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Examining Gender Differences in the Effect of Spectator Motivation on Sport Consumption Behaviors at Collegiate Wheelchair Basketball Games

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Abstract

Competitive wheelchair sport provides a unique context to study the motives of spectators attending these events. The purpose of this study was to examine gender differences in the relationship between spectator motives and various sport consumption behaviors related to collegiate wheelchair basketball events, including repatronage intentions, online media consumption intentions, and merchandise purchasing intentions. Using data collected from spectators of three games of men's and three games of women's college wheelchair basketball events, the researchers found that escape, knowledge, and physical skill influenced male spectators' consumption behaviors while escape, knowledge, vicarious achievement, and drama were associated with female spectators' consumption behaviors. Theoretical implications and marketing strategies drawn from the findings are discussed.

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Introduction

The University of Arizona inbounded the ball against the University of Alabama. Arizona had to make something happen. The point guard brought the ball across half court as rotating pressure came. The guard cut right and a blind side pick sent a defender crashing to the floor. The offense pressed forward to benefit from their numerical advantage. The Alabama home fans were loud and hostile, but Arizona's senior team showed composure. A skip pass hit the post player's hands. When the double team came, he found Number 14 on the perimeter, who caught and released the ball just beyond the three point line, sinking the winning shot just as time expired. In the after-game whirlwind, Number 14 calmly rolled off the court and transferred out of his basketball wheelchair to talk with his teammates and a university reporter.

Of the 11 registered teams in the wheelchair basketball Central Intercollegiate Conference (CIC), only two are housed in athletic departments. The rest are supported by club sports, private funding, parallel adaptive athletic departments and disability resource centers on campuses. The sport is played aggressively and with great passion, much like any other intercollegiate athletic event, but the resources to support teams and fan interest are typically limited. The fans attending this intercollegiate athletic event numbered in the hundreds rather than the thousands who might attend a football game played by the two schools. Because athletic departments typically do not directly fund college wheelchair basketball programs, coaches and players usually have to work with limited budgets to attract fans. In order for collegiate wheelchair basketball to expand both its participation opportunities and its marketing footprint, the fan base must be increased. In order to accomplish this objective, a systematic examination of spectator motivations in wheelchair basketball must be conducted.

The sport marketing environment is dynamic, and sport consumers' needs are constantly changing (Mullin, Hardy, & Sutton, 2007). Operating effectively in this environment requires a continued effort to investigate the factors that influence sport consumption behaviors, such as attendance at live events, buying licensed merchandise, watching sport events via television or the Internet, and reading sport-related magazines. Through various studies investigating sport consumption behaviors, a number of factors have been identified as influencing variables. These include, but are not limited to, motive (Trail & James, 2001; Wann, 1995), team identification (Kwon & Armstrong, 2004), and market demand (Braunstein, Zhang, Trail, & Gibson, 2005). Although all of the identified factors above possess explanatory power, motive has consistently been found to be one of the most significant variables affecting sport spectator consumption behavior (Fink, Trail, & Anderson, 2001). Thus, if marketers and event organizers can figure out what motivates attendance and other consumption behaviors of interested fans of wheelchair sports, they can better tailor marketing plans and venue

preparedness, which may result in increased revenue.

In the current sport marketing literature, a majority of motive studies have been applied to spectator sports for able-bodied athletes (Funk, Mahony, & Ridinger, 2002; Kim, Andrew, & Greenwell, 2009; Lough & Kim, 2004; Pease & Zhang, 2001; Trail & James, 2001). Recently, however, initial attempts have been made to understand spectator consumption behavior associated with adaptive sports, including collegiate wheelchair basketball (Byon, Cottingham, Grady, Mohn, & Carroll, 2009) and professional wheelchair rugby (Byon, Cottingham, & Carroll, 2010). These studies not only sought to fill the research gap associated with sport for people with disabilities but also provided researchers and practitioners with a better understanding about why spectators attend these events. Through these studies, the researchers have provided preliminary information regarding spectators' socio-demographics, psychographics (e.g., motive), and consumption behaviors with regards to repatronage intentions, merchandise buying intentions, and online media consumption intentions. Interestingly, previous studies (Byon et al., 2009, 2010) have found that female spectators were predominant in both collegiate wheelchair basketball and professional wheelchair rugby events, which is in contrast to the gender ratio associated with spectators of traditional sports (Kim et al., 2008; Pease & Zhang, 2001). However, these studies did not investigate the effect of motive on sport consumption behaviors between males and females (Byon et al., 2009, 2010).

It would be beneficial for marketers of collegiate wheelchair basketball to understand gender differences relating to motives and the consumption of adaptive sports. Nine of the 11 collegiate wheelchair basketball programs are housed in disability service programs, adaptive athletic departments or university club sports. These organizations typically do not have the resources to conduct internal marketing studies but can act on recommended marketing strategies, with particular emphasis on strategies for marketing adaptive sports. Knowing the salient motives for consumption and how these motive factors impact different demographic segments would also provide sport marketers and venue managers with critical information for creating and devising persuasive messages and environments for a given market (Fink & Parker, 2009). Considering the dearth of spectator studies in the wheelchair sports context, it is important for researchers and those involved in the marketing of adaptive sports to investigate spectator motives as well as gender differences among this unique market. The results of the current study add to the body of knowledge regarding spectator motives by providing the gender variations in motivational preferences for collegiate wheelchair basketball spectators. The focus of the current study also aligns with larger objectives in marketing adaptive sports. For example, the International Paralympic Committee has stated that marketing, promotion, and a greater understanding of Paralympic supporters is a primary focus for future Paralympics (IPC, 2008). This would presumably include an understanding of market segmentation, such as gender.

The current study was designed to fill the void by answering the following research questions: (a) Are there differences between male and female spectators of collegiate wheelchair basketball in motive factors affecting repatronage intentions? (b) Are there differences between male and female spectators of collegiate wheelchair basketball in motive factors affecting online media consumption intentions? and (c) Are there differences between male and female spectators of collegiate wheelchair basketball in motive factors affecting merchandise purchasing intentions?

