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The field of sport management is identified as a young and developing field of study (Zhang, 2015). A critical element of an academic field is its body of knowledge. As noted by Dr. Earle F. Zeigler, for whom NASSM's most prestigious award is named, any profession must have a sound body of knowledge to undergird it if it is to survive with its professional status fully recognized by society (Zeigler, 1987).

As is done in all developing fields of study, evaluation of the literature is critical to the field. Analysis of the literature provides an evaluation of strengths and weaknesses as well as a preview of what is being provided to the literature and what is not being provided. In other words, as Pitts, Danylchuk, & Quarterman (2014) posited, “is the literature, as it develops, being filled with the depth and breadth of information to provide sufficient knowledge to educators and researchers toward appropriately educating students for sport management professional jobs in the industry?” (p. 47). If weaknesses or gaps are discovered, those in positions to guide and shape the literature have the responsibility to address the weaknesses and gaps toward “establishing a more comprehensive body of literature” (Pitts, et al., 2014, p. 47).

One critical element needing analysis is what research methods are being employed in works being published in sport management journals. Such evaluation will provide a descriptive map of research methodologies utilized in research published in journals and will reveal such data as which methods are more commonly, least commonly used, and have not been used. It enables scholars to provide recommendations for utilizing research methods by researchers, for course content in research classes, and by educators and researchers in guiding doctoral students in their research. However, to date, merely three journals have been included for analysis: the Journal of Sport Management, the International Journal of Sport Management, and the Sport Marketing Quarterly.

The first study to evaluate research methods involved the Journal of Sport Management (JSM). In this study, Barber, Parkhouse, and Tedrick (2001) examined the early years of the journal 1991 through 1995. To date, the JSM’s years since 1995 have not been analyzed. Quarterman, Hwang, Han, Jackson, and Pitts (2013) analyzed research methods specific to statistical data analysis techniques utilized in research published in the first ten years of the International Journal of Sport Management. Lastly, Quarterman, Pitts, Jackson, Kim, and Kim (2005) analyzed research methods specific to statistical data techniques in research published in the Sport Marketing Quarterly. Thus, the purpose of the current study was to contribute to this body of knowledge with an analysis of research methods in a journal yet to be examined, the European Sport Management Quarterly (ESMQ). To be specific, this study is designed to improve our understanding of the landscape of the statistical data analysis methods and techniques that have been employed in European Sport Management Quarterly (European Journal of Sport Management, EJSM between 1994 and 2001).

For this study, a total of 374 research articles published in EJSM and ESMQ during its first 22 years, from 1994 to 2015, were classified into four research categories: conceptual, quantitative, qualitative, and mixed methods. This classification has been employed in reflective studies in various academic fields including sport management (e.g., Quarterman, Hwang, Han, Jackson, & Pitts, 2013; Quarterman, Pitts, Jackson, Kim, & Kim, 2005), tourism (Reid & Andereck, 1989) hospitality management (Baloglu & Assante, 1999), marketing (Grazer & Stiff, 1987), education (Cameron, 2010), and leisure studies (Riddick, DeShriver, & Weissinger). Based on a systematic categorization scheme employed by the studies of Baumberger and Bangert (1996) and Goodwin and Goodwin (1985a, 1985b), two inter-coders were involved in the two-step coding procedure. Initial coding was conducted independently, which
exceeded 98% consensus. Next, reflecting the recommendations for reconciliation of coding disagreements (e.g., Gerstner & Day, 1997; Scandura & Williams, 2000), coded information was shared with all coders and discussed to reach unanimous agreements.

Overall, quantitative research accounted for 48% (n=167) of the total articles published in EJSM and ESMQ for the last twenty-two years. Qualitative research accounted for 31.9% (n=111) while mixed methods research and conceptual research accounted for 16.7% (n=58) and 3.4% (n=12) respectively. Because the present study focused on statistical analytical techniques, all 167 quantitative studies were included. Additionally, statistical techniques of studies with mixed methods (n=12) were explored. After classifying the types of research, the authors investigated the analytical procedures of the quantitative research. Through the use of the coding scheme suggested by several scholars (e.g., Baumberger & Bangert, 1996; DePoy & Gitlin, 1994; Gall, Gall, & Borg, 2003; Goodwin & Goodwin, 1985a; 1985b; McMillan & Schumacher, 2001; Neuman, 2003; Quarterman, Pitts, Jackson, Kim, & Kim, 2005), the authors coded each quantitative research article based on the three major categories of statistical techniques: descriptive, parametric, and nonparametric statistics. The coding scheme required detecting every statistical technique used in a study and then classifying the technique as being either major or supplementary. If a statistical technique was employed to answer the research purposes, questions, and hypotheses of a study directly, it was regarded as a major technique. A statistical technique was deemed supplemental and excluded from the coding if it was employed as a means of reaching a higher level of statistics. Along with frequency analysis, year-to-year Percentage Use Indices (PUIs) were calculated for each category of statistical analytical techniques. PUIs are beneficial to explore the trends of certain numbers over time presenting the frequent use of a given type of statistical analytic technique divided by the number of total techniques that emerged for each year and multiplied by 100. The results showed that a total of 27 articles employed descriptive statistics. Among eight different types of techniques, roughly 80% of descriptive statistics in the articles were percentages, mean, and frequency. For the inferential statistics, a total of 21 different types of techniques were identified. Of 21 techniques, 15 parametric statistical techniques were employed whereas a total of six nonparametric statistical techniques were employed by the quantitative studies of the EJSM and ESMQ. The results also showed that parametric statistical techniques were most frequently employed techniques making up about 80%. Descriptive techniques and non-parametric techniques accounted for 13% and 6.3%, respectively. Of the 15 parametric statistical techniques noted, regression analysis accounted for almost half (45.4%) of the techniques used. Structural Equation Modeling (SEM) was the second most prevalent techniques accounting for 11.4% of the parametric techniques. MANOVA (9%), ANOVA (8.4%), and factor analysis (7.8%), and t-test (6.6%) followed regression analysis and SEM. Of the six nonparametric statistical techniques, the chi-square test was the most predominant techniques accounting for nearly 40%. Data development analysis (23.1%) and Mann-Whitney test (15.4%) followed after it.

The results of three-year-term PUIs of statistical techniques showed that the PUIs of descriptive statistics have tended to gradually decrease, and after 2004, the PUI has remained less than 20%. In terms of the PUI of parametric statistics, they have been predominant from 1994, except for 2003 (which was exactly 20%). Since 2010, the PUIs of parametric statistics have been more than 80%. On the contrary, nonparametric statistics have not been dominant. The mean of the PUIs of nonparametric statistics was 8%, out of a range of 0% to 40%. It should also be noted that no nonparametric statistics was identified in 13 individual years indicating that it has been included in the articles of the EJSM and ESMQ only sporadically.

In the presentation, we will also compare the results of previous studies (e.g., Quarterman et al., 2005; Quarterman et al., 2013) to discuss the results more in detail.