THE SPORTS FAN MOTIVATION SCALE: DEVELOPMENT AND TESTING

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The Churchill Paradigm (1979) was used to develop the Sports Fan Motivation scale (SFMS), designed to measure factors motivating students to attend Division I college sporting events. A two-phase research study provided strong evidence that the SFMS consisted of three dimensions: winning, socialization, and history/tradition. Factor analysis and reliability testing revealed a scale structure that closely approximated a priori specification and that exhibited acceptable internal reliability.

INTRODUCTION

On Wisconsin, On Wisconsin
Plunge right through that line,
Run the ball clear down the field, boys
Touchdown sure this time
On Wisconsin, On Wisconsin
Fight on for her fame,
Fight, Fellows, Fight, Fight, Fight
We'll win this game!

For many of us, the words of the fight song of the University of Wisconsin Badgers readily conjure up images of tradition and legacy, of a crisp autumn day and a sea of red-clad fans faithfully cheering their beloved Badgers on to victory and honor. Such songs are a part of the history and tradition, a part of the very fiber of inter-collegiate athletic programs on college and university campuses across the land. That history and tradition is in part responsible for the hundreds of thousands of fans who pay literally millions of dollars to watch their favorite college teams square off against rival teams in a variety of sport venues.

However, history and tradition are not the only force driving fans to rally behind their favorite college teams. The phenomenon of "fair weather fans" and the corresponding positive relationship between a sports team's winning record and fan attendance has been well documented (Bristow and Sebastian 2001; Clancy and Kelly 2001; Baade and Tiehen 1990; Becker and Suls 1983). While exceptions do exist (e.g., the Chicago Cubs), a reasonably accurate guiding principle of sporting events and spectators is this: when a sporting team consistently wins, greater numbers of fans attend games; when the team loses consistently, fewer fans attend. In essence, some fans go to the stadium primarily to see their favorite team win (i.e., Pan, Gabert, McGaugh and Branvold 1997).

While history/tradition and a winning record are important motivators with regard to fan attendance at sporting events, a third important factor exists. Research has shown that for many consumers, sporting events provide an opportunity for socialization and spending time with friends (Spreitzer and Snyder 1975; Melnick 1993). For such fans, perhaps the outcome of the contest, that is, whether or not their team is victorious or vanquished, becomes secondary to the social element of the game. In fact, in a study by Pan, Gabert, McGaugh and Branvold (1997) it was found that for fans less than 40 years of age, social factors were most important in determining season ticket purchases for intercollegiate basketball.

In summary, the literature suggests at least three factors that motivate consumers to attend sporting

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events – history/tradition of the team/organization, the chance to see the favorite team win, and the opportunity to socialize with others. While other factors undoubtedly influence the consumer's decision to attend or not attend a sporting event, the study reported in this manuscript was designed to more closely examine these three factors of fan attendance of sporting events. Specifically, the purpose of the study was to develop and empirically investigate the psychometric properties of a new scale, called the Sports Fan Motivation Scale (SFMS), designed to assess the underlying factors that compel consumers to attend intercollegiate sporting events.

The Study

The research, which was conducted in two phases, was conceived with the primary objective of developing and investigating the internal reliability of a newly developed pencil-and-paper scale based upon the three dimensions of sports fan motivation outlined above. The widely recognized and applied paradigm suggested by Churchill (1979) was followed in the development and testing of the scale. That paradigm includes domain specification and item generation, data collection, measure purification, and the assessment of reliability and validity.

Participants

Participants in the first (pilot) phase of the study were 120 undergraduate students attending a large mid-western state university. Participants in the second (main) phase of the study were 118 undergraduate students enrolled in introductory marketing courses at the same school. All participants in both the pilot and main phases of the study indicated that they had attended at least one Division I intercollegiate hockey game at the university at which the study was conducted.

