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SPORTS SPECTATOR BEHAVIOR FOR COLLEGIATE WOMEN'S BASKETBALL

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ABSTRACT

The purpose of this study was to examine the relationships between the Desire to attend collegiate women's basketball (DES) and three aspects of attending collegiate women's basketball games. The participants were spectators of a National Collegiate Athletic Association (NCAA) Division I women's basketball game ranging in age from 18 to 70 (N = 312). The Modified Sports Consumers Questionnaire (Milne & McDonald, 1999) was administered during a basketball game. After exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), three factors (Habit, Attitude, and Satisfaction) with 19 items were retained for Sports Spectator Behavior (SSB). Structural equation modeling was used to analyze the relationships among DES and three SSB factors. The findings revealed that the DES was positively related to the Habit of affiliating themselves with sports (HAB) and the Attitude toward watching sports (ATT), but negatively related to the Satisfaction of watching sports (SAT). The three main predictors of SSB account for 85% of the variance of DES.

Spectator behavior is always a major concern of sports organizers. An understanding of sports spectator behavior allows sports managers to promote programs effectively. Numerous researchers have tried to assess sports spectator behavior in specific sports settings such as the Women's National Basketball Association and the National Basketball Association (Williamson, Zhang, Pease, & Gaa, 2003; Zhang, Connaughton, & Vaughn, 2004; Zhang & Pease, 2001; Zhang, Pease, Hui, & Michaud, 1995; Zhang et al., 2003; Zhang, Piatt, Ostroff, & Wright 2005; Zhang & Smith, 1997; Zhang, Wall, & Smith, 2000), the Japanese Professional Soccer League (Mahony, Nakazawa, Funk, James, & Gladden, 2002), collegiate football (Kahle, Kambara, & Rose, 1996; Swanson, Gwinner, Larson, & Janda, 2003), professional sports (Roy & Graeff 2003), and men's and/or women's collegiate basketball (Fink, Trail, & Anderson 2002; Trail, Anderson, & Fink, 2002, 2005; Trail, Fink, & Anderson, 2003). Collegiate women's basketball, meanwhile, has always been overlooked. With the continual increase in number of spectators attending collegiate women's basketball games, the investigation of sports spectator behavior for collegiate women's basketball becomes necessary. This study aims to examine the relationships between the Desire to attend

collegiate women's basketball (DES) and three aspects of Sports Spectator Behavior (SSB): (a) Habit of affiliating themselves with sports (HAB), (b) Attitude toward watching sports (ATT), and (c) Satisfaction of watching sports (SAT). As an exploratory study, the present study should allow sports-related personnel to have a better understanding of spectator behavior for collegiate women's basketball.

Since the passage of Title IX of the Education Amendment of 1972, female sports participation has increased. (Carpenter & Acosta, 2006; Coakley, 2003; Mahony & Pastore, 1998; Mak, 2006). The number of female high school athletes has increased from 7.4% (n = 294,015) to 41.5% (n = 2,784,154) between 1971-72 to 2000-01, and female college athletes have increased from 15.0% (n = 29,972) to 42.0% (n = 150,916) in the same 30 year period (Mak, 2006; National Collegiate Athletic Association, 2002; National Federation of State High School Associations, 2001). Accordingly, the numbers of spectators at women's professional and amateur sports events have been increasing steadily (Coakley, 2003; Funk, Mahony, & Ridinger, 2002; Lough, 1996). Particularly, the number of spectators in women's basketball continues to increase at both collegiate and professional levels (Fink et al., 2002).

Researches have shown that differences exist between fans of men's basketball teams and fans of women's basketball teams (Fink et al., 2002; Kahle, Duncan, Dalaka, & Aiken, 2001). Fink et al. (2002) found that: (a) spectators in women's games exhibited greater influence by promotions, family, friends, and ticket pricing than spectators in male's games; (b) spectators in male's games reported stronger sentiment regarding team media and team merchandise; and (c) spectators in women's games were more loyal than spectators in male's games.

