

CROSS-CULTURAL VALIDATION OF THE NOSTALGIA SCALE FOR SPORT TOURISM (NSST): A MULTILEVEL APPROACH

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This study evaluated the cross-cultural generalizability of the Nostalgia Scale for Sport Tourism (NSST), which was originally developed and examined in the context of football tourists in the United States. Data were collected from baseball tourists in South Korea, and multilevel confirmatory factor analysis and multilevel structural equation modelling were used for data analysis. Results supported the reliability and the validity of the scale both at individual and group levels, revealing an identical five-factor structure across the 29-item scale. Additionally, this study found a significant effect of sport nostalgia on revisit intention both at individual and group levels. The findings indicate that the NSST is applicable in understanding sport tourists' nostalgia across different sport and cultural settings. Implications and suggestions for future nostalgia research are also discussed.

KEYWORDS: *nostalgia; sport tourists; classification of nostalgia; conceptual model of nostalgia; multilevel analysis*

INTRODUCTION

Everyone has his or her own memorable moments. However, at the same time, not every moment is remembered, and some moments are more cherished than others. Memories may not need to be accurate representations, and often, they are reconstructed images of what actually occurred. While how a moment is denigrated may be another issue, the opposite situation where a moment is romanticized has typically been understood as a nostalgic outcome. That is to say, nostalgia makes individuals select certain moments over others, glamorize them, and yearn to repeat them (Davis, 1979). Thus, in essence, nostalgia

provides a selective and desirable image of the past regardless of what actually took place.

As remembrance is an integral part of human cognition, nostalgia has been a popular topic in many fields especially with respect to how consumers think and behave. By arousing a favorable feelings toward objects, individuals, and experiences of the past (Hirsch, 1992), nostalgia connects an individual with a particular time and shapes consumer preferences (Holak & Havlena, 1998). Indeed, it is not unusual to infuse nostalgic messages when advertising products, services, and places (S. Brown, 2001). Merchant and Ford (2008) even underscored the influential role that nostalgia played as individuals become committed to nonprofit works. Thus, it is no exaggeration to say that nostalgia is highly ubiquitous and influential in individuals' everyday life.

In tourism research, nostalgia has most often been discussed in the context of sport tourism. When categorizing sport tourism, Gibson (1998) claimed that nostalgia drives sport tourism where tourists visit sport-related sites and attractions. Later, Fairley (2003) highlighted the social aspect of nostalgia in sport tourism by focusing on individuals cherishing their memories of socializing with others. In fact, studies (e.g., Fairley, 2003; Fairley, Gibson, & Lamont, 2018; Mason, Duquette, & Scherer, 2005) have constantly supported the idea that sport tourists often travel to relive the past where they spent time with family and friends in sporting events. Cho, Ramshaw, and Norman (2014), in recognition of this multifaceted nature of sport nostalgia, introduced a two-by-two classification of sport nostalgia based on its structure and purpose.

Given the evolving nature of research focused on nostalgia in the context of sport tourism, most studies pertaining to the topic have been undertaken utilizing exploratory qualitative research methods. While findings from such qualitative studies have laid the groundwork on which further academic inquiries can be made, little effort has been made to quantify and deconstruct nostalgia in tourism settings. A rare exception is the Nostalgia Scale for Sport Tourism (NSST) devised by Cho, Lee, Moore, Norman, and Ramshaw (2017). Yet, given its short history, the use of the scale has been limited to college football tourists in the United States. As nostalgia is socially structured, such limited application may raise questions regarding the reliability and the validity of the NSST and hinder its further use in other sport tourism contexts.

Responding to this research gap, the goal of this study was to establish the cross-cultural applicability of the NSST, so the scale can be more widely utilized in investigating nostalgia in sport tourism contexts. In doing so, the study utilized a sample of baseball tourists in South Korea to see if the NSST functions properly in a non-U.S. and nonfootball setting. In addition, this study tested how sport tourists' nostalgia toward baseball games influences their intention to revisit other baseball games in the future. Theoretically, findings of this study will help expand the scope of the NSST to serve various forms of sport tourism undertaken in different cultures. This will also assist in conducting more quantitative research on sport nostalgia and understanding how it shapes individuals' perceptions and behavior in sport tourism contexts.

LITERATURE REVIEW

Nostalgia in General

Nostalgia commonly refers to a highly selective and positive feeling toward the past (Davis, 1979). In early research, the term “nostalgia” was usually associated with abnormal symptoms such as depression or tiredness (Hofer, 1934). However, more recently, its meaning has been broadened to include a feeling of longing for the past which an individual experienced either directly or indirectly (Cho et al., 2014). Nostalgia is intensified when individuals’ romanticized past is compared with their unsatisfactory present or future (Davis, 1979).

Although nostalgia may appear similar to other concepts, it is distinct from reminiscence (Castelnuovo-Tedesco, 1980), sentimentality (Wilson, 2005), and autobiographical memory (Sedikides, Wildschut, & Baden, 2004). Most notably, nostalgia is an emotional mental process (Castelnuovo-Tedesco, 1980; Cavanaugh, 1989), whereas reminiscence, sentimentality, and autobiographical memory are considered cognitive mental processes (N. R. Brown & Schopflocher, 1998). Thus, nostalgia is commonly treated as an emotional construct (Stern, 1992) which is different from perceptions (Monteiro, 2017; Sedikides et al., 2018) or attitudes (Ju, Jun, Dodoo, & Morris, 2017).

Recent research has scrutinized how nostalgia is structured and how it forges individuals’ perceptions (Sedikides et al., 2018), attitudes (Turner, Wildschut, & Sedikides, 2012), or behavior (Hwang & Hyun, 2013; Kessous, Roux, & Chandon, 2015). For instance, Sedikides et al. (2018) examined how nostalgia helps individuals find meaning in their lives. Similarly, others have looked at how nostalgia contributes to immigrants’ level of excitement about the success of their hometown sport teams (Yamamura, 2017) as well as consumers’ degree of patience (Huang, Huang, & Wyer, 2016). Also, there have been efforts to develop a scale for nostalgia in different contexts such as nostalgic feelings toward specific brands (Shields & Johnson, 2016).

