PeopleHawk
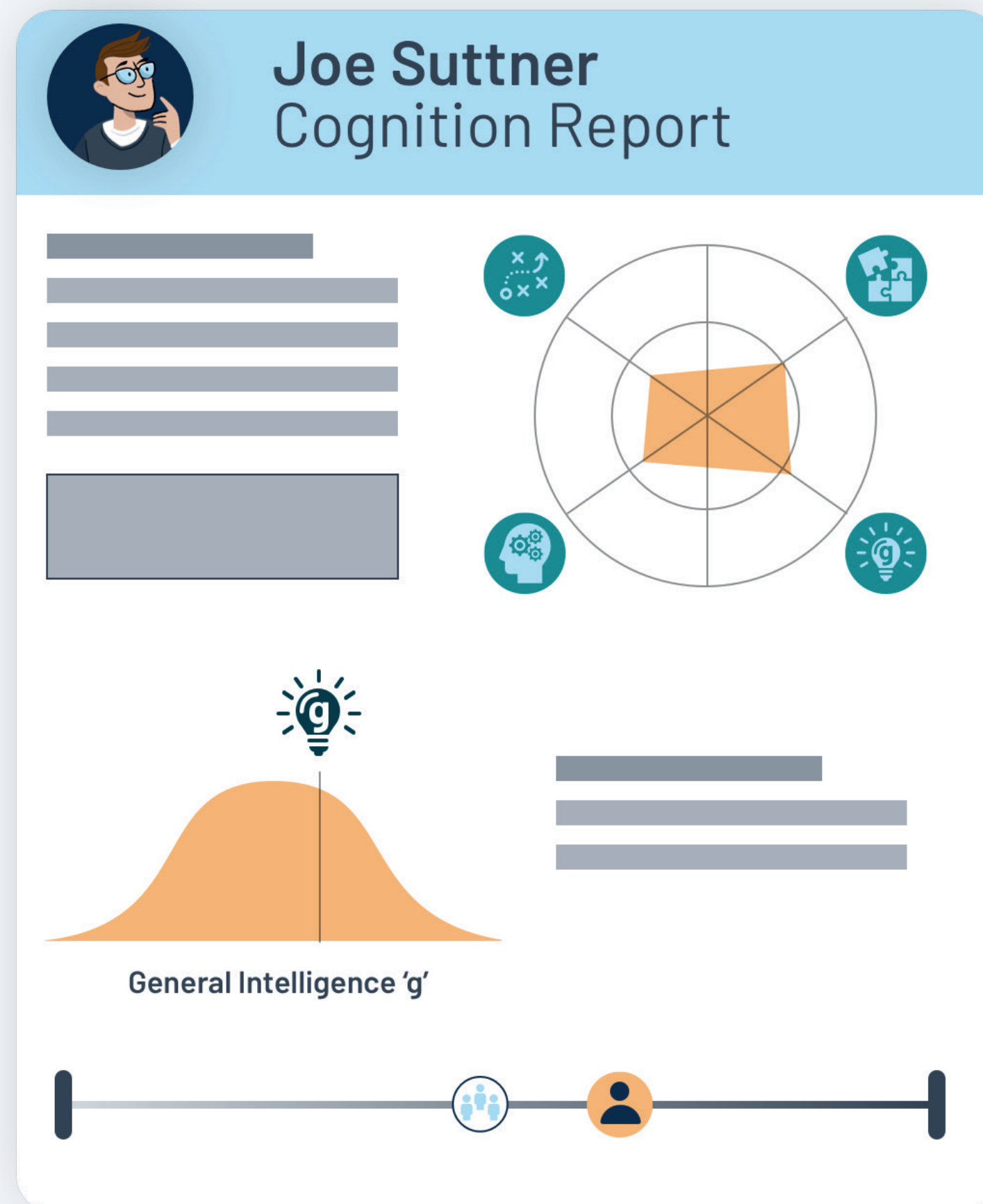
At last – a personality quiz that's **backed by science**

Discover more about a scientifically validated and reliable psychological model to measure personality

Joe Suttner
Cognition Report

General Intelligence 'g'

Revealing the how, not the how well

Finding out more about who you are and where your strengths lie is valuable information when choosing a career. It is equally valuable information to have when you are assessing candidates for a potential role in your business. The personality quiz developed by PeopleHawk removes gut-feeling and guesswork from the job recruitment and selection process and replaces it with a scientifically based approach to finding the right person for the right role.

