Impact of Broadcasting on the Attendance of Professional Basketball Games

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ABSTRACT
This study was designed to examine the influence of TV and radio broadcasting on the attendance of NBA games from four perspectives: (a) choosing between attending a home game and watching the game on TV, (b) watching away games on TV, (c) using cable TV sport channels, and (d) listening to games on radio. A random sample of spectators ($N = 861$) from six second half 1993-1994 season home games of a major Western Conference NBA team responded to a survey conducted in the arena prior to each game. Chi-square, t-test, and correlational analyses indicated that TV broadcasting of home games would decrease attendance; TV broadcasting of away games would increase attendance; cable TV access would not affect attendance; and radio broadcasting of games would increase attendance.

INTRODUCTION
The relationship between sport and broadcasting is reciprocal. Each has influenced and depended on the other for its popularity and commercial success. Broadcast media emphasize sport entertainment in the form of action and drama, offer play-by-play descriptions and interpretations, and provide immediacy in coverage of on-the-spot action; they also generate hype and provide support for sport and sport personalities. Without broadcasting, the popularity of many spectators sports would be seriously limited. Mass spectator sports have a special dependence on TV for direct revenue, publicity, and athlete income. In fact, some sports have to change rules, schedule, package, and presentation in order to accommodate TV broadcasting (Coakley, 1990). Because of the popularity of TV, radio broadcasting has altered its marketing approach. It now concentrates more on ethnic programming, news, talk shows, music, and sports. Many local radio stations purchase the broadcast rights to college and professional sporting activities (Leonard, 1980). Mullin, Hardy, and Sutton (1993) noticed that “although television attracts the greatest attention, even the professional clubs have continued to place great emphasis on their radio networks” (p. 239).

Professional sport teams are similar with respect to their product markets. Game attendance and broadcasting rights are primary revenue producers accounting for approximately 68% and 28% income, respectively (Staudohar & Mangan, 1991). It is noteworthy that broadcasting of professional sports has become a central part of corporate planning of major league teams, broadcasters, and related organizations. Market size of broadcasting particularly affects the location selections of many franchises (Horowitz, 1974; Staudohar & Mangan, 1991). However, the owners of many professional teams have enforced a TV blackout rule based on the belief that TV coverage has a negative effect on home game attendance. Two dated, systematic studies related to professional sports were found to support this arrangement that televising a home game would negatively affect game attendance (Demmet, 1973; Noll, 1974). Several studies related to intercollegiate sports revealed similar findings (Fizel & Bennett, 1989; Kaempler & Pace, 1986; Mawson & Bowler, 1989).

Conversely, many researchers believe that broadcasting is an alternative mode of fan consumption of sport. It is maintained that broadcasting publicizes sport, socializes people into the role of spectator, and serves as a vehicle for information on athletes and players (Coakley, 1990; Greendorfer, 1981; Lever & Wheeler, 1984). Overall, information on the relationship between game attendance and broadcasting is conflicting and deserves scientific studies in order to formulate effective marketing strategies by teams.

Past research has been plagued by limitations. First, most of the studies have been narrative and descriptive, lacking quantitative evidence (Coakley, 1990; Greendorfer, 1981; Horowitz, 1974; Leonard, 1980; Lever & Wheeler, 1984). Second, those involving data analyses (Demmet, 1973; Noll, 1974) focused on TV by using a dummy
The NBA owns the national broadcasting rights to league games (public TV, cable outlets, and radio) and divides the revenue equally among all teams. The income from local broadcasting rights to games not shown on national TV, however, belongs exclusively to the home team, which provides incentives to teams. Due to market size and the effectiveness of team marketing, NBA teams exhibit wide variability in revenue generation. Income differences among NBA teams are greater than among major league professional football and baseball teams. Each NBA team has to work especially hard to develop its market (Noll, 1991; Staudohar & Mangan, 1991). Additionally, marketing studies on professional sports have predominantly focused on ticket sales, and a majority have been directed at Major League Baseball (e.g., Baade & Tiehen, 1990; Hill, Madura, & Zuber, 1982; Lee & Zeiss, 1980; Marcum & Greenstein, 1985; Noll, 1974; Whitney, 1988). Basketball has been studied to a lesser extent (Hansen & Gauthier, 1989; Noll, 1991; Zhang, Pease, Hui, & Michaud, 1995). Accordingly, the following hypotheses were tested in this study: 

1. TV broadcasting of home games would negatively affect game attendance of an NBA team.

2. TV broadcasting of away games would not affect home game attendance of an NBA team.

3. Would Cable TV sport channels affect home game attendance of an NBA team?

4. Would radio broadcasting of games (home and away) affect home game attendance of an NBA team?

METHOD

Subjects

Spectators (N=861) were selected by random cluster sampling procedures from six second-half 1993-1994 season home games of a major NBA Western Conference. All six games were televised on a cable TV station and a local radio station. The age of the spectators ranged from 10 to 95 years (M=33.3; SD=14.1). Of the subjects, 533 (61.9%) were males, and 328 (37.1%) were females. Ethnic composition consisted of 617 (71.7%) Caucasians, 62 (7.2%) African-Americans, 103 (12.0%) Hispanics, 23 (2.7%) Asians, and 46 (6.4%) others.

