

## Segmenting sport fans by eFANgelism

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**Segmenting sport fans by eFANgelism:  
A cluster analysis of South Korean soccer fans**

## Abstract

**Purpose:** The purposes of this study were to classify soccer fans of K-League in South Korea by using the Sport eFANgelism scale and to examine differences among the identified groups.

**Methodology:** Data were collected from 286 K-league fans using a convenience sampling technique. A cluster analysis was conducted to identify different segments, and ANOVA and post-hoc Tukey test were further employed to compare the differences between segments.

**Findings:** A cluster analysis identified three groups of K-League fans according to the levels of their evangelistic behaviors: (1) eFANgelists, (2) stationary fans, and (3) mild supporters. The results of ANOVA and post-hoc Tukey test indicated each group showed significant differences in four types of evangelistic behaviors (i.e., advertise, advocate, assimilate, and antagonize). Generally, eFANgelists had the strongest evangelistic behaviors, whereas stationary fans had the lowest levels of eFANgelistic behaviors. In addition, mild supporters expressed more hostile behaviors towards opponent fans.

**Practical implications:** The findings of this study help marketers of the league and teams develop tailored marketing strategies to each segmented group.

**Research contribution:** This study first applied the concept of eFANgelism to explore the unique characteristics of different sport fans, contributing to a better understanding of sport consumer behavior.

*Keywords:* eFANgelism, fan loyalty, market segmentation, cluster analysis, K-League

The Korean professional soccer league (K-League) was launched in 1983 as the first professional soccer league among East Asian countries and had been considered one of the most well-known and successful professional leagues in Asia. Further, K-League has played a critical role for South Korea in making nine consecutive appearances in the FIFA (The Fédération Internationale de Football Association) World Cup since 1986 (Park & Ok, 2017). Despite the great achievement of its national team, dwindling fan attendance over the past decade has been a great challenge for K-League (Jang & Lee, 2015). It should be noted that K-League has been struggling to attract fans in the last decade (see Figure 1). Although some degree of the decrease may be attributable to external factors (e.g., more exposure to popular football leagues with the most talented football players like Premier League in the United Kingdom and La Liga in Spain) and internal factors (e.g., match-fixing scandals and the lack of star players) (Duerden, 2015), it has been argued that most clubs in the K-League have struggled to build sustainable and robust fan bases (Kim & Kwak, 2015; Won & Kitamura, 2006). The K-League and its associated clubs have relied on more short-term and tactical strategies rather than a systematic marketing plan to develop long-term relationships with their fans based on a full understanding of its K-League fans (Kim et al., 2007). Given the situation, it is extremely critical for the K-League to comprehend its fan loyalty in developing marketing plans and strategies.

[Insert Figure 1]

Understanding sport consumers, especially loyal consumers, is considered the first step to the success of spectator sport organizations (Funk et al., 2016). Thus, sport management researchers have put great efforts into exploring sport fan loyalty in recent decades. Existing research on fan loyalty has commonly acknowledged two dimensions, attitude, and behavior, as the two key components of fan loyalty (Bauer et al., 2008; Dwyer, 2011; Funk & James, 2001;

Mahony et al., 2000). In particular, the attitudinal dimension of fan loyalty refers to a fan's psychological commitment to a team, indicating the resistance of changing the preference to a different professional sport team (Bauer et al., 2008). On the other hand, the behavioral aspect of fan loyalty includes their sport consumption behaviors such as live attendance, media usage, and merchandise purchase (Bauer et al., 2008; Chiu & Won, 2020).

In sport, it should be noted that highly attached fans could express their support and loyalty toward their favorite teams via somewhat extraordinary behaviors more than typical fan behaviors like purchasing tickets and merchandise (Chiu et al., 2019; Dwyer et al., 2015; Funk et al., 2016). According to Dwyer et al. (2015), highly loyal fans could serve as “evangelists” in actively engaging in team-centered interactions and passionately disseminating team-related beliefs to other people. For instance, some loyal fans in the K-League make specially customized jerseys and memorabilia to express their robust identity attached to a certain team or player. Moreover, with the recent advent of social network services (e.g., Facebook), these fans' behaviors have been spreading faster and are more easily noticed (Vale & Fernandes, 2018). These evangelistic behaviors may have significant contributions to professional sport teams beyond just revenue from ticket and merchandise sales. Professional sport leagues and teams should pay more attention and put forth more efforts into understanding their fan profiles based on their fans' evangelistic behaviors, and develop marketing plans and strategies that are tailored to these different fans, which will eventually lead to the success of the leagues and teams.

Accordingly, the primary aims of the current research were to explore segments of sport fans based on their evangelistic behaviors and to examine differences in evangelistic behaviors among the identified groups. This study may have practical implications contributing to not only K-League but also other professional leagues that are struggling with attendance. For example, it

was also found that the spectator attendance of the Taiwanese professional baseball league has been stagnant for recent years (Chang, 2019). As such, the findings of this study may help other professional leagues identify their fans' characteristics and offer directions to develop tailored marketing strategies.