Quizzes

The quizzes are short scales measuring personality; their scores give insight into how (rather than how well) people usually perform. They measure a person's usual style of behaviour; for example, whether they are generally good with people, conscientious and so on. The way in which a person performs is known to depend on both their personality and the situation; everyone's stress level will rise when struggling to meet an important, tight deadline, but some people are habitually more stressed than others (personality) and so they will almost certainly be more stressed than others by this situation. The relevance of these personality characteristics (traits) to work performance is explained below.

What aspects of personality does the quiz measure?

The Big Five personality traits

There is now general agreement that personality can best be described using five traits. These are:

• Extraversion. Enjoying interacting with others and having a cheerful, optimistic outlook. Introversion is low Extraversion.

• Conscientiousness. Reliable, with an eye for detail.

• Openness. Curiosity and showing an interest in new ideas, abstract thought, etc.

• Agreeableness. Interacts well with others, not sarcastic or difficult.

• Neuroticism. Emotional – a tendency to experience negative emotions, such as anxiety and depression. Emotional stability is low Neuroticism.

It is best to think of these as quantities, rather like length or mass. People should not be categorised as either high or low on Conscientiousness, Extraversion etc. as suggested by "type" theories[1] (such as the Myers Briggs Type Indicator). They can instead have a score that is anywhere between very low and very high. Most people will have middling scores.

It has been found that some of these personality traits are relevant to performance at work. However one needs to be careful when reading studies which combine many research findings across different job roles, as characteristics which are vitally important for one type of role may not matter too much for another. For example, sales staff would probably benefit from having high levels of Extraversion and Agreeableness (so that they can engage effectively with potential customers), whereas Extraversion would probably be irrelevant for someone with a back-office post.

[1] Psychologists are surprised by the continued popularity of tests such as the Myers Briggs Type Indicator which (a) have no basis in any modern theory and (b) are not supported by data. See for example Lorr, M. (1991). AN EMPIRICAL-EVALUATION OF THE MBTI TYPOLOGY. *Personality and Individual Differences, 12(11)*: 1141-1145.

Emotional Intelligence

Emotional Intelligence is a broad trait that reflects one's emotional well-being (happiness); the ability to control one's emotions and manage stress; communicate one's feelings to others; recognise one's own (and others') emotions, and so on. Although not one of the Big Five personality factors, it has been found to be related to job performance. In fact its correlation with work performance has been variously estimated at 0.23 (Van Rooy and Viswesvaran 2004) or 0.47 (Joseph, Jin et al. 2015). However as tests of emotional intelligence have substantial correlations with some of the Big Five factors, there is some controversy in the literature about whether its relationship with work performance arises because it measures a bundle of other work-related personality traits (Joseph, Jin et al. 2015).

Other narrow traits

Several narrow traits were also included on the grounds that they may have particular relevance to the world of work.

- Organisation reflects a liking for orderliness, a willingness to complete projects rather than leaving them unfinished
- Teamwork measures whether a person prefers to work as a member of a team and support team decisions (even if they personally disagree with them)
- Ambition/Drive measures the extent to which a person commits to a project, perhaps bending the rules a little if necessary
- Creativity measures whether they say they enjoy stepping back and approaching problems from a new perspective – brainstorming etc.
- Leadership measures whether a person claims they can captivate people, be the focus of attention and give clear guidance
- Adaptability involves taking advice and guidance to improve one's performance

What is the point of answering the quiz?

The candidate's perspective

It is important to take part in the quiz under optimal conditions, i.e. treating the items seriously and answering them as honestly as you can. Doing so will give you an idea how your personality differs from other people. You may find some surprises. When answering each question, it is best to give the first answer which comes naturally to mind, rather than agonising over detail, or trying to work out what it might measure.

Taking part in the quiz will show how you compare to other applicants on the personality traits described above. It provides some insight into how others may see you. We should mention that the quiz contains some items which are designed to detect deception, so please do answer honestly.

The employer's perspective

Knowing something about an applicant's personality may be useful in two ways.

