ABSTRACT

RESEARCH PAPER: Designated Hitters and Subsequent Team Scoring Performance in Major League Baseball

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The Designated Hitter (DH) rule in Major League Baseball (MLB) is a topic of great debate. In the National League (NL), all players take a turn at bat. However, in the American League (AL), a DH usually bats for the pitcher. MLB pitchers typically do not have strong batting averages. The DH rule was created to increase a team’s offense. This study looked at whether there is an apparent difference between the AL and the NL. In theory, a DH will lead to more hits, more runs, and therefore a higher scoring game. This study looked at the average runs per game and total home runs for the AL and NL during the 1998 through 2018 regular seasons. Since the assumptions of parametric multivariate analysis of variance (MANOVA) were not met, a nonparametric analysis was used. The permutation test for multivariate means results showed an apparent difference between the two leagues ($p < .05$). A quadratic discriminant analysis (QDA) was used as a follow up test and showed home runs as the variable driving the difference between the two leagues. Therefore, the AL has better scoring performance than the NL. Future studies should compare other statistics between the two leagues during the regular seasons and outside of the regular seasons.

Keywords: designated hitter, Major League Baseball, nonparametric analysis, pitcher