This paper is formulated as follows in order to achieve the research objective. The first discusses the concept of eFANgelism and literature review of market segmentation in sport consumer behavior. Full details of research participants, the survey instrument, and data analysis were provided in methods section. Results are then reported, with a thorough description of the clusters identified. Finally, discussion, practical implications, as well as limitations and future research were addressed.

## **Literature review**

### *Psychological continuum model*

Psychological continuum model (PCM), proposed by Funk and James (2001), is a conceptual framework to describe how sport fans' involvement progressively develops with corresponding behavior. More specifically, an individual forms a connection toward a sport team reflecting four hierarchical stages of involvement: 1) awareness, 2) attraction, 3) attachment, and 4) allegiance (de Groot & Robinson, 2008; Funk & James, 2001). Awareness refers to an individual first learn the existence of a sport object (e.g., a sport team). In the attraction stage, an individual has a favorite sport team, and starts forming a positive attitude. In the attachment stage, the sport team is internalized and takes on personal significance and meaning and becomes integrated into self-concept. Finally, allegiance stage reflects an individual's full attachment to a sport team, forming a more durable collective meaning, which has a greater influence on

behavior (de Groot & Robinson, 2008; Funk & James, 2001). In this study, the PMC serves as the theoretical framework to explore sport fans' evangelistic behavior.

### *eFANgelism*

The term of eFANgelism was originally proposed by Dwyer et al. (2015) and defined as *“fan behavior predicated by one’s relationship with a team brand and activated through the fervent dissemination of team-related beliefs and team-centered interactions”* (p. 646). The concept of eFANgelism originally stemmed from the term brand evangelism, which is defined as *“an act of preaching the brand’s most loved aspects and all positive associations that come with it to people who have so far not acknowledged ‘the wonder of it.’ Consumers who evangelize are passionate about their brand and feel the need to share their emotions with others”* (Matzler, Pichler, & Hemetsberger, 2007, p. 27). Becerra and Badrinarayanan (2013) further insisted that brand evangelism should bring consumers more active interactions with the brand, including more frequent purchases, recommending the brand to others, and negative commenting on opposing brands.

The concept of brand evangelism is grounded in the relationship theory ((Duck & Sants, 1983), conceptualized as an on-going and changing process between two individuals that results in a personally meaningful experience. Fournier (1998) further applied the relationship theory to examine the linkage between consumers and brands. Brands can be humanized in the minds of consumers and treated as active and relational partners (Collins et al., 2015; Fournier & Alvarez, 2012; Reimann et al., 2012). Since consumers often attribute human characteristics to non-human brands, it is reasonable that the interactions between consumers and brands may bring meaningful and reciprocal relationships (Fournier & Alvarez, 2012). Collins et al. (2015) also

defined brand evangelists as a group of consumers who possess professional knowledge of a brand which they love and care about. They also argued that the consumers should have a strong sense of identity and sincerity to the brand.

Compared with general products and service brands, sport team brands possess distinct attributes, such as unpredictability and simultaneity of production and consumption (Mullin et al., 2014). Moreover, each fan can have different experiences and interpretations from the same sport products which result in varying degrees of satisfaction (Mullin et al., 2014). Therefore, the nature of these sport products may contribute to the unique relationships between fans and their teams. As an effort to have better insight into fans' behaviors, Dwyer et al. (2015) proposed that highly impassioned fans behave in different ways to advocate for their favorite teams and disparage other oppositional teams.

Dwyer et al. (2015) introduced and defined four dimensions of eFANgelism (advocate, advertise, antagonize, and assimilate) based on fans' evangelistic behaviors to support their favorite teams. *Advocate* refers to behaviors including "the internalization and the team's superiority to others, including strangers." *Advertise* is defined as behaviors embodying "the publicizing of team affiliation on automobiles, at work, online, or through gifts to others." *Antagonize* refers to "provocative behavior with family members and/or friends who are not fans of one's favorite team." *Assimilate* represents "outgoing group assimilation, including game day behavior related to special get-togethers, communication, and apparel choice."

#### *Market segmentation via eFANgelism*

Market segmentation is an approach widely used to divide heterogenous consumers into homogeneous group(s) which share similar characteristics. This approach allows a business to



serve the identified group(s) efficiently and cost-effectively (Armstrong et al., 2014). In strategic marketing, segmentation is also a relevant tool that helps a business understand its consumers well (Armstrong et al., 2014). Wilkie (1994) suggested three core essentials for successful market segmentation. First, consumers of a segment must be highly identified with similar characteristics, but different from other segments. Second, consumers of a segment behave similarly and, more importantly, respond analogously to a specific marketing strategy. The last element is whether an organization can practically produce a marketing mix reaching each segment.