Nostalgia in Tourism

Until the early 2000s, little research focusing on nostalgia was undertaken in tourism contexts. However, tourism scholars have recently started to investigate the impact of nostalgia on tourist behavior in diverse settings such as rural tourism (Christou, Farmaki, & Evangelou, 2018), film tourism (S. Kim & Kim, 2018), cultural tourism (Suntikul, 2017), educational tourism (Rahman, Osmangani, Hassan, Anwar, & Fattah, 2016), food tourism (S. Kim & Iwashita, 2016), and heritage tourism (Ali, 2015; Verma & Rajendran, 2017).

Nostalgia research has been particularly active within the area of sport tourism. Scholars have delved more deeply into the nature of nostalgia and its role in reliving memories of places, people, identities, and artifacts related to sports. For example, Fairley (2003) contended that memories from the past are more motivating and meaningful when they are socially structured. In other words,

Table 1
Classification of Nostalgia in the Context of Sport Tourism

Structure	Purpose	
	Experience-Based	Identity-Based
Object-based	Sport nostalgia as experience	Sport nostalgia as personal identity
Relationship-based	Sport nostalgia as socialization	Sport nostalgia as group identity

positive memories associated with family, friends, and other group members can stimulate and intensify sport tourists' nostalgia (Fairley, 2003; Fairley et al., 2018). Furthermore, Gibson, Willming, and Holdnak (2002) noted that the unique atmosphere of the sport environment may evoke sport nostalgia. These ideas expanded the scope of sport nostalgia to include not only physical objects (e.g., equipment or memorabilia) or places (e.g., stadia or museums) but also social relationships (e.g., friendships; Fairley & Gammon, 2005).

Indeed, sport tourism can involve an extensive amount of social interaction between tourists, thus strengthening ties among individuals who attend the same sporting event. Mason et al. (2005) found that social experiences of spectators contributed to shaping their nostalgia toward the sporting event. Furthermore, individuals attending the same sporting event may take on different roles (e.g., athletes, spectators, or staff) that result in various forms of social experiences and outcomes (Cho et al., 2014). Thus, it is possible that socializing experiences are more prevalent among spectators, while athletes may have greater memories associated with their personal identity.

Classification of Sport Nostalgia and the NSST

Given such a multidimensional nature, sport tourists' nostalgia is not only linked to a general yearning for the past but also to socialization, personal identity, and group identity, and it provides self-actualization and self-contentment to individuals (Cho et al., 2014). According to Fairley and Gammon (2005), there are "two broad conceptualizations of nostalgia in sport tourism: nostalgia for sport place or artifact, and nostalgia for social experience" (p. 182). In addition, sport nostalgia is closely related to sport tourists' identity with regard to group experiences (Fairley, 2003).

Based on previous studies, Cho et al. (2014) suggested a two-by-two classification of sport nostalgia composed of two dimensions: (a) structure and (b) purpose (Table 1). Depending on its structure, sport nostalgia can either be object-based or interpersonal relationship-based. Based on its purpose, there can be experience-based sport nostalgia and identity-based sport nostalgia. The first dimension (i.e., structure) underscores the importance of both objects (i.e., people, place, and things) and social experience as structuralizing channels for

sport nostalgia. The second dimension (i.e., purpose) is related to the value and the pursuits assigned by individuals to their past experiences and how the memories can reinforce or provide continuity of one's identity. This two-by-two classification includes four factors of sport nostalgia: (a) experience, (b) socialization, (c) personal identity, and (d) group identity.

The first factor, sport nostalgia as experience, stems from objects, such as sport players, coaches, teams, stadia, and general atmosphere (Cho et al., 2014). It highlights the role played by sport objects in reliving or symbolizing positive memories, rekindling emotional attachments, and capturing remote yet cherished experiences. This type of sport nostalgia may encourage sport tourists to seek opportunities to reconnect with a sport venue (Fairley & Gammon, 2005). On the other hand, the second factor, sport nostalgia as socialization, focuses on social interaction, such as exchanging team-related news, building friendships, and seeking mutual benefits with others (Cho et al., 2014). It depicts that social interaction directs the type of sport nostalgia that is formed (Fairley, 2003). Sport-based social experiences strengthen ties among individuals in this specific context.

Sport nostalgia as personal identity is related to individuals' feelings of self-identification and self-importance (Cho et al., 2014). By participating in a sporting event, an individual may feel more valued as a fan or an athlete, and the memory can induce sport nostalgia. In other words, individual participation in a sporting event increases one's identity which can foster or lead to the development of nostalgic feelings as well. At the same time, the individual may also have positive memories regarding group membership associated with a sporting event. Sporting events feature a myriad of group rituals and group norms that effectively bond individuals with one another (Cho et al., 2014). Furthermore, being acknowledged in a group setting promotes the sense of group identity which increases the number of group experiences, an essential element of sport nostalgia.

Using this classification of sport nostalgia as a guide, Cho et al. (2017) developed their NSST considering football tourists. To reflect that most football tourists are also group tourists, they examined the data using multilevel analysis which is capable of distinguishing individual effects (e.g., nostalgia induced by personal experiences) from group effects (e.g., nostalgia aroused by group experiences). As a result, Cho et al.'s (2017) statistical analysis revealed an additional fifth factor beyond what Cho et al. (2014) proposed. Specifically, sport nostalgia as experience bifurcated into two factors, one for a sport team (i.e., sport nostalgia as a *sport team*) and the other for environments (i.e., sport nostalgia as *environment*).

Cross-Cultural Validation and the Conceptual Model

While the NSST remains the only scale measuring sport tourists' nostalgia, its application has been limited due to its short history. Although nostalgia is a ubiquitous feeling, it is nevertheless a multifaceted and socially structured construct (Cho et al., 2017; Fairley, 2003). While sport tourists, regardless of their

favorite sport or cultural background, may all be nostalgic, its degree and structure are likely to vary across the sport and the culture. For instance, team sports may be more influential than individual sports. Also, individuals from collective cultures may be more affected by group identity than those with a more individualistic background.

