Development of a Scale to Measure Perceived Risk in Collegiate Spectator Sport

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The sport industry has experienced impressive growth over the past decade and is currently estimated to be a $441 billion industry within the United States (Plunkett Research Ltd., 2008). The demand for sport has resulted in a multitude of consumption options for interested fans other than game attendance, and competition for consumers’ time and discretionary income has led to a crowded sport marketplace. For these reasons, a primary concern among sport marketers and organizations should be determining factors affecting sport consumption behavior to keep existing fans and attract perspective fans. A great deal of research has investigated this issue focusing on motivation, identification, and market demand variables (James & Ross, 2002; Kahle, Kambara, & Rose, 1996; Trail & James, 2001; Trail, Robinson, Gillentine, & Dick, 2003; Wann, 1995; Zhang, Pease, Hui, & Thomas 1995). Research in this area, however, has focused on factors leading to attendance with little scholarly attention given to factors that may constrain attendance (Trail, Robinson, & Kim, 2008). Examining the absence of motivation is an insufficient basis for explaining spectator non-attendance.

Any purchase necessarily involves some amount of risk. The amount of risk a consumer perceives can affect their purchasing behavior (Bettman, 1973). Thus, perceived risk is an important concept likely to affect the behavior of sport consumers. To date, perceived risk has received a great deal of attention in the consumer behavior (Bettman, 1973; Lim, 2003), tourism (Lepp & Gibson, 2008), and recreation fields of study (Creyer, Ross, & Evers, 2003), but has yet to be incorporated into sport management context. One major reason for the scarcity of perceived value research may be due to the lack of valid and reliable instrument that measures perception of various risks associated with consumption. To date, perceived risk research within sport management has been conducted based on a simple measure of risk as one potential constraint to attendance (Kim & Chalip, 2004) or focused solely on risk associated with terrorism at mega-events, (Taylor & Toohey, 2007; Toohey, Taylor, & Lee, 2003). Haddock (1993) and other researchers have argued that a multi-dimensional measure of perceived risk is more appropriate as consumers perceive risk related to different areas both tangible and intangible. Following the suggestion of Haddock (1993), Carroll, Byon, and Ko (2009) proposed a multi-dimensional measurement of perceived risk, tapping into various dimensions of risk, including financial, physical, performance, social, time, and psychological. However, the conceptual framework has yet to be empirically tested. Therefore the purpose of this study was to develop the Spectator Perceived Risk Scale (SPRS) associated with attendance at collegiate football games. Following Churchill’s (1979) scale development procedures, the scale was developed based upon a review of literature, focus group, a panel of experts comprised of four university professors and two athletic departmental personnel in marketing and event operations, and a pilot test (N = 57). Participants were students (N = 711) enrolled in two universities located in the Southeastern U.S. The initial scale contained 37 items measuring Perceived Risk across six dimensions. Items were measured on a 7-point Likert scale, ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). The data were randomly split into two halves for analysis, with the first half used to conduct Exploratory Factor Analysis (EFA) and the second half used to conduct Confirmatory Factor Analysis (CFA). The criterion for retaining factors in EFA was based upon having an eigenvalue greater than or equal to one and a factor loading greater than or equal to .50. After the first half of the data was submitted to a principal component extraction with varimax rotation, nine items were deleted due to either double loading or a low factor loading. Final results yielded a five-factor, 28-item model, explaining 70.1% of the total variance. The factors were labeled Psychosocial Risk (8 items, α = .91), Time Risk (5 items, α = .91), Financial Risk (6 items, α = .91), Physical Risk (4 items, α = .83), and Performance Risk (5 items, α = .86). Even though the Social and Psychological dimensions were combined, the reliability coefficients of the SPRS demonstrate that the items were reliable at estimating their respective dimension.

The second data set for the perceived risks variables, that contained 28 items under five dimensions, was submitted to a CFA, using Maximum Likelihood (ML) estimation method. The initial model did not fit the data well. A respecified model was proposed that included five factors with 21 items. Overall goodness of fit indicated that the respecified model fit the data reasonably well and was much better than the original five-factor, 28-item model ($\chi^2 = 601.04, p < .001; \chi^2/df = 3.36; \text{RMSEA} = .08, 90\% \text{CI} = .07 - .09; \text{SRMR} = .07; \text{CFI} = .93; \text{ECVI} = 1.99$). Three reliability
tests were evaluated through the use of Cronbach’s alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). All values were above the recommended thresholds. Convergent validity was evaluated through examining the magnitude of indicator loadings and statistical significance of the indicator loadings. All values were statistically significant and were shown appropriate magnitude, indicating excellent convergent validity. Finally, discriminant validity was evaluated through examination of interfactor correlations and AVE values. All interfactor correlations were below .85, indicating the model had preliminary discriminant validity. Additionally, all squared correlations except for one (Time Risk – Financial Risk) in the scale were below the corresponding AVE values, indicating reasonable discriminant validity (Fornell & Larcker, 1981). A decision was made to retain both factors despite the high correlation due to theoretical justification.

In conclusion, the SPRS represents a first attempt at developing a scale capable of measuring the unique dimensions of perceived risk associated with attendance at a collegiate football sport event. This scale may be used by sport marketers to determine which risk factors negatively affect spectator attendance so that resources may be directed to those areas. Additionally, further research may use this scale to measure the effect of perceived risk on other sport consumption variables.