Meanwhile, the sport marketplace is not equally segmented, and no single profile can describe the sport consumer (Mullin et al., 2014). In the literature of sport consumer behavior, various studies on market segmentation classified sport fans based on different attributes, such as fans' lifetime value to the team or club (McDonald & Milne, 1997), attitudinal and behavioral loyalty (Mahony et al., 2000), brand associations toward the team (Ross, 2007), and motivation (Dwyer et al., 2011). However, these studies attempted to segment sport consumers primarily based on their perceptions of the team or league rather than consumers' apparent and outward behaviors. Sport fans can be active advocators or only passive consumers. In particular, the active sport fans show positive support for their favorite team and express strong hostility toward their rival teams (Havard, 2014; Havard et al., 2018). These behaviors can hardly be explained through the previous sports fan model and approach. Given the research gap in the extant literature, the current study attempted to segment sports spectators by using the eFANGelism scale and to investigate unique characteristics of the identified groups.

## **Method**

### *Survey items*

Based on the review of literature, the current study utilized previously validated scales to measure Korean soccer fans' eFANgelism and satisfaction. All scale items were slightly modified to the targeted Korean soccer fans. In particular, the eFANgelism scale developed by Dwyer et al. (2015) consists of 14 items and 4 sub-dimension, namely *Advertise*, *Advocate*, *Assimilate*, and *Antagonize*. Sample items were is "I display my favorite team's merchandise on my car", "I try to convince others that the my favorite team are superior to all others", "I get together with a special group of friends/family to watch the my favorite team's play", and "I initiate communication with friends/family that are NOT fans of my favorite team after they lose". In addition, fan satisfaction was assessed using the 5-item scale developed by Lee et al. (2000). The example items were "I feel happy after visiting the stadium" and "I think that visiting the stadium is a good experience." All items were answered on a 5-point Likert-type scale from (1) *strongly disagree* to (5) *strongly agree*.

Because this study was conducted in South Korea, a back-translation procedure (Brislin, 1970) was conducted to minimize discrepancies between the original and translated questionnaires. First, two experts initially translated the original items into Korean based on the guideline of Brislin (1970). After comparing and adjusting any discrepancies between these two drafts, a final draft of a Korean version was completed. Second, the other two experts independently back-translated the Korean version into two English versions. The researchers then compared the two back-translated English versions with the original English questionnaire to ensure that the meaning was conceptually equivalent. Finally, the Korean questionnaire was assessed by a panel of four sport management professors (the same as the previous panel members) in Korea to ensure the validity of the questionnaire items.

### *Respondents*

Data were collected using a convenience sampling technique. Specifically, a pencil-and paper-survey was conducted by three survey administrators for spectators who attended K-League games at the Suwon World Cup Stadium in South Korea. A total of 300 respondents were invited to fill out the questionnaire. To maintain the robustness of the study, before filling out the questionnaire, survey administrators explained the research purpose to respondents. After the refinement processes, 14 invalid questionnaires (4.6%) were eliminated due to untrustworthy answers. Eventually, 286 questionnaires were used for further analysis. The demographic statistics of participants are shown in Table 1.

[Insert Table 1]

### *Data Analysis*

First, we conducted a confirmatory factor analysis (CFA) to examine convergent validity and discriminant validity of eFANgelism scale because we already know the structure of eFANgelism(Thompson, 2004). Second, we conducted the two-stage cluster analysis, utilizing hierarchical and non-hierarchical approaches following the procedure recommended by Punj and Stewart (1983). The first step in this clustering process determined the number of clusters within the sample using the hierarchical method. In the second step, a nonhierarchical K-means analysis of the hierarchical clustering results was used to define the cluster group. Third, analysis of variance (ANOVA) and post-hoc Tukey test were used to determine whether or not there were significant differences in any of the eFANgelism dimensions among the clusters. Fourth, a canonical discriminant analysis was used to test the validity of the clustering procedure. Finally, we conducted cross-tab analysis and ANOVA to figure out each group's characteristics. These analyses were performed by SPSS 23.0 for Windows and AMOS software.

## Results

### *Confirmatory factor analysis*

In the procedure of CFA, we used well-known fit indices to examine the measurement model: TLI (Tucker-Lewis fit index), CFI (the comparative fit index), RMSEA (root mean square error of approximation), & SRMR (standardized root mean squared residual). These indices were broadly used and recommended for evaluating structural model by Browne and Cudeck (1992) and Kline (2015). With reference to criteria of these indices, CFA and TLI are equal to or greater than .9 represent an acceptable model fit (Hair et al., 2010). Also, RMSEA and SRMR that are equal to or less than .08 indicate an acceptable fit (Tabachnick & Fidell, 2013).

However, the initial results of CFA revealed an unsatisfied model fit to the data because some fit indices fell out of the suggested values:  $\chi^2 = 208.686$ ,  $df = 70$ , TLI = .871, CFI = .901, RMSEA = .083, SRMR = .083). To overcome this issue, we further screened each item's factor loading. As a result, we found that one item of *Antagonize* (I initiate communication with friends/family that are NOT fans of my favorite team during games) had a low factor loading ( $\lambda=.285$ ). Therefore, this item was dropped out in order to achieve better model fit without comprising the conceptual meaning of the dimension (i.e., *Antagonize*). The deletion of this items yielded an acceptable model fit to the data ( $\chi^2 = 149.281$ ,  $df = 58$ , TLI = .908, CFI = .932, RMSEA = .074, SRMR = .065).

