"An Alternative to Personality Questionnaires: Introducing Personality Tasks"

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Abstract

Personality assessment through a self-report questionnaire is often a frequent component of an AC or DC. We present an alternative to personality questionnaires: personality tasks – which draws on the "High-Tech" and "High-Touch" conference theme. Utilising recent advances in technology, personality assessment can be revolutionised so that one no longer needs to rely solely on questionnaires, which routinely suffer from distortion such as social desirability responding (Birkeland et al 2006) and errors due to poor self-awareness.

The alternative approach – Objective Personality Tasks or OPTs – builds on the research of Cattell (e.g. Cattell and Warburton 1967). OPTs rely on measuring task performance – but it is the way people complete each task, rather than how well they do on it, that reveals their personality traits. Participants are typically unaware of which aspects of their personality are being assessed. The tasks are relatively short e.g. 5-12 minutes, completed online and resemble interesting tasks or challenges that are applicable to all ages and levels of seniority.

We present the results of our own research into the validation of multiple OPTs using self-report ratings of personality and biodata.

Conference Presentation

Please see this section at the end of this document.

Introduction

Personality assessment is widely used in organisational settings including assessment centres. The Business Insider UK (2015) report that 80% of Fortune 500 companies use some form of personality assessment. There have also been many studies into the validity of personality scales in predicting a wide range of organisational behaviour e.g. Barrick & Mount (1991) and Hurtz & Donovan (2000).

Whilst nearly all personality assessment within organisational settings currently utilises self-report questionnaires, there has been a long history of concerns about the distortion associated with this type of assessment e.g. Mueller-Hanson et al (2003). Paulhus and Reid (1991) argue that distortion consists of 2 factors: self-deception (i.e. due to a lack of self-awareness) and impression management (faking). Both are clearly relevant in organisational settings.

Many psychologists and HR professionals like to believe that the problem of distortion is not widespread, and in any case is largely controlled for e.g. via ipsative scaling or social desirability scales. However attempts at faking amongst job applicants in high stakes selection settings appear to be quite widespread. For example, Birkeland et al (2006) found in a meta-analysis of 33 studies

that job applicants scored significantly higher than non-applicants on Extraversion, Emotional Stability, Conscientiousness and Openness to Experience.

Even in a development context where there is less of a need to fake responses, self-report personality questionnaires still introduce error due to everyone having 'blind-spots' to a lesser or greater degree!

So given the challenges of using self-report personality questionnaires to predict personality and work performance, is there an alternative to questionnaires? Is a revolution in personality assessment possible? In this paper we argue yes to both these questions, and present reliability and validity data on an alternative form of personality assessment: Objective Personality Tasks (OPTs).

OPTs were first proposed by Raymond Cattell (e.g. Cattell & Warburton, 1967) and in more recent years, researchers in Europe have designed OPTs for use in both academic research and organisational settings e.g. Ortner et al (2006). Please see Ortner & Schmitt (2014) for a recent review of the OPT field.

OPTs use "real time behaviour". That is participants' reactions to the tasks are completely natural, and multiple data sets are collected as they complete them. These are then objectively scored without the person being aware of what is specifically being measured and therefore there is typically no distortion their responses. There is no self-report element, no questions to answer about oneself. Instead, a task is presented, and various measures of the participant's behaviour are collected and scored for personality traits e.g. reaction times, order or method of approach, memory performance, error rate, omissions, decisions made and so on. The approach makes extensive use of technology, and may involve an element of gamification. It is important to point out that little "ability testing" is involved – many of the tasks are relatively straightforward to complete. Please see the Results section for examples of OPTs.

We have researched and developed a range of OPTs (under the brand name Mosaic) each of which measures a separate personality trait relevant to the world of work. In this paper we present early research into the reliability and construct validity of these OPTs. We prefer the term "tasks" to "tests" in the sense that each task is a short (typically less than 10 minute) activity completed online in the form of a task or challenge. These do not rely heavily on gamification or video game material, and are likely to be acceptable to a wide range of employees. In practical terms, organisations will be able to use these OPTs to assess personality instead of having to rely on personality questionnaires and their attendant problem of distortion. Given these known limitations, the accepted view of personality questionnaires is that they are used just to support other evidence. Now that we can assess personality more directly and objectively, we might have a case that OPTs act as stronger evidence for personality and behaviours on an assessment centre. Practically, it is not likely that OPTs will completely replace personality questionnaires as there will still be a place for having access to a comprehensive personality profile – but we now have an alternative to measure many facets of personality and behaviour more robustly through OPTs.

Research questions

Are OPTs a reliable and valid alternative to self-report questionnaires as a measure of personality – that is, do they actually "work" in a psychological sense and measure the constructs they claim to? Could they be used in organisational settings to select and develop employees?

Methodology

By the time of the Assessment Centre Conference in October 2018 conference we plan to have trialled up to 10 OPTs in total with over 200 people. However, at the time of submitting this paper, we already have results from 89 volunteers who have completed 4 of our OPTs. The volunteers also completed a NEO personality questionnaire (ipip 300 item version) plus 2 specially designed biodata questionnaires, one measuring personality and one measuring risk taking behaviour.

In attempting to "validate" OPTs, one has the challenge presented by having to rely on the same self-report questionnaires that OPTs are aiming to improve on in order to validate the OPTs. Despite this we still expect to see modest correlations in the expected direction with relevant personality scales, although the size of the correlations may be limited by the problems of distortion (intentional or unintentional) in our research volunteers.