Firstly, if one objective of the hiring process is to identify people who will fit in well and integrate with other members of a team, it should be possible to draw up a personality profile of the ideal candidate, and determine whether each applicant fits it. However this requires careful thought. A rather unimaginative and staid team (low Openness) might benefit greatly from the introduction of a free-thinking maverick; one might sometimes want to diversify the makeup of a team, rather than employ "more of the same". In order to predict who will generally get on with others, emotional stability (low Neuroticism), Conscientiousness and Agreeableness seem to be important (Hogan and Holland 2003).

The second use of personality measures is to identify people who will perform well. Indeed, it has been found that several of these personality traits are relevant to performance at work. However one needs to be careful when reading studies which average the link between personality and performance across different job roles, as characteristics which are vitally important for one role may not matter for another. As discussed above, Extraversion and Agreeableness may be desirable qualities in sales staff, whereas Extraversion would probably be irrelevant for someone with a back-office role.

From the average to the extreme

It should be remembered that the personality measures derived from the quiz are deliberately brief, and like any test score there is some margin of error. We identify each person's most extreme personality traits (that is, the ones which are most different from the average) and it may be useful to use these as discussion points in an interview, along with any consideration of traits which are thought to be desirable for a particular post.

It pays to be Conscientious

When jobs are averaged, high Conscientiousness is associated with above-average career success, as indexed by income and occupational status, as is emotional stability (low Neuroticism; Judge, Higgins et al. 1999, Barrick and Mount 2005). However these relationships are sometimes fairly modest; whilst Conscientiousness correlated +0.4 with career success, Neuroticism showed a correlation of only –0.22, implying that 95% of the person-to-person variability in career success was due to things other than Neuroticism. Barrick and Mount (1991) also concluded that Conscientiousness was important in predicting performance within jobs via performance ratings and similar measures, although the correlation was only 0.13.

None of the other Big Five personality traits seemed to matter much. Collins Schmidt et al., (2003) report that assessment centre performance of managers correlated of 0.47 with Extraversion, and 0.34 with emotional stability. These were smaller than the correlations with general ability (0.65), but are still substantial.

This may sound disappointing, but if the personality characteristics required to be a successful accountant… or manager… or banker… or technician are all rather different, it should be clear that averaging across occupations is unlikely to produce much of interest. When personality traits are used to predict success in specific occupations, the correlations between personality scales and performance are generally higher (Hogan and Holland 2003). For example, the correlation between emotional stability and the performance of professionals was 0.43; for sales staff the correlation was –0.07 (Salgado 1997). It is clearly important to decide which personality characteristics are likely to be important for a particular job, rather than looking for a general panacea, though high Conscientiousness does seem to be of general importance.

APPENDIX A: Development of the Quiz

It was determined that the quiz should comprise no more than 50 items and that it should measure the twelve traits listed above, as breadth of coverage was thought to be of crucial importance. It was decided that each item should be answered using a slider, the position of which translated into a score between 1 and 10 for each item.

The twelve scales were derived from the International Personality Item Pool (IPIP) public-domain personality scales (**www.ipip.ori.org**) – a collection of personality scales many of which have been validated. The Goldberg five-factor model was used, as this is arguably the most theoretically coherent version of the five-factor model (Cooper 2021).

ARE YOU?