Procedure

The domain of the sports fan motivation construct was defined as including, but not being limited to, three dimensions: history/tradition, seeing the team win, and socialization. In order to generate an initial pool of item statements to be included in the SFMS, consumer behavior and/or sports marketing academicians were consulted and their suggestions were reviewed. Based upon those suggestions, a pool of twelve statements (four items to assess each of the three dimensions of the SFMS) was generated. Each of the twelve items was reviewed by several academicians for content validity, clarity, and redundancy.

After the re-wording of several statements as a result of that review, the twelve statements were written into a six-point Likert format with response categories ranging from (1) strongly disagree to (6) strongly agree. To further examine the items for potential problems in wording, phrasing, or clarity, the statements were presented to six undergraduate students who were asked to read the statements and indicate any related problems. The students indicated no difficulty in understanding or interpreting the statements. The twelve-item SFM scale, along with one demographic question, was administered to 120 undergraduate students involved in phase one (pilot) of the study.

Phase One of the Study – Data Analysis

A common factors procedure with a varimax rotation was used to check the *a priori* component structure of the SFMS. As suggested by Hair, Anderson, Tatham, and Black (1992) *a priori* theory is a primary means of extracting meaningful factors from an overall model. The underlying theory of the SFMS suggests three fundamental dimensions: tradition/history, watching the team win, and socialization. Accordingly, it was predicted that those three distinct dimensions of sports fan motivation would emerge from the data analysis.

The results of a common factors procedure with no n specified indicated the scale items were loading upon three distinct factors which closely approximated the *a priori* dimensions specified in the SFMS. However, an examination of item cross-loadings on two or more factors indicated that two of the scale items were possibly tapping into two or more constructs. As suggested by Churchill (1979), the

authors subsequently engaged in further refinement of scale items. The refinement process was initiated in the second phase of the study.

Phase Two of the Study – Data Analysis

Based on the results of the statistical analyses conducted in the first phase of the study, all twelve items in the SFMS were reviewed by four consumer behavior/sports marketing researchers. Specific emphasis was placed on an examination of the two scale items that cross-loaded in phase one of the study. The reviewers closely evaluated those items for redundancy, overlap, face validity, and understandability and modified the wording of both items. As in phase one of the study, all twelve SFMS items were written into a six-point Likert scale format, with response categories ranging from (1) strongly disagree to (6) strongly agree. The revised SFMS, along with one demographic question, was administered to the participants involved in phase two of the study. Table 1 presents the final twelve SFMS scale items.

Participants

Participants in the second phase of the study were 118 undergraduate students enrolled in introductory marketing courses at a large Midwestern state university. Of these participants, 50 were female and 67 were male (one participant opted not to indicate their gender on the assessment instrument).

Results of Phase Two of the Study

As suggested by Churchill, Ford, and Walker (1974), the internal consistency of the items included in the Sports Fan Motivation Scale was first evaluated. The resultant coefficient alpha of .838 indicated that the sample of scale items performed adequately in capturing a single construct (Churchill 1979). As a subsequent step in the analysis of the reliability of the SFMS, as suggested by Churchill (1979), the authors examined the scale for items with relatively low correlations with the total score. More specifically, the authors determined that any scale items with an item-to-total correlation of .25 would be eliminated from further scale analyses. This procedure revealed no such low item-to-total correlations and no scale items were eliminated.

As a second phase in the analysis of the consumer needs scale, common factor analysis was used to check the *a priori* specification of the component structure of the scale. The authors expected that three fundamental dimensions of sports fan motivation would emerge as a result of the factor analysis. A common factors procedure with a varimax rotation and no *n*-factor specified was used to further examine the structure of the scale. This procedure resulted in the extraction of three meaningful factors, which were labeled as tradition/history, winning, and socialization. The structure of the factors closely matched the factors specified *a priori* in the Sports Fan Motivation Scale.