Wheelchair Basketball History and Format

With respect to its design, a conscious effort has been made to keep wheelchair basketball as similar to traditional basketball as possible. In fact, the only rule modifications that are different in wheelchair basketball are the allowances of four seconds in the lane and two pushes and a single dribble before traveling is called, a classification system of disability, and rules with regards to chair specifications. The court, goal height, width of the lane and three point lines are consistent with able-bodied basketball, with the sport played on the same courts as its non-adaptive counterpart. Given its similarities to traditional basketball, wheelchair basketball may be more recognizable to basketball fans than other adaptive sports and may therefore be more attractive than other sports.

The first wheelchair basketball game took place in 1946. Since that time, the sport has grown both in size and diversity. Currently, there are over 160 teams categorized into several divisions, including a men's championship division, a division three community basketball division, a women's division, a junior's varsity, a junior's prep, and a collegiate division. The United States is one of 83 member nations represented in the International Wheelchair Basketball Federation (IBRF), the international governing body of wheelchair basketball. Wheelchair basketball is a unique adaptive

sport because of the internal stability of the organization governing the sport, the similarity to its traditional counterpart, and the sheer number of teams. The National Wheelchair Basketball Association (NWBA) was formed in the United States in 1949 and continues to exist today as an independent organization. While other adaptive sport organizing bodies such as the National Foundation of Wheelchair Tennis (NFWT) have chosen to integrate into traditional sport organizations such as the United States Tennis Association (USTA) or consolidate under larger adaptive sport organizations such as Wheelchair Sports USA, the autonomy of the NWBA has allowed a single message and philosophy of promotion of wheelchair basketball to remain the primary mission of the organization.

College wheelchair basketball has been in existence since 1977 and is currently under the NWBA Central Intercollegiate Conference (CIC). All players must meet the academic standards of their university as well as NCAA standards in order to be in good standing with the CIC. The number of CIC teams has remained fairly constant over the last ten years, ranging between six and 11. Regular season games typically take place on weekends when multiple teams play several games over the course of two- to-three days in order to limit travel expenses. Games are held in recreation centers and at times in arenas or field houses, depending on expected spectator attendance. Refreshments and merchandise such as t-shirts, hats and jerseys are available at many game sites.

Marketing Adaptive Sports

Very little data exist related to marketing adaptive sports in general and wheelchair basketball in particular. With respect to wheelchair basketball at the collegiate level, no known marketing studies have been conducted by academicians or institutional internal marketing departments. However, there is anecdotal evidence from those who are involved with the sport. Jim Glatch, head coach for the University of Edinboro, stated that colleges may support wheelchair basketball for the following reasons: first, athletic programs that lack nationally-contending traditional sports teams are able to draw attendance from their student bodies to support their wheelchair basketball teams, due to their potential for a national championship; second, schools with fewer resources have made strategic decisions to allocate their resources to wheelchair sports programs that can be competitive at a national level (J. Glatch, personal communication, January 18, 2010). For example, a relatively minimal annual investment of approximately $250,000 has won the University of Texas at Arlington seven national championships in wheelchair basketball since 1989.

Very little data exist on the size, scope, and consumer tendencies of these elite domestic events. One such study by Byon et al. (2010) examined spectators at a national wheelchair rugby event. The authors found that spectators were primarily white, non-disabled, female, affluent, and highly educated. While little data exist regarding marketing in the context of wheelchair basketball, there are data in the context of adaptive athletics as a whole. The vast majority of the research regarding consumers of adaptive athletics exists in the context of the Paralympics. While the athleticism of the Paralympics has increased, the International Paralympic Committee (IPC) has focused substantial efforts to bolster attendance in order to increase revenue, a primary source of IPC funding. Paralympic attendance has consistently increased. The 1996 Paralympic Games in Atlanta sold just over three hundred thousand tickets, while the Sydney Paralympic Games sold over 1 million (Jenkins, 2000). The 2008 Beijing Paralympics were the most well attended to date; at 12 events, attendance was above 90 percent of capacity while at an additional 12 events, attendance was above 60 percent (China Internet Information Center, 2008). In addition, broadcasting Paralympic events yielded noteworthy revenue totals during the Beijing Olympics. While only $3.5 million in revenue was directly related to broadcasting rights fees, it should be noted that the United States and China, two of the potentially largest television markets, did not pay for broadcasting rights. The Beijing Paralympic Games were not broadcast in the United States. China was not required to pay broadcasting rights fees as the host country (International Paralympic Committee Annual Report, 2008).

The strongest evidence of a growing consumer market in the Paralympics and adaptive sports more broadly is the explosion of viewership on the Paralympic video website, Paralympicsport.tv, which received 3.8 billion hits from 38 countries during and after the Beijing Games in 2008 (International Paralympic Committee Annual Report, 2008). The same site follows the official qualification events live throughout the year for the next Paralympics and also logs previous events for viewing later. This swell of loyal online viewers is perhaps a strong indicator of where adaptive sport finds its strongest consumer base. However, despite this viewership, major markets continue to remain hesitant to televise adaptive athletics with no major network events

hosting adaptive sporting events in their entirety except for the mono skiing competition of the 2011 X-Games on ESPN2. Online viewership provides the excitement of watching a match live as well as viewing catalogued events. In addition, online viewership provides a viable alternative for fans that may have difficulty leaving their home due to their disabilities. As such, fans of adaptive sport are increasing their rate of Internet use as a means of engaging in recreation (Houlihan et al., 2003).

Gender Differences in Spectator Motivation

Numerous researchers have attempted to determine whether males and females differ significantly with regards to sport spectator motives (Allen, Drane, & Byon, 2010; Andrew, Kim, Greenwell, & James, 2009; James & Ridinger, 2002; Kim, Greenwell, Andrew, Lee, & Mahony, 2008; Ridinger & Funk, 2006; Wann, Schinner, & Keenan, 2001). Previous studies have shown somewhat mixed results regarding gender differences in spectator motive as it relates to sport consumption behaviors. Wann et al. (2001) revealed that attending sporting events in order to spend time with family was a more salient motive among females than males. James and Ridinger's (2002) study found that males displayed a greater desire to experience vicarious achievement through their association with a successful college basketball team while females disagreed with the idea that they felt upset when their team lost or played poorly. Male spectators also appeared to be more influenced by their knowledge of basketball than females. Ridinger and Funk's (2006) examination of the differences between fans of men's college basketball and fans of women's college basketball revealed significant gender differences with regards to spectator motives. Female spectators attending women's college basketball games rated aesthetics higher than males attending women's college basketball games and all spectators attending men's games. Males attending women's games displayed a greater interest in favorite players than did female spectators. Furthermore, females attending women's games were more motivated to support women's opportunities in sport than their male counterparts.

