Determining the Reliability and Validity of the Persian Version of a Sports Nostalgia Questionnaire

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ABSTRACT

Marketers apply a variety of approaches to attract customers and gain more profits. One method is the utilization of nostalgia marketing. The use of nostalgic sport characters has not been sufficiently studied. This research determined the reliability and validity of the questionnaires presented in the studies Evoked Nostalgia by Pascal *et al.* (2002), Familiarity with Nostalgic Character by Meyer (2010), and Nostalgic Proneness by Routledge *et al.* (2008). For this purpose, 310 fans of **Ali Karimi**, a player and the former captain of Iran's national soccer team (nostalgic character), was considered as the sample. To evoke nostalgic sensations in fans, a movie of the personal and professional life of this nostalgic character was developed and validated. The internal reliability of questionnaires was calculated by Cronbach's alpha and composite reliability for three scales of evoked nostalgia, familiarity with nostalgic character, and nostalgia proneness of fans, respectively. The indices of the measurement model indicated that the elements chosen for measuring the nostalgia variable had the necessary validity and could well measure nostalgia. According to these results, it can be stated that the corresponding scales of nostalgia can be used as reliable and valid scales with detection ability in Iranian fans.

KEY WORDS: *Instrument Standardization, Fan, Nostalgic Character, Sport Advertisements*.

INTRODUCTION

In recent years, sports in general and soccer in particular have increasingly attracted the attention of business experts and academics. In radio and television, soccer clubs are described as "big business," sports clubs are called "brands," and their supporters are called "customers" (1). Today, soccer is the most popular sport in the world; it claims the largest number of sportsmen and fans (2). Fan support puts sports clubs in favorable competitive situations, because the constant presence of fans in stadiums enhances the sale of sports and even non-sports products (3). One way to develop a positive attitude in customers through which one can establish positive feelings and emotions is provocation by a stimulator. According to Nicosia's model, organizations try to influence consumers, and consumers, in turn, affect the company by their actions or reactions (4).

For years, marketing has used nostalgia to influence customers and positively affect their behavior in purchasing sports products (5). Holak and Havlena (1998) considered nostalgia as a complex, positive or negative state or emotion developed through feedback about an

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item (objects, people, experiences, memories) related to the past (6). Evoked nostalgia, familiarity with nostalgic items, and nostalgia proneness are regarded as the main elements of nostalgia. The basis of nostalgia marketing is that sports organizations provoke their fans by developing nostalgic stimuli in the form of sports services or products or through advertisements to increase the propensity and willingness of fans to buy goods associated with their favorite item or character (7). Better recognition of the background and consequences of nostalgia can be valuable for sports marketers provided that they are able to foster feelings of nostalgia in customers to achieve their desired results. For example, the athletic apparel of professional sportsmen are usually used in this regard to help fans remember the glorious past of their favorite team (background for nostalgia) and encourage fans to buy those clothes (consequence of nostalgia). In recent years, the significance of nostalgia marketing has driven many researchers to study the importance of nostalgia and its effect on intent to purchase in fans (5, 8-11). Almost every research highlights that, if used effectively, nostalgia can become a valuable marketing tool, since people who have a strong nostalgic feeling most probably direct their consumption and purchasing towards experiencing nostalgia (12). Furthermore, some studies indicate that organizations that apply nostalgia enhance the buying motivation in consumers (13), brand and sports team loyalty and dependence (7, 14), and perceived value of the service or product presented to the customer (15). Another dimension of nostalgia vital for perceiving a nostalgic experience is the extent of familiarity of the person with nostalgic items, characters, or experiences. Although some researchers believe that people find nostalgic feelings even during prenatal periods, the majority have concluded that a person can have nostalgic feelings only during one's lifetime (16, 17).

