

## Development of a Motivational Scale for Sport Twitter Consumption

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**25-minute oral presentation**

**(including questions)**

Twitter continues to have a large impact on the relationship between sport fans and sport organizations (Williams, Chinn, & Suleiman, 2014) while the academic field of sport management remains heavily invested in the study of Twitter (Filo, Lock, & Karg, 2014; Wenner, 2014). As this research pushes forward, it is necessary to adapt research designs, theories, and assessments that are specific to sport and social networking sites. Therefore, the goal of the present study was to develop the first motivation scale for sport fans utilization of Twitter. The specific sport league of Major League Baseball (MLB) was chosen because of access provided by the league and the league's widespread embrace of Twitter.

The development of the Sport Twitter Utilization Motivation Scale (STUMS) took many steps to arrive at a valid and reliable psychometric instrument. The writings of Clark and Watson (1995), DeVellis (2012), and Netemeyer, Bearden, and Sharma (2003) guided the scale development process. Development began with an exhaustive literature review of research conducted on Twitter. The review included work from both within and outside the sport management field. The theory of uses and gratifications was found to be the central hallmark of a large degree of research on motivations for using Twitter. A review of previous scales in sport management literature (e.g. Hur, Ko, & Valacich, 2007; Park, Ha, & Mahony, 2014; Seo & Green, 2008; Trail & James, 2001; Wann, 1995) helped to provide guidance and contribute items to the study. From this review the initial item pool of 110 possible motivations for sport Twitter utilization were collected. A nine-person expert panel then reviewed the item pool. The experts, with two exceptions, were faculty members in sport management departments. Experts with MLB Advanced Media were also consulted. The panel made numerous recommendations for the item pool and the questionnaire format.

The next step in the STUMS development involved the use of a pilot study. The goal of the pilot study was to reduce the number of items by examining their item statistics, interitem correlations, and factor structure. Participants were recruited from an industry leading survey administrator and from undergraduate university sport management classes. There were 162 participants in the pilot study. Item analysis in SPSS22 revealed that many items were highly correlated with each other. With an eye towards homogeneity and using criteria established by Clark and Watson (1995), highly intercorrelated items were either combined or eliminated in favor of using one item or another. Item distributions and variances were also examined for all pilot study items. Factor analysis was utilized to determine how items factored together and to see if different latent factors emerged. Principal-component analysis with promax rotations was then run. The most parsimonious result yielded a seven-factor structure which explained 68.4% of the total variance. Each factor was tested for and found to have strong internal reliability, and acceptable levels of item-to-total correlations and mean interitem correlations. The pilot study concluded with 39 items being introduced into the full study.

The full study utilized snowball sampling on Twitter and through other sport websites, which resulted in 526 acceptable responses. Respondents were found to be heavily male, with an average age of 27, Caucasian, and college graduates. More than three-fourths of respondents (76.6%) reported that 75% or more of the Twitter usage came via a mobile device such as a smartphone or tablet. Smartphones were used by 95.8% of the sample to access Twitter.

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To again ensure content validity, item-scale correlations, interitem correlations, means, standard deviations, variances, and score distributions were examined for each of the 39 items in the full study. A follow-up PCA helped eliminate two additional items because they did not load at an acceptable level on any factor. The seven-factor PCA with promax rotation explained 62.2% of the total variance. These factors were labeled Communication, Incentive, Information Gathering, Medium Characteristics, Fanship, Escape, and Trolling.

The seven-factor, 35-item structure from the PCA was next subjected to confirmatory factor analysis (CFA) with AMOS 20. Initial test of the model produced unacceptable model fit in a number of fit indices (RMSEA, SRMR, CFI, TLI,  $\chi^2/df$ ). Evaluation of the initial measurement model resulted in the elimination of four more items because of low loadings. A 31-item, seven-factor model managed to find an acceptable fit (CFI=.91, RMSEA=.059, SRMR=.066). Testing of this model's reliability and validity showed that the fanship and medium characteristics subscales did not reach acceptable standards of either necessity as stated by Clark and Watson (1995) and Netemeyer et al. (2003). The fanship and medium characteristics were thus eliminated from the STUMS, but a three of their items were retained on the information gathering subscale. This retention occurred because a follow-up PCA revealed that these three items had acceptable loadings on the information gathering subscale.

The new, final, five-factor, 27-item STUMS meet and exceeded all levels of acceptable model fit ( $\chi^2/df=2.656$ , CFI=.929, RMSEA=.055, AGFI=.864, SRMR=.054). The construct reliability of each subscale was found to be above the .70 threshold and all but one subscale demonstrated clear convergent validity as demonstrated by an average variance extracted (AVE) above 0.5. Discriminant validity was established because no two factors correlated above the 0.7 or 0.85 level. The 27-item STUMS demonstrated strong statistically significant correlations with a four-item measure of Twitter commitment. The communication subscale demonstrated the highest correlation with Twitter commitment (.511), followed by information (.491), escape (.313), trolling (.356), and incentive (.294). The communication subscale was also found to be positively correlated with the frequency of posting to and time spent on Twitter while the trolling subscale was significantly correlated with length of time owning a Twitter account.

The final STUMS demonstrated differences in the motivations of Twitter utilization from other sport motivation scales (e.g. Hur et al., 2007, Seo & Green, 2008; Trail & James 2001; Wann, 1995). The communication subscale included elements of expression and interaction that fully encompass the range of creation an individual Twitter user possesses. The incentive subscale derived heavily from the work of Gibbs et al. (2014) and marks an emerging trend among users seeking something personal from their Twitter experience. The information gathering subscale supported rich research on Twitter (Clavio & Kian, 2010; Kaplan & Haenlien, 2010) that has established the importance of the medium for providing breaking news. The escape subscale emerged as a hybrid of items traditionally used to measure diversion, a need to escape, and pass the time. Lastly, the trolling subscale emerged from growing literature (Sanderson & Truax, 2014; Smith & Smith, 2012) within sport communication on a small, but noteworthy aspect of online behavior. Trolling represents behaviors that researchers (e.g. Bishop, 2014) suggest are meant to produce reactions from other Internet users and/or express unpopular ideas. The trolling subscale contains the first known items to measure the trolling element of Internet behavior.