Based on this result, we further calculated composite reliability (CR) and average variance extracted (AVE) to evaluate the convergent validity. As reported in Table 2, the values of CR and AVE for each latent variable exceeded the suggested cutoff of .70 and .50 respectively, supporting the convergent validity (Fornell & Larcker, 1981; Hair et al., 2010). Moreover,

discriminant validity was supported when the square roots of AVE were greater than inter-construct correlation (Fornell & Larcker, 1981). As reported in Table 3, all inter construct correlation coefficients were lower than the square roots of AVE, supporting the discriminant validity (Fornell & Larcker, 1981). Furthermore, we calculated Cronbach's alpha coefficients to test reliability. As a result, all factors had acceptable values (Advertise = .759, Advocate = .749, Assimilate = .675, Antagonize = .845). Finally, Table 3 showed that correlation coefficients among four latent variables were under 0.85, which cutoff criteria of multi-collinearity (Kline, 2015). Therefore, multi-collinearity does not exist in this study. In general, the scale reveal adequate reliability and validity.

[Insert Table 2 and Table 3]

### *Cluster Analysis*

We performed cluster analysis based on factor mean scores to identify groups of Korean soccer fans with factors of eFANgelism. The results showed that a three-cluster solution was the most coherent and interpretable for the sample ( $N = 286$ ). In order to validate the results of the clustering analysis, we conducted the discriminant analysis. Two canonical discriminant functions were used, and they are statistically significant. The canonical correlation for first dimension 1 and 2 were .833 and .591, respectively. When it comes to the eigenvalue, the first eigenvalue of the discriminant function with a value of 2.268 explains the majority of variance in the relationship. Moreover, we used Wilks' lambda to test the discriminant function. As a result, Wilks' lambda of the first discriminant function was close to 0; chi-square statistics were also significant. Lastly, we identified that about 96.9% of the people through the classification matrix used to define the effectiveness of the functions.

[Insert Table 4]

As reported in Table 5 and Figure 2, cluster 1 was labeled *eFANgelists* ( $n = 120$ ), as they scored generally high scores for Advertise ( $M = 3.45$ ,  $SD = 1.00$ ), Advocate ( $M = 4.35$ ,  $SD = .57$ ), Assimilate ( $M = 4.03$ ,  $SD = .76$ ), and Antagonize ( $M = 4.47$ ,  $SD = .55$ ). Moreover, cluster 2 was labeled *Mild supporters* ( $n = 109$ ), as they showed ordinary scores for Advertise ( $M = 3.01$ ,  $SD = .69$ ), Advocate ( $M = 3.69$ ,  $SD = .55$ ), Assimilate ( $M = 3.92$ ,  $SD = .66$ ), and Antagonize ( $M = 2.62$ ,  $SD = .71$ ). Finally, cluster 3 was named *Stationary fans* ( $n = 57$ ) because they showed relatively low scores for Advertise ( $M = 1.93$ ,  $SD = .72$ ), Advocate ( $M = 2.88$ ,  $SD = .77$ ), Assimilate ( $M = 2.47$ ,  $SD = .72$ ), and Antagonize ( $M = 2.54$ ,  $SD = 1.02$ ).

[Insert Table 5 and Figure 2]

Moreover, in order to discern significant differences among the three groups and interpret these groupings, we conducted an analysis of variance (ANOVA) and post-hoc Tukey test for each of the four factors. The results show that the three groups differed significantly ( $p < .001$ ) in their mean scores (see Table 5). Moreover, we employed a crosstab analysis and ANOVA to identify each cluster's attributes, such as demographic characteristics (gender, age, marital status, household income, average spending in the stadium, companion) and satisfaction.

With respect to gender, age, marital status and household income, the three clusters did not show any statistical differences. That is, the three clusters had similar ratios about gender, age, marital status, and household income. However, average spending in the stadium, and the companion were significant attributes to distinguish the three clusters. More specifically, *eFANgelists* tended to spend more money in the stadium, and were more likely to visit the

stadium with supporters as compared to other clusters (i.e., stationary fans and mild supporters). Stationary fans and mild supporters reported lower levels of household income and expense in the stadium. However, stationary fans tended to visit the stadium with their family members, and mild supporters preferred to visit the stadium alone. Finally, eFANGelists reported the highest scores of satisfactions, followed by mild supporters and stationary fans. Details of the cluster profiles are presented in Tables 6 and 7.

[Insert Table 6 and Table 7]

## **Discussion**

After enjoying the short-term efficacious run of K-League owing to the successful hosting of the 2002 Korea/Japan FIFA World Cup, K-League has experienced a consistent decline in the number of spectators (see Figure 1). Several practitioners and scholars (Kim et al., 2007; Won & Kitamura, 2006) have attempted to investigate possible reasons for the decline and revealed that the crisis of the league might have stemmed from various internal and external factors (e.g., match-fixing scandals in the league and the consistent outflow of the most talented players to other leagues). The league and its associated teams have made consistent endeavors to cope with the problem via various promotions and changes. However, all efforts seem to have had a limited effect on the league's revival. Given the situation, it seems more essential for the league to understand fans' psychological characteristics and behaviors, and to prepare a strategic plan and implement customized promotions based on a thorough understanding of its fans. Thus, the primary purpose of this study was to segment K-League fans and identify their characteristics based on the eFANGelism scale. Particularly, eFANGelism was a means used to understand fans' outward behaviors for supporting their favorite teams. This study

is the first segmentation study using the eFANgelism and the findings of this study make significant academic and practical contributions to fan loyalty literature in several ways by extending existing knowledge of sport fans.