It is evident that the quality and value of a scientific paper regarding physical training and sports lie in the accuracy of the measurement instrument and low error rates of the methods used in collecting raw information (18). Every measurement instrument is designed to measure a specific variable which is viewed as the target

construct or sometimes the target variable. The better the measurement instrument is able to measure the target construct or variable that has been designed for it, the higher is its validity. The correlation between the real value of the target variable and the score obtained from the measurement instrument is known as the validity of the measurement instrument. The first and most important question that should be posed in every test is whether the instrument measures all intended points. In other words, does it measure what it purports to measure? When the measurement instrument enjoys a high validity, its suitability for measuring the target variable is ensured. Three major properties of validity are usefulness, relevance, and appropriacy. Considering these, one can obtain evidence of the validity of the measurement instrument, and its usefulness and suitability for the mentioned property and eventually the accuracy of the measurement instrument can be highlighted (19). Determining the reliability and validity of such a questionnaire is significant considering the importance of developing standard instruments, the fact that sports nostalgia is a new area in sports management in Iran, and since, most probably, no research has been conducted in this regard.

Marketers resort to many methods to attract customers and enhance production rates so as to gain more profit. One of these approaches is the application of nostalgia. In today's society, sportsmen enjoy high popularity. The use of sportsmen's images can be effective in selling sports products, especially to fans. Around the world, soccer is an entertaining and spectacular group sport, and millions of viewers watch it either directly or indirectly. Similarly in Iran, soccer has become known as the most popular sport. Players, as the main constituent of this sports field, can have a great influence on fans. Those players who have mastered techniques, are loyal to their club and country, and, more importantly, are ethical and perform charitable acts have a greater influence on fans; in essence, they are legends and role models for their fans. Although soccer holds a remarkable status and numerous fans in Iran, the number of soccer fans is constantly decreasing for several reasons, among them being the mismanagement of communication with fans, misrecognition of

needs of viewers, and neglecting supporter's associations (20).

Nostalgia questionnaire is one of the standard instruments prepared for measuring feelings of nostalgia. It includes evoked nostalgia (10), familiarity with nostalgic character (5), and nostalgia proneness (21). To generate nostalgia marketing strategies that cultivate the loyalty of fans as the main customers of soccer clubs, the development of standard instruments for evaluating nostalgic feelings in fans can help sports marketers to implement valid studies. Greater familiarity of customers with nostalgic examples probably provokes more nostalgic feelings in them, thereby increasing the chance of a willingness to purchase. It is also possible that the more prone people are to wanting nostalgic items and issues, the greater the provocation and thus their willingness to purchase will be. Ali Karimi is one of the most popular sports celebrities in Iranian soccer and a member of the Persepolis team. His social networks like Twitter, Facebook, and Instagram show that he has many fans from Iran. Therefore, his fans were chosen as the statistical population of this study. The aims of this research were to determine the validity and reliability of nostalgia questionnaires and to measure nostalgic feelings in Iranian soccer fans.

MATERIALS AND METHODS

This applied research was a correlation study using structural equation modeling (SEM). Confirmatory factor analysis was used to investigate the reliability and validity of nostalgia questionnaires as evaluation instruments because of the existence of constructs based on theoretical basis considering nostalgia, thereby negating the need for exploratory factor analysis.

Subjects. The statistical population of this research consisted of students at Kharazmi University who were also fans of Ali Karimi. All participants took part in this study voluntarily and were chosen randomly. Considering the uncertainty of an accurate number of student fans of Ali Karimi and by considering the attrition level of the questionnaires, 350 questionnaires were distributed and collected. Krejcie and Morgan (1970) proposed a sample size (22) of 350 for a 4000-individual population

(the number of students at Kharazmi University in 2013). Furthermore, for the statistical method of structural equation modeling, the minimum size of the sample should be 5-10 times greater than the number of questions (23). From among the 350 distributed and collected questionnaires, 40 were discarded due to being incomplete, which left 310 to be analyzed. Both library and field methods were used to collect data.

