Extended Abstract

We apply natural language processing techniques based on the “lexical hypothesis” from personality psychology to job ads to measure firms’ expressed demand for the Big 5 personality traits. The lexical hypothesis [Allport and Odbert 1936] proposes that the important personality traits that influence how individuals interact become encoded into language. For nearly a hundred years, psychologists have been developing lists of terms associated with personality traits, and indeed the Big Five framework emerged in part from this research.

We use a list of over 1,700 trait descriptive terms in the English language from Goldberg [1981, 1982] and John [1990] to count the number of trait descriptive terms in a sample of over 140,000 job ads from Monster.com. In measuring the demand for personality traits, we assess the importance of false negatives—ads expressing demands for traits not counted using our approach—and false positives—ads in which trait descriptive terms appear for reasons unrelated to personality. First, we demonstrate that our preferred trait descriptive term list likely misses very few terms indicative of personality traits demands as a tripling of the number of terms for which we search yields only very small increases in the fraction of ads containing personality references. Second, we show that false positive are a significant issue as trait descriptive adjectives appear frequently as human resource jargon or in senses unrelated to personality. False positives, for instance, account for around 60% of the instances of terms related to extroversion in our data before accounting for false positives.

Using our preferred adjective list and accounting for false positives, firms primarily demand workers who are extroverted (31% of ads), conscientious (26%), and open-to-experience (21%). The demands for these traits are positively correlated with the duration a job ad is posted similar to other worker requirements such as education and experience. Furthermore, the rankings of occupations by our measured trait demands are intuitively plausible insofar as the demand for extroversion is high in occupations requiring significant interactions such as sales and service occupations while the demand for conscientiousness is high in occupations requiring rote, repetitive work.

Finally, we use the measured personality trait demands and the conditions of employment offered in the ads to test hypotheses from Bowles et al. [2001] model of “incentive-enhancing preferences” that posits that some characteristics of workers influence their propensity to provide unobservable effort. For instance, firms may be able to pay hourly wages (rather than piece rates or other forms of incentives) for work involving unobservable effort provided that they attract highly conscientious workers. Our findings are generally consistent with firms being less likely to offer incentivized compensation when they are seeking highly conscientious workers.