Fink et al. (2002) admitted that "little marketing research is done within intercollegiate athletic programs; as a result, those programs are unable to effectively segment current and potential markets. Often, women's teams are "marketed" in the same manner as men's teams – if at all" (p. 9). Brennan (2001) acknowledged that "I think women's team sports in particular have uncovered what I call an emerging fan" (p. 3C). So, it is critical for sports marketers to identify the factors affecting attendance at women's basketball games. More research on sports spectator behavior for collegiate women's basketball needs to be conducted in order to close this gap.

METHODOLOGY

Participants

Participants (N = 312) for the current study included males (n = 132) and females (n = 173). Seven participants did not report their gender. The participants were spectators at a collegiate women's basketball game from a National Collegiate Athletic Association (NCAA) Division I institution in the mid-Atlantic region.

Measuring Instruments and Procedures

A modified version of the spectator typology for sports spectator behavior (Milne & McDonald, 1999) was used to measure the domain of motivational constructs applicable to

sports spectatorship. Spectators aged 18 and above were asked to complete the questionnaire before or during the half–time break of an NCAA Division I women's basketball game. Questionnaires were distributed at all the entrances and in each section of the arena.

Statistical Analyses

An analysis of frequency distribution was used to describe the demographic information of the participants. The Cronbach Alpha Coefficient was used to test the reliability and internal consistency of the questionnaire. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were utilized to analyze the factorial validity of the factors on the instrument. Structural equation modeling (SEM) analysis was used to assess the proposed structural model as shown in Figure 1.

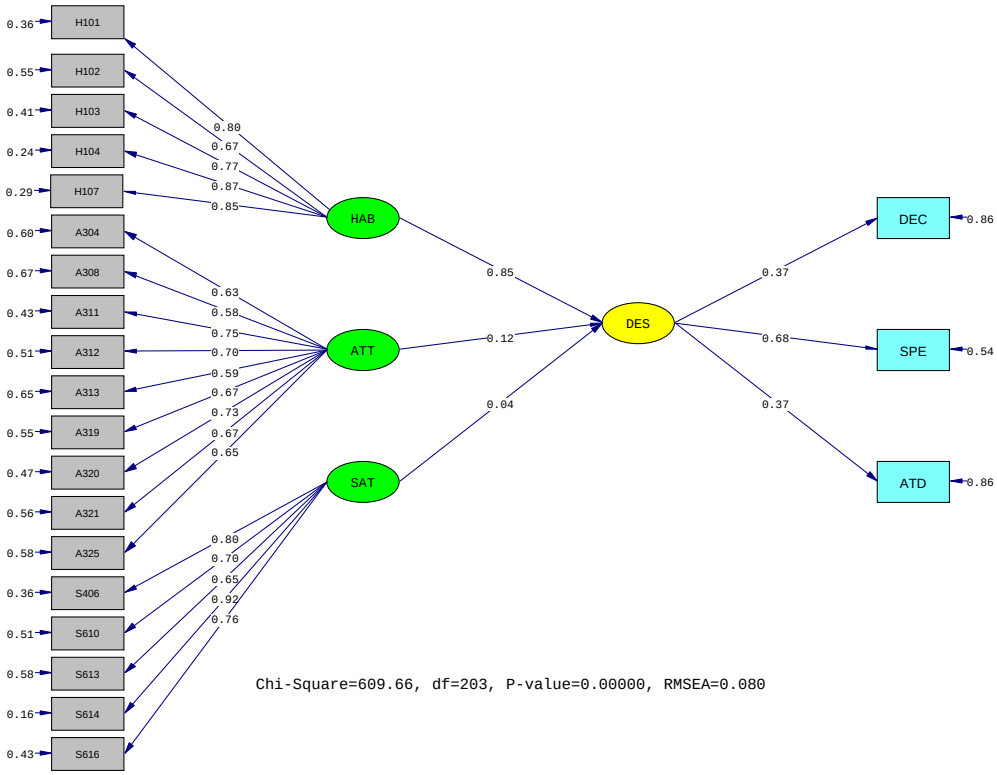

Figure 1. Proposed Structural Model.