Tools. The questionnaires used were Evoked Nostalgia by Pascal, Sprott, and Muehling (2002), Familiarity with Nostalgic Characters by Meyer (2010), and Nostalgic Proneness by Rutledge *et al.* (2008). The authors' consent was taken before using the questionnaires. To use the questionnaires with the fans of Ali Karimi, first their content and face validity were confirmed by eight sports marketing experts. To determine the construct validity of the measurement instrument, confirmatory factor analysis was employed. Next, all three questionnaires were translated in a three-stage fashion. To measure evoked nostalgia, nostalgic feelings were induced in participants using a movie based on the comments of soccer experts about the sports life of Ali Karimi as the nostalgic character in this research. The movie included parts of his personal life, charitable work, and professional life. To determine the validity of the movie, a movie validity determination questionnaire was developed which included questions about the movie time, movie quality, appropriacy of the movie content, and soundtrack. To determine the reliability of the questionnaires, a preliminary study was conducted on 40 people. The reliability rates of the questionnaires, obtained using Cronbach's alpha, were 0.87, 0.84, and 0.74 for evoked nostalgia, familiarity with nostalgic character, and nostalgia proneness, respectively. To analyze the findings, confirmatory factor analysis using LISREL Software was performed. Following the application of required changes in the Persian version, the evoked nostalgia questionnaire was used with 6 questions on a 9-point Likert scale ranging from absolutely disagree (1) to completely agree (9). Similarly, the questionnaire of degree of familiarity with nostalgic character was employed with 4 questions on a 9-point Likert scale of I absolutely did not know (1) to I knew it

completely (9). Finally, the nostalgia proneness questionnaire was used with 8 questions having a 7-point Likert scale ranging from inconsistent with my personality (1) to absolutely consistent with my personality (7). Participants were requested to complete the questionnaires after watching the movie.

RESULTS
a) Evoked Nostalgia Questionnaire

First, using confirmatory factor analysis and LISREL Software, the items constituting the evoked nostalgia were investigated to determine whether they were valid representatives for measuring evoked nostalgia. According to the findings shown in Table 1, the second and fifth questions had the highest and lowest factor loadings among items constituting evoked nostalgia, respectively.

Table 1. Statistics related to the items constituting evoked nostalgia

Items constituting evoked nostalgia	Factor loading
1. Watching the movie reminded me of the past.	0.76
2. Watching the movie helped me recall sweet and enjoyable memories.	0.82
3. Watching the movie developed a nostalgic feeling in me.	0.73
4. Watching the movie caused me to remember a time section of my past.	0.71
5. Watching the movie caused me to contemplate my teenage years.	0.62
6. Watching the movie was a pleasant reminder of my past.	0.79

According to the fitting indices of the model presented in Table 2, the value of df/2x was 1.51. A value lowers than 3 represent the suitable fitting of the model. The root mean square error of approximation (RMSEA) should be lower than 0.08; in the presented model, it was 0.056. The values of GFI, AGFI, CFI, and NFI should also be larger than 0.9; in the studied model, they were 0.94, 0.92, 0.91, and 0.93, respectively. Moreover, the value of RMR should be lower than 0.05; in the studied model, it was 0.038. Considering the indices and outputs of the evoked nostalgia index measurement model together with its constituent items, one can say that the representatives selected for measuring the evoked nostalgia index enjoyed the necessary validity and could well measure the evoked nostalgia index.

Table 2. Indices of fitting of the evoked nostalgia model

Statistics	Value
Chi-Square	13.61
Df	9
Chi-Square/ Df	1.51
RMSEA	0.056
GFI	0.94
AGFI	0.92
CFI	0.91
NFI	0.93
RMR	0.038

Cronbach's alpha and composite reliability (CR) were employed to measure internal reliability of evoked nostalgia; the values obtained were 0.87and 0.83, respectively. This indicates an internal consistency in the variable of interest; thus, it can be stated that the evoked nostalgia questionnaire in this research enjoyed the necessary reliability.

B) Familiarity with the Nostalgic Character Questionnaire
Using the confirmatory factor analysis technique and LISREL software, the items constituting the degree of familiarity with the nostalgic character were investigated to determine whether they were valid representatives for measuring the degree of

familiarity with the nostalgic character. According to the findings shown in Table 3, the second and fourth questions had the highest and lowest factor loadings among the items constituting the degree of familiarity with the nostalgic character.

Table 3. Statistics related to items constituting the degree of familiarity with the nostalgic character

Items constituting the degree of familiarity with the nostalgic character	Factor loading
1. How familiar were you with the personality of Ali Karimi before watching the movie?	0.68
2. Before watching the movie, how familiar were you with the plays of Ali Karimi?	0.90
3. Before watching the movie, how familiar were you with the sports background of Ali Karimi?	0.88
4. Before watching the movie, how familiar were you with the non-sports background of Ali Karimi?	0.56

According to Table 4, the representatives selected for measuring the variable of degree of familiarity with the nostalgic character possess the necessary validity and can well measure this variable.