Kim et al. (2008) examined spectator motives and media consumption behavior among attendees of Mixed Martial Arts (MMA) events. Results showed that only the sport interest motive factor was found to be a predictor of media consumption for both males and females. Vicarious achievement and national pride factors were salient to male spectators, whereas drama was a significant predictor of media consumption for female spectators. Andrew et al. (2009) explored gender differences among MMA fans. A significant gender difference was detected with regards to vicarious achievement. Males displayed a significantly greater motivation to attend MMA events based on vicarious achievement than females. When examining media consumption motives, violence, aesthetics, drama, and knowledge served as significant predictors for male spectators. For female MMA fans, knowledge, drama, and aesthetics were significant predictors of media consumption. Andrew et al. also tested gender differences for the effect of motive on merchandise consumption among spectators of MMA events. Results of the study indicated that drama, vicarious achievement, crowd experience, and knowledge were found to be significant predictors for males, whereas only the adoration factor was significant for females. Although no gender differences in motives were examined, Byon et al. (2010) found that some motive factors (e.g., knowledge and physical skill) were significantly related to repatronage intentions while other factors (e.g., knowledge and vicarious achievement) were significantly related to online media consumption for spectators of wheelchair rugby games.

Detecting significant gender difference with regards to spectator motives may vary by sporting event context. For instance, Armstrong (2002) examined sport fan motives among African American consumers attending a Historical Black Colleges and Universities (HBCU) all-star basketball event. While results from the study indicated that females attended HBCU sporting events more frequently than males, there were no significant gender differences found with regards to spectator motives when examining the entire scale. Armstrong (2002) suggested that African Americans display less pronounced gender differences with regards to sport fan motives than Caucasians. Similar findings were found in Allen et al.'s (2010) study involving college baseball fans, as the researchers were unable to detect any significant gender differences regarding spectator motives. Therefore, the researchers suggested that sport marketers involved with college baseball may be dealing with a more homogenous sample than those working in other sport contexts. This can be highly beneficial when limited resources are available for promoting a particular sport product.

In sum, previous motive studies examining gender differences have found the following: (a) motive factors are good predictors of sport consumption behaviors, including attendance, media consumption, and merchandise consumption intentions, (b) motives affecting sport consumption behavior differ between males

and females, and (c) spectator motives salient to gender difference are context-specific. In other words, different motive factors in different sport events were found to distinguish male spectators from female spectators.

Method

Participants

The study participants were spectators of three games of men's and three games of women's college wheelchair basketball events at a large university located in the Southeastern United States. The tournament took place over three days (Friday to Sunday). Each game drew approximately 100 spectators. To avoid duplicated information, a spectator who had already participated in the survey was eliminated from further participation. As a result, a total of 185 respondents participated in the survey. Participation in the survey was voluntary, and respondents had to be 18 years of age or older. Similar to previous studies (e.g., Byon et al., 2010), the sample of the current study was predominantly female (66%) with Caucasians comprising a large part of the sample. Although approximately 48% of the sample was college students, 38% of the sample was over 41 years of age. Compared to typical college events, household income was relatively high with 30% of respondents reporting a yearly household income in excess of $100,000. Approximately 74% of the sample indicated that they were either in college or had a college degree. In the current study, we asked participants about their reasons for attending wheelchair basketball events. Interestingly, most respondents mentioned that they had come to the events to support a team, and approximately half said that they had no family, friends, or relatives who had a disability (Table 1). All the percentages included in the table 1 were valid percent, which was calculated using only those participants who answered the questions. The reason we used the valid percent was because some missing values were found in the demographic sections not in other sections such as motives and sport consumption. As such, it was decided that the listwise deletion was not employed because of potential reduction of the sample size (Hair et al., 2010).

Table 1

Frequency Distributions for the Sociodemographic Variables (N = 185)

Variables	Category	Frequency (%)* (*N* = 185)	Cumulative %
Gender	Male	77 (44.0)	44.0
	Female	98 (56.0)	100.0
Age	18-22	83 (47.7)	47.7
	23-30	33 (19.0)	66.7
	31-40	9 (5.2)	71.8
	41-50	25 (14.4)	86.2
	51-65	19 (10.9)	97.1
	66+	5 (2.9)	100.0
Household Income	Below $20,000	44 (28.0)	28.0
	$20,000-39,999	23 (14.6)	42.7
	$40,000-59,999	19 (12.1)	54.8
	$60,000-79,999	8 (5.1)	59.9
	$80,000-99,999	11 (7.0)	66.9
	$100,000-149,999	29 (18.5)	85.4
	$150,000-199,999	7 (4.5)	89.8
	Above $200,000	16 (10.2)	100.0
Education	In School Now	22 (12.5)	12.5
	High School Graduate	18 (10.2)	22.7
	In College Now	78 (44.3)	67.0
	College Graduate	30 (17.0)	84.1
	Advanced Degree	25 (14.2)	98.3
	Other	3 (1.7)	100.0
Ethnicity	Caucasian	150 (85.2)	85.2
	African American	11 (6.3)	91.5
	Hispanic	5 (2.8)	94.3
	Asian/Pacific Islander	6 (3.4)	97.7
	Interracial	2 (1.1)	98.9
	Other	2 (1.1)	100.0
Your Had Friend/Relative Who Had a Disability	Yes	80 (47.3)	47.3
	No	89 (52.7)	100.0
Here to Support a Team	Yes	160 (90.4)	90.4
	No	17 (9.6)	100.0