First, the results revealed that K-League fans could be divided into three groups: a) eFANgelists, b) stationary fans, and c) mild supporters, based on the concept of eFANgelism. The first cluster, eFANgelists, reported higher scores than other groups for three evangelistic behaviors (advertise, assimilate, and advocate). In other words, the fans in this cluster are the most active and passionate fans in supporting their favorite teams. According to the PCM (Funk & James, 2001), eFANgelists may be at the stage of allegiance as they perform strong supporting behavior toward their favorite teams. These fans should be considered valuable fans for team managers, as they voluntarily advertise teams' superiority and identification spontaneously. Because of this, they could serve as a powerful marketing tool to influence potential fans by their different evangelistic behaviors (Dwyer et al., 2015). EFANgelists share their knowledge and love of their favorite team, as well as a sense of the team's identity, with other fans. We also found that the highly identified fans were, in terms of age, mainly in their 30s and 40s. In particular, the proportion of those in their 40s was little bit higher than other clusters, which also indicates that people who have sufficient income and stable job status are likely to have more potential to become eFANgelists. According to panel survey by performing Korea Professional Sports Association, approximately 45 percent of professional soccer fan in Korea visit the stadium with their family members. This shows that soccer fans in Korea are evenly distributed regardless of age.

The results also found that stationary fans exhibited low levels of the traits of *advertise*, *antagonize*, *assimilate*, and *advocate*. These fans tend to have inactive and passive behavioral



support, even though they are still followers of their favorite teams. Stationary fans may be at the stage of attraction in the PCM as they are less likely to perform supportive behavior toward their favorite teams (Funk & James, 2001). These fans are in the process of attitude formation toward their favorite teams and therefore are less engaged into the supportive behavior (Funk et al., 2016). In addition, it was found that this cluster had the highest proportion of young fans aged 20 to 29. Most of the young Korean soccer fans are students who can be too busy with their own studies and have insufficient money to purchase tickets and souvenirs, to support their favorite teams (Han et al., 2016).

The third cluster, mild supporters, reveals the highest score on *antagonize* among the three groups, and they are more likely to attend games alone as compared with other groups. They are more “aggressive” fans, as they express hostile behaviors toward opponent fans. The finding indicates that they tend to be more obsessive about their favorite team’s performance and victory, and their obsessive attachment toward their own teams turns into hostile behaviors toward opponent teams and fans. Therefore, these fans may have relatively strong attitudinal loyalty to their favorite team (Funk et al., 2016; Funk & James, 2001). However, it must be noted that mild supporters also have a relatively high level of advertise, antagonize, assimilate, and advocate traits. Mild supporters are essential because they have a high potential to become eFANGelists in the near future.

In sum, this study first applied the concept of eFANGelism to explore the characteristics of sport fans, segmenting them into three groups: eFANGelists, stationary fans, and mild supporters. The three-segment classification revealed different characteristics and demographic profiles. According to PCM (Funk & James, 2001), three groups of sport fans indicates different involvement level toward their favorite team. In particular, EFANGelists are at allegiance stage as

they are highly engaged in various forms of behaviors and spend more money in the stadium (see Table 6). Moreover, it seems mild supports' attitude toward a sport team continues to develop, reflecting the attachment stage of PCM. Finally, stationary fans reveal the lowest level of engagement, indicating the low-level of connection to a sport team, and therefore, indicating the attraction stage of PMC. These findings identified that sport fans at different stages in PCM might perform different levels of eFANgelistic behaviors, contributing to a better understanding of sport consumer behavior.

#### *Academic and practical implications*

The findings of this study provide several academic implications by confirming the applicability of eFANgelism, which could provide more academic paths in the literature. First, researchers should identify more distinct characteristics of each segment. For example, a qualitative approach should be able to allow researchers to have better understandings of three segments. Second, researchers should examine different patterns of consumer behaviors of different segments based on eFANgelism, such as sport fan engagement behavior (Yoshida et al., 2014) or sport fan curiosity (Park et al., 2014).

