



OPTO - PREDICTABILITY IN PERSONALITY

To what extent can personality tests predict future job performance, and what should the user be aware of in the process?

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Let us assume, that measuring personality in recruitment is commonly used as situational assessments for descriptive purposes. That is; measurements in a specific situation to understand and describe the personality of a candidate. Others also use the description for situational prediction of how well a candidate fits a specific team and/or given job requirements. (Sjöberg et al, 2021)

But what if there were normative differences in personality, making some individuals more likely to perform better in any job setting? Much like looking at the GMA factor.

The aim of this paper is to look for any personality traits that are universal for job performance by investigating current available research on the topic.

FIVE-FACTOR MODEL

Today, the Five-Factor model, also referred to as the Big Five Framework, or OCEAN (an acronym for the five traits Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism), is the dominant framework used for assessment of personality in personnel selection. This framework is considered the gold standard for understanding personality, and there is broad scientific consensus regarding its utility in recruiting. (Hurtz & Donovan, 2000; Salgado, 2003; Judge et al, 2013; Zell & Lesick, 2022)

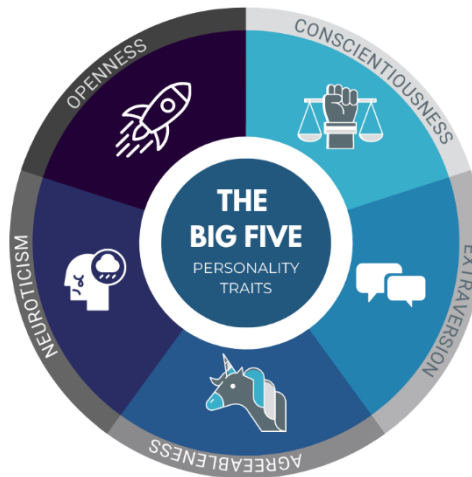


Figure 1 – The traits of the Five-factor model

Why Five-Factor model?

Up to the 1980's, before consolidation of the Five-Factor model, the use of personality tests in recruitment was not looked upon with great optimism. This might primarily be due to negative results from research on selection procedures.

The general conclusion drawn by research in this period was that personality tests did not demonstrate adequate predictive validity to qualify their use in personnel selection. But researchers have more recently suggested that the true predictive validity of personality was obscured in earlier research by the lack of a common personality framework for organising the traits being used as predictors. However, this changed with the consolidation of the Big Five framework for selection research, and the predictive validity of

personality on future job performance has been verified with increasing confidence. (Hurtz & Donovan, 2000; Salgado, 2003; Zell & Lesick, 2022)

As researchers began to adopt the Five-Factor model as a theoretical basis for selection research, increasing evidence was provided suggesting that the Big Five framework, and thereby personality, in fact did correlate with job performance. The consensus drawn by researchers and practitioners was then, that personality can be used as a predictor of job performance. This was established once again, when Salgado (2003) looked at the practical use of tests based on the Five Factor model compared to tests based on other theories and concluded:

"From a practical point of view, these findings suggest that practitioners should use inventories based on the Five Factor model in order to make personnel selection decisions."

(Salgado, 2003)

Story behind Five-Factor model

Historically speaking, personality has throughout times been described using non-psychological tendencies of each social epoch. Astrology (the idea that astrological constellations have a connection to our life on earth) has

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influenced trait names such as lunatic, jovial, and mercurial. Galenian medicine (believing that the heart was the centre of intellect and feeling) influenced trait names such as sanguine, hearty, and melancholic. The protestant reformation (focussing on introspectiveness and morality) influenced trait names such as sincere, bigoted, and fanatic.

The labelling of personality traits as we know them today is partially influenced by the historical names, but luckily in large based on personality research.

The Five-Factor model was developed around the idea of describing personality as traits. These traits were thought of as linguistic representations of the differences between people and stemmed from gathering words from dictionaries describing people. Researchers of the time assumed traits were adjectives or short, descriptive phrases. Therefore, the early practice of what would later be personality research involved diving into the dictionaries and

Researchers

<i>Fiske (1949)</i>	Inquiring intellect	Will to achieve	Social adaptability	Conformity	Emotional control
<i>Tupes & Christal (1961)</i>	Culture	Dependability	Surgency	Agreeableness	Emotionality
<i>Norman (1963)</i>	Culture	Conscientiousness	Surgency	Agreeableness	Emotional
<i>Cattell (1957)</i>	Intelligence	Superego strength	Exvia	Cortertia	Anxiety
<i>Digman (1988)</i>	Intellect	Will to achieve	Extraversion	Friendly compliance	Neuroticism
<i>Costa & McCrae (1985)</i>	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism

Table 1 – The five robust dimensions of personality verified by several researchers using different labels (Inspired by Digman, 1990)

extracting the words that was used to describe a person.

