preferred seating location.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. Your view is not obstructed from your preferred seating location.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. When the ball is in the air your view of it is not obscured from your preferred seating location.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. Your preferred seating location is close enough to the playing field.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

### **Layout Accessibility**

1. The stadium layout makes it easy to get to the kind of concessions you want.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. The stadium layout makes it easy to get to your seats.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. The stadium layout makes it easy to get to the restrooms.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. Overall, this stadium's layout makes it easy to get where you want to go.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

### **Quick & Easy Access through Gates**

1. I get through the entrance gates very quickly at the stadium.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. The time I spend waiting for service is minimal.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

**Space Allocation**

1. The concession stands are big enough to handle the crowds.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. The restrooms are large enough to handle the crowds.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. The walkways are wide enough to handle the crowds.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. This stadium allows enough space to handle the crowds.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

**Signage**

1. Signs at this stadium help me know where I'm going.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. Signs at this stadium give clear directions of where things are located.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

**Parking**

1. This stadium has ample parking.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. Stadium parking is easy to get out of after the game.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. Stadium parking is conveniently located.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

### **Electronic Device**

1. Stadium lighting on the playing field is bright enough to enjoy the game.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. Electronic bulletin board / Screen of this stadium is great.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. Acoustics of this stadium is encouraging.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

### **Facility System**

1. Lighting levels in the stadium are adequate.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. Temperature and humidity levels in the stadium are adequate.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. Air quality in the stadium is acceptable.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. Heating, Ventilation, and Air-conditioning (HVAC) system are well maintained.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

## Cleanliness

1. This stadium maintains clean restrooms.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. This stadium maintains clean food service areas.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. This stadium maintains clean walkways and exits.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. Overall, this stadium is kept clean.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

## Facility Aesthetics

1. The stadium is painted in attractive colors.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. The stadium's architecture gives it an attractive character.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. The stadium is decorated in an attractive fashion.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. This is an attractive stadium.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

## Safety

1. Emergency equipment for fire safety (e.g., fire sprinkler, extinguisher, emergency lighting, etc.) is installed to protect you.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. Emergency / Safety signs are installed.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. Hazard detectors are installed.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. Antiskid tools are installed.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

## Perceived Value

With respect to the professional team sport event that you most recently attended, please rate the following statements that assess your overall perceptions of game experience during your attendance.

### Perceived Value

1. The game experience was fairly priced.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. The game experience was reasonably priced.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. The game experience was economical.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

## Perceived Risk

With respect to the professional team sport event that you most recently attended, please rate the following statements that assess your overall perceptions of game experience during your attendance.

### Time Risk

1. It could involve important time losses.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. It may take up too much of my time.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. It could take too much of my time.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. It may lead to an inefficient use of my time.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

5. It could create time pressures on me.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

### Financial Risk

1. I would worry that the financial cost may outweigh the benefits.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. It could prove to be a waste of money.



Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. I would be concerned that I would not get my money's worth.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. It could lead to an inefficient use of my money.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

5. It could involve potential financial loss.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

### **Physical Risk**

1. I worry about being injured due to the crowd.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. I would be concerned about my safety due to public safety issues of this stadium.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. I worry about being injured due to fan violence.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

## Sustained Consumption Intentions

With respect to the professional team sport event that you most recently attended, please rate the following statements that assess your intentions for future attendance at the professional team sport events and willingness to recommend.

### Sustained Consumption Intentions

1. I am likely to attend one or more professional team sport events.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

2. I will try to attend one or more professional team sport events.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

3. I intend to attend one or more professional team sport events.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

4. I plan to attend one or more professional team sport events.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

5. The probability that I will attend one or more professional team sport events is high.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

6. I will recommend attending a professional team sport event to other people.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

7. I am likely to encourage friends and relatives to attend a professional team sport event.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

8. I am likely to say positive things to others regarding attending a professional team sport event.

Strongly disagree ①-----②-----③-----④-----⑤-----⑥-----⑦ Strongly agree

## Participant Demographic Questions

### 1. Gender

- ① Male ② Female ③ Other

### 2. Age

- ① 18 - 24 ② 25-34 ③ 35-44 ④ 45-54 ⑤ 55-65 ⑥ 65 or older

### 3. Occupation

- ① Student ② Self-employed ③ Government officer ④ Office worker

- ⑤ Housewife ⑥ Unemployed ⑦ Others

### 4. Education Level

- ① High school ② College student ③ College graduate ④ Advanced degree

### 5. Ethnicity / Race

- ① Caucasian ② African American ③ Hispanic ④ Asian / Pacific Islander

- ⑤ American Indian ⑥ Interracial ⑦ Other

### 6. Marital status

- ① Single ② Married ③ Other

### 7. Number of people in household

- ① 1 ② 2 ③ 3 ④ 4 ⑤ 5 or more people

### 8. Annual household income

① Below \$25,000 ② \$25,001-49,999 ③ \$50,000-74,999 ④ \$75,000-99,999

⑤ \$100,000-149,999 ⑥ \$150,000 or more

9. Season-ticket purchase

① A season-ticket holder for a year ② A season-ticket holder for 2 years

③ A season-ticket holder for 3 years or over ④ Non-holder

APPENDIX B

INFORMED CONSENT FORM FOR PARTICIPATION

## **Informed Consent Form for Participation in Research for Exempt Research\***

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**IRB Approval Number:** IRB-21-412

**Title of Research Study:** Sport Venue Quality: Conceptualization, Measurement, and Its Impact on Spectator's Sustained Consumption Intentions.

