Exploring the Relationship Between the Wonderlic Cognitive Ability Test and Delinquent Behavior Amongst NFL Players

Michael Thorne, University of Windsor
Ian Flaxey, University of Windsor
Jess Dixon, University of Windsor
Todd Loughead, University of Windsor

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Cognitive ability tests (often referred to as IQ tests) have been used since the early 1900s to screen job candidates on such factors as numeracy, literacy, abstract and inductive reasoning skills, pattern recognition, and memory. Particularly when used in evaluating candidates for complex jobs, cognitive ability tests have demonstrated admirable reliability and validity scores (Taylor, Doherty, & McGraw, 2008). One such test for assessing the aptitude of prospective employees is the Wonderlic Cognitive Ability Test (WCAT; previously known as the Wonderlic Personality Test). Comprised of 50 questions that are to be completed in 12 minutes, the WCAT has shown to be effective in measuring general mental ability (GMA) and has a test validity of 80-90% of full scale IQ scores (Dodrill & Warner, 1988).

Although the WCAT has been employed by human resource professionals in a variety of contexts since its development in 1937 (Dodrill & Warner, 1988), it is famously used by the National Football League (NFL) as part of its annual scouting combine. Held two months prior to the annual player draft, the NFL combine brings together over 300 of the top football recruits to complete a battery of physical and psychological tests over the course of six days in hopes of impressing NFL scouts, coaches, and general managers (NFL, 2011). At present, the NFL is the only North American professional sport league that requires prospective athletes to complete a cognitive ability test as part of its recruitment and selection process (Hatch, 2009).

The underlying logic for including the WCAT as part of the combine is to help forecast how well a particular player will be able to learn the complicated playbooks used by NFL teams (Lyons, Hoffman, & Michel, 2009). In justifying its inclusion as part of the NFL combine, Wonderlic Inc. (2004) claimed that “smarter people make better teammates and deliver more wins to the team” (p. 10). Given that GMA is a strong predictor of one’s ability to learn job-related skills (Burke, Kemery, Sauser, & Dyer, 1989) and positive overall job performance (Hunter & Schmidt, 1998), one would expect that NFL players who scored high on the WCAT would demonstrate positive outcomes on the field of play. However, this relationship remains quite tenuous as researchers have failed to substantiate this link, regardless of player position, race, and demonstrated football skill (Adams & Kuzmits, 2008; Kuzmits & Adams, 2008; Lyons et al., 2009).

Research in the fields of criminology and psychology has also established that GMA is negatively related to delinquency, with lower scores indicating a greater likelihood to participate in delinquent behavior (Hirschi & Hindelang 1977; McGloin, Pratt & Maahs 2004; Moffitt & Silva 2008). However, very little research has examined this relationship in regards to the NFL. In light of the aforementioned findings, we hypothesized a negative relationship between WCAT scores and the delinquent behavior of NFL players, as operationalized by their total number of penalties committed (PENALTIES) and the total number of yards attributed to such penalties (YARDS). Accordingly, the current study builds upon and extends earlier research by exploring the relationship between WCAT scores and the negative on-field behaviors of NFL players.

Using a convenience sample of 783 players for whom we were able to ascertain WCAT scores, and who competed in the NFL between 2000 and 2010 regular seasons, we tested our hypotheses while controlling for player position (i.e., QB, RB, WR, TE, DL, LB, DB, OL, K) and games played (GAMES). Statistical data were collected from widely-recognized, publicly-available sport statistics websites (e.g., www.pro-football-reference.com, www.nflstatanalysis.net), and were analyzed using ordinary least squares (OLS) regression. On the whole, both regression models were significant in predicting PENALTIES ($R^2 = .586, F = 109.254, p < .001$) and YARDS ($R^2 = .571, F = 102.886, p < .001$). However, after controlling for GAMES and player position, and despite both signs being
in the anticipated direction, WCAT scores were not found to be significant predictors in either analysis ($\beta = -.042, \ p = .268; \ \beta = -.454, \ p = .141$).

The primary aim of the current study was to explore the relationship between WCAT scores and delinquent behavior amongst NFL football players. The fact that we were unable to find a significant relationship is not surprising, particularly given the outcomes of previous research in this area (Adams & Kuzmits, 2008; Kuzmits & Adams, 2008; Lyons, Hoffman, & Michel, 2009). Given that WCAT scores were unable to predict the on-field delinquent behaviors of NFL players, one must question why the league would continue using the WCAT in gauging the cognitive abilities of its prospective talent. On this basis, we support Hatch’s (2009) call for the development of a football-specific cognitive ability test. Moreover, since each position on the football field is presumed to have different cognitive needs (Zimmerman, 1987), we would further argue that position-specific cognitive ability tests would be warranted in this particular context.