This naturally leads to a question regarding the cross-cultural validity of Cho et al.'s (2014) conceptual model and the NSST (Cho et al., 2017). As the NSST was developed in a college football setting which is unique to the United States, it is unclear if the scale will also be reliable and valid in other sport and cultural settings. This cross-cultural validation of the scale is crucial in developing a systematic and universal understanding of the construct and determining its utilization in additional contexts (J. H. Kim & Ritchie, 2014).

Thus, the goal of this study was to validate the NSST in a non-U.S. context. In doing so, this study employed multilevel analysis of data collected from South Korean baseball tourists. More specifically, multilevel confirmatory factor analysis (CFA) and multilevel structural equation modelling (SEM) were used to test if the NSST is reliable and valid in this novel context. In addition to convergent validity, discriminant validity and criterion validity of the NSST were examined (Oppenheim, 2000).

This study hypothesized a positive effect of sport nostalgia on intention to revisit. Theories have assumed that individuals' behavior is forged in part by their self-identity (Stryker, 1987) or social identity (Tajfel, 1981), which are also components of the NSST. Wann and Branscombe (1993) also depicted that individuals' behavior is heavily influenced by their level of identification and association with favorite sport players or teams (i.e., team identity). Furthermore, in diverse fields, previous research has found a positive association between individuals' nostalgia and their behavioral intention (Hwang & Hyun, 2013; Kessous et al., 2015). Therefore, this study posited revisit intention as a consequence of nostalgia.

METHOD

Data Collection

Data were collected from baseball tourists who visited Jamsil Baseball Stadium in Seoul, South Korea for one of six professional baseball games held in April and May of 2017; respondents were all South Koreans. Prior to the beginning of each game, four research assistants were stationed near parking lots and asked incoming individuals or groups (i.e., individuals who came together in groups) to participate in the survey. Those who agreed to participate were provided with a self-administered, printed copy of the survey instrument to be completed onsite. As an incentive, a pack of sanitary wipes and a bottle of water were offered to each participant.

The sample was selected for numerous reasons. First, South Korea is culturally distinctive from the United States; notably, it is a more collective

society than the United States. Furthermore, although South Korean baseball fans have rituals and traditions, they are less family-oriented than college football tourists in the United States. Last, baseball is a more international sport than American football, thus it is proposed that findings of this study will also be more generalizable. Among many baseball stadiums in South Korea, Jamsil Baseball Stadium was chosen considering its symbolic value and popularity. It is home to two popular franchises (i.e., Doosan Bears and LG Twins) in Seoul. Also, as a suburban and touristic center of Seoul, Jamsil is known for its shopping and theme park opportunities as well as sport tourism experiences (e.g., Olympics Park).

Survey Instrument

The survey instrument contained questions regarding baseball tourists' purpose of visiting Jamsil (i.e., if they were visiting primarily for sport tourism or not), nostalgia related to baseball, intention to revisit Jamsil, perspectives of tourism in the area, interaction with Jamsil residents, attachment to the stadium, and identification with the aforementioned teams. Some supplementary information, such as fan history and demographic backgrounds (e.g., residential postal codes, age, income, etc.), was also requested. For the purposes of this study, the researchers particularly focused on responses concerning sport nostalgia and revisit intention.

Sport nostalgia was measured using the NSST developed by Cho et al. (2017). As explained above, the scale is composed of 29 items across five factors: *sport team*, *environment*, *socialization*, *personal identity*, and *group identity*. To measure revisit intention, the following three items were adopted from Carroll (2009): "In the next three years, I intend to attend future KBO professional baseball games held in Jamsil," "In the next three years, I plan to attend future KBO professional baseball games held in Jamsil," and "In the next three years, the probability that I will attend future KBO professional baseball games in Jamsil is high."

The survey instrument was first developed in English and then back-translated into Korean by two researchers who are fluent in both English and Korean. For enhanced reliability, the translation was conducted by each researcher, independent of one another, and then compared for any inconsistency. Following Sin, Cheung, and Lee's (1999) suggestion, additional attention was placed on assuring that each English word conveyed the same meaning in Korean after accounting for cultural and linguistic differences. Prior to data collection, the survey instrument was also reviewed by other Korean nonexperts to ensure its clarity and readability.

Data Analysis

For data screening, expectation maximization algorithm and Mahalanobis distance were used to treat missing values and extreme outliers respectively. The

target population of this study was sport tourists from outside Jamsil and its surrounding areas. Therefore, to filter out those who did not qualify as sport tourists, this study used Gibson's (1998) definition of sport tourists as those engaging in "leisure-based travel that takes individuals temporarily outside of their home communities to participate in physical activities, to watch physical activities, or to venerate attractions associated with physical activities" (p. 49). Specifically, this study asked respondents to provide a postal code of their residence which was used to exclude those who lived in Jamsil and its surrounding areas. In addition, the survey instrument asked respondents' primary purpose of trip, and the researchers only considered responses of those who primarily traveled for sport-related activities. After conducting the data screening, this study confirmed the NSST's reliability and multiple forms of validity, including convergent validity, discriminant validity, and criterion validity.

Following such initial psychometric tests, multilevel analysis was conducted. As Cho et al. (2014) claimed, sport tourists usually travel and experience a particular event in groups, and this affects how they feel and think. To disentangle the influence that group's common characteristics may have on an individual's nostalgia, multilevel analysis is necessary (Raudenbush & Bryk, 2002). As such, this study first examined intraclass correlation coefficient (ICC) values. An ICC value represents a ratio of the between-group variance (i.e., group influence) to total variance (i.e., total influence). Any value greater than 0.1 indicates significant group influence that needs to be addressed (Muthén, 1997). The terms "Level 1" and "Level 2," hereafter, respectively, refer to individual effects and group effects.

