

The Relationship between 60-yard sprint, 30-yard sprint, Standardized Base Stealing Sprint, and Offensive Baseball Performance

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ABSTRACT

Athletic performance testing protocols strive to accurately predicting or gain better understanding of an athlete's performance within a particular sport or game. Regarding baseball, Wolfe and colleagues (2012) examined the predictive validity of the 60-yard shuttle run on pitching performance and concluded that strikeouts and innings pitched were significantly related to elevated kinetic energy factors of pitchers obtained from the shuttle run performance. Concerning for baseball position players, the 60-yard sprint (60YS) is traditionally utilized to showcase "baseball speed", with minimal empirical evident supporting predictability to baseball specific performance outcomes. **PURPOSE:** The aim of the current investigation was to have examine the relationship between 60YS and offensive baseball performance outcomes, as well as the 30-yard sprint (30YS) test, and newly created standardized 1st to 2nd sprint (STS) test relationship to offensive baseball performance outcomes. **METHODS:** Division I baseball position players (n = 17; height: 180.92 ± 5.61 cm; weight: 82.1 ± 11.12 kg) performed three sprinting tests: 60YS, 30YS, and STS. Each test was recorded using the Brower Timing Gate System, with sprint time recorded in second. All testing was completed prior to the first game of the team's college baseball season. Offensive baseball performance measures were recorded throughout 61 regular season games. The following baseball performance data was collected from the university's official NCAA game performance website: total stolen bases (SB), stole base attempts (AT), stolen base percentage (SBP), at bats (AB), hits (H), doubles (DB), triples (TR), homeruns (HR), runs (R), base-on-balls (BB), hit by pitch (HBP), on base percentage (OBP), slugging percentage (SLP), touched bases (TB), runs batted in (RBI), and batting average (AVE). Pearson's product-moment correlation ($p < .05$) was employed to examine the correlation between sprint tests and offensive baseball performance. **RESULTS:** The statistical analysis revealed significant correlations between STS ($p = .002$, $r = -.762$), 30 yd sprint ($p = .048$, $r = -.556$), and 60 yd sprint ($p = .038$, $r = -.578$) and SB. Additionally, a significant correlation was identified between OBP and STS ($p = .022$, $r = -.625$), 30YS ($p = .027$, $r = -.609$), and 60YS ($p = .020$, $r = -.633$). Aside from these two baseball performance metrics, 30YS and 60YS had no significant correlation with baseball performance. However, STS, additionally, significantly ($p < .05$) correlated with AT, AB, H, TR, HR, R, BB, SLP, TB, RBI, and AVE. **CONCLUSION:** The STS, 30YS, and 60YS had a significant relationship with offensive baseball performance. However, the results of 30YS and 60YS only correlated with two offensive measures, while STS had a significant correlation with all but 3 offensive performance metrics. These findings suggest STS may be a more relevant measure for predicting offensive baseball performance than the traditional 30YS and 60YS tests.