As many before them (Galton in 1884, Perkins in 1926, and Baumgarten in 1933 - to name some), two researchers gathered 17,953 personality-describing terms from Webster's New International Dictionary, ed. 1925. From this immense catalogue, they created a list with 4,504 words that most clearly described "real" traits of personality. (Allport & Odbert, 1936)

With the emergence of computers and thereby the possibility to tackle large

data sets in a new way, psychologist Raymond Cattell analysed Allport and Odbert's list in 1946. With the technology, Cattell generated 181 clusters of personality traits by looking at their intercorrelations and asked people which ones they observed in the real-world. With the results of his research, Cattell generated a sixteen-factor framework which also included factors such as intelligence. (Cattell, 1946)

This work was developed further in the 1960s when Tupes and Christal looked at Cattell's scales in predicting officer effectiveness in the American Air Force. Their findings suggested a less complex model with only five factors. During this period, it is fascinating to note, that the domain of personality traits had been successfully analysed, not just once, but by at least five competent, independent research teams, all of whom came to the same general conclusion: Personality could be adequately described by five superordinate concepts (see table 1). This was also concluded by different types of evaluation, e.g., self-reporting, peer assessments, teachers rating



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children, etc. The results consistently boiled down to five robust dimensions of personality. (Digman, 1990)

Robert McCrae and Paul Costa (1999) developed an inventory in the 1980s, NEO-PI. This was specifically developed around the idea of five large personality traits, thereby consolidating the Five-Factor model. This assessment tool is still widely used today, though in a revised form (NEO-PI R).

The Five-Factor model consists of five overarching traits each presented as a continuum. For example (see figure 2), Extraversion concerns the extent to which a person is gregarious, assertive, and sociable versus reserved timid, and quiet. (Salgado, 1997)



PREDICTABILITY

So, with the consolidation of the Five-Factor model, as a proven theory of personality, let us move on in our journey of linking personality to general job performance. The next step is to investigate the utility of personality in recruitment.

What we are looking for is the predictive validity of a personality test, referring to the correlation between personality and job performance. We do so by looking at

the criterion-related validity of explicit Five-Factor measures for predicting general job performance and contextual performance.

With the assumption, that some elements of a personality test might be of general relevance, other elements are of contextual relevance, and finally some elements are of no relevance to the specific job (see figure 3). Giving that not all elements of all personality tests are relevant for predicting job performance in all situations.

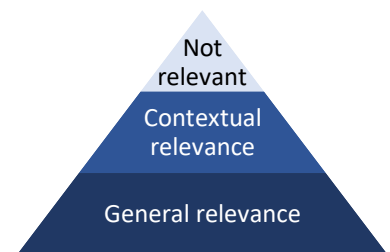


Figure 3 – The relevance of measurements of a personality test.

The strength of a personality test must then be twofold. One is the ability to measure and describe the personality trait of the test taker, and secondly the ability to define the personality traits that are especially important to the specific job to predict future job performance. A great personality test has this link embedded between test subjects and job criteria. (Sjöberg et al, 2021)



OPENNESS

- HIGH: Creative - Curious - Cultured - Inventive
- LOW: Practical - Has narrow interests - Consistent - Cautious



CONSCIENTIOUSNESS

- HIGH: Hardworking - Organized - Dependable - Persevering - Efficient
- LOW: Lazy - Disorganized - Unreliable - Easy-going - Careless



EXTRAVERSION

- HIGH: Gregarious - Assertive - Sociable - Outgoing - Energetic
- LOW: Reserved - Timid - Quiet - Solitary



AGREEABLENESS

- HIGH: Cooperative - Warm - Agreeable - Compassionate - Friendly
- LOW: Cold - Disagreeable - Antagonistic - Detached - Analytical



NEUROTISM

- HIGH: Insecure - Anxious - Depressed - Emotional - Nervous - Sensitive
- LOW: Calm - Self-confident - Cool - Secure - Confident

Figure 2 – The dimensions of the Five-factor model and descriptions of high scores and low scores.