**Note*. Percentage indicates valid percent

Instruments

In order to measure spectator motives, we used seven factors of Trail and James's (2001) Motivation Scale for Sport Consumption (MSSC) that included achievement, knowledge, aesthetics, drama, escape, physical skill, and social interaction. The physical attraction and family factors were not measured because previous research found that the family factor had no relationship with game attendance behavior (Trail & James, 2001), and the participating athletics department requested that the physical attraction factor not be used because the factor included items asking about 'sex appeal.' The MSSC has been used in a wheelchair rugby setting (a = .74-.84, AVE = .53-.63; Byon et al., 2010) and the scale has consistently been found to be psychometrically sound in intercollegiate sport settings (a = .75-.99, AVE = .49-.83; Trail, Robinson, Dick, & Gillentine, 2003; Woo, Trail, Kwon, & Anderson, 2009). Each factor consisted of three items. Items used within the MSSC were measured by a 7-point Likert scale, with 1 indicating "Strongly Disagree" and 7 indicating "Strongly Agree." In addition, three sport consumption variables were measured, including repatronage intentions, online media consumption intentions, and merchandise purchasing intentions. Repatronage intentions were measured by two items using an adaptation of Söderlund's (2006) scale. These intercollegiate wheelchair basketball games were only broadcast online, and therefore, measuring online media consumption was appropriate. Items measuring online media consumption and merchandise purchasing intentions items were adapted from Fink, Trail, and Anderson's

(2002) scale. A single item was used for measuring online media and merchandise purchasing intentions. Study participants' background information was also recorded and included gender, age, income, education, ethnicity, and personal relationship to disability.

Procedures

A total of six wheelchair basketball games were held over the course of three days. Researchers were stationed at entrances, exits and near the stands to provide instruments to spectators. Efforts were made to provide the instrument before games, during half time and after games as to not disturb spectators observing live action in games. Approximately 40 questionnaires were distributed per game and a total of 210 were returned, representing a return rate of 83%. After screening the questionnaires, 25 questionnaires were discarded due to too many missing values (e.g., more than 10%), which the authors defined as an incomplete answer based on previous research evidence (e.g., Zhang, Pease, & Hui, 1996). Therefore, 185 questionnaires were found to be usable for subsequent data analyses. In terms of the sample size required for confirmatory factor analysis (CFA), Gorsuch (1983) suggested at least five respondents are desirable for each measured variable. Hair et al. (2010) suggested the ratio of observations to measured variables should be 5:1 at minimum. Considering that the current study consisted of 25 items that included seven factors of the MSSC and four items of sport consumption, a usable sample size of 185 was deemed appropriate.

Data Analyses

Procedures in SPSS 18.0 (SPSS, 2010) were carried out to calculate descriptive statistics for sociodemographic variables, the MSSC, and sport consumption variables. Bivariate correlations of all factors were also calculated to examine the interrelationship between spectator motive factors and sport consumption intentions variables. In order to examine the factor structure of the MSSC, a CFA was employed using Maximum Likelihood (ML) estimation method via Amos 7.0 (Arbuckle, 2006). A covariance matrix was used as the data input method. Following the suggestions of previous studies (Hair et al., 2010), several goodness of fit measures were adopted and included the chi-square statistic (χ^2), normed chi-square (χ^2/df), root mean square error of approximation (RMSEA), standardized root mean residual (SRMR), and comparative fit index (CFI). It is important to note that the χ^2 model fit standard is sensitive to sample size. Nonetheless, a statistically non-significant χ^2 value is desired, indicating that observed and estimated variance-covariance matrices are similar (Hair et al., 2010). Bollen (1989) suggested that cutoff values of less than 3.0 for the normed chi-square are considered reasonable fit. Hu and Bentler (1999) suggested that an RMSEA value of .06 or less indicates a close fit. Any values of RMSEA between .06 and .08 indicate acceptable fit. Values of RMSEA between .08 and .10 show mediocre fit. In terms of the SRMR criterion, any values from 0.10 to 0.05 are considered as an acceptable fit (Hu & Bentler, 1999). A rule of thumb for CFI is that any value larger than .90 indicates an acceptable fit, and any value greater than .95 shows a close fit (Hu & Bentler, 1999).

Convergent and discriminant validity tests were conducted to determine construct validity of the MSSC. To determine convergent validity, indicator loadings and significant t-values were evaluated (Anderson & Gerbing, 1988). Hair et al. (2010) suggested convergent validity is evidenced when all indicator loadings are statistically significant with an item loading equal to or greater than .50 at a minimum, with ideal values .70 or higher.

Discriminant validity was examined using two methods, including interfactor correlation (Kline, 2005) and Fornell and Larcker's test (1981). According to Kline (2005), discriminant validity can be established when an interfactor correlation is below .85. Fornell and Larcker's test suggests that a squared correlation between two constructs should be lower than the AVE value for respective constructs in order to establish discriminant validity.

Three tests were employed to measure the reliability of the scales: Cronbach's coefficient alpha (a) values, construct reliability (CR), and average variance extracted (AVE). The standard value of .70 was adopted as a threshold for a and CR (Fornell & Larcker, 1981; Nunnally & Bernstein, 1994). The benchmark value for AVE was equal to or greater than .50, as suggested by Bagozzi and Yi (1988).

Upon completion of the psychometric properties test of the MSSC, a total of six multiple regression analyses were conducted to examine the relationships between MSSC factors and sport consumption variables for each gender. The seven retained factors of the MSSC were used as independent variables and repatronage intentions, media consumption, and merchandise purchasing intentions were utilized as dependent variables. Multiple items representing each

latent variable were combined to create composite scores. Prior to the analyses, assumption tests examining independent errors and multicollinearity were conducted to ensure viability of using multiple regression analyses. To check independent errors, we evaluated the Durbin-Watson statistic with values less than 1 or greater than 3 indicating that the assumption would be violated. Values closer to 2 would be acceptable (Field, 2009). Tolerance and Variance Inflation Factor (VIF) values were evaluated to test for the assumption of multicollinearity. Tolerance values should be higher than 0.2 (Menard, 1995). VIF values greater than 10 are a concern for multicollinearity (Stevens, 2002).

Results

Descriptive Statistics

Descriptive statistics that included means, standard deviations, and the bivariate correlation matrix of all factors are presented in Table 2.