The items in each factor were also examined for the significance level of the correlation between the original variable and its factor as well as for the possibility of cross-loadings on two or more factors. As outlined by Hair, Anderson, Tatham, and Black (1992, p. 239), the definition of a significant correlation is dependent upon the sample size. More specifically, the authors stated that if the sample contains between 50 and 100 respondents, factor loadings of +.30 are considered significant. Accordingly, to be retained, a scale item must have a loading of at least .30 on some factor. Scale reliability analyses revealed that all twelve items met this criterion.

Churchill et al. (1974) also suggested that items that loaded heavily on more than one factor should be eliminated from further scale development. One scale item (item #2 in Table 1) from the "winning" factor also cross loaded on the "social" factor, with a cross-loading differential of .215. Such a cross-loading suggests that this item may be incapable of differentiating between the two factors involved. Should this problem involving item #2 persist in future applications of the scale, researchers may want to consider deleting this item, possibly replacing it with another with a higher chance of loading only on the "winning" factor. However, due to the

TABLE 1
Sports Fan Motivation (SFM) Scale Items

SFM Scale Items
1. When I go to a *----- ** ----game, it matters to me that the *----- win the game.
2. I'm happier when I leave the *----- stadium if the *----- win that game.
3. An important thing about a *----- ** ----- game is that the *----- win the game.
4. A major reason why I attend *----- ** ----- games is to see the *----- win.
5. Being with people I like is an important reason why I go to *----- games.
6. One of the best parts of going to a *----- game is to relax and enjoy the people I'm with.
7. For me, going to a *----- game is a good chance to spend time with family or friends.
8. Having fun with my friends or family is a major reason I go to *----- games.
9. Being part of the tradition of the game of hockey is an important reason why I go to *----- games.
10. Attending a *----- game gives me a sense of ** ----- tradition and history.
11. I go to *----- games because I like the game of college ** -----.
12. I go to *----- games to see ** ----- played at the Division I level.

* The appropriate team name would complete these blanks in the SFM Scale.
** The appropriate sport would complete these blanks in the SFM Scale

exploratory nature of this work and to the fact that removal of the item would detract from the overall internal reliability of the scale (.818 versus .838), the authors of this manuscript elected to retain the item and to examine the behavior of the item in future scale development work. Table 2 shows the final scale structure and factor loadings after factor analysis based on data collected during phase two of the study. The three factor solution accounted for 72.77% of the variance. More specifically, the "winning" factor accounted for 37.64% of the variance, while the "social" and "history/tradition" factors accounted for 22.76% and 12.37% of the variance, respectively.

As recommended by Churchill (1979), the internal consistency of the SFMS was further examined by calculating coefficient alphas for each factor of the scale. The "winning" factor had Cronbach alpha of .884; the "social" factor .917; and the "history/tradition" factor .766. Correlations among the factors ranged from r = .121 to r = .433 and all were significant at .05 level except for the social and tradition factors.

Discussion

A primary objective of the study was to empirically investigate the underlying properties of the proposed Sports Fan Motivation Scale (SFMS). The results indicated that the SFMS consists of three factors or dimensions – history/tradition, winning, and social – which paralleled the *a priori* specified structure of the scale. In addition, the scale exhibited relatively high (.838) internal reliability.

The SFM Scale has a variety of uses in collegiate sports marketing. The scale could be used initially by collegiate sports marketers as a segmentation tool to better understand the motivations of their particular fan base. Much like commercial manufacturers and service firms, college sports programs can operate from any of several basic orientations. The production oriented collegiate sports program views its responsibility as limited to fielding a team, perhaps even as good a team as the school is capable of fielding. The sales oriented marketer views his or her responsibility as selling tickets to sports events, to wit, to "fill the seats." On the other hand, the marketing oriented program views its responsibility

