Applying Generalizability Theory to Competitive Balance in North American Professional Sport

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Fan interest in sports is largely driven by creating excitement about individual games, which is heightened by uncertainty regarding the outcome of games. At a league-wide level having a more even distribution of wins among teams enhances fan interest, and a more even distribution of wins in a league indicates a higher degree of competitive balance (Larsen, Fenn, & Spencer, 2006). As such, measuring competitive balance is an often-researched area within the sport management discipline. Many methods for measuring competitive balance have been utilized, with Evans (2014) providing a thorough review of the measures. While there are more generally accepted methods, there is no single agreed upon measure of competitive balance (Uyar & Surdam, 2012).

The present study utilizes Generalizability Theory (G-Theory) to measure competitive balance in the four major North American sport leagues over a ten-year period from 2005-2014. G-Theory is often used in educational and psychological research to test reliability of estimates in areas such as assessments (Briesch, et al., 2014). G-Theory studies produce a coefficient, which is measured against a predetermined minimum level of reliability in order for the researcher to determine if a reliability of estimates is reached. In such a study, a reliability of estimates would mean that a researcher is confident that the results are repeatable. In the context of competitive balance, a sport league would not want to see a reliability of estimates, because it would indicate that the distribution of wins in a league is predictable and repeatable.

There are two potential advantages to using G-Theory as a measurement method of competitive balance. First, the coefficient produced by the method can be interpreted both absolutely and relatively. Based on the minimum level of reliability, a researcher can interpret, absolutely, if a league is competitively balanced. The coefficient can also be relatively compared to other leagues, or on a year-to-year basis within the same league; allowing for several comparison options. The second advantage is that a single construct can be measured under differing conditions, at different points in time (Briesch, et al., 2014). Because of this, measuring competitive balance longitudinally, or over shorter time periods is relatively easy. A researcher could go as far as to pinpoint the moment in a season when a reliability of estimates is realized.

Minimum level of reliability used in the present study was 0.8, which is commonly utilized in education, psychology, physical activity, and nursing research (Briesch et al., 2014, Ishikawa et al., 2013; O'Brien, 2014). Results indicate over the ten-year period, the NHL was the most competitively balanced with a coefficient of .595, followed by the NFL at .616, MLB at .645, and the NBA at .880. In absolute terms, this would position the NBA as the only competitively unbalanced league. The relative levels of competitive balance align with other competitive balance research, as Rockerbie (2014) found the same relative rankings using relative standard deviation, the most commonly used measurement method. Results indicate G-Theory has merit as a measurement tool of competitive balance.