Table 2
Correlation Matrix for Spectator Motive Factors and Sport Consumption Factors

Variable	1	2	3	4	5	6	7	8	9	10
1. Drama	1									
2. Aesthetics	.57*	1								
3. Achievement	.50*	.57*	1							
4. Escape	.45*	.57*	.49*	1						
5. Social Interaction	.45*	.47*	.47*	.44*	1					
6. Knowledge	.14	.37*	.22*	.14	.26*	1				
7. Physical Skill	.72*	.67*	.64*	.48*	.40*	.26*	1			
8. Repatronage Intentions	.47*	.51*	.51*	.46*	.42*	.48*	.62*	1		
9. Merchandise Consumption	.39*	.41*	.47*	.35*	.30*	.36*	.44*	.52*	1	
10. Online Media Consumption	.14	.31*	.36*	.25*	.25*	.62*	.30*	.48*	.41*	1
Mean	6.12	5.46	5.74	5.26	5.23	4.08	6.23	5.85	5.24	4.15
SD	1.13	1.38	1.19	1.41	1.34	1.84	1.11	1.46	1.87	2.12

*$p < .01$

Correlation Matrix for Spectator Motive Factors and Sport Consumption Factors

In terms of means and standard deviations for spectator motive factors, physical skill (M = 6.23, SD = 1.11) was found to be the most important motive for spectators of wheelchair basketball games, followed by drama (M = 6.12, SD = 1.13), achievement (M = 5.74, SD = 1.19), aesthetics (M = 5.46, SD = 1.38), escape (M = 5.26, SD = 1.41), social interaction (M = 5.23, SD = 1.34), and knowledge (M = 4.08, SD = 1.84). For sport consumption factors, repatronage intentions (M = 5.85, SD = 1.46) was rated the highest, followed by merchandise purchasing intentions (M = 5.24, SD = 1.87), and online media consumption (M = 4.15, SD = 2.12). Descriptive statistics revealed that all spectator motive factors had a mean score greater than 4.0 (i.e., midpoint on the 7-point scale), indicating that spectator motive factors were considered important when consuming wheelchair basketball games. Furthermore, mean scores of all sport consumption variables indicated that spectators had a high desire to consume the events via attendance, merchandise, and online media. This finding was further supported by the result of the bivariate correlation between spectator motives and sport consumption intentions variables (Table 2).

Confirmatory Factor Analysis

The seven-factor spectator motive model was evaluated by means of CFA using multiple fit indices (χ^2, χ^2/df, CFI, RMSEA, and SRMR). The chi-square statistic was statistically significant ($\chi^2/df = 1.92$, $p < .001$), indicating that the model was not supported by the sample variance and covariance data. However, as mentioned, the chi-square statistic is known for its sensitivity to sample size (Bollen, 1989; Hair et al., 2010). Therefore, evaluating other fit indices is recommended to determine overall model fit. As a result of the CFA, it was found that other fit indices met the pre-determined criteria (CFI = .93, RMSEA = .71, and SRMR = .056), indicating the specified model was supported by the sample variance-covariance data. A convergent validity test was conducted by evaluating indicator loadings and significant t scores. All factor loadings were statistically significant with t values ranging from 7.63 to 15.15 ($p < .001$). Furthermore, all factor loadings were greater than the suggested criterion of .50 (Hair et al., 2010), ranging from .64 (physical skill item 3 and social interaction item 1) to .88 (aesthetics item 1). In sum, the seven-factor model demonstrated good convergent validity (Table 3). All interfactor correlations were below the suggested threshold of .85, ranging from .14 (drama and knowledge) to .72 (drama and physical skill). Fornell and Larcker's (1981) test also supported discriminant validity, as no squared correlations were greater than the AVE values for the respective construct. These results indicated that the seven-factor model displayed good discriminant validity.

The reliability of the seven-factor model was examined via three tests including Cronbach's alpha values, CR, and AVE. Values of CR and Cronbach's were found to be within the acceptable criterion suggested, ranging from .77 (escape) to .87 (aesthetics) for CF and .76 (escape) to .87 (aesthetics) for Cronbach's alpha. The AVE values were all greater than the suggested threshold of .50, ranging from .53 (escape) to .70 (aesthetics). Results of the CFA indicated that the measurement model demonstrated sound psychometric properties in a wheelchair basketball setting (Table 3).

Indicator Loadings, Cronbach's Alpha, Construct Reliability, Average Variance Extracted for the Spectator Motivation Factors

Table 3

Indicator Loadings, Cronbach's Alpha, Construct Reliability, Average Variance Extracted for the Spectator Motivation Factors

Variables	Indicator Loadings	Cronbach's Alpha	Construct Reliability	Average Variance Extracted
Drama		.83	.83	.62
I enjoy the drama of a close game	.87			
I prefer a close game rather than an one-sided game	.80			
A game is more enjoyable to me when the outcome is not decided until the very end	.68			
Aesthetics		.87	.87	.70
I appreciate the beauty inherent in the game	.88			
There is a certain natural beauty to the game	.87			
I enjoy gracefulness associated with the game	.75			
Achievement		.79	.79	.56
I feel like I have won when my team as won	.70			
I feel a personal sense of achievement when my team does well	.65			
I feel proud when my team does well	.82			
Escape		.76	.77	.53
Games represent an escape for me from my day-today activity	.64			
Games are a great change of pace from what I regularly do	.76			
I look forward to the games because they are something different to do	.84			
Social Interaction		.79	.79	.56
Interacting with other fans is a very important part of being at games	.64			
I like to talk to other people sitting near me during a game	.76			
Games are great opportunities to socialize with other people	.84			
Knowledge		.81	.81	.59
I know the names of the players on the team/best players on the team	.81			
I usually know the teams win/loss record	.80			
I know the rules to wheelchair basketball	.69			
Physical Skill		.76	.79	.57
Watching a well-executed athletic performance is something I enjoy	.71			
I enjoy a skillful performance by the team	.87			
The physical skills of the players are something I appreciate	.64			

Gender Differences

The primary purpose of the current study was to identify gender differences in motive factors associated with various sport consumption behaviors at collegiate wheelchair basketball events, including repatronage intentions, online media consumption, and merchandise purchasing intentions. A total of six separate multiple regression analyses were conducted using the forced entry method (Studenmund & Cassidy, 1987). Results of the assumption tests (independent errors, tolerance statistic, and VIF) indicated that none of the regression models violated the assumptions. Values of the Durbin-Watson statistic ranged from 1.66 to 2.6, indicating that the assumption of independent errors was tenable. No variables were less than .2 of tolerance values and over 10 of the VIF, indicating that multicollinearity was not an issue within the regression models.

