



**People science:  
Dispelling the  
myths**



# Author's note

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The enthusiasm for using people science in selection and development waxes and wanes. It is a big industry. There are defenders and distractors who periodically “have a go at each other” on a number of repeated issues.

Some organisations use people science to understand things like intelligence, motivation and personality in selection and training. Some people are very enthusiastic, others deeply sceptical about these tests.

The accurate and reliable evaluation of people at work is essential for many decisions around selection, development, promotion and redundancy. It is a complex area, but one clearly related to the health and success of any organisation.

Evaluation involves a cost-benefit analysis for recruitment, retention and development. A good analysis requires well-defined and measurable objectives. Each evaluation instrument or process should evaluate the degree to which objectives have been met. Furthermore, desirable and undesirable criteria should be delineated so people can be “selected out” as well as “selected in”.

Many of these tools have strengths and weaknesses, and are appropriate for measuring different objectives. However, some tools and techniques are superior to others. Psychometric evidence provides a strong foundation for comparing different evaluation tools and matching the right one with a particular objective.

People science is a specialised field and may require an expert to ensure tests are used appropriately and effectively. There remains a lot of ignorance and myths about assessment methods which can have significant problems for HR managers in particular organisations.

Clear, well-defined selection and development objectives, and performance outcomes are essential to design assessments. Good people science tools may be expensive, so a targeted approach ensures expenses are being used appropriately.

Having researched this area for 30 years, evaluating the data, here is my considered response to 20 myths.



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## 1 All tests are biased particularly with regard to gender and race

Some tests do show sex and race differences. These are well known: men score better on spatial visual tasks and women on verbal tasks; women score higher on measures of empathy and social intelligence than men who score higher on agency and self-efficacy.

There are more differences on ability tests than personality tests usually – yet it is much easier to eliminate such differences during the development of the test. Indeed, the test manuals say so because they should/do have good population statistics.

Because there may be some sex, race, age, or culture differences does not mean that these differences are not valid but rather that they need to be used in a very particular way checking against population norms. Any bias occurs in how they are used, not in what they measure – a crucial point to bear in mind.

## 2 All candidates cheat so answers are worthless

If everyone faked the good/ideal answer, they would all be the same and tests would have no validity. Clearly some tests are more easy to cheat than others. You can't cheat ability tests (only to do worse). There are a number of techniques that test-constructors have for catching those who fake including lie scales and obtaining templates of those who they have deliberately asked to fake so that they know what a faking profile looks like.

AI has helped and response latency (time spent answering each question) is a good indicator of "impression management". This is considered a serious problem by most people who somehow believe that people don't lie in interviews or on application forms. It is not a very serious problem for most tests, for here it can be assessed on its own terms. And, even when the whole sample are motivated to fake (good, in the case of occupational selection), differences between obtained scores are often meaningful, and valid.



*Any bias occurs in how [tests] are used, not in what they measure*

### **3 Evaluation is simply too costly in terms of time and money**

If the cost of testing is taken into consideration compared to a candidate's annual salary, or the cost of failure and derailment, it is clearly very little. Some tools can be too expensive for what they provide, as they are not very good, but the majority are very good value.

Employees can be trained to use evaluation tools, which over the years proves to be very cost efficient. If these tools can help in making better decisions in whom to select, they are usually good value for money. Think of the cost of making a bad or wrong decision – and based on what (intuition, gut-feeling, etc.)? Compare the costs of hiring and firing senior executives and suddenly these tools look very attractive.

### **4 Tests are too unreliable: mood, health and the setting influence the results**

In fact, the opposite is true. Tests are surprisingly robust, yielding very similar results on different occasions, sometimes a long time apart. They are just as reliable as most medical tests and much more so than some (blood pressure measures). The circumstances that are likely to yield the most unreliable results are where a person is doing an ability test while feeling very unwell. Tests repeated over very long periods, like 20 years, show surprisingly similar results.



## **5 Tests do not predict work performance well enough**

This is perhaps the most important issue. Of course, some tests are not used for selection: they may be used for team or personal development or coaching. The question refers, however, to a very simple but very important point: what is the relationship between test scores and reliable and representative measures of work performance?

