

The NFL Combine as a Predictor of On-field Success

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Introduction/Purpose: The NFL scouting combine is utilized annually by NFL franchises for prospect evaluation. It consists of a series of physical tests, medical evaluation, and intelligence exam (the Wonderlic). The relationship between physical measures such as vertical jump height and subsequent on-field performance has not been adequately explored in the medical literature. Such information could be useful for athletes training for a career in football or for athletes returning from injury seeking to maximize their chance of subsequent on-field success. The purpose of this study is to see if physical characteristics, as measured in the combine, are correlated with subsequent on-field performance.

Methods: Physical testing performance at the combine for all NFL positions from 2006 to 2013 was obtained from a publically available NFL draft scout website. NFL performance data for all players ($n=1306$) who entered the combine was obtained from the commercial website Pro Football Reference. Pearson's linear correlation coefficients were utilized to analyze relationships between combine physical and intelligence test measurements and subsequent on-field performance for each offensive and defensive position. On-field performance was measured using a wide variety output statistics. Examples include yards per carry or reception and yards per attempt for offensive positions and sacks and tackles per game for defensive positions.

Results: A number of combine measures were statistically significantly associated with improved on-field NFL performance ($p<0.05$). These measures differed per position and for offensive and defensive players and varied in correlation strength. For example, quarterbacks and running backs with faster forty-yard dash speeds were associated with better NFL rushing statistics.

Conclusion: Certain physical characteristics, as measured in the NFL combine, are associated with improved on-field performance in the NFL. Further studies are needed to discern the relationship between the NFL combine and subsequent on-field performance.

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