The first research question was: Are there differences between male and female spectators of collegiate wheelchair basketball in motive factors affecting repatronage intentions? To answer this, multiple regression analyses were separately conducted for each group with seven motive factors as independent variables (IVs) and repatronage intentions as the dependent variable (DV). The overall model for the male group was statistically significant (F (7, 76) = 19.93, p < .001, Adjusted R^2= 62). Calculation of effect size indicated that the model displayed a large effect size (Cohen, 1992). Three of the seven independent variables (physical skill, knowledge, and escape) contributed to the prediction of repatronage intentions of wheelchair basketball events. Results of the second regression model indicated that the overall model for the female group was significant (F (7, 90) = 12.17, p < .001, Adjusted R^2= 45). According to Cohen (1992), the regression model indicates a large effect size. Results of the model parameter indicated that knowledge (β = .35, p < .001) and escape (β = .23, p < .05) were statistically significant predictors of repatronage intentions.

The second research question was: Are there differences between male and female spectators of collegiate wheelchair basketball in motive factors affecting online media consumption intentions? To examine this, equations regressing motives on online media consumption were calculated for each gender. The overall model for the male group was significant (F (7, 76) = 12.84, p < .001, Adjusted R^2= 50). Knowledge (β = .58, p < .001) and escape (β = .29, p < .01) were found to be predictors of online media consumption intentions. The overall model for the female group was statistically significant (F (7, 90) = 8.89, p < .001, Adjusted R^2= 36). Knowledge (β = .56, p < .001) and achievement (β = .27, p < .05) were found to be related to online media consumption intentions, with both models displaying a large effect size (Cohen, 1992).

The third research question was: Are there differences between male and female spectators of collegiate

wheelchair basketball in motive factors affecting merchandise purchasing intentions? To answer this, regression analyses were conducted for each gender. The regression model for the male group revealed that the combination of variables significantly predicted merchandise purchasing intentions (F (7, 76) = 7.27, p < .001), accounting for 35% of the variance (Adjusted R^2= .35), representing a large effect size (Cohen, 1992). The beta weight indicated that physical skill (β = .36, p < .05) contributed most to predicting merchandise consumption intentions, followed by knowledge (β = .35, p < .01). The overall model for the female group was significant (F (7, 90) = 6.12, p < .001), explaining 27% of the variance (Adjusted R^2= .27), representing a large effect size (Cohen, 1992). The result of the model parameter indicated that 27% of the variance in merchandise consumption intentions was accounted for by drama (β = .39, p < .01) and achievement (β = .29, p < .05). Results of the regression analyses are presented in Table 4.

Table 4

Multiple Regression Analyses Examining the Relationship Between the Spectator Motivation Factors and Sport Consumption Factors

Consumption Factors	Predictors	*B*	*SE.B*	R^2	ΔR^2	*β*	*t*	*p*
Repatronage Intentions								
Male				.65	.62			
	Skill	.85	.15			.71	5.71	.001
	Knowledge	.25	.06			.32	4.08	.001
	Escape	.19	.09			.19	2.13	.036
Female				.49	.45			
	Knowledge	.29	.07			.35	4.18	.001
	Escape	.25	.11			.23	2.28	.025
Online Media Consumption								
Male				.54	.50			
	Knowledge	.65	.10			.58	6.50	.001
	Escape	.40	.14			.29	2.84	.006
Female				.41	.36			
	Knowledge	.67	.11			.56	6.29	.001
	Achievement	.49	.20			.27	2.45	.016
Merchandise Consumption								
Male				.40	.35			
	Physical Skill	.57	.26			.36	2.22	.029
	Knowledge	.36	.11			.35	3.40	.001
Female				.33	.27			
	Drama	.65	.22			.39	2.91	.005
	Achievement	.45	.18			.29	2.50	.014

Discussion

The current study adapted the MSSC to examine spectator motives associated with sport consumption behaviors. The CFA revealed that the adapted MSSC displayed sound psychometric properties. These findings lend support to previous studies (Byon et al., 2010), which found the suitability of the MSSC measuring spectator motives in another adaptive sport setting, wheelchair rugby. While the MSSC provides a basic guideline for practitioners promoting adaptive sport, future studies should examine factors unique to adaptive sport. Violence is a possible candidate, as the factor was found to be an important factor associated with contact and violent sports (Andrew, Koo, Hardin, & Greenwell, 2009). Some adaptive sports, such as wheelchair basketball and rugby, contain a fair amount of violence built into the sport itself. As such, the violence factor may be appropriate to include in future research in adaptive sport settings. Another factor, support of disability community, could be viable given the fact that spectators tend to have positive attitudes toward supporting sport events that have characteristics of cause and philanthropy (Roy & Graeff, 2003). Furthermore, recent research showed that the support of disability community factor was positively associated with repatronage intentions of wheelchair rugby events (Cottingham, Gearity, Chatfield, & Drane, 2010). Another intriguing finding in the current study is the disparity toward the effect of motives on sport consumption between genders. This may be due in part to the inability of measuring physical attraction. Very little is known about the physical attraction dynamic, but the dichotomy of disability and sport was outlined in Gard and Fitzgerald's (2008) thematic critique of *Murderball*, a documentary of wheelchair rugby, when they noted that sexuality was a prevalent theme. While wheelchair basketball and wheelchair rugby are different sports, this research has outlined a number of similarities between the two. The lack of a measure regarding physical attraction (i.e., sexuality) in this study may account for some of the discrepancy in sport consumption behaviors between female spectators as compared to their male counterparts.