Imaginative   Conventional

Rational   Perceptive
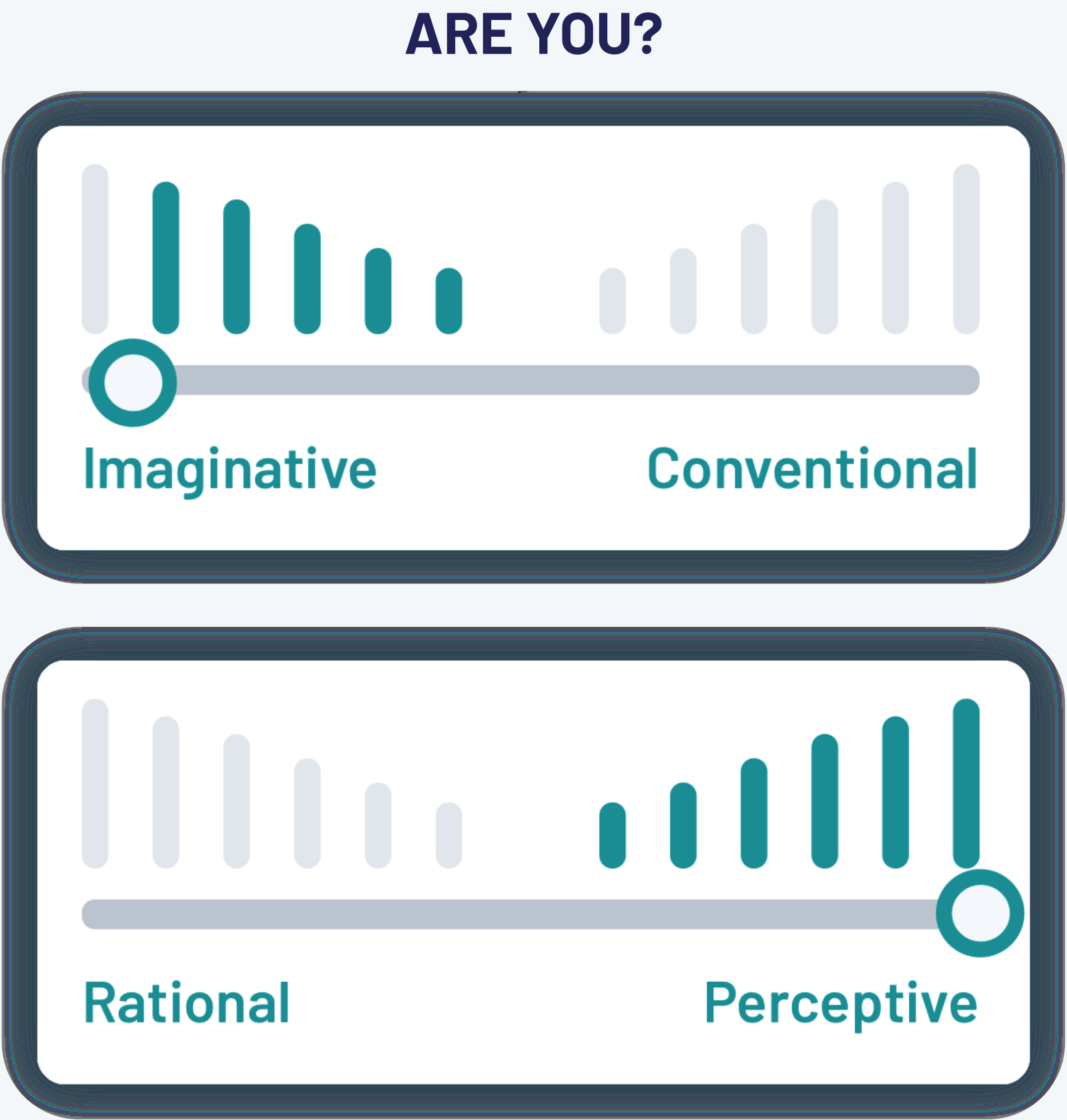
The Items

The IPIP scales are too long to accommodate within the 50-item framework. It was therefore necessary to select items to form abbreviated versions of these scales. Two strategies were followed when doing so.

a. Where it was possible to locate a journal article showing factor-analysis of the items in the IPIP scale, the highest-loading items were used, subject to constraint (b) below

b. Where no factor-analysis was available, items were chosen to tap the full breadth of each trait. For example, the IPIP Goldberg Neuroticism scale contains items such as "I get irritated easily" and "I get easily disturbed" which are almost identical in meaning. Where such items were found only one of them was selected alongside others ("I have frequent mood swings", for example) which measured different aspects of the trait[2].

The Emotional Intelligence items in the IPIP (from the old Peterson & Seligman "Values in Action" scale measuring "Social/Personal/Emotional Intelligence") did not capture the full breadth of the trait as it is currently regarded (Petrides, Mikolajczak et al. 2016). It focused much more on social skills. Hence only one of its items were used and three items were written to reflect emotional awareness, emotional expression and emotional support. Once again, this may lead to lower reliability estimates, but will ensure that the breadth of the trait is better captured.

The narrow personality scales were derived as follows:-

• Organisation from the HEXACO facet of Conscientiousness
• Teamwork from the Peterson & Seligman "Values in Action" scale
• Ambition/Drive from the Carver & White BAS
• Creativity from the HEXACO and AB5C facets
• Leadership from the AB5C facets

Impression management items were drawn from the IPIP Paulhus Balanced Inventory of Desirable Responding, to identify individuals who may be trying to create an overly good impression of themselves.