When assessing a model fit, both absolute and comparative fit indices were examined. To claim a "good" absolute fit, both root mean square error of approximation (RMSEA) and standardized root mean squared residual (SRMR) need to have a value less than 0.08 (Browne & Cudeck, 1992; Hu & Bentler, 1999). For a comparative fit, nonnormed fit index (NNFI) and comparative fit index (CFI) values greater than 0.9 were required (Hu & Bentler, 1999). The data analysis was carried out using SPSS 25.0 and EQS 6.3.

RESULTS

Sample Overview

A total of 487 responses were collected, and the response rate was 85.3%. However, 22 responses were discarded for having less than a half of the survey instrument completed. Eight others were eliminated for containing extreme outliers as revealed through Mahalanobis distance. Furthermore, based on their residential postal code and primary purpose of the trip, 26 responses were excluded from the sample as the respondents lived in Jamsil and its surrounding areas or did not visit primarily for sport tourism. In addition, 18 groups represented by a single respondent were deleted. Consequentially, 411 sport tourists from 158 groups made up the sample of this study.

Among the 158 groups, 98 groups had two respondents, 40 groups provided three respondents, 13 groups were represented by four respondents, 2 groups were represented by five respondents, 2 groups had six respondents, and 3 groups were represented by seven respondents. The group sizes in this study were relatively small. However, as Hox (2013) noted, small group sizes generally do not cause a problem when there is a sufficient number of groups (i.e., $N > 100$).

Males comprised 57.9% ($n = 238$) of the sample, outnumbering females (41.1%, $n = 169$). The average age for respondents was slightly under 30 ($M = 29.57$), and more than three fifth were younger than 30 years (60.8%, $n = 250$). They were fairly well-educated as most completed or were attending a 4-year college (52.6%, $n = 213$). This was followed by those with high school (17.5%, $n = 72$), 2-year college (13.9%, $n = 57$), or graduate school (11.4%, $n = 47$) education. About two fifth of respondents (41.4%, $n = 170$) reported an annual income of \$50,000 or greater.

Multilevel Structure of the Data

To confirm if the data were hierarchically structured and warranted the use of multilevel analysis, ICC values of NSST items were reviewed. An ICC value greater than 0.1 was observed for every item, indicating that multilevel analysis is necessary to avoid biased results (Muthén, 1997). Specifically, ICC values ranged from 0.121 ("my behavior expected by my group based on past professional baseball games") to 0.253 ("the appearance of Jamsil Baseball Stadium"). That is, nostalgia that someone felt by remembering the appearance of Jamsil Baseball Stadium was much attributed to the group he or she belonged to. Given such hierarchical structure of the data, the researchers proceeded with multilevel CFA and multilevel SEM to address the purpose of the study.

When running multilevel analysis, Satorra and Bentler's (S-B's) method (Satorra & Bentler, 1994) and robust standard errors (Bentler & Dijkstra, 1985) were adopted, as the data were found to be nonnormally distributed. The initial multilevel CFA model demonstrated acceptable model fit indices: S-B $\chi^2(df) = 1464.02_{(730)}$, CFI = 0.950, NNFI = 0.945, RMSEA = 0.073, 90% CI [0.068, 0.079], and SRMR = 0.028.

Next, the reliability and the validity of the measurement model was examined. Rho α coefficients of the total model were .988 at Level 1 and .995 at Level 2 (Table 2). At Level 1, Rho α coefficients of each NSST factor ranged from .926 for *environment* to .974 for *group identity*. At Level 2, the values were between .962 for *environment* and .989 for *group identity*. Thus, the models were confirmed reliable at both Level 1 and Level 2.

Following the reliability assessment, AVE values were reviewed for convergent validity. Values of the five NSST factors ranged from .758 for *socialization* to .806 for *group identity* at Level 1 and .863 for *socialization* to .906 for *group identity* at Level 2 (Table 2). Thus, all AVE values satisfied the .5 cutoff that Fornell and Larcker (1981) suggested.

Table 2
Factor Loadings, Reliability Coefficient, and AVE

Factors and Items	λ		Rho α		AVE	
	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2
Sport team ($M = 5.61$)			.941	.978	.763	.900
Remembering my favorite baseball players (NST ₁)	.839	.931				
My favorite baseball team from the past (NST ₂)	.863	.950				
A particular player with a good reputation (NST ₃)	.920	.949				
A particular coach with a good reputation (NST ₄)	.893	.954				
A particular team with a good reputation (NST ₅)	.850	.958				
Environment ($M = 5.33$)			.926	.962	.758	.863
The music played at Jamsil Baseball Stadium (NE ₁)	.743	.876				
The appearance of Jamsil Baseball Stadium (NE ₂)	.896	.982				
The size of Jamsil Baseball Stadium (NE ₃)	.920	.962				
The design of Jamsil Baseball Stadium (NE ₄)	.911	.891				
Socialization ($M = 5.48$)			.930	.966	.770	.876
Positive memories shared with others at past professional baseball games (NS ₁)	.918	.965				
Memories of building friendships with others at past professional baseball games (NS ₂)	.883	.976				
Memories of socializing with others at past professional baseball games (NS ₃)	.876	.965				
Memories of making friends at past professional baseball games (NS ₄)	.830	.830				
Personal identity ($M = 5.47$)			.962	.984	.786	.899
Identifying myself as a baseball fan (NPI ₁)	.802	.950				
How important I am to the results of games as a baseball fan (NPI ₂)	.812	.880				
Feelings of being a baseball fan (NPI ₃)	.897	.951				
A sense of accomplishment as a baseball fan at past professional baseball games (NPI ₄)	.920	.940				

(continued)

Table 2 (continued)

Factors and Items	λ		Rho α		AVE	
	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2
Pride of being a baseball fan (NPI ₅)	.921	.973				
A feeling of satisfaction as a baseball fan (NPI ₆)	.931	.977				
Positive feelings about myself as a baseball fan at past professional baseball games (NPI ₇)	.913	.964				
Group identity ($M = 5.51$)			.974	.989	.806	.906
experiences of group bonding at past professional baseball games (NGI ₁)	.846	.952				
The fact that my favorite baseball team has enhanced a community's reputation (NGI ₂)	.847	.939				
Unique characteristics of my social group at past professional baseball games (NGI ₃)	.879	.959				
The traditions of my group at past professional baseball games (NGI ₄)	.896	.975				
Memories of being accepted as a member of my group at past professional baseball games (NGI ₅)	.917	.953				
Pride of being a part of my group at past professional baseball games (NGI ₆)	.929	.918				
Group rituals at past professional baseball games (NGI ₇)	.934	.973				
My behavior expected by my group based on past professional baseball games (NGI ₈)	.927	.948				
Shared memories which affects my group identity (NGI ₉)	.901	.950				

Note: AVE = average variance extracted.