The findings from this study demonstrate three distinct clusters of sport fans, which provide practical implications in the field. The segments identified in this study will enable K-League marketers to better understand their fans and develop customized marketing strategies to existing fans based on the segment. First, eFANgelists were found to be the most enthusiastic and passionate fans in supporting their favorite teams. As such, K-League managers should review their existing promotion programs to make sure that there is a designated program to satisfy highly committed fans like eFANgelists. If there is no well customized one for the highly

committed fans, the managers should prepare a systematic plan to entertain the eFANgelists based on needs of the segment. In creating an effective strategy for the targeted group, complete understanding of this group must be preceded. For example, if the highly committed fans want to have more personalized interactions with their favorite players, the team could attract middle-aged and financially stable individuals to become eFANgelists by providing opportunities the highly attached group to communicate or interact with their star players through offline meetings (e.g., exclusive fan meetings) or online interactions (e.g., active social network service communication or virtual meetings). In addition, marketers should recognize, appreciate, and encourage their evangelistic behaviors through some varieties of psychological or material reward programs. For example, the team can select “fans of the game” or “most valuable fans” and offer prizes or souvenirs to show appreciation for their evangelistic behaviors. In addition, the attached fans could be invited to identify creative events or rewards because the fans may develop their sense of belongings through active participation in their favorite team.

Moreover, this study found that stationary fans are the most inactive and passive behavioral supporters, even though they are still following their favorite teams. Therefore, the marketers in K-League should prepare effective ways to keep those young fans updated about recent news as well as attractive promotions. For example, the marketers can utilize various social network services (e.g., Twitter, Facebook, and Instagram) to promote price discounts for students, because young people receive more information from the social network services than traditional communication tools (Correa et al., 2010).

In addition, the marketers should put more effort to ensure that stationary fans or mild supporters could become eFANgelists. For example, the marketers could provide more opportunities to stationary fans to meet with fans who possess higher levels of eFANgelism

because eFANgelists could help stationary fans move to the higher levels. However, it should be noted that different teams may have different ratios of three types of fans. For example, the team with short history may have more mild supports and stationary fans and therefore, team marketers need to consider different marketing strategies which can build relationship with fans in order to increase their identification. For the team with more eFANgelists, more loyal programs could be launched for evangelistic fans to maintain their actively engagement in team activities.

Finally, it was found that mild supporters tend to be more obsessive about their favorite team's performance and victory, and meanwhile, they are aggressive and hostile toward their opponent teams and fans. Therefore, marketers should think about how they can encourage fans to be more active and outward in support of their favorite teams. For example, marketers can create the rivalries with different team in order to trigger mild supports' sense of obsession with their teams. Doing so may attract their attendance to the rivalry matches and strengthen their attachment to their teams.

### *Limitations and Future Research*

Despite these insightful implications, this study has some limitations. First, the results of this study have a limitation in generalizing sport fans in different countries because this study focused on soccer fans in South Korea. Therefore, future studies need to consider using eFANgelism to explore the characteristics of sport fan across counties to gain more insights of local sport fans' profiles. Second, this study was conducted using a cross-sectional design. Since fans' behaviors may change over time, it is necessary to use longitudinal data to examine the transformation of fans' evangelistic behaviors. Third, future studies should consider using more

variables, such as lifestyle and motivations, to better identify sport fans' characteristics. Last but not least, it should be noted that the COVID-19 pandemic has impacted the professional leagues globally (Parnell et al., 2020). Due to various measures to curb the spread of the coronavirus, sport fans may not be able to attend live games in the stadium. Therefore, sport fans' loyal behavior may be challenging to observe. Therefore, future studies need to consider the influence of the COVID-19 pandemic on sport fans' behavior and explore how to maintain sport fans' evangelistic behavior amidst the COVID-19 pandemic.

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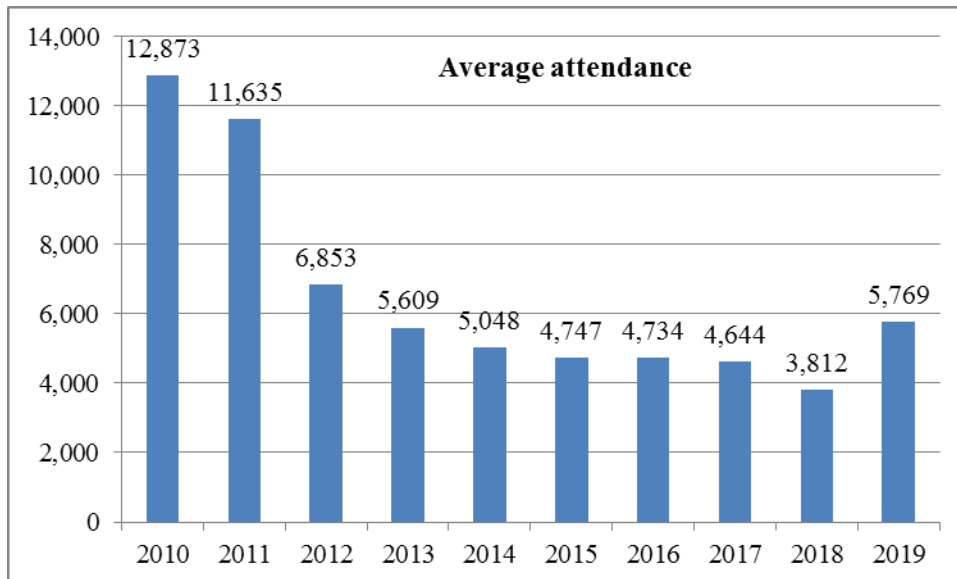
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Figure 1

