



White Paper: Measuring Personality
Through Social Media Content

Introduction

Research has found that the average human attention span has dropped from 12 seconds in 2000 to 8 seconds by 2013. The widespread adoption of smartphones and mobile computing devices has had a significant impact on the way people consume information and interact. Traditional personality assessments are time consuming, expensive and ill suited to changing workflows.

With attention spans in short supply, Diligence Lab utilizes social media content to quickly construct personality profiles. These assessments are designed to help individuals identify targeted careers and to help employers find candidates well suited to jobs and the corporate culture within their companies.

Purpose

The purpose of this validation study is to provide scientific evidence to support the effectiveness of the Diligence Lab Platform by proving statistical correlation between the tool (predictor) and job performance (criterion).

Findings

1. Measuring the Big Five Personality Traits through social media was highly related to measuring the Big Five using traditional survey methods at a fraction of the time and cost
2. The traits, as measured by Diligence Lab, predicted employee engagement and employee salary
3. The traits were reliable and valid

Construct Validity

The purpose of the current work was to compare results determined by the Diligence Lab tool with empirically validated measures of Big Five Personality surveys. To provide evidence that the current tool measures the same constructs in the same way as more traditional measures of personality, we correlated the constructs as measured by Diligence Lab with the same constructs as measured by the surveys:

Trait	Correlation between Diligence Lab and Survey Measures of Trait
Openness to Experience	.15*
Conscientiousness	.13*
Extroversion	.21*
Agreeableness	.21*
Emotional Response	.21*

*- statistically significant

All correlations were *statistically significant*, indicating that they can be considered scientifically supported.

Criterion Validity

To provide evidence that the tool positively predicts critical work outcomes such as employee engagement (Bakker, 2005) and salary, each trait measured by the Diligence Lab platform was correlated with these professional outcomes.

Trait	Correlation with Engagement	Correlation with Salary
Openness to Experience	.17*	-.04
Conscientiousness	.17*	.16*
Extroversion	.18*	.18*
Agreeableness	.17*	-.02
Emotional Response	.11	.26*

*- statistically significant

Employee engagement is the absorption, dedication, and vigor employees bring to their work, and it has been found to lead to better attitude, greater satisfaction, and increased performance. Salary represents the type of jobs that employees are able to be hired into, as well as their success within those jobs. In both cases, the majority of traits were significantly related to the outcome thus, there is evidence that the traits measured by the system predict critical employee outcomes.

Reliability

Interrater reliability is a key psychometric property for useful psychological assessments. Imagine you have an IQ of 130, and you take an IQ test three times. The test gives you scores of 130, 170, and 90. The test is *accurate* but it is not *reliably accurate*. Reliability is a measure of consistently measuring a construct. The current analysis, Cronbach's alpha, is considered to be useful if it is over .70 for a construct. In each case, the Diligence Lab platform greatly exceeded this rule of thumb for reliability:

Trait	Cronbach's Alpha
Openness to Experience	.72
Conscientiousness	.89
Extroversion	.88
Agreeableness	.84
Emotional Stability	.91

Participant Breakdown

46% of participants were female. The sample was heavily Caucasian (80%). T-tests between different ethnicities should therefore not be considered definitive, but based on the sample ***there were no significant differences between groups in terms of their personality scores.***

70.3% of respondents had a professional degree or higher, with 50.6% having a bachelor's degree or higher. The average age of respondents was 35.92 years old. 51.5% of respondents had annual salaries between \$20,000 and \$60,000.