As for the criterion validity of the model, this study assessed the correlation between the five factors of the NSST and revisit intention at both Level 1 and Level 2 (Table 3). At Level 1, all five NSST factors were significantly correlated with revisit intention, where r values ranged from .261 (*socialization*) to .316 (*sport team*). The significant relationships were also observed in the Level 2 model as well but with substantially higher r values: .426 for *environment* and .695 for *group identity*. These results provided solid evidence for criterion validity.

Table 3
Assessment of Criterion Validity in the Level 1 and Level 2 Models

	Revisit Intention	
	Level 1	Level 2
Sport team	.316***	.670**
Environment	.296***	.426*
Socialization	.261***	.638**
Personal identity	.300***	.687***
Group identity	.276***	.695**

*Correlation is significant at an $\alpha = .05$ level (2-tailed). **Correlation is significant at an $\alpha = .02$ level (2-tailed). ***Correlation is significant at an $\alpha = .001$ level (2-tailed).

Table 4
Correlations Among All Constructs in the Level 1 Model

	Sport Team	Environment	Socialization	Personal Identity	Group Identity
Sport team	.874 ^a				
Environment	.753	.871 ^a			
Socialization	.803	.870	.877 ^a		
Personal identity	.844	.798	.825	.886 ^a	
Group identity	.835	.786	.831	.879	.898 ^a

^aSquare root of the average variance extracted value.

To estimate discriminant validity, square root of AVE values of each NSST factor were compared against their interfactor correlations at both Level 1 and Level 2 (Tables 4 and 5). Results revealed relatively high correlations between each factor at both Level 1 and Level 2. However, square root of AVE values of all the NSST factors were greater than their interfactor correlations, supporting their discriminant validity (Fornell & Larcker, 1981).

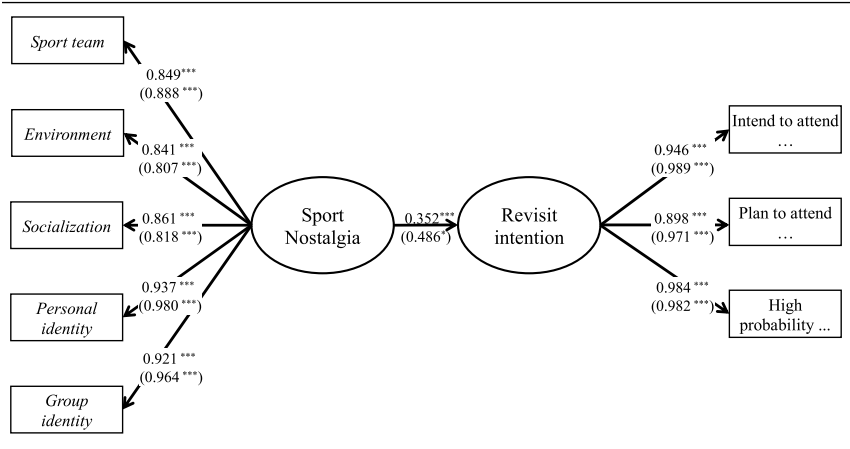
Finally, this study examined how the five NSST factors predict revisit intention at both Level 1 and Level 2, following Anderson and Gerbing's (1988) two-step approach to SEM. Specifically, multilevel CFA was conducted again with revisit intention added to the model. The model showed a good fit to the data: $S-B \chi^2_{(df)} = 1578.03_{(894)}$, CFI = 0.956, NNFI = 0.952, RMSEA = 0.065, 90% CI [0.060, 0.070], and SRMR = 0.026. Following this, multilevel SEM was undertaken using composites of the NSST factors (Figure 1). The structural model also demonstrated very good model fit indices: $S-B \chi^2_{(df)} = 59.023_{(38)}$, CFI = 0.994, NNFI = 0.991, RMSEA = 0.053, 90% CI [0.023, 0.078], and SRMR = 0.016. Sport nostalgia explained 12.4% of the variance in revisit intention at the individual level and 23.6% at the group level.

Table 5
Correlations Among All Constructs in the Level 2 Model

	Sport Team	Environment	Socialization	Personal Identity	Group Identity
Sport team	.948 ^a				
Environment	.815	.928 ^a			
Socialization	.882	.684	.936 ^a		
Personal identity	.905	.795	.930	.948 ^a	
Group identity	.922	.791	.934	.940	.952 ^a

^aSquare root of the average variance extracted value.

Figure 1
Standardized Coefficients of the Level 1 and Level 2 Structural Models



Note: Standardized coefficients of the Level 2 are in parentheses.
p* Value is significant at an $\alpha = .05$ level (2-tailed). **p* Value is significant at an $\alpha = .001$ level (2-tailed).

DISCUSSION

The aim of this study was to examine the cross-cultural applicability of the NSST through the establishment of sound psychometric properties (i.e., assessing multiple forms of reliability and validity), while considering multilevel analysis to gauge individual (i.e., Level 1) and group aspects (i.e., Level 2) of sport nostalgia. A consistent theme that ran through analysis in this study was that the significance and the size of the effects were generally stronger at Level 2, indicating the impact that being in a group may potentially have when considering sport nostalgia. In such instance, Level 2 effects were more pronounced. In the way of psychometric properties, every form of the reliability and the validity

(e.g., convergent, discriminant, and criterion validity) were highly significant. These latter forms of validity, as Churchill (1979) purported, are the most difficult forms to establish for scales.