Of vital interest to this study was a desire to examine gender differences in the relationship between spectator motives and sport consumption behaviors. Overall, the results of the regression analyses indicated that although not all motive factors were considered important to both genders in predicting sport consumption behaviors, there were some motives that were salient to both. For instance, escape and knowledge were found to be important predictors of repatronage intentions for both males and females even though physical skill was only associated with males. These results were consistent with previous studies (e.g., Byon et al., 2009; Robinson & Trail, 2005), which found that males and females were attracted by escape, knowledge, and physical skill as they make a decision to re-attend sport events. Findings of the current study indicated that, for both male and female spectators, wheelchair basketball events offer the potential for a unique experience that may be different from their ordinary life or from what they have experienced in the past. Being attracted by the knowledge factor would indicate that spectators of wheelchair basketball could be highly identified fans who have fol-

lowed teams and/or athletes of the events. This particular finding was similar to that found in a study involving spectator motivation in a wheelchair rugby setting (Byon et al., 2010). In the current study, a noted difference between males and females was that male spectators were highly influenced by physical skill aspects, while female spectators were not. This finding would suggest that communication strategies that emphasize physical skill should be created as a means of attracting male spectators to events. For example, posters that include the athletes during competition could be utilized in areas where male spectators may be exposed to them.

Results of the regression analyses indicated that escape and knowledge were salient to male spectators whereas vicarious achievement and knowledge factors were deemed important to females as they decide to watch wheelchair basketball events online. The findings of the current study supported the results of previous studies (Andrew et al., 2009; Byon et al., 2010). Byon et al. found that vicarious achievement and knowledge were predictors of online media consumption of wheelchair rugby events. In their MMA research, Andrew et al. found that knowledge was a common motive for both male and female spectators. These findings would indicate that both male and female spectators are knowledgeable about collegiate wheelchair basketball events, which is one of the indications of die-hard fans (Wann & Branscombe, 1990). This phenomenon has been consistently observed in spectators of adaptive athletics (Byon et al., 2009; Byon et al., 2010). Educating spectators about wheelchair basketball and making this adaptive sport available to the general public using a well-developed website should be emphasized, as mass media audiences tend to turn away from sport event programs when they do not know the rules and/or the teams associated with the sports. For example, the lack of popularity of sports such as cricket in North America can be partially explained by a lack of understanding regarding the sport itself.

With regards to merchandise consumption, the results of the regression analyses indicated that knowledge and physical skill were significant motives for male spectators and drama and vicarious achievement were significant motives for female spectators. There have not been any studies examining motive factors influencing merchandise consumption in the adaptive sports research setting. Therefore, directly relating the results of the current study to previous research was not possible. However, Andrew et al. (2009) found that males and females were attracted by different motives in purchasing merchandise. To attract female spectators, marketers should include imagery and slogans that incorporate vicarious achievement in merchandise specifically designed for females. In a study conducted by Kwon, Trail, and James (2007), the authors argued that "sport consumers buy and consume licensed sport-team merchandise to maintain and enhance their self-esteem by showing the associations that they have with a successful sport team" (p. 544), indicating that vicarious achievement is a good predictor of merchandise consumption behavior. Results indicate that efforts should be made to help male spectators become more knowledgeable as a means for driving merchandise consumption. These efforts can be made by having well-designed and informative game programs as well as information about game footage, the sport, and the individual athletes available online. It should be noted that the knowledge factor was found to be an important motive in all consumption behaviors regardless of gender except for female merchandise consumption. The same factor was the most important for spectators of wheelchair rugby (Byon et al., 2010). An interesting pattern has been observed in which the knowledge factor has been found significant in somewhat unexplored domains of sports such as MMA and sport video games (Andrew et al., 2009; Kim & Ross, 2006). More detailed marketing strategies associated with results of the present study are discussed in the Marketing Implications section.

Marketing Implications

This study represents the first attempt at market segmentation in the context of adaptive sport within the sport management literature. The findings from the current study have implications not only for event organizers of wheelchair sports and those who market the sport but also for the venues that host wheelchair sporting events, most notably college athletic facilities. For male spectators, the strongest predictor of repatronage intentions and merchandise purchasing intentions was physical skill. In order to tap into this desire and attract male fans, event organizers should focus on attracting nationally ranked teams and scheduling games effectively. By doing this, the physical skill of the participants will remain high. Wheelchair basketball tournaments are conducted all day over the course of a weekend, similar to collegiate track and field events. They are referred to as tournaments but, in fact, it is a series of regular season games with the only actual tournament held during the national championship. Event coordinators can focus on promoting marquee matchup games when they expect the highest level of fan traffic. These marquee games should

incorporate the teams with the highest skill level while games and teams with a lower skill level should be played when less fan traffic is anticipated, which would include games during the work week (i.e., Friday), and early Saturday and Sunday morning before most fans arrive at the venue. Promoting the games with the greatest physical skill at the times when event coordinators anticipate the highest level of traffic may serve to maximize the attendance of male spectators.

Knowledge was the strongest predictor of all consumption intentions measured, showing significance in every category of consumption and gender except for female's desire to purchase merchandise. Spectators may find understanding the intricacies of wheelchair basketball challenging. While the sport resembles traditional basketball in many ways, there are a number of distinct differences in the sport, including modified travel rules, equipment specification and requirements, and a complex disability classification system. In addition, with limited mass exposure in the press and almost no television exposure, many spectators might not be aware of star players. For this reason, efforts should be made to help spectators become more knowledgeable about the sport itself as well as the teams and individual athletes competing in the events. These efforts can be made by having informative and illustrative game programs as well as information about the sport and athletes available online. This information should be provided on each team's website as well as social networking sites such as Facebook and Twitter. Finally, efforts could be made to educate spectators in two main ways: (a) fan days constituting outreach experiences that allow spectators without disabilities to play wheelchair basketball by using game-ready wheelchairs and thus becoming more familiar with the sport and the equipment; and (b) the production of short programs focusing on the athletes who will be competing and information on the differences between wheelchair basketball and traditional basketball. This information could serve to increase knowledge and help spectators become more invested as fans.