The Bollen and Long (1993) five-step procedure (model specification, identification, estimation, testing goodness-of-fit statistics, and respecification) was used in the SEM analysis. The latent variable of DES was considered as an exogenous variable. The subscales of SSB including Habit, Attitude, and Satisfaction were the endogenous variables when testing the proposed structural model. The PRELIS 2.30 and LISREL 8.30 programs were utilized. The PRELIS 2.30 program was used to test for multivariate normality, and to obtain the variance/covariance matrix. The assessment of model fit was based on the results of the

root-mean-square error of approximation (RMSEA), the comparative fit index (CFI), the standardized root mean square residual (SRMR), and the Chi-square ratio. The RMSEA is an absolute noncentrality based fit index to assess how well the model approximates the data by determining the lack of fit of the model to the population covariance matrix, expressed as the discrepancy per degree of freedom. An RMSEA value of .05 or less generally indicates a close fit, a value up to .08 indicates a fair fit, while a value over .10 indicates an unacceptable fit (Browne & Cudeck, 1993). CFI had a range of zero to 1. A CFI cutoff value close to .95 or higher indicates a close fit, and values up to .90 indicates a reasonable fit (Hu & Bentler, 1999). The SRMR is the average difference between the sample variances and co-variances. Similarly, the SRMR has a range of zero to 1.00. Good-fitting models have a small SRMR. A value of .05 or less is desired and a value up to .08 indicates a reasonable fit (Hu & Bentler, 1999). Hatcher (1994) suggested that a ratio of less than 2.00 would be desirable for the ratio of Chi-square to the degree of freedom. A value close to 1 indicates a good fit and values between 2 to 5 indicate an acceptable fit (Jöreskog, 1969).

RESULTS

A total of 312 usable responses—which consisted of 132 males and 173 females, with the majority of Caucasian (89.3%) and with age range from 18 to 70—were collected from a Mid-Atlantic university. After EFA and CFA, three factors (HAB, ATT and SAT) with 19 items were retained in the SSB. The means of the 19 endogenous variables ranged from 2.71 to 4.40 with standard deviations ranged from .82 to 1.29 (see Table 1).

Various fit statistics were tested to provide information on the data model fit. The overall fit of the proposed structural model appeared to be poor (see Table 2). The goodness-of-fit index CFI did not reach the cut-off point of .90. Moreover, the RMSEA value was .080, which represented only a fair fit. The χ^2/df ratio was 3.00, which was higher than the desirable level of 2.00. The SRMR was .067, which indicated a reasonable fit (see Table 2). Therefore, the proposed structural model was rejected. According to Jöreskog and Sörbom (1996), improvement in fit is measured by a reduction in χ^2, which is expected to equal the modification index. After considering the results of the modification index, the decision was made to eliminate H101, H103, A311, A312, A313, A321, and S614 from the proposed structural model to form the alternative structural model (see Figure 2). The components and the overall fit of the alternative structural model are listed in Table 2. The alternative structural model RMSEA was .057, SRMR was .055 and CFI was .95. The minimum fit function Chi-square value was 170.10 ($df = 84$, $p < .00$). The Chi-square ratio was 2.03. The alternative structural model is considered to be a good fit. The SSB contained 12 items in the SSB with the Cronbach's alpha coefficient of each construct ranged from .71 to .76 and with an overall alpha coefficient of .81, indicating that the instrument was internally consistent and reliable.