[2]Including near-synonyms spuriously increases the reliability of a test, as such items will correlate substantially together and the reliability coefficient is based on the average correlation between the test items. It is arguably better to include items which tap all possible aspects of a trait rather than use highly similar items to focus on just one aspect of it – even though the latter approach will produce a scale with higher reliability. See Cooper, C. (2019). "Pitfalls of personality theory." *Personality and Individual Differences*. 151: 109551.

Item trials

These 50 items were administered (online) to a sample of 537 people aged 18-35 from the UK, USA and Ireland in order to:

- ensure that there was a good range of responses to each item
- make sure that the reliability of the scales was acceptable
- examine the correlations between the scales

Some of the correlations between scales were expected to be substantial – for example, as Organisation is one of several facets of Conscientiousness.

Means

Table 1 shows the mean scores for each of the 50 items. Scores ranged from 1 (or, on two occasions, 2) to 10 for each item. As the means ranged from 3.79 to 8.07 there was no need to remove any item because too many participants answered it the same way.

Item 1	6.12	Item 26	6.73
Item 2	8.07	Item 27	7.39
Item 3	3.79	Item 28	5.15
Item 4	7.15	Item 29	6.10
Item 5	6.51	Item 30	5.54
Item 6	5.83	Item 31	6.86
Item 7	5.76	Item 32	4.92
Item 8	6.86	Item 33	5.60
Item 9	4.73	Item 34	5.21
Item 10	5.25	Item 35	5.90
Item 11	4.99	Item 36	6.31
Item 12	6.23	Item 37	5.87
Item 13	5.82	Item 38	6.60
Item 14	5.07	Item 39	7.32
Item 15	4.47	Item 40	6.42
Item 16	5.61	Item 41	5.38
Item 17	7.01	Item 42	5.27
Item 18	4.85	Item 43	6.96
Item 19	6.90	Item 44	6.35
Item 20	6.95	Item 45	5.17
Item 21	6.27	Item 46	4.12
Item 22	4.46	Item 47	6.53
Item 23	5.05	Item 48	7.15
Item 24	6.62	Item 49	6.73
Item 25	5.50	Item 50	7.07

Table 1: mean scores of the 50 items

Correlations between scales

These are shown below. As expected, some are substantial; Organisation is a facet of Conscientiousness, for example whilst Leadership and Extraversion are highly similar.

	Extraversion	Neuroticism	Conscientiousness	Openness	Agreeableness	Emotional Intelligence
Extraversion	1.00	-.151	.084	.192	.216	.447
Neuroticism	-.151	1.00	-.187	.025	-.179	.002
Conscientiousness	.084	-.187	1.00	.031	.144	.247
Openness	.192	.025	.031	1.00	.023	.185
Agreeableness	.216	-.179	.144	.023	1.00	.326
Emotional Intelligence	.447	.002	.247	.185	.326	1.00
Organisation	.061	-.056	.727	.003	.091	.253
Teamwork	.449	-.102	.066	.132	.330	.191
Ambition/Drive	.446	-.105	.157	.202	-.048	.232
Creativity	.252	-.042	-.023	.610	.032	.207
Adaptability	.129	-.400	.273	.075	.240	.044
Leadership	.684	-.254	.214	.316	.132	.514

	Organisation	Teamwork	Motivationdrive	Creativity	Adaptability	Leadership
Extraversion	.061	.449	.446	.252	.129	.684
Neuroticism	-.056	-.102	-.105	-.042	-.400	-.254
Conscientiousness	.727	.066	.157	-.023	.273	.214
Openness	.003	.132	.202	.610	.075	.316
Agreeableness	.091	.330	-.048	.032	.240	.132
Emotional Intelligence	.253	.191	.232	.207	.044	.514
Organisation	1.00	.026	.163	-.053	.153	.169
Teamwork	.026	1.00	.124	.020	.223	.229
Ambition/Drive	.163	.124	1.00	.318	.096	.565
Creativity	-.053	.020	.318	1.00	.083	.401
Adaptability	.153	.223	.096	.083	1.00	.264
Leadership	.169	.229	.565	.401	.264	1.00

Table 1: Correlations between scales.
It makes little sense to factor analyse these correlations as some of the scales represent different levels of a hierarchical structure.

Reliability analysis

The reliability of a scale is important because under certain conditions it can be used to estimate the correlation between a person's score on a scale and their true score, i.e. the score which they would obtain if they were given an infinitely long scale. Short scales inevitably have lower reliability than longer scales and the item-selection procedures outlined above stressed the importance of measuring the full breadth of a trait, rather than trying to artificially boost reliability by including several highly similar items.