Table 4. Fitting indices of the model of degree of familiarity with the nostalgic character

Statistics	Value
Chi-Square	4.15
Df	2
Chi-Square/ Df	2.07
RMSEA	0.064
GFI	0.94
AGFI	0.91
CFI	0.93
NFI	0.94
RMR	0.043

Cronbach's alpha and CR were employed to measure the internal reliability of evoked nostalgia, and the obtained values were 0.84 and 0.80, respectively. Thus it can be stated that the questionnaire of the degree of familiarity with the nostalgic character in this research enjoyed the necessary reliability.

c) Nostalgia Proneness Questionnaire

Using confirmatory factor analysis technique and LISREL software, the items constituting nostalgia proneness were examined to see whether these items are valid representatives for measuring nostalgia proneness.

According to the findings shown in Table 5, the sixth and second questions had the highest and lowest factor loadings among items constituting nostalgia proneness.

Table 5. Statistics related to items constituting nostalgia proneness

Items constituting nostalgia nostalgia	Factor loading
1. It is pleasant for me to think about my past.	0.42
2. I often think about things I have done differently in the past.	0.39
3. In general, good memories are more than bad memories.	0.75
4. I think about good things that I have lost in my life.	0.77
5. Happy and good memories of the good times in my life come quickly to my mind.	0.72
6. In the past, unpleasant events have happened to me that I prefer not to think about.	0.96
7. I have nostalgic feelings towards my childhood.	0.70
8. I think about bad things that have happened to me in the past.	0.83

According to the results shown in Table 6, the representatives selected for measuring the nostalgia proneness variable enjoyed the necessary validity and could well measure this variable.

Table 6. Fitting indices of the nostalgia proneness model

Statistics	Value
Chi-Square	39.08
Df	20
Chi-Square/ Df	1.95
RMSEA	0.56
GFI	0.95
AGFI	0.92
CFI	0.96
NFI	0.97
RMR	0.021

Cronbach's alpha and CR were employed to measure the internal reliability of evoked nostalgia, and the obtained values were 0.74 and 0.71, respectively. Thus, it can be stated that the nostalgia proneness questionnaire possessed the necessary reliability.

DISCUSSION

The existence of a large number of sports enthusiasts and loyal fans who always desire suitable, fast, and varied sports services have caused sports to become known as a popular and lucrative industry (24). In this state, marketers resort to anything they can do to attract customers and enhance their production level so as to gain more profit. One approach is the use of nostalgia. In today's society, athletes enjoy a relatively high popularity and, thus, can influence the behavior of people. Applying the image of a sportsman can be effective in selling sports products among consumers, especially among fans.

This research aimed to determine the reliability and validity of sports nostalgia evaluation instruments for soccer fans. Since the basis of any research is the usage of a valid and reliable instrument and since interpretation of the results depends on the validity of the utilized instrument, researchers should be certain of the instrument's validity.

Instrument validity is one of the important criteria in evaluating quantitative research. It provides a basis for decision-making about the usefulness and applicability of a study's findings (25). Measurement of validity has several types (face, content, audit analysis, and factor analysis). In this research, the construct validity of the instrument was investigated using confirmatory factor analysis. Results indicated the degree to which every statement lies correctly inside a group or factor (26). In confirmatory factor analysis, certain theoretical patterns are compared with each other; it is indeed a useful method for reviewing suitable instruments for doing research (18). The evidence extracted from the confirmatory factor analysis and reliability logically supports the sports nostalgia instrument among Iranian soccer fans. The results suggest that the sports nostalgia instrument is valid and will assist sports management researchers.

The findings revealed that the evoked nostalgia questionnaire enjoys good reliability and internal consistency coefficients, congruent with the results by Pascal, Sprott, and Muehling (2002) and Meyer and Turner (2008) (10, 27). Therefore, this questionnaire is expected to correctly measure the degree of nostalgia provoked in fans. As shown in Table 1, item #2 (watching the movie helped me recall sweet and enjoyable memories) had the highest factor loading (0.82) among items constituting evoked nostalgia. The factor loadings of the other items (0.62-0.79) were also acceptable.

