

**Meeting the Assumptions Underlying Statistical Methods Used in Tourism Research:
A Review of Articles Published in
a Korean-Language Journal and an English-Language Journal**

Hyojin Kim

Nutrition, Hospitality, and Retailing

Texas Tech University

Kwang-Woo Lee

Nutrition, Hospitality, and Retailing

Texas Tech University

Betty L. Stout

Nutrition, Hospitality, and Retailing

Texas Tech University

and

Linchi Kwok

Hospitality Management

Syracuse University

ABSTRACT

The aim of this study is to compare the consideration given to statistical assumptions by authors of empirical studies in a Korean-language and an English-language tourism journal. This research is to analyze statistical assumptions of a representative sampling of empirical studies published between 1999 and 2008 in the Journal of Tourism Sciences in Korean language and the Annals of Tourism Research in English language. Using the statistical assumptions underlying statistical procedures provided by Tabachnick and Fidell (2007), research articles in each journal are analyzed with regard to the fundamental assumptions of the commonly used advanced statistical analyses. By conducting this research, the authors will affirm the importance of the statistical reliability of the empirical studies being accepted for publication within the past ten years.

Keywords: *statistical assumptions, empirical study*

INTRODUCTION

Based on the remarkable growth and development of the tourism and hospitality industries since the 1980s, a wide number of researchers have become involved in conducting various studies associated with these fields. In conjunction with this increase in researcher and practitioner attention on tourism, the number of professional associations, conferences, and journals, such as the Travel and Tourism Research Association and *Journal of Travel Research*, have expanded. Although the total number of professional journals known within the English-language academic world cannot be counted accurately, there are nine journals listed in the Social Science Citation Index (SSCI) as of April 14, 2010, which pertain to the tourism and hospitality sector: *Annals of Tourism Research*, *Journal of Hospitality Leisure Sport & Tourism Education*, *Journal of Sustainable Tourism*, *Tourism Economics*, *Tourism Geographies*, *Tourism Management*, *Cornell Hospitality Quarterly*, *International Journal of Tourism Research*, and *International Journal of Hospitality Management*.

The growing number of professional associations, conferences, and journals blossoming in the tourism and hospitality sectors has come to the attention not only of the English-language academic world, but also to the attention of the Korean scholarly community. Although there may be a number of other professional journals in the Korean tourism and hospitality research community, the Korea Citation Index (KCI), a counterpart of SSCI, lists five professional journals related to tourism and hospitality academia, as of April 14, 2010: *Journal of Tourism Sciences*, *Journal of Tourism and Leisure Studies*, *Journal of Tourism Management*, *Journal of Foodservice Management*, and *Journal of Hospitality Administration*.¹

As evidenced by the number of professional organization and journals and the quantity of papers published in these professional journals, researchers have contributed to the growth and progression of tourism in academia. Given the quantitative survey research escalation in the professional “publish or perish” tourism community, the growing number of research journals, the advancement and development of statistical programs and methods, the quality of published tourism research may have suffered. There is no doubt that advanced statistical methods such as M-Plus, the Statistical Package for the Social Sciences (SPSS), the Statistical Analysis System (SAS), Mini Tab, and R have led to a great deal of significant and high quality research in the tourism academic world.

In opposition to the heavy focus on such statistical programs and methods, however, are a few renowned researchers who share considerable concern over the trend toward an emphasis on survey research (Han and Kim, 2001; Kim, 2007). Although several methods exist by which to identify the quality of empirical research and professional journals (McKercher et al., 2006; Pechlaner et al., 2004), the focus of this paper is on the statistical assumptions of particular statistical methods. The aim of this study is to compare the consideration given to statistical assumptions by authors of empirical studies in a Korean-language and an English-language tourism journal.

METHODOLOGY

There are numerous journals representing the tourism and hospitality fields, but the *Journal of Tourism Sciences* (JTS), based in academia in Korea and published in the Korean language, and the *Annals of Tourism Research* (ATR), which is published in English, are

¹ In the case of journals without English names, the authors have translated them into literal English.

representative of tourism research journals. These journals were chosen for this study not only because they are long-established and traditional sources within tourism and hospitality academia, but also because they are listed in the Korea Citation Index (KCI) and the Social Science Citation Index (SSCI), respectively.

The purpose of this research was to analyze statistical assumptions of a representative sampling of empirical studies published between 1999 and 2008 in the *Journal of Tourism Sciences* and the *Annals of Tourism Research*. Review of research, commentary, and publications in review were ruled out in terms of this research.

Using the statistical assumptions underlying statistical procedures provided by Tabachnick and Fidell (2007), research articles in each journal were analyzed with regard to the fundamental assumptions of the commonly used advanced statistical analyses (multiple regression, multivariate analysis of variance, discriminant analysis, logistic regression, principal component and factor analysis, structural equation modeling). An article was considered as disregarding attention to statistical assumptions if the authors of the article employed structural equation modeling and did not meet or report the common statistical assumptions, such as sample size and missing data, multivariate normality and outliers, linearity, absence of multicollinearity and singularity, and residuals, for example.

By conducting this research, the authors will affirm the importance of the statistical reliability of the empirical studies being accepted for publication within the past ten years. A cursory review shows a lack of consideration of statistical assumptions by some authors of articles published in both the Korean-language and the English language tourism journals. By focusing this study on the assumptions underlying the advanced statistical analyses used by authors of research articles in the two publications, the intent is to challenge researchers and improve upon empirical research.

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