Given minimal research has utilized the NSST, psychometric comparisons are limited to those relative to the study conducted by Cho et al. (2017) which also found an identical five-factor structure (i.e., all items loaded appropriately, and no item was removed). Interestingly, standardized factor loadings generally improved within this study, with only one instance of an item falling below the .80 threshold, compared with numerous within Cho et al.'s (2017) study. Collectively, most psychometric estimates of reliability and validity also improved from the study. Such improvement in factor loadings and most psychometric properties has also been witnessed in a series of studies concerning scale development and application (e.g., Woosnam & Norman, 2010; Woosnam, Shafer, Scott, & Timothy, 2015).

An exception to this improvement in psychometric properties was the criterion validity for the five factors relative to revisit intention at Level 1. Though Level 2 demonstrated an improvement over Cho et al.'s (2017) findings, Level 1 correlations were not improved or even deteriorated to some extent. For instance, in Cho et al.'s (2017) study, nostalgia as *sport team*, *personal identity*, and *group identity* at Level 1 were more strongly associated with intention to visit than what were found in this study. Such differences between the two results may reflect differences between the cultures (i.e., South Korea and the United States) and the sports (i.e., professional baseball and college football) addressed in each study. That is, in the United States—where the culture is more individualistic than that of South Korea—individual aspects of sport nostalgia can be more prominent than in South Korea.

Yet group level sport nostalgia was found to highly influence revisit intention. Correlations between NSST factors and revisit intention were higher at Level 2 than Level 1 in this study and that of Cho et al. (2017). At the same time, it is noteworthy that group-level criterion validity in this study was more salient than what was reported by Cho et al. (2017). This again may indicate the cultural difference between South Korea and the United States. Closely related to this are the findings on the effect of sport nostalgia on revisit intention. As mentioned, Level 2 effects were more pronounced than Level 1 in explaining revisit intention. Considering this along with psychometric results, one can argue that revisit intention in part is shaped by personal experiences, while groups play a larger role in the onsite and recollection stages of travel. Similar findings were also alluded to in the study by Leong, Yeh, Hsiao, and Huan (2015).

Though nearly a century has passed since Hofer (1934) wrote his seminal study concerning nostalgia, the progress made involving the construct within the travel and tourism literature has been slow in developing. This, however, is changing, with the resurgence of nostalgia research, most notably undertaken within contexts of identity development and authenticity (Vesey & Dimanche, 2003) in the general tourism literature as well as in heritage tourism (Lee, 2015)

and sport tourism literature (Cho et al., 2014; Fairley et al., 2018; Mason et al., 2005) most specifically. The development of the NSST (Cho et al., 2017) has helped pave the way for further research utilizing a scale that captures the robustness of nostalgia in a sport tourism context. As such, the aim of this study was to build on the findings by Cho and his colleagues (e.g., Cho et al., 2014; Cho et al., 2017) in examining the cross-cultural validity and applicability of the NSST in a novel context.

As a gauge of the applicability of the NSST across cultures, assessing its factor structure in subsequent research is vital (Churchill, 1979). An identical five-factor structure across the 29-item scale (i.e., no items removed from the current study) was revealed in comparison with what Cho et al. (2017) reported following their CFA: *nostalgia as sport team* (five items); *environment* (four items); *socialization* (four items); *personal identity* (seven items); and *group identity* (nine items). This is a testament to the robustness of the NSST in capturing the variance explained by sport nostalgia, which gives greater credence to the utility of the scale in other sport-related settings. Additional research employing the NSST in contexts outside football and baseball venues would be advantageous.

Theoretical contributions of this study also include the demonstrated significant relationship between sport nostalgia and intention to revisit. This study marks the first time the NSST has served as a precursor to other variables. However, others have also considered the role nostalgia plays in revisit intention (Ali, 2015; Hwang & Hyun, 2013; Leong et al., 2015). While Ali (2015) and Leong et al. (2015) examined the direct impact of nostalgia on revisit intention, Hwang and Hyun (2013) considered a mediator (e.g., emotional responses) between the relationship. Effect sizes of explaining revisit intention were comparable with what Ali (2015) and Leong et al. (2015) found within their studies. Ultimately, the present study lays the foundation for a further theoretical model to be formulated that encompasses the NSST and revisit intention, whereby antecedent and mediator variables should be incorporated. A similar approach to model development has been undertaken by Nunkoo and Gursoy (2012) concerning residents' perceptions of tourism development.

Finally, the findings of this study provide practitioners in tourism and sport industries with greater confidence in employing the NSST to gauge the level of sport nostalgia and utilize it in their marketing strategies. The reliability and the validity of the NSST is not limited to college football whose popularity is most limited to the United States, with the scale also being applicable in the examination of sport tourists in more global contexts. Especially, the strong association between sport nostalgia and revisit intention—along with the high correlation between each NSST factor and revisit intention—implies that sport nostalgia can be an effective way of making sporting events more successful. In the meantime, it is important for practitioners to remember that sport nostalgia has differing natures across various cultures and sports. For instance, South Korean baseball tourists were more sensitive to their group memberships than American college football tourists studied by Cho et al. (2017). As such, marketing strategies

focused on group experiences can be more effective in South Korea than the United States.

Limitations and Future Research

As with any research, this study has its limitations. First, only sport tourists to a single sports venue comprised the sample for this research. Carrying this idea forward, the scale was administered to a specific group of tourists (i.e., Korean nationals) within one venue (i.e., those visiting Jamsil Baseball Stadium). Though the NSST is largely focused on sport tourists, many of the items are written in such a way to be applicable to local residents as well. Further research should be employed to examine local residents' responses to the NSST items, which will arguably contribute to the continued generalizability of the scale. While this study embraced a second sample of tourists (in addition to visitors to a U.S. college football venue from Cho et al., 2017), it further only considered those within a Global North context. Additional research needs to be undertaken in a Global South venue. Such proposed research would also add to increased potential for applicability and generalizability of the NSST in novel contexts.