Due to the fact that there is almost no television coverage of adaptive sport events, online media coverage has filled this gap by providing global access to adaptive sport. Nonetheless, many attendees may not know where to find this online media to watch these sports when they are unable to attend or when they wish to rewatch these events. Therefore, efforts should be made to inform attendees as to where they can watch these events online. Offering fans the opportunity to watch these events online also provides an opportunity to further increase the knowledge of spectators. As a means of promoting the sport of wheelchair rugby, Tampa Digital not only provides event footage but also offers fans short videos that consumers can watch. This serves to inform the viewer of the rules of the sport, the disability classification system, and the players. Wheelchair basketball organizations and teams may want to consider following suit, therefore providing additional opportunities for fans to increase their knowledge concerning wheelchair basketball, its related teams, and athletes. An increase of knowledge will not only increase online viewership, but also may motivate these spectators to attend live events in their local community.

Escape was found to be a predictor of male and female repatronage intentions, as well as male online viewership. The escape factor is characterized by spectators' desire to break away from day-to-day life and normal activities. A sport event can serve to distract spectators from their daily lives, especially those in either high stress or mundane jobs. Efforts should be made to tap into this escape domain by marketing a fun and exciting atmosphere at these events that offers spectators the chance to leave behind their daily lives and enjoy the game experience. For example, event organizers could highlight the novelty of wheelchair basketball as a non-traditional sport and promote the fan experience as one in which the spectator experience will differ from that associated with other spectator sport events. While many events make these efforts, this event did not; other colleges that make these efforts aimed at promoting an exciting environment where consumers can disengage from daily life include the University of Texas at Arlington and the University of Illinois, which have both reported significantly higher fan turnout than the current event (Personal Communication, J. Garner, February 15, 2010).

Vicarious achievement is a significant predictor of female's desire to purchase merchandise and view events online. Event coordinators should work to help spectators draw a greater connection to their team including language over PA announcements with introductions such as "your Arizona Wildcats" and focusing on images such as athletes interacting with fans that promote the idea that the athletes are, in essence, competing for the fans, similar to the notions found in mainstream sports. Second, events might look to have seating segmented by team support, thus creating a stronger feeling of communal fan support in an area. This support might increase a feeling of energy

and achievement which could increase the feeling of investment to a specific team. Third, merchandise should include imagery and slogans that incorporate vicarious achievement such as "My Wisconsin Warhawks." Female fans who find vicarious achievement a motivating factor to purchase apparel/merchandise will appreciate this as it is already a motive for consumption and other fans might find this an attractive characteristic. In essence, the apparel can become free advertising where potential spectators can be informed about the sport through the message found on the merchandise.

The strongest predictor of female merchandise consumption is drama. The items that determine this construct focus on the closeness of games. Wheelchair basketball events often pit two teams against one another with a rather significant skill disparity, and consequently many of the games are not close in score. In community wheelchair basketball, schedules are more flexible, thus allowing for more competitive games to take place. However, collegiate wheelchair basketball has a required conference schedule, and therefore these games may be between teams with athletes on scholarship and teams with no scholarships and limited coaching staffs. This disparity in resources often results in a disparity in skill level between teams and subsequent blowout games. While these games must be played, it should be emphasized that multiple games are played over the course of a weekend. Efforts should be made to hold competitive games at high traffic times so that drama is greater and which also results in a heightened interest by female spectators to purchase merchandise.

Limitations and Suggestions of Future Studies

The current study has several limitations that may suggest opportunities for future studies. First, the data collection was conducted in only one intercollegiate tournament even though the tournament organized multiple events over three days. Therefore, the results from the present study should be cautiously interpreted and the ability to generalize the results is limited. More data should be collected from different intercollegiate wheelchair basketball events to enhance external validity. Also, to improve ecological validity, the motive-consumption models found in the current study should be applied to different levels of wheelchair basketball events that may include national championship, division III, women's and junior events.

Second, although the adapted MSSC displayed sound psychometric properties in a wheelchair basketball setting, when the MSSC applied to consumption variables, only five out of seven factors have continuously emerged (i.e., escape, knowledge, physical skill, vicarious achievement, and drama). Two remaining factors, aesthetics and social interaction, were not found to be predictors of any sport consumption variables examined in this study. The similar phenomenon was observed in the wheelchair rugby study (Byon et al., 2010) that found three (i.e., physical skill, knowledge, and vicarious achievement) of seven motive factors were found to be important. As indicated in the previous research, more relevant and unique factors associated with adaptive athletics should be included in the existing model. Violence, support disability community, and physical attraction could be good potential factors to be considered for inclusion to the adapted MSSC. With the above factors being incorporated, an attempt should be made to develop a new motive scale measuring spectator's consumption toward adaptive athletics. Starting with a qualitative method (e.g., in-depth interviews) to identify relevant motive factors, followed by a quantitative method (e.g., factor analyses) to examine factor validity, this new scale would be an important contribution to better measuring spectator motive for consumption for adaptive athletics.

Third, a little over the half of the sample of the current study have indicated that they had no association with disability (e.g., family member or friend with a disability). However, we did not examine which motive factors could influence sport consumption behaviors for the group with an association with disability and those without a disability association. This finding could be an important one for marketers of wheelchair basketball to reach out to non-disabled spectators to expand the fan base for the wheelchair basketball organization.

Fourth, there needs to be further study of the potential mediating effect of venue accessibility on patrons' initial desire to attend wheelchair sport events as well as their repatronage intentions. Given the internal and exogenous barriers to participation that people with disabilities must contend with in service environments, including lack of knowledge, staff attitudes, availability, accuracy of information, and, in particular, the physical or psychological-related barriers (McKercher, Packer, Yau, & Lam, 2003), it is important to ensure that the sport venues selected to host wheelchair sport events are physically accessible to both spectators and participants. While it may seem intuitive that a venue hosting a wheelchair sport event would itself be accessible, this is not always the case. Therefore, it is necessary to strategically communicate the level of venue accessibility

to fans and participants as a part of the event's marketing plan. For example, the event where the survey data was collected was hosted in the University of Alabama student recreation center. The wheelchair basketball team practices within the facility and the facility is accessible to those with mobility impairments. Communication barriers as well as problems with customer service can be avoided if clear and accurate information about the accessibility of the host site is provided on the event's website or through other marketing materials. If the accessibility of the venue is viewed as part of the overall marketing strategy, spectators and participants with disabilities would be more likely to attend if they were assured the venue will be accessible to them.

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