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General relevance

In 1997, Salgado conducted a meta-analysis, with results concluding that Conscientiousness and Emotional Stability (reversed Neuroticism), two of the Five-Factor personality dimensions, are valid predictors across job criteria and occupational groups. These results were consistent with various similar meta-studies conducted before him, finding a significant correlation between these two factors and general job performance. (Salgado, 1997)

A later meta-analysis has also showed that Conscientiousness and Emotional Stability (reversed Neuroticism) have generalised validity across criteria, occupations, organisations, and countries, emphasising their general relevance when predicting job performance. (Salgado, 2003)

A more recent study tuned down the significance of Emotional Stability and suggested that Neuroticism effects in general were smaller than Conscientiousness, but comparable to the remaining Big Five traits. (Zell & Lesick, 2022)

"Specifically, when examining meta-analyses on the association of personality with overall job performance, conscientiousness consistently yielded the largest effect (0.23), and openness consistently yielded the smallest effect (0.05). Moreover, extraversion (0.13) and agreeableness (0.10) had small positive effects that fluctuated slightly across meta-analyses and neuroticism consistently had a small negative effect (-0.11)." (Zell & Lesick, 2022 p. 10

The impact of these studies, raising the status of personality tests in employee selection, has been demonstrated repeatedly, and today the perception of how personality is associated with job performance is solidified. Particularly regarding Conscientiousness, which has been claimed as one of the most valid predictors of performance for most jobs, "second only to general intelligence." (Hurtz & Donovan, 2000)



"...the findings that conscientiousness and emotional stability showed criterion validity for predicting job performance, that they are not affected seriously by intentional distortion, and that they have no adverse impact on

minorities, the use of conscientiousness and emotional stability scores can be confidently suggested for predicting job performance ratings."
(Salgado, 2003)

On the other hand, Judge and Zapata (2015) notes, that "...conscientious individuals should perform especially well in occupations requiring independence, since conscientious individuals are often described as achievement striving (Costa & McCrae, 1992) and ambitious (Goldberg, 1993). When describing the achievement striving dimension of conscientiousness, Big five personality traits and performance: A quantitative synthesis of 50+ meta-analyses Costa and McCrae (1992: 18, *italics added*) noted that "individuals who score high on this facet have high aspiration levels and work hard to achieve their goals ... Very high scorers, however, may invest too much in their careers and become workaholics." In other words, achievement-striving individuals tend to be self-focused and self-governing (Hmel & Pincus, 2002). Allowing these individuals to work independently should strengthen the positive effect of conscientiousness on performance." (Judge and Zapata, 2015 p. 1153)

Sjöberg et al (2021) notes that personality traits are basic characteristics and largely constant across profession, role, or position.

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Contextual relevance

On the other hand, some dimensions are especially valid predictors for specific professions, like the link between Emotional Stability and being a police officer. Or the link between Extraversion and being a manager. (Salgado, 1997)

The different types of organisational contexts can be divided into two different modes of situation (see figure 4). Weak situations and strong situations, mitigating the degree to which performance differences will be influenced by personality. The determination of weak or strong situations are affected by various aspects of the process in the situation, in comparison with the outcome of the situation, like consequences, responsibility, and impact.

Psychologically 'strong' situations tend to be those in which there are clear,

consistent, and strong signals to the employees on the strategic goals and what behaviours are expected.

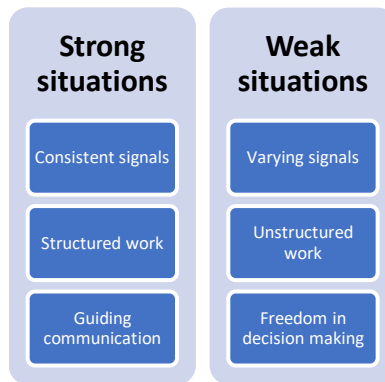


Figure 4 – Strong and weak situations, referring to the process of a situation (Inspired by Judge & Zapata, 2015)

Psychologically 'weak' situations tend to be those that do not offer salient cues to

guide behavior and are unstructured and ambiguous. (Judge & Zapata, 2015)

Weak situations amplify personality-performance validities, and weak situations tend to result in behaviour that are more in line with one's personality traits. Weak situations in terms of how the work is performed produce significantly higher validity for personality traits in predicting job performance.