Building on the research of Cho et al. (2014) and Cho et al. (2017), this study provides further support for the application of the NSST in multiple contexts outside of the United States, where it was originally developed. Though the intent was to only consider the NSST in relation to revisit intention, additional outcomes of the former could have been included within the study. Based on results from the effect of sport nostalgia on revisit intention, the findings suggest further research is necessary to build a more robust theoretical model that encompasses the NSST, revisit intention, as well as antecedents and outcomes. As such, precursors to sport tourist nostalgia should be incorporated in future studies. For instance, motivations for attending particular sporting events, attachment to the sports venue, and degree of previous visits may all serve as viable antecedents of sport nostalgia. Such model development surrounding the NSST is in keeping with the lines of research surrounding the *Emotional Solidarity Scale* (Woosnam et al., 2015) and the *Memorable Tourism Experience Scale* (J. H. Kim & Ritchie, 2014). Subsequent research involving this initial framework should examine how additional constructs can improve the variance explained in revisit intention. Special attention should be paid, however, to consider the inclusion of additional variables based on theoretical grounds or empirical findings within the literature.

CONCLUSION

The purpose of this study was to test the cross-cultural reliability and validity of the NSST, so the scale can be applied across different sociocultural settings. To this end, this study collected 487 survey responses from baseball tourists in

South Korea and analyzed them using multilevel CFA and multilevel SEM. The results were in support of the reliability and the validity of the NSST both at individual and group levels. The same 29-item, five-factor structure was discovered in this study. Furthermore, the results also supported a significant effect of sport nostalgia on revisit intention. Together, these results suggest that the NSST can be applied in studying sport nostalgia across multiple sports and cultures.

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REFERENCES

- Ali, F. (2015). Heritage tourist experience, nostalgia, and behavioural intentions. *Anatolia*, 26, 472-475.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, 411-423.
- Bentler, P. M., & Dijkstra, T. (1985). Efficient estimation via linearization in structural models. In P. R. Krishnaiah (Ed.), *Multivariate analysis VI* (pp. 9-42). Amsterdam, Netherlands: North-Holland.
- Brown, N. R., & Schopflocher, D. (1998). Event clusters: An organization of personal events in autobiographical memory. *Psychological Science*, 9, 470-475.
- Brown, S. (2001). Torment your customers (they'll love it). *Harvard Business Review*, 79(9), 82-88.
- Browne, M. W., & Cudeck, R. (1992). Alternatives ways of assessing model fit. *Sociological Methods and Research*, 21, 230-258.
- Carroll, M. S. (2009). *Development of a scale to measure perceived risk in collegiate spectator sport and assess its impact on sport consumption* (Unpublished doctoral dissertation). University of Florida, Gainesville, FL.
- Castelnuovo-Tedesco, P. (1980). Reminiscence and nostalgia: The pleasure and pain of remembering. In S. I. Greenspan & G. H. Pollack (Eds.), *The course of life: Psychoanalytic contributions toward understanding personality development* (Vol. 3, pp. 104-118). Washington, DC: U. S. Government Printing Office.
- Cavanaugh, J. C. (1989). I have this feeling about everyday memory aging. *Educational Gerontology: An International Quarterly*, 15, 597-605.
- Cho, H., Lee, H. W., Moore, D., Norman, W. C., & Ramshaw, G. (2017). A multilevel approach to scale development in sport tourist nostalgia. *Journal of Travel Research*, 56, 1094-1106.
- Cho, H., Ramshaw, G., & Norman, W. C. (2014). A conceptual model for nostalgia in the context of sport tourism: Re-classifying the sporting past. *Journal of Sport & Tourism*, 19, 145-167.
- Christou, P., Farnaki, A., & Evangelou, G. (2018). Nurturing nostalgia? A response from rural tourism stakeholders. *Tourism Management*, 69, 42-51.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16, 64-73.
- Davis, F. (1979). *Yearning for yesterday: A sociology of nostalgia*. New York, NY: Free Press.

- Fairley, S. (2003). In search of relived social experience: Group-based nostalgia sport tourism. *Journal of Sport Management*, 17, 284-304.
- Fairley, S., & Gammon, S. (2005). Something lived, something learned: Nostalgia's expanding role in sport tourism. *Sport in Society*, 8, 182-197.
- Fairley, S., Gibson, H., & Lamont, M. (2018). Temporal manifestations of nostalgia: Le Tour de France. *Annals of Tourism Research*, 70, 120-130.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50.
- Gibson, H. J. (1998). Sport tourism: A critical analysis of research. *Sport Management Review*, 1, 45-76.
- Gibson, H. J., Willming, C., & Holdnak, A. (2002). "We're Gators . . . not just Gator fans": Serious leisure and University of Florida football. *Journal of Leisure Research*, 34, 397-425.
- Hirsch, A. R. (1992). Nostalgia: A neuropsychiatric understanding. In J. F. Sherry, Jr. & B. Sternthal (Eds.), *Advances in Consumer Research* (Vol. 19, pp. 390-395). Provo, UT: Association for Consumer Research.
- Hofer, J. (1934). Medical dissertation on nostalgia (C. K. Anspach, Trans.). *Bulletin of the History of Medicine*, 2, 376-391.
- Holak, S. L., & Havlena, W. J. (1998). Feelings, fantasies, and memories: An examination of the emotional components of nostalgia. *Journal of Business Research*, 42, 217-226.
- Hox, J. (2013). Multilevel regression and multilevel structural equation modeling. In T. D. Little (Ed.), *The Oxford handbook of quantitative methods* (Vol. 2, pp. 281-294). Oxford, England: Oxford University Press.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Huang, X., Huang, Z., & Wyer, R. S., Jr. (2016). Slowing down in the good old days: The effect of nostalgia on consumer patience. *Journal of Consumer Research*, 43, 372-387.
- Hwang, J., & Hyun, S. S. (2013). The impact of nostalgia triggers on emotional responses and revisit intentions in luxury restaurants: The moderating role of hiatus. *International Journal of Hospitality Management*, 33, 250-262.
- Ju, I., Jun, J. W., Doodoo, N. A., & Morris, J. (2017). The influence of life satisfaction on nostalgic advertising and attitude toward a brand. *Journal of Marketing Communications*, 23, 413-427.
- Kessous, A., Roux, E., & Chandon, J. L. (2015). Consumer-brand relationships: A contrast of nostalgic and non-nostalgic brands. *Psychology & Marketing*, 32, 187-202.
- Kim, J. H., & Ritchie, J. B. (2014). Cross-cultural validation of a memorable tourism experience scale (MTES). *Journal of Travel Research*, 53, 323-335.
- Kim, S., & Iwashita, C. (2016). Cooking identity and food tourism: The case of Japanese udon noodles. *Tourism Recreation Research*, 41, 89-100.
- Kim, S., & Kim, S. (2018). Segmentation of potential film tourists by film nostalgia and preferred film tourism program. *Journal of Travel & Tourism Marketing*, 35, 285-305.
- Lee, Y. J. (2015). Creating memorable experiences in a reuse heritage site. *Annals of Tourism Research*, 55, 155-170.
- Leong, A. M. W., Yeh, S. S., Hsiao, Y. C., & Huan, T. C. T. (2015). Nostalgia as travel motivation and its impact on tourists' loyalty. *Journal of Business Research*, 68, 81-86.