The average attendance of K-League (2010-2019)



Source: Ministry of Culture Sports and Tourism (2020)

Figure 2

Structure of eFANgelism segments

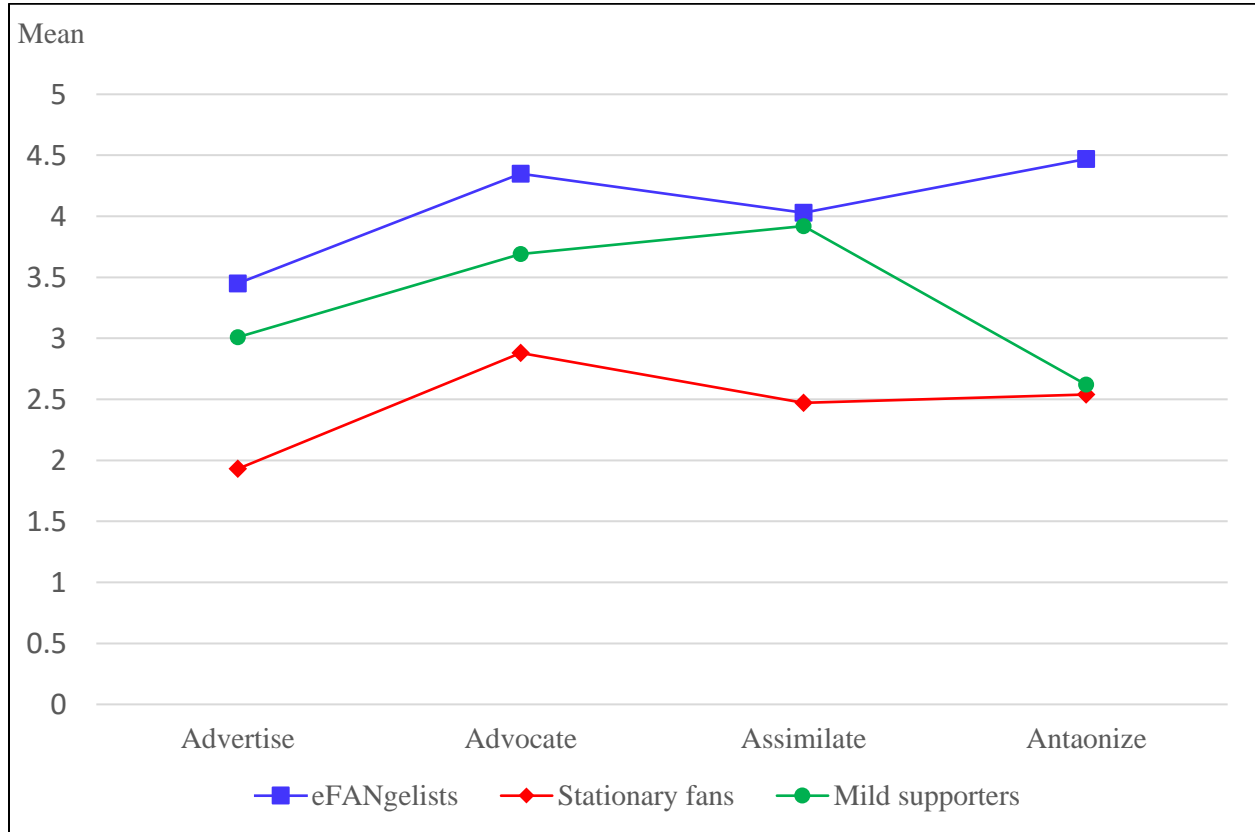


Table 1. Demographic information

Characteristic		Frequency (n)	Percentage (%)
Gender	Male	190	66.4
	Female	96	33.6
Age	10-19 years	47	16.4
	20-29 years	109	38.1
	30-39 years	92	32.2
	40-49 years	29	10.1
	50 years or older	9	3.1
Marital status	Single	201	70.3
	Married	84	29.4
	Missing	1	.3
Household income(won)*	Less than 1000000	79	27.6
	1,000,000 – 3,000,000	126	44.1
	3,000,000 – 5,000,000	49	17.1
	Over 5,000,000	27	9.4
	Missing	5	1.7
Average spending in stadium (Won)*	Less than 10000	39	13.6
	10000 - 30000	161	56.3
	30000 - 50000	48	16.8
	Over 50000	34	11.9
	Missing	4	1.4
Companion	Alone	34	11.9
	Family member	67	23.4
	Friends	126	44.1
	supporters	54	18.9
	missing	5	1.7
Total		286	100.0

\*Note: Won is a monetary unit in South Korea. One USD is approximately 1,200 Won.