Table 1. Descriptive Information of 19 Observed Variables

Questions	Variables Code	Mean[1]	SD
Habit of affiliating themselves with Sports			
Watch sports events on television	H101	4.238	0.8186
Listen to sports on the radio	H102	3.049	1.2934
Read the sports pages of the newspaper	H103	4.277	1.1315
Watch or listen to sports news on television or radio	H104	4.396	0.9312
Talk about sports with your friends	H107	4.233	0.9509
Attitude toward watching sports			
Watching my favorite sports helps me develop a competitive ethic	A304	3.651	1.0410
Watching my favorite sports with group leads to improved social relationships	A308	3.852	0.9324
Enjoyment is enhanced by knowing the high degree of skill required to attain positive results	A311	4.095	0.8753
Enjoy watching highly skilled player perform	A312	4.337	0.8742
Enjoy watching because it is a difficult sport to master	A313	3.536	1.1671
Camaraderie among the people I watch with	A319	3.921	0.9003
Sports can be beautiful to watch	A320	4.112	0.9076
Enjoy watching the artistry	A321	4.059	0.8467
Watching has helped teach me the value of hard work and dedication	A325	4.060	0.9264
Satisfaction of watching sports			
Help me to reach my potential as an individual	S406	2.850	1.1373
Improved fitness /health	S610	3.495	1.1611
Enjoyment of risk-taking	S613	2.709	1.1635
Help me grow as a person	S614	3.102	1.1716
Sense of personal pride	S616	3.576	1.1120

[1]Mean scores were based on a 6-point Likert scale with the following options: "6" -- strongly agree; "5" – agree; "4" – slightly agree; "3" – slightly disagree; "2" – disagree; and "1" – strongly disagree.

Table 2. Goodness-of-Fit Indices of Structural Model

Model	χ^2	*df*	χ^2/df	*RMSEA*	*SRMR*	*CFI*	*ECVI*
Proposed Structural Model (19 items)	609.66	203	3.00	.080	.067	.87	2.28
Alterative Structural Model (12 items)	170.10	84	2.03	.057	.055	.95	.78

Note. RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; CFI = Comparative Fit Index; ECVI = Expected Cross-validation Index.

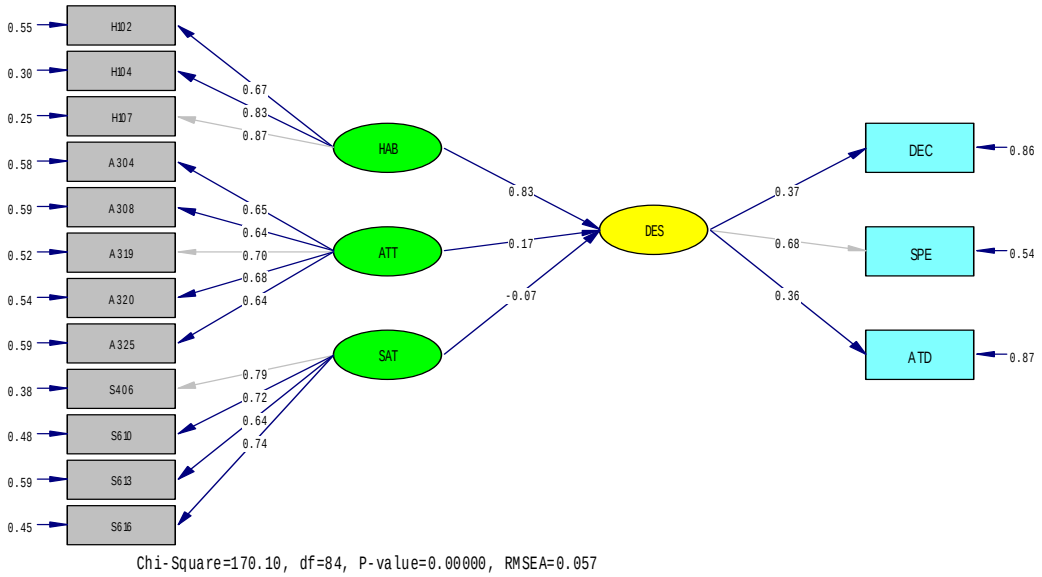

Figure 2. Alternative Structural Model.