- Mason, D. S., Duquette, G., & Scherer, J. (2005). Heritage, sport tourism and Canadian junior hockey: Nostalgia for social experience or sport place? *Journal of Sport Tourism, 10*, 253-272.
- Merchant, A., & Ford, J. (2008). Nostalgia and giving to charity: A conceptual framework for discussion and research. *International Journal of Nonprofit and Voluntary Sector Marketing, 13*, 13-30.
- Monteiro, B. (2017). Nostalgia and the social perception of the past: The ethnographic revisit of an industrial community (1980 and 2010). *Time & Society, 26*, 165-181.
- Muthén, B. O. (1997). Latent variable modeling of longitudinal and multilevel data. In A. E. Raftery (Ed.), *Sociological methodology 1997* (pp. 453-480). Washington, DC: American Sociological Association.
- Nunkoo, R., & Gursoy, D. (2012). Residents' support for tourism: An identity perspective. *Annals of Tourism Research, 39*, 243-268.
- Oppenheim, A. N. (2000). *Questionnaire design, interviewing and attitude measurement*. New York, NY: Bloomsbury.
- Rahman, M. S., Osmangani, A. M., Hassan, H., Anwar, M. A., & Fattah, F. A. M. A. (2016). Consumption values, destination cues and nostalgia on the attitude in the selection of destination for educational tourism: The mediating role of destination image. *International Journal of Tourism Cities, 2*, 257-272.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Thousand Oaks, CA: Sage.
- Satorra, A., & Bentler, P. M. (1994). Correction to test statistics and standard errors in covariance structure analysis. In A. von Eye & C. C. Clogg (Eds.), *Latent variables analysis: Applications for developmental research* (pp. 399-419). Thousand Oaks, CA: Sage.
- Sedikides, C., Cheung, W. Y., Wildschut, T., Hepper, E. G., Baldursson, E., & Pedersen, B. (2018). Nostalgia motivates pursuit of important goals by increasing meaning in life. *European Journal of Social Psychology, 48*, 209-216.
- Sedikides, C., Wildschut, T., & Baden, D. (2004). Nostalgia: Conceptual issues and existential functions. In J. Greenberg, S. L. Koole, & T. A. Pyszczynski (Eds.), *Handbook of experimental existential psychology* (pp. 200-214). New York, NY: Guilford Press.
- Shields, A. B., & Johnson, J. W. (2016). Childhood brand nostalgia: A new conceptualization and scale development. *Journal of Consumer Behaviour, 15*, 359-369.
- Sin, L. Y., Cheung, G. W., & Lee, R. (1999). Methodology in cross-cultural consumer research: A review and critical assessment. *Journal of International Consumer Marketing, 11*, 75-96.
- Stern, B. B. (1992). Historical and personal nostalgia in advertising text: The fin de siècle effect. *Journal of Advertising, 21*(4), 11-22.
- Stryker, S. (1987). Identity theory: Developments and extensions. In K. Yardley & T. Honess (Eds.), *Self and identity: Psychological perspectives* (pp. 89-103). New York, NY: Wiley.
- Suntikul, W. (2017). Nostalgia-motivated Thai domestic tourism at Amphawa, Thailand. *Asia Pacific Journal of Tourism Research, 22*, 1038-1048.
- Tajfel, H. (1981). *Human groups and social categories: Studies in social psychology*. Cambridge, England: Cambridge University Press.
- Turner, R. N., Wildschut, T., & Sedikides, C. (2012). Dropping the weight stigma: Nostalgia improves attitudes toward persons who are overweight. *Journal of Experimental Social Psychology, 48*, 130-137.

- Verma, A., & Rajendran, G. (2017). The effect of historical nostalgia on tourists' destination loyalty intention: An empirical study of the world cultural heritage site—Mahabalipuram, India. *Asia Pacific Journal of Tourism Research*, 22, 977-990.
- Vesey, C., & Dimanche, F. (2003). From Storyville to Bourbon street: Vice, nostalgia and tourism. *Journal of Tourism and Cultural Change*, 1, 54-70.
- Wann, D. L., & Branscombe, N. R. (1993). Sports fans: Measuring degree of identification with their team. *International Journal of Sport Psychology*, 24, 1-17.
- Wilson, J. L. (2005). *Nostalgia: Sanctuary of meaning*. Cranbury, NJ: Bucknell University Press.
- Woosnam, K. M., & Norman, W. C. (2010). Measuring residents' emotional solidarity with tourists: Scale development of Durkheim's theoretical constructs. *Journal of Travel Research*, 49, 365-380.
- Woosnam, K. M., Shafer, C. S., Scott, D., & Timothy, D. J. (2015). Tourists' perceived safety through emotional solidarity with residents in two Mexico–United States border regions. *Tourism Management*, 46, 263-273.
- Yamamura, E. (2017). Identity, nostalgia and happiness among migrants: The case of the Kōshien high school baseball tournament in Japan. *Pacific Economic Review*, 22, 792-813.

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