TABLE 2
Psychometric Evaluation of Sports Fan Motivation Scale

Scale Item Number	Winning Factor Loading	Social Factor Loading	Tradition Factor Loading	Scale Item Mean	Scale Item Std. Dev.	Item-to-Total Correlation	Alpha if Item Deleted
1.	.859	----	----	4.35	1.15	.515	.801
2.	.629	.414	----	4.75	1.20	.601	.818
3.	.913	----	----	3.97	1.40	.535	.800
4.	.864	----	----	3.81	1.28	.591	.794
5.	----	.800	----	4.59	1.17	.376	.814
6.	----	.880	----	4.47	1.14	.417	.810
7.	----	.909	----	4.57	1.13	.580	.796
8.	----	.904	----	4.47	1.14	.512	.802
9.	----	----	.770	3.27	1.28	.560	.793
10.	----	----	.741	3.38	1.34	.550	.798
11.	----	----	.761	4.19	1.23	.420	.810
12.	----	----	.702	3.93	1.46	.290	.826
Variance Explained = 72.77%						**Overall Cronbach Alpha = .838**	

toward fans as determining their needs and, once determined, responding to those needs. One way to uncover customers' needs is to identify the underlying segmentation in a market, acknowledging that needs will likely vary across segments. A school with a fan base that is, say, predominantly history/tradition based is dealing with a very different segment than one whose fan base is, alternatively, primarily social. These two respective groups are looking for a different bundle of benefits when they decide to attend an athletic event at the school. Improving one's basic understanding of what motivates customers is as useful for those marketing college sports teams as for those marketing, for example, personal computers and airline tickets.

The findings of the study also suggest that sports marketing practitioners might use the SFMS to make informed, statistically based promotional decisions. The SFMS could be used by sports marketers to determine appropriate and effective source and message dimensions of advertisements targeting specific market segments. Marketing managers might use the scale to develop effective creative and message strategies and to refine specific advertising appeals. For example, many colleges and universities now feature women's sports programs and are finding, in many cases, relatively weak fan support for those teams. Perhaps university media relations personnel could use the SFMS to identify that which motivates the various segments of the college sports fan market and to subsequently develop appropriate promotional strategies. For the fan segment that goes to hockey games to watch their favorite team win, promotional activities featuring the competitive nature of the team or the excitement of a bright and promising future for the team might be appropriate. Promotions targeting that segment of the fan base that

is motivated by the social aspect of attending sporting events might tout the activities such as tailgate parties and other group oriented events held before, during and after the games. And finally, for those fans motivated by the history/tradition of the game, in a case where the team is relatively new and little tradition exists, promotions might emphasize the tradition of the college or university itself, of other more established sports teams at the university, or development of a new, growing, and exciting tradition in and of itself.

The findings reported herein also provide the impetus for a variety of future research. First, as noted earlier, one item on the scale cross-loaded on both the "winning" and "social" factors. Accordingly, further work is needed to investigate the performance of that scale item in other applications of the instrument. In addition, the study was conducted at a single university and asked fans to respond to items pertaining only to Division I college hockey. In the future, researchers are encouraged to extend this research and investigate the applicability of the SFMS to a variety of sports at all levels of collegiate athletics. It may be that, with minor modification, the SFMS could be used by virtually any college or university to develop promotional strategies to maintain or enhance fan support and attendance for virtually any sport.

Yet another avenue for further research on the SFMS involves application of the scale to professional sporting venues. In most of the major professional sports in this country, there exist teams that routinely and repeatedly draw capacity crowds (e.g., Major League Baseball's Chicago Cubs and New York Yankees) and other teams that struggle to get fans to the game (e.g., Major League Baseball's Montreal Expos and Florida Marlins). For those professional sports teams with a weak or eroding fan base, the SFMS could possibly help marketing managers determine how to increase fan attendance by uncovering what segments are currently not strongly represented at the stadium. Similarly, a recently installed new franchise with a comparably new and unestablished fan base might use the SFMS to grow its support among fans in the local market, initially recognizing that the fan base for a new franchise may exhibit quite a different segmentation composition than would be true for an older, more established organization. Finally, the SFMS could even be helpful for an established organization seeking to build or maintain an already healthy fan base. Overall, the testing of the SFMS with fans of professional sports teams across the country and across a variety of sports is an important avenue for future research.

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