Measurements

A questionnaire was developed to measure the following variables: (a) attendance frequencies (number of games attended during the current season, number of games attended during the previous season, and number of seasons having attended); (b) choice between attending a home game or watching the game on public TV if televised (dichotomous scale plus); (c) frequency of watching away games on TV (Likert 5-scale: always - 100% games, often - 75% games, sometimes - 50% games, occasionally - 25% games, and never - 0% games); (d) using cable TV sport

Researchers (Coakley, 1990; Greendorfer, 1981) have generally indicated the need to further explore the relationship of broadcasting to game attendance in more depth. The purpose of this study was to examine the influence of TV and radio broadcasting on the attendance of the National Basketball Association (NBA) games from four perspectives: (a) choosing between attending a home game and watching the game on TV, (b) watching away games on TV, (c) using cable TV sport channels, and (d) listening to games on radio. 

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channels to view games (dichotomous scale); and (e) frequency of listening to both home and away games on radio (Likert 5-scale: always - 100% games, often - 75% games, sometimes - 50% games, occasionally - 25% games, and never - 0% games). Demographic characteristics, including age, gender, and ethnicity, were also collected (Appendix A).

**Procedures**

Following a preliminary formulation, the questionnaire was submitted to a panel of five experts (three university professors in sport management and/or sport psychology and two senior NBA team administrators) for content validity testing. Each expert was asked to examine (a) the appropriateness of the format and the content, (b) the adequacy and representativeness of test items, and (c) the accuracy of a phrased statement. Overall, the panel members agreed that the questionnaire displayed sound content validity.

In order to collect data on the impact of broadcasting on NBA attendance, the study site (arena) was divided into 75 sections by seat sections. Twenty-five sections were randomly selected for each game. Data collection was incorporated into an overall marketing investigation for the team. The questionnaires were distributed to spectators in the arena 15 to 30 minutes prior to game time and were collected immediately before the start of the game. Twenty-five university students helped to distribute and collect the instruments. An average of 500 packets were distributed in each of the six games. An average of 144 completed packets per game were returned (29% completion rate). Procedures from the Statistical Package for Social Science (SPSS®) were used to conduct statistical analyses (SPSS Reference Guide, 1990).

**RESULTS**

The results are presented in five sections: (a) attendance frequencies, (b) choice between attending a home game and watching the game on TV, (c) frequency of watching away games on TV, (d) use of cable TV, and (e) listening to games on radio.

**Attendance Frequencies**

The number of home games attended during the current season ranged from 1 to 42 (M=6.3; SD=10.6). The number of home games attended during the previous season ranged from 0 to 45 (M=5.4; SD=9.9). The number of seasons having attended ranged from 1 to 23 (M=4.1; SD=4.8).

**Choice Between Attending a Home Game and Watching the Game on TV**

With respect to the choice between attending a home game and watching the game on broadcast TV if it is televised, 275 spectators (39.8%) answered “Attend the Game” whereas 415 spectators (61.2%) answered “Watch the Game on TV.” A chi-square analysis indicated that the number of spectators intending to watch the game on TV was significantly (χ² = 28.41; df = 1; p = .00) greater than the number of those intending to attend the game. Consistently, t-tests confirmed that the mean game attendance frequencies for spectators who intended to watch the game on TV were significantly (p < .05) less than for those who intended to attend the game (Table 1). The findings indicate that public TV broadcasting of home games would affect game attendance negatively.

**Watching Away Games on TV**

With respect to the frequency of viewing away games on TV, 255 spectators (36.2%) responded “Always”; 252 (35.7%) “Often”; 112 (15.9%) “Sometimes”; 61 (7.1%) “Occasionally”; and 24 (2.8%) “Never”. A chi-square analysis comparing the frequencies among the categories revealed that there were significantly more frequent TV viewers (χ² = 328.00; df = 4; p = .00). Specifically, the first two categories representing the frequent TV viewers, “Always” and “Often”, together accounted for 71.9% of spectators. As seen in Table 2, the three home-game attendance variables were found to be positively (p < .05) related to

| Attendance Frequency | Viewing Choice | Cases | Group | | | | |
|----------------------|----------------|-------|-------|---|---|---|
| Last Season          | Attend Game    | 275   | 39.86 | 11.26 | 14.00 | 12.72 | 688 | .00 |
|                      | Watch TV       | 415   | 61.14 | 2.13  | 3.46  |       |     |     |
| This Season          | Attend Game    | 275   | 39.86 | 13.43 | 14.52 | 14.33 | 688 | .00 |
|                      | Watch TV       | 415   | 61.14 | 2.56  | 4.32  |       |     |     |
| No. of Seasons       | Attend Game    | 275   | 39.86 | 4.94  | 5.26  | 3.66  | 688 | .00 |
|                      | Watch TV       | 415   | 61.14 | 3.60  | 4.32  |       |     |     |
the frequency of watching away games on TV, with 4 to 5% variance explained. The findings indicate that the more one watches away games, the more one attends home games.