Table 2. Confirmatory factor analysis

Item	$\beta$	se
<b>Advertise</b> (CR = .803, AVE =.510)		
I display my favorite team's merchandise on my car	.650	
I display my favorite team's merchandise on my desk at work	.828	.114
I give my favorite team-related gifts for birthday and holidays	.553	.099
I include my favorite team-related information in my online identity	.617	.112
<b>Advocate</b> (CR = .800, AVE =.509)		
I try to convince others that the my favorite team are superior to all others	.763	
I refer to the my favorite team as "we" or "us"	.515	.067
I tell others about the great players on the my favorite team	.820	.083
I engage in conversations with strangers about the my favorite team	.592	.091
<b>Assimilate</b> (CR = .758, AVE =.516)		
I get together with a special group of friends/family to watch the my favorite team's play	.665	
I wear my favorite team's merchandise on game day	.598	.086
I initiate communication with friends/family that are fans of the my favorite team during games	.859	.141
<b>Antagonize</b> (CR = .849, AVE =.741)		
I initiate communication with friends/family that are NOT fans of my favorite team after they lose	.966	
I initiate communication with friends/family that are NOT fans of my favorite team after they win	.758	.071
Chi-square = 149.281, $df=58$ , $p=.000$ , TLI = .908, CFI = .932, RMSEA = .074, SRMR = .065		

Table 3. Correlation analysis

	Advertise	Advocate	Assimilate	Antagonize
1	(.714)			
2	.671	(.713)		
3	.607	.453	(.718)	
4	.436	.690	.364	(.860)

Note: Square root of AVEs are in parentheses

Table 4. Discriminant analysis

Discrimination function	Eigenvalue	Variance (%)	Canonical correlation	Wilks' $\lambda$	$\chi^2$
1	2.268	80.9	.833	.199	454.346***
2	.537	19.1	.591	.651	120.997***

Note: In all, 96.9% of original grouped cases correctly classified.

Table 5. One-way ANOVA results for the four eFANgelism-related factors

	1. eFANgelists ( <i>n</i> =120)	2. Mild supporters ( <i>n</i> = 109)	3. Stationary fans ( <i>n</i> = 57)	<i>F</i>	Tukey test
Advertise	<b>3.45(1.00)</b>	3.01(.69)	<u>1.93(.72)</u>	62.05***	1 > 2 > 3
Advocate	<b>4.35(.57)</b>	3.69(.55)	<u>2.88(.77)</u>	114.07***	1 > 2 > 3
Assimilate	<b>4.03(.76)</b>	3.92(.66)	<u>2.47(.72)</u>	100.56***	1,2 > 3
Antagonize	<b>4.47(.55)</b>	2.62(.71)	<u>2.54(1.02)</u>	230.21***	1 > 2,3

Note: The highest means are bold. The lowest means are underlined.

\*\*\**p*<.001

Table 6. Demographic profiles of the three segments

		eFANgelists	Stationary fans	Mild supporters
Gender	Male	85(70.8%)	33(57.9%)	72(66.1%)
	Female	35(29.2%)	24(42.1%)	37(33.9%)
$\chi^2 = 2.912, df = 2, p = .233$				
Age	10-19 years	22(18.3%)	9(15.8%)	16(14.7%)
	20-29 years	39(32.5%)	26(45.6%)	44(40.4%)
	30-39 years	42(35.0%)	12(24.6%)	36(33.0%)
	40-49 years	14(11.7%)	6(10.5%)	9(8.3%)
	50 years or older	3(2.5%)	2(3.5%)	4(3.6%)
$\chi^2 = 4.754, df = 8, p = .784$				
Marital status	Single	86(72.3%)	40(70.2%)	75(68.8%)
	Married	34(27.7%)	17(29.8%)	34(31.2%)
$\chi^2 = .332, df = 2, p = .847$				
Household income(won)*	Less than 1000000	36(30.0%)	15(27.3%)	28(26.4%)
	1000000 - 3000000	46(38.3%)	30(54.5%)	50(47.2%)
	3000000 - 5000000	23(19.2%)	7(12.7%)	19(17.9%)
	Over 5000000	15(12.5%)	3(5.5%)	9(8.5%)
$\chi^2 = 5.781, df = 6, p = .448$				
Average spending in stadium(Won)*	Less than 10000	16(13.6%)	6(10.7%)	17(15.7%)
	10000 - 30000	56(47.5%)	42(75.0%)	63(58.3%)
	30000 - 50000	23(19.5%)	4(7.1%)	21(19.4%)
	Over 50000	23(19.5%)	4(7.1%)	7(6.5%)
$\chi^2 = 19.100, df = 6, p = .004$				
Companion	Alone	7(5.9%)	6(10.9%)	21(19.4%)
	Family members	25(21.2%)	16(29.1%)	26(24.1%)
	Friends	58(49.2%)	25(45.5%)	43(39.8%)
	supporters	28(23.7%)	8(14.5%)	18(16.7%)
$\chi^2 = 12.918, df = 6, p = .044$				

\*Note: Won is a monetary unit in South Korea. One USD is approximately 1,200 Won.



Table 7. One-way ANOVA results for satisfaction

	eFANgelists (a)	Stationary fans (b)	Mild supporters (c)	F	Tukey test
Satisfaction	4.56(.60)	4.07(.68)	4.28(.71)	11.627***	a>b,c

\*\*\* $p < .001$