The biodata questionnaires, which ask for actual past examples of behaviour, are an attempt to get around the problems of validating OPTs using exclusively self-report measures. The OPTs themselves will be described in the Results section.

We examined the construct validity of each OPT via correlations with relevant NEO and Biodata scales.

Our 4 Objective Personality Tasks are described below.

"The Quality Inspector" OPT (based on Hernandez et al 1999) is a simple checking task completed over multiple short rounds. The task is relatively easy, and participants simply have to spot errors amongst a number of objects, most of which do not contain any errors.

The "Shapes / Shades" OPT (based on Lommen et al 2010) is a simple discrimination task. Participants are first introduced to shapes of various shades of white, grey and black on screen. They are instructed to avoid (by pressing a button) the shapes that are white or very light grey and to accept (by not pressing any button) shapes that are other shades of grey or black.

The "Colour Reactions" OPT is based on the well-researched Emotional Stroop paradigm (see Bar-Haim et al 2007 for a meta-analytic review). Participants are asked to identify the font or type colour of a word as quickly as possible, whilst ignoring the meaning of the word e.g. FEAR (answer = orange). Neutral and Neuroticism words are used, and the differences compared.

The "Investment Task" OPT invites participants to compete against other online participants over 4 investment rounds designed to see who can get the greatest financial returns from a range of investment opportunities. How do participants handle risk, make decisions and so on? This OPT is partly based on the work of Hernandez et al (1999).

Results

Initial results for 4 of our OPTs show that we can measure all the 'Big 5' personality constructs and we have so far identified 13 clear personality scales. This number will be higher once we have researched 10 OPTs.

Each OPT produces a number of behavioural measures e.g. 4 to 12. These were then regressed on the relevant NEO personality questionnaire scale to produce a score for each personality scale. In this way, each OPT personality scale is in fact based on between 3 and 5 separate behavioural measures from 2 or more OPTs.

Before entering an OPT measure into a regression analysis, we checked via factor analysis that the behavioural measure did indeed "load" the relevant personality scale by factor analysing it with the same NEO and Biodata personality scales.

In a sample of 89 volunteers we have been able to produce personality scales for Big 5 Conscientiousness and its facets of Orderliness, Self-Discipline, Self-Efficacy, Achievement Striving, & Cautiousness; Big 5 Neuroticism and its facets of Self-Consciousness; Depression & Anger; Big 5 Openness to Experience, Big 5 Extraversions and Big 5 Agreeableness. Multiple correlations with the relevant NEO self-report personality scale range from 0.62 to 0.31, median 0.46.

The behavioural measures themselves comprise a very wide range of response types, for example participants' use of time on the task, omissions and mistakes made, the order the task was tackled in, preferred speed of working, performance contrasts on different parts of the task, reaction times, variability in decisions taken and so on. It would be very difficult for a participant to consciously control or deliberately distort their responses on such a wide range of indictors.

Discussion

Whilst we have much more research planned, our results to date are already beginning to show that brief OPTs completed online can produce valid measures of personality scales relevant to the world of work. However at this stage our sample size is small. We also need to validate our OPTs against wider information than just volunteers' self-report questionnaire data e.g. peer-ratings of personality.

OPTs are likely to be of considerable benefit to the practitioner and Human Resource teams alike. They are significantly more distortion-resistant than conventional personality questionnaires. Around 30 of our volunteers replied to a survey asking them to indicate what they thought our OPTs were measuring - hardly any guessed correctly. For high-stakes selection settings like assessment centres, but also for important personal development situations, OPTs may well be an important supplement to self-report questionnaires, or indeed a replacement altogether. These 30 volunteers also provided positive feedback that they favoured the OPT approach over the questionnaire approach both on task completion and accuracy of results.

Where particular personality attributes are vital in the successful job applicant, OPTs can be employed as an efficient sift mechanism at early stages of selection. Further, the contrast between what an individual reports about their own personality and their OPT personality results may provide useful developmental insight.

Conclusion

We have developed a new innovative "Hi-Tech" (utilises advanced technologies) and "Hi-Touch" (in an efficient manner achieves objectivity and reduces error) assessment methodology. The OPTs we have trialled so far show considerable promise in being able to validly measure facets of all 5 of the Big 5 areas of personality. As the range of OPTs available expands, clients will be able to assemble their own configurations of OPTs to assess the areas of personality most relevant to them, or alternatively to use standard packages of OPTs that assess the full range of Big 5 Personality without having to rely on self-report questionnaires with their inherent distortion problems.

References

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The Conference Presentation

The above provides the research and technical information. For the conference presentation we will make it engaging and interesting for the audience:

- It is likely that the conference will be using electronic voting devises for delegates, so we will ask questions for delegates to vote or tell us what they currently do e.g. with personality questionnaires, etc,.
- We will draw on the conference “High-Tech” and “High-Touch” theme.
- We will visually show them an example of an OPT and what it looks like to complete and some interesting aspects of how it is scored.
- We will show them what reports look like.
- After the conference, delegates can be invited to find out more about OPTs and can trial some OPTs.

We are currently using the Mosaic approach to develop new innovative critical reasoning tasks to complement the OPTs. We hope that we will have some results to report by the conference. This is also likely to be of interest to the audience. However, given the time restrictions for presenting the paper, this will be kept very brief.

Most likely Alan Howard and Max Choi, or three of the four authors will be involved in presenting the paper.