**Researcher(s):** Dae Eun Kim, Younghan Lee, Soyoun Lim, Tianlan Wei, Matthew Zimmerman, Mississippi State University

**Procedures:** (We would like to ask you to participate in a research study.)

This study is being conducted by Dae Eun Kim and a doctoral student of the Department of Kinesiology at Mississippi State University in order to better understand the impact of sport venue quality on consumer behaviors. All data will be collected by MTurk (Amazon's Mechanical Turk). Either no personally identifiable information will be collected and the steps that will be taken to ensure that identities are not discerned. The survey will last approximately less than 15 minutes. Your participation in the study is completely voluntary. If you choose to participate, your responses will be held in confidence. You are free to withdraw at any time without penalty. If the results of this study were to be written for publication, no identifying information will be used. This project has been reviewed by the Institutional Review Board (IRB) at Mississippi State University.

**Questions:** If you have any questions about this research project, please feel free to contact Dae Eun Kim at [dk966@msstate.edu](mailto:dk966@msstate.edu).

**Voluntary Participation:** Please understand that your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue your participation at any time without penalty or loss of benefits.

**Please take all the time you need to read through this document and decide whether you would like to participate in this research study.**

If you decide to participate, your completion of the research procedures indicates your consent. Please keep this form for your records.

\*The MSU HRPP has granted an exemption for this research. Therefore, a formal review of this consent document was not required.

*Research Participant Satisfaction Survey*

*In an effort to ensure ongoing protections of human subjects participating in research, the MSU HRPP would like for research participants to complete this anonymous survey to let us know about your experience. Your opinion is important, and your responses will help us evaluate the process for participation in research studies.*

**<https://forms.office.com/Pages/ResponsePage.aspx?id=sNtR7YavokWcl3P7OTXfF9uShqNaQAdCIfXwiCnibYZUOTM4NDUzMDIyUEhTM0NFNEVWNUc3TEw2Vy4u>**



APPENDIX C  
IRB APPROVAL



**MISSISSIPPI STATE  
UNIVERSITY**

**Office of Research Compliance**

Institutional Review Board for the Protection of  
Human Subjects in Research  
P.O. Box 6223  
53 Morgan Avenue  
Mississippi State, MS 39762  
P. 662.325.3294

[www.orc.msstate.edu](http://www.orc.msstate.edu)

**NOTICE OF DETERMINATION FROM THE HUMAN RESEARCH PROTECTION PROGRAM**

**DATE:** September 09, 2021  
**TO:** Young Han Lee, PhD, Department of Kinesiology, Matthew Zimmerman, Soyoun Lim, Tianlan Wei  
 Dae Eun Kim, MS, Department of Kinesiology, Matthew Zimmerman, PhD, Department of Kinesiology, Soyoun Lim, PhD, Department of Kinesiology, Tianlan Wei, PhD, Counseling Ed Psyc & Foundations  
**PROTOCOL TITLE:** Sport Venue Quality: Conceptualization, Measurement, and Its Impact on Spectator# Sustained Consumption Intentions  
**FUNDING SOURCE:**  
**PROTOCOL NUMBER:** IRB-21-412  
 Approval Date: September 09, 2021      Expiration Date: September 08, 2026

**EXEMPTION DETERMINATION**

The review of your research study referenced above has been completed. The HRPP had made an Exemption Determination as defined by 45 CFR 46.104(d)(2). Based on this determination, and in accordance with Federal Regulations, your research does not require further oversight by the HRPP.

Employing best practices for Exempt studies is strongly encouraged such as adherence to the ethical principles articulated in the Belmont Report, found at [www.hhs.gov/ohrp/regulations-and-policy/belmont-report/](http://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/) as well as the MSU HRPP Operations Manual, found at [www.orc.msstate.edu/humansubjects](http://www.orc.msstate.edu/humansubjects). As part of best practices in research, it is the responsibility of the Principal Investigator to ensure that personnel added after this Exemption Determination notice have completed IRB training prior to their involvement in the research study. Additionally, to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so.

Based on this determination, this study has been inactivated in our system. This means that recruitment, enrollment, data collection, and/or data analysis **CAN** continue, yet personnel and procedural amendments to this study are no longer required. **If at any point, however, the risk to participants increases, you must contact the HRPP immediately. If you are unsure if your proposed change would increase the risk, please call the HRPP office and they can guide you.**

If this research is for a thesis or dissertation, this notification is your official documentation that the HRPP has made this determination.

If you have any questions relating to the protection of human research participants, please contact the HRPP Office at [irb@research.msstate.edu](mailto:irb@research.msstate.edu). We wish you success in carrying out your research project.

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**Review Type:** EXEMPT  
**IRB Number:** IORG0000467