The reliabilities (coefficients alpha) of the Big Five scales are shown in Table 2.

Scale	Extraversion	Neuroticism	Conscientiousness	Agreeableness	Openness
Reliability	0.843	0.715	0.723	0.374	0.702
Revised reliability				0.680	
Revised # of items				7	

Table 2: Reliabilities and revised reliabilities of the Big Five scales

It can be seen that whilst the reliability of Extraversion, Neuroticism Conscientiousness and Openness is excellent, the Agreeableness scale is less reliable than desirable. Two steps were taken to improve matters.

a. Item analyses were performed to identify poorly-performing items (those with low item-total correlations). These were removed from the scale and new items inserted from IPIP, for future evaluation

b. Items from other scales sometimes showed an appreciable (>0.3) correlation with the total-score of Agreeableness. The content of these items were examined and if it made theoretical sense to do so, they were then added to the scale. The scoring system was changed such that this item contributed to both the Agreeableness and other factor scores.

Emotional intelligence also had lower than desirable reliability; its revised structure is shown below, after adding an Extraversion and a Leadership item.

Scale	Emotional Intelligence
Reliability	0.518
Revised reliability	0.703
Revised # of items	6.000

Table 3: Emotional Intelligence reliability

A similar process was followed for the narrow scales, with the following results.

Scale	Leadership	Organisation	Teamwork	Motivationdrive	Creativity	Adaptability
Reliability	0.720	0.667	0.439	0.491	0.442	0.323
Revised reliability		0.715	0.714	0.685	0.689	0.616
Revised # of items		6	6	7	7	5

Table 4: Reliability of narrow scales

As five items failed to measure the traits which they were intended to measure, they were not used to calculate any of the scale scores. They have been replaced with new items from IPIP. Once more data have been gathered, reliabilities will be re-calculated to determine whether including any of these new items (and ideally removing some of the double-scoring items) will further boost the reliability of some of the scales.

Some validity information about the various IPIP scales may be found at http://ipip.ori.org. However this says more about the structure of the scales than their usefulness for any particular application.

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REFERENCES

Barrick, M. R., and Mount, M.K. (1991). The Big Five personality dimensions and job performance: a meta-analysis. *Personnel Psychology, 44(1)*, 1-26.

Barrick, M. R. and Mount, M.K (2005). Yes, personality matters: Moving on to more important matters. *Human Performance, 18(4)*, 359-372.

Collins, J. M., Schmidt, F. L., Sanchez-Ku, M., Thomas, L., McDaniel M.A. and Le, H. (2003). Can basic individual differences shed light on the construct meaning of assessment center evaluations? *International Journal of Selection and Assessment, 11(1)*, 17-29.

Cooper, C. (2019). Pitfalls of personality theory. *Personality and Individual Differences, 151*, 109551.

Cooper, C. (2021). *Individual differences and Personality*. London, Routledge.

Hogan, J. and Holland, B. (2003). Using theory to evaluate personality and job-performance relations: A socioanalytic perspective. *Journal of Applied Psychology ,88(1)*, 100-112.

Joseph, D. L., Jin, J., Newman, D. A. and O'Boyle, E. H. (2015). Why Does Self-Reported Emotional Intelligence Predict Job Performance? A Meta-Analytic Investigation of Mixed EI. *Journal of Applied Psychology, 100(2)*, 298-342.

Judge, T. A., Higgins, C. A., Thoresen C. J. and Barrick M. R. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *Personnel Psychology, 52(3)*, 621-652.

Lorr, M. (1991). AN EMPIRICAL-EVALUATION OF THE MBTI TYPOLOGY. *Personality and Individual Differences, 12(11)*, 1141-1145.

Petrides, K. V., Mikolajczak, M., Mavroveli, S., Sanchez-Ruiz, M. J., Furnham, A. and Perez-Gonzalez, J. C. (2016). Developments in Trait Emotional Intelligence Research. *Emotion Review, 8(4)*, 335-341.

Salgado, J. F. (1997). The five factor model of personality and job performance in the European Community. J*ournal of Applied Psychology, 82(1)*, 30-43.

Van Rooy, D. L. and Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior, 65(1)*, 71-95.