**Use of Cable TV**

Among the subjects, 576 (66.9%) had cable TV sport channels whereas 285 (33.1%) did not. A chi-square analysis revealed that the number of spectators with cable TV sport channels was significantly more nonfrequent radio listeners \( x^2 = 441.04; df = 4; p = .00 \). Specifically, the last two categories representing the nonfrequent radio listeners accounted for 66.7% respondents (people who perceived they “Occasionally” and “Never” listen to radio broadcast).

Interestingly, as seen in Table 4, all of the frequency indices of game attendance were found to have significantly \( p < .05 \) positive correlation with the frequency of radio listening to games, with 4 to 5% variance explained. The findings indicate that the more one listens to games (both home and away), the more one attends home games.

**Table 2**

**Intercorrelation Between Game Attendance Frequencies and TV Viewing Frequencies**

<table>
<thead>
<tr>
<th>Attendance Variables</th>
<th>r</th>
<th>r^2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Season</td>
<td>.208</td>
<td>.043</td>
<td>.001</td>
</tr>
<tr>
<td>This Season</td>
<td>.210</td>
<td>.044</td>
<td>.001</td>
</tr>
<tr>
<td>No. of Seasons</td>
<td>.223</td>
<td>.050</td>
<td>.001</td>
</tr>
</tbody>
</table>

Note: \( r \) = correlation coefficient explaining the relationship between TV viewing frequencies of away games and the attendance frequency variables.

\( r^2 \) = percent of variance, explaining the extent to which TV viewing frequency of away games affect an individual's attendance level.

significantly greater than the number of those without the service \( x^2 = 270.30; df = 1; p = .00 \). From t-tests, mean game attendance frequencies were not found to be significantly \( p > .05 \) different between spectators with and without cable service (Table 3). In other words, spectators with and without cable TV sport channels were of similar attendance levels.

**Listening to Games on Radio**

With respect to the frequency of listening to games on radio, 81 (9.4%) answered “Always”; 109 (12.7%) “Often”; 120 (13.9%) “Somewhat”; 135 (15.7%) significantly more nonfrequent radio listeners \( x^2 = 441.04; df = 4; p = .00 \). Specifically, the last two categories representing the nonfrequent radio listeners accounted for 66.7% respondents (people who perceived they “Occasionally” and “Never” listen to radio broadcast).

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**DISCUSSION**

This study, exploratory in nature, was limited to the spectators attending six games of one NBA team. The team resides in a major southern city with more than three million population in the greater metropolitan area. Based on public census (UH Center for Public Policy, 1991), the metropolitan population consists of 55% Caucasians, 22% Hispanics, 19% African-Americans, and 4% Asians, representing higher percentages of minority groups compared to the national average. Also, according to the team management, the team has approximately 25% season or half-season ticket holders. Although market similarities exist

**Table 3**

**T-Test Comparing Mean Game Attendance Frequencies Between Spectators With and Without Cable TV**

<table>
<thead>
<tr>
<th>Attendance Frequency</th>
<th>Cable TV</th>
<th>Cases</th>
<th>Group</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Season</td>
<td>With</td>
<td>576</td>
<td>66.90</td>
<td>6.11</td>
<td>10.62</td>
<td>1.77</td>
<td>711</td>
</tr>
<tr>
<td></td>
<td>Without</td>
<td>285</td>
<td>33.10</td>
<td>4.40</td>
<td>7.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This Season</td>
<td>With</td>
<td>576</td>
<td>66.90</td>
<td>7.11</td>
<td>11.41</td>
<td>1.07</td>
<td>711</td>
</tr>
<tr>
<td></td>
<td>Without</td>
<td>285</td>
<td>33.10</td>
<td>5.99</td>
<td>9.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Seasons</td>
<td>With</td>
<td>576</td>
<td>66.90</td>
<td>4.29</td>
<td>4.94</td>
<td>.90</td>
<td>711</td>
</tr>
<tr>
<td></td>
<td>Without</td>
<td>285</td>
<td>33.10</td>
<td>3.88</td>
<td>4.10</td>
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</tbody>
</table>
among NBA teams, differences may exist. For example, Noll (1991) provided that broadcasting income among NBA teams differed from $2.6 to 7.0 million due to a variety of reasons, such as team performance, history, and community population. Therefore, the generalizability of the findings of this study should be limited to those teams in a similar market environment. Comparable studies are needed for other teams in order to extend the understanding of the broadcast/attendance relationships.

