TACSM Abstract

Time-Trend Comparison of NFL Combine Performance from 2000-2009

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ABSTRACT

The National Football League (NFL) combine is a final opportunity for collegiate seniors to showcase physical talent to NFL personnel responsible for draft decisions. Potential draftees complete tests of speed, agility, and power; the results of these tests are distributed to all NFL teams. Due to the importance of combine performance to draft order and corresponding financial incentives, training facilities now specialize in teaching technical strategies to improve combine scoring performance. Many athletes now participate in combine preparation programs which may have resulted in increased performance of recent cohorts. **Purpose:** To determine if NFL combine performances in the 40-yard sprint, pro agility, vertical and broad jumps have improved from 2000-2009 and if the improvements varied by position. **Methods:** Combine data were obtained from publically available sources previously used for publication. Data included 1904 football players participating in the combine during the following years: 2000 (n=190), 2001 (n=159), 2002 (n=169), 2003 (n=175), 2004 (n=177), 2005 (n=200), 2006 (n=215), 2007 (n=205), 2008 (n=200), 2009 (n=214). Each player completed the following tests: body mass determination (BM), 40-yard sprint (SP), pro-agility (AG), vertical jump (VJ), and broad jump (BR). Peak power (PP) was calculated using Sayers equation. Based upon collegiate positions, players were divided into 3 groups: Skill Players (n =833), Big Skill Players (n=391), and Lineman (n=680). A two-factor ANOVA (draft-year x position) was completed on each dependent variable. For brevity, only main effects and interactions are reported. Alpha was set at $p \leq 0.05$ prior to analysis. **Results:** Body mass did not vary by draft-year (p=0.94) but there was a significant main effect for position (p<0.001). Significant main effects were detected for draft-year (p<0.001) and position (p<0.001) for SP. An interaction effect was present for draft-year by position for AG. Significant main effects were evident for draft-year (p<0.001) and position (p<0.001) for VJ. BR scores varied by draft-year (p<0.001) and position (p<0.001). Significant main effects were identified for power by draft-year (p<0.001) and position (p<0.001). No interaction effects were present for BM, SP, VJ, BJ, and Power. **Conclusion:** Visual trend analysis suggests there was a systematic improvement in SP and BR during the past 10 years. These improvements do not differ by position grouping. Variations in AG, VJ and power by draft-year were not systematic and likely reflect normal variation in draft cohort talent. Further research is needed to determine if players participating in combine preparation programs score higher than athletes who do not.