The Desire to attend collegiate women's basketball games (DES) was positively related to the Habit of affiliating themselves with sports (HAB) and the Attitude toward watching sports (ATT), but negatively related to the Satisfaction of watching sports (SAT). Therefore, the more the participants affiliate themselves with sports and the more positive their attitude toward watching sports, the higher the desire to watch collegiate women's basketball games. The direct effect from HAB to DES (γ = .83) was significantly (p < .05) different from zero. The direct effect from ATT to DES (γ = .17) and SAT to DES (γ = -.07) were not significantly (p > .05) different from zero. The Lambda X values of the SSB indicators represented a high degree of validity with the range from .64 to .87. The strongest indicator for HAB is H107 (Λ = .87) (i.e. talk about sports with your friends). The strongest indicator for ATT is A319 (Λ = .70) (i.e. camaraderie among the people I watch my favorite sports with). The strongest indicator for SAT is S406 (Λ = .79) (i.e. helps me to reach my potential as an individual). The strongest predictor of DES is HAB (γ = .83), followed by ATT (γ = .17) and SAT (γ = -.07). In combination, the three predictors accounted for 85% of the variance of DES. The results supported that the SSB can be directly applied in predicting the desire to attend collegiate women's basketball games.

The Lambda Y values of the DES indicators ranged from .36 to .68. The strongest indicator is SPE (γ = .68) (i.e. interested in sports as a spectator), followed by DEC (γ = .37) (i.e. when to make decision to attend the collegiate women's basketball game) and ATD (γ = .36) (i.e. number of games attended in the past two years). The direct effects of SPE, DEC, and ATD were significantly (p < .05) different from zero. In the alternative model, SPE, DEC, and ATD exhibited positive relationships with DES.

CONCLUSION AND DISCUSSION

In the present study, the researchers found that the more the spectators affiliate themselves with sports, and the more positive their attitude toward watching sports, the higher the desire for the spectators to watch collegiate women's basketball games. In contrast, the higher the level of satisfaction of watching sports the spectators have, the lower the desire for the spectators to watch collegiate women's basketball games.

Regarding the Habit of the spectators to affiliate themselves with sports (HAB), talking about sports with friends and watching or listening to sports news on television or radio are the two key influencing factors. Whether sports spectators plan to attend collegiate women's basketball games or not, the decisions are mainly based on their habit of affiliating themselves with sports. In relation to the Attitude toward watching sports (ATT), the spectators perceived watching sports can help them to develop a competitive ethic and improve social relationships. Spectators value hard work, dedication, and beauty when they watch sports. The Satisfaction from watching sports (SAT) includes a sense of personal pride and an enjoyment of risk-taking. Spectators also perceived that watching sports could help them to reach their potential and improve their health and fitness.

The belief that watching sports enhances fitness and health levels is more of an illusion than a truth. Indeed, sports events provide a platform for sports spectators' dreams: sports allow spectators to be affiliated with and to observe risk-taking in an almost a risk-free environment. The assistance of sports marketers is suggested when planning for events, to ensure the collegiate women's basketball games can provide an effective platform to satisfy the sports spectators.

The researchers found that the factors influence individual to attend collegiate women's basketball games includes enjoyment of spectatorship, timeframe in deciding whether to attend a game, and past spectator experiences. In order to effectively market collegiate women's basketball games, sports marketers are encouraged to promote games to individuals who enjoy spectatorship, make an extra effort to retain past attendants, and focus the promotion to within less than a week before the game.

Further investigation of the relationship on sports spectator behavior for collegiate women's basketball and other women's collegiate sports should be conducted by recruiting participants from more than one institution. More participants recruited from different periods over the season should also be included in future studies.

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