In this study, it was found that more people intended to watch home games on TV rather than attend games in person. This finding was consistent with previous research findings that general broadcast of home games negatively affects attendance. Although not surprising, the impact of broadcasting on attendance supports the current arrangement of NBA teams not selling TV broadcasting rights of season home games to local public TV stations. People choosing to watch games on TV instead of attending may be due, in part, to convenience, ticket cost, and ticket availability. It was suspected that relationships between broadcasting and attendance would relate closely to the size of the community population and the average frequency of attendance. In a smaller market with a high percentage of season ticket holders, the percentage of those expecting to watch home games on TV would be lower. These speculations deserve further investigation. Additionally, further research is needed to examine the extent to which ticket revenue loss would exceed broadcast revenue gain if home games are televised on public TV.

More people frequently watched away games on TV. Perhaps TV broadcasting represented inexpensive and convenient entertainment. Regardless, televising away games was of value to spectators. The findings that home game attendance variables were positively related to the frequency of watching away games on TV indicated that spectators viewing more away games on TV attend more home games (or vice versa). Thus, one area of broadcasts — away games — positively impacted on game attendance, likely through providing information to and increasing interests of spectators (Coakley, 1990; Greendorfer, 1981; Lever & Wheeler, 1984). The frequency of game attendance was not different between spectators with and without sport cable TV service. Thus, having cable TV service did not affect an individual’s attendance at home games. NBA teams should continue to sell home game broadcasting rights to cable outlet companies for additional financial gain. Exploring alternate viewing outlets (e.g., highlights on videotape, tape-delayed broadcasts) may also help promote the sport in new markets while not negatively affecting attendance.

Because away games were shown on regular TV, those who listened to away games on radio might have a personal preference for radio or found it convenient (e.g., listening to radio while driving). Regardless, there were more infrequent than frequent radio listeners among spectators. Yet, the findings that radio listening frequencies were positively related to game attendance variables indicated that spectators who listened to more games on radio also attended more games. These findings were consistent with the belief that broadcasting provides information and promotes interests (Coakley, 1990; Greendorfer, 1981; Lever &
Wheeler, 1984). NBA teams already sell radio broadcasting rights and also incorporate radio broadcasting into their game promotion plans. Results of this study support the value of these tactics.

In conclusion, although limited to one team, this study was unique in that it examined the impact of major broadcasting options (TV, cable, and radio) on game attendance of NBA games through a systematic, quantitative approach. Differentiation between home and away games was made; therefore, findings could be applied more directly to marketing practices. In this study, generally 4 to 5% variance in game attendance was explained by watching away games on TV or listening to games on radio. Therefore, 95% variance of game attendance was linked to factors not included in this study. Future studies should continue to examine the broadcasting/attendance relationships with other game-attendance-related variables (such as attendance decision making, spectator satisfaction, and team identification) and how they function together and lead to increased game attendance. When possible, nonattendants may be investigated. It is also suggested to study the impact of broadcasting on other sports at professional and amateur levels.

REFERENCES


APPENDIX A
MARKETING SURVEY QUESTIONNAIRE

PURPOSE: This survey is for the purpose of providing better service to the audience. The collected information will be solely used for research, and your name will not be identified. Your sincere and honest response is greatly appreciated.

DEMOGRAPHIC INFORMATION (Please fill out a blank or circle an answer):

Gender ___  Age ___
Ethnicity (circle one):  a. Caucasian  b. African American
                       c. Asian      d. Hispanic      e. Other

ATTENDANCE INFORMATION (Please fill in the blanks):

How many Houston Rockets home games did you attend last season? ___

How many Houston Rockets home games so far have you attended this season? ___

How many seasons (including this season) have you attended Rockets home games? ___

BROADCASTING INFORMATION (Please answer the following questions):

1. If a home game of the xxxxx team is televised on public TV, you are more likely to (circle one):
   a. Attend the Game  b. Watch the Game on TV

2. How often do you watch away games (totally 41 games per season) of the xxxxx team on public TV?
   a. Always (100% games)  b. Often (75% games)
   c. Sometimes (50% games)  d. Occasionally (25% games)
   e. Never (0% games)

3. Do you have cable TV sport channels (circle Yes or No)?
   Yes    No

4. How often do you listen to both home and away games (totally 82 games per season) of the xxxxx team from radio?
   a. Always (100% games)  b. Often (75% games)
   c. Sometimes (50% games)  d. Occasionally (25% games)
   e. Never (0% games)