Among the items of the evoked nostalgia questionnaire, item #5 (watching the movie caused me to think about my teenage years) had the lowest factor loading (0.62), possibly because the age of 65% of participants was less than 25 years, and thus their teenage years were not far behind them. The findings of Meyer and Turner (2008) indicated that nostalgic items bring about nostalgic feelings in students, and this provocation has a positive and significant effect on sports consumption motivation in students (27). The items constituting evoked nostalgia were also developed to highlight the provocation of nostalgic feelings. Considering the constantly changing market and the addition of business competitors, organizations along with private and governmental sports companies should try to excel by selecting people and items that provoke nostalgic feelings. Obviously, meeting customer needs is the ultimate goal of any organization, especially sports organizations. Thus, it can be recommended that sports organizations and advertising agencies select an item that is reminiscent of good days for customers and fans of a particular organization. These findings can help marketers gain a better understanding of the variety of nostalgia-evoking items and select items that are familiar to the fans. Fairley (2003) showed that nostalgia was recognized as a key element and major motivator for travelers (28). The nostalgic memories of previous trips were the main reasons for a second trip with the favorite sports team. Fairley (2003) also concluded that provoking nostalgia can result in not only purchase, but also the repetition of purchase (28).

The findings indicated that the questionnaire of familiarity with the nostalgic character had sufficient reliability and validity. This finding was congruent with that of Meyer (2010) (5). As shown in Table 3, item #2 (before watching the movie, how familiar was you with the plays of Ali Karimi?) had the highest factor loading among items constituting nostalgic character. Among the items, #4 (Before watching the movie, how familiar were you with the non-sport background of Ali Karimi?) had the

lowest factor loading of 0.56. This shows that the charitable acts of the nostalgic character were less known by the fans. This is defendable, because the study was conducted in an Islamic country and people who perform charitable acts like to remain anonymous, based on this verse from the Quran: "Know that the God in the Quran considers people who ruin their charity by obligating, harassing, or hypocrisy as unbelievers." (Surah Bagharah, verse 264). The findings of Meyer (2010) revealed a significant relationship between familiarity with the nostalgic character and evoked nostalgia. This means that the more a person is familiar with the nostalgic character, the more nostalgia can be evoked. These findings are important in terms of practicality as they show that fans find nostalgic feelings for items with which they are more familiar (5).

The results indicated that the nostalgia proneness questionnaire enjoys good reliability and validity coefficients, congruent with the findings of Rutledge *et al.* (2008), Meyer (2010), and Lefi and Gharbi (2011) (5, 7, 21). Therefore, this questionnaire is expected to correctly measure the degree of proneness of fans by the nostalgic item. As shown in Table 5, item #6 (In the past, unpleasant events occurred to me that I prefer not to think about at all.) had the highest factor loading of 0.96 among items constituting nostalgia proneness. A study by Lefi and Gharbi (2011) indicated that there is a significant and positive relationship between proneness by nostalgia and brand dependence. This means that the more a fan is influenced by nostalgic items, the more nostalgia is evoked in him. Eventually, this provocation results in the material and spiritual support of fans for sports clubs, advertisement organizations, and sports marketers (5, 7, 21).

According to the findings of this research, the items constituting the evoked nostalgia questionnaires, degree of familiarity with nostalgic character, and nostalgia proneness enjoy the validity necessary for their variable development and can well measure the nostalgic feelings of fans. As the Cronbach's alpha obtained for each of the mentioned

indices was larger than or equal to 0.74, it can be stated that the instrument of this research enjoys the necessary reliability and validity. Therefore, it seems that the corresponding scales of evoked nostalgia, degree of familiarity with a nostalgic character, and nostalgia proneness can be used as reliable and valid scales in Iran, possessing detection abilities. Therefore, it is recommended that researchers, club managers, and sports marketers apply the standardized Iranian questionnaires of evoked nostalgia, degree of familiarity with a nostalgic character, and nostalgia proneness to better understand the behavior of sports consumers, especially soccer fans.

APPLICABLE REMARKS

- It is obvious the quality and value of scientific papers in sport management depends on accuracy of the instruments. This study offered a valid and reliable questionnaire about sport nostalgia.
- This questionnaire can help future sport marketing researchers and practitioners to use valid and reliable data about other nostalgic characters in field of football or other sports.
- The questionnaire of this study can be used for better understanding and predicting sport consumer behavior specially sport fans.

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