This boils down to the conclusion that:

Personality better predicts performance in jobs with high flexibility, ambiguity, and freedom.
(Judge & Zapata, 2015)

Other than looking at the organisational situation, Judge and Zapata (2015) also found contextual relevance for each of the five dimensions in the Five-Factor Model. An interesting note is that the results suggest that Conscientiousness is less predictive of job performance in jobs that require attention to detail. This can be explained by the underlying facets of Conscientiousness, which is primarily the combination of Responsibility or Dutifulness, and Achievement orientation. The findings of Judge and Zapata (2015) show that striving for achievement positively predicts performance for managers/executives, and it negatively predicts performance for e.g., health care workers.

OPENNESS	CONSCIENTIOUSNESS	EXTRAVERSION	AGREEABLENESS	NEUROTISM (EMOTIONAL STABILITY)
<ul style="list-style-type: none"> Independence Creativity/Innovation 	<ul style="list-style-type: none"> Independence (Reversed attention to detail) 	<ul style="list-style-type: none"> Strong social skills Competition Dealing with angry or unpleasant people Reversed attention to detail 	<ul style="list-style-type: none"> Strong social skills Reversed competition Compliance Discretion Dealing with angry or unpleasant people 	<ul style="list-style-type: none"> Strong social skills Dealing with angry or unpleasant people

Figure 5 – How much a trait predicts performance depends on the context of the situation. Here are distinctive characteristics of job situations required for higher predictability of the given trait. (Inspired by Judge & Zapata, 2015)

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Thus, in jobs with high Achievement orientation there is a negative predictive validity of Conscientiousness and in jobs with dutifulness/order, there is a positive predictive validity on job performance (see figure 5).

Behaviour vs traits

At this point, it is important to emphasize the difference between Behaviour and Personality.

A person shows behaviour daily in different contexts. At work alone, the way a person behaves in a one-on-one situation, in the team, or in plenum may differ. But also, elements like the nature of the task can influence what behaviour is expressed and to what extent. (Judge & Zapata, 2015)

Behaviours are the observable actions of a person, whereas Personality describes the inherent preferences of the person. Digman (1999) describes four levels of abstraction from specific behaviours to the overarching traits:

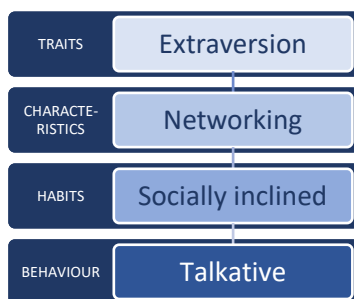


Figure 6 – Four levels of abstraction, from specific behaviours to traits. (Inspired by Digman, 1990)

This does not mean that only people with high extraversion can show talkative behaviour. But people having this as predominant trait are much more prone to being talkative and will use less energy to show this behaviour. (Sjöberg et al, 2021)

Therefore, it also follows that if a person finds themselves in a situation relevant to their personality trait, their behaviour naturally translates into effective job performance and enhanced motivational benefits. This is especially prominent in the beforementioned weak situations. (Judge & Zapata, 2015)

Job performance will be enhanced when the person possesses the traits necessary to behave in accordance with the environmental demands present.
(Judge & Zapata, 2015)

The benefits of behaviour that stem from Extraversion may be expressed via increased assertiveness, positive emotions, and activity levels, Agreeableness via the ability to manage conflict or other aversive situations and thus avoid counterproductive behaviours, Conscientiousness via enhanced work ethic and self-control, low Neuroticism via increased motivation and self-efficacy, and Openness via interest in intellectual, imaginative, and other creative pursuits (Judge & Zapata, 2015). Of course, the benefits of these behaviours are relative to the context.



OPTO

In development of OPTO, the Five-Factor Model was selected as theoretical framework due to its general recognition and extensive theoretical foundation as a valid model for measuring personality and predicting job performance.

Each of the five factors can be broken into narrower parts, which are often called "facets". These facets tend to show a stronger relationship with job performance, then the overarching dimensions (Judge et al., 2013), and were therefore of primary interest when developing OPTO.

To offer real value in organisations, a personality test should measure facets of personality that are considered relevant in a business setting - especially in professional recruitment. By focusing on traits and facets shown to have a high connection with performance, OPTO zooms in on the areas of people's personality that are most relevant for predicting job success. This is referred to as a "performance filter".

To assure clear and consistent relevance in professional and business contexts, areas of the Five-Factor Model

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addressing more clinical perspectives on personality were not included in OPTO. For instance, areas that in a business context are usually considered a personal matter of psychological health and well-being (e.g., anxiety and depression).

CONCLUSION

We started this article with the broad question of how well the traits of the Five-Factor Model predict future job performance. This article shows that the overall associations of personality with performance should be viewed optimistically. This especially applies where small gains in performance bring

tangible rewards such as increased entry into selective academic programs, job promotion, and personnel selection decisions. The practical use of these findings supports practitioners' advantage of using tests based on the Five-Factor Model such as OPTO.

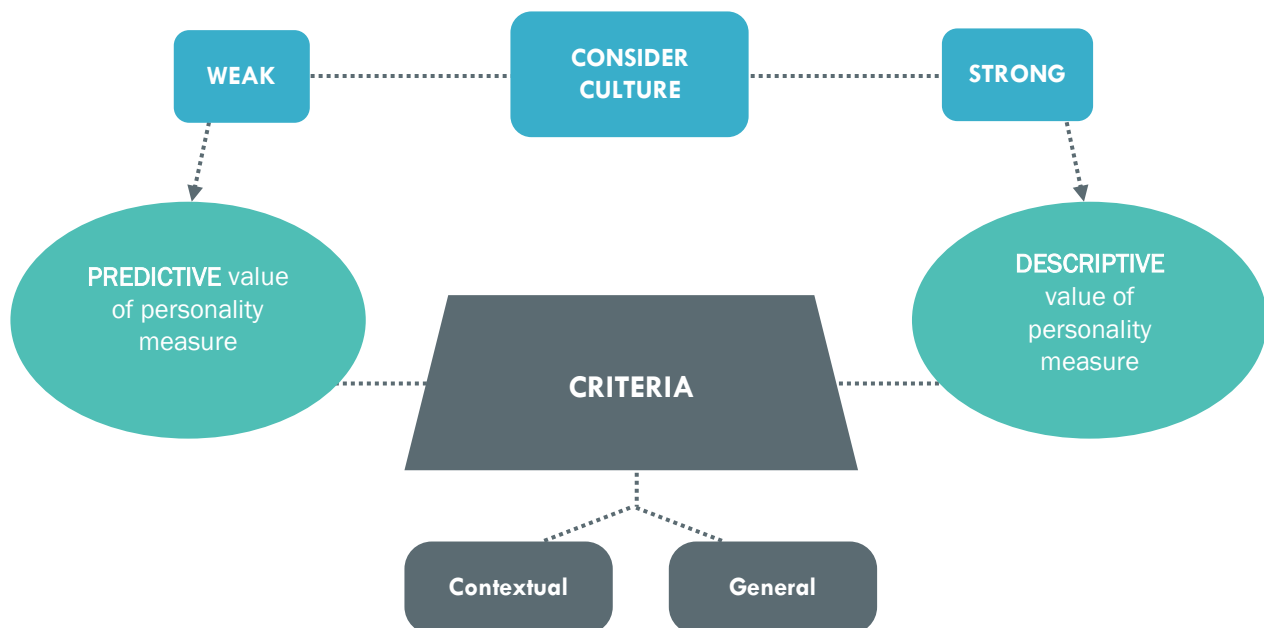
The evidence presented underlines that focus should primarily be on scores of Conscientiousness and to a smaller degree on Emotional stability, when looking at traits that are to be used with confidence for predicting job performance ratings in a general sense.

Contextually speaking, the predictability is higher in jobs with high flexibility, ambiguity, and freedom. And when there is a correlation between the traits of a

person and the environmental demands, job performance will be further enhanced. Thus, emphasising the importance of setting Job Criteria and matching them with possible candidates for the job.

Overall, there certainly seem to be both general and situational conditions that facilitate the relevance of personality for job performance.

Specifically for OPTO, the evidence-based "performance filtering" of the Five-Factor Model allowed for construction of a personality test that has a strong theoretical foundation, measuring components from all the five overarching factors, while maintaining clear professional relevance.



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Why OPTO?

Evidence-based recruitment that supports performance

Instantly source, filter and recruit talent based on objective performance criteria, built-in analytics and intuitive reporting.

- Instantly filter and match candidates based on objective criteria.
- Eliminate bias and improve quality in talent acquisition
- Create a professional candidate experience and support your employer brand + Improve processes and reduce complexity, time spend-per-hire and total cost

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