Good tests have all the data in their manuals about this important matter. It is the criteria on which tests should be selected in the workplace. It is called predictive validity. There is evidence that test scores can predict (good and bad) work behaviour in many settings, sometimes over very long periods of time.

## **6 Most tests don't or can't measure really important things like integrity and motivation**

This is simply not true as there are many tests for both integrity and motivation. In fact, there are over 5000 tests of psychological factors in print. It is true that not all these tests have good proof of their validity. One problem lies in the fact that once consultants realise there is a demand for some sort of test, they are willing to supply it, even though they quite often are not prepared to put in the time and effort to establish their validity. It is very difficult to think of a personality trait or cognitive style for which there are no tests.



## 7 People change a lot over time anyway

The data show the opposite. IQ measured at 12 correlates  $r > .70$  with IQ measured on the same test at over 80 years of age. The same is true of personality where we also have good longitudinal data.

We know that people become a little less extraverted and neurotic as they get older, and a little more conscientious and agreeable, but the changes are relatively mild – and it is the differences between people that matter, and not absolute scores. After the mid-twenties, there is surprisingly little change in personality until the mid-seventies. Occasionally some people experience significant trauma which does change them, but this is relatively rare.

People feel they have changed a lot, but the data say otherwise. This means that test scores remain valid for long periods. Very major life events and very consistent efforts at change (think dieting vs life style change) can change people but usually not dramatically.

## 8 All tests are pretty much the same: one doesn't outperform another

Tests trying to measure the same thing, like intelligence or personality, can be radically different. Many share an approach and for some traits or abilities, look very much alike. Take for instance introversion-extraversion: many tests seem identical, but this trait can also be measured by weighing a person's salivation after lemon is put on the tongue, or by what is called "the pursuit rotor test".

Beware of the jingle-jangle fallacies which are flawed assumptions that either two different things are the same because they bear the same name (jingle fallacy); or two identical or almost identical things are different because they are labelled differently (jangle fallacy).



*People feel they have changed a lot, but the data say otherwise*

## 9 You can teach/train/coach anybody to be a great performer

The idea that anyone can become a brain surgeon or an airplane pilot with enough practice/training is still very popular. It is called the 10,000 hour rule and has been applied to athletes. But even the most radical of those that dismiss innate talent as the major factor of success are forced to agree that you need a set of certain characteristics to succeed at certain jobs. In other words, you simply cannot teach any or everyone to be good at serious technical and managerial jobs, however hard they try. Motivation is very important, but not enough. Some skills are easier to teach than others, but we need to know where talent lies.

## 10 Tests don't spot "problem people" well enough

There are numerous "clinical" tests that set out to do just this. There must be 20–30 very well established tests that measure "dark" side variables. The data suggest that many "problem people" at work are the result, not of poor selection or of something very wrong with them, but rather the way in which they are managed. This is not to suggest that selectors should not look for evidence of pathology and dark side traits, but rather that they should not always blame the individual or the selector if people become "problematic". In fact, people science tools are much better than interviewers at spotting "problem people".



## **11 Attitude, knowledge and skill are more important than intelligence and personality at work**

If, by attitude, you mean motivation then this is partly true. No matter how bright an individual or how well fitted they are to a job, if they are not sufficiently intrinsically motivated very little can be done. Knowledge and skill can be taught: but this is affected by personality and intelligence. Brighter people learn faster. Certain personality types pick up skills faster than others. "Attitude" can be evaluated by people science tools and is very important.

## **12 The "old trio" (application form, interviews and references) work well enough in selection**

Again, this is partly true if: the application form collects biodata that is important and relevant to the job; the interview is planned and structured; the references are collected from people who know the candidate and are prepared to tell the truth. This, however, is rarely done and the old trio is woefully inadequate.

Some people are more insightful about themselves than others. It is easy to fake responses on application forms and very expensive to check the details. And the data show that most unstructured and unplanned interviews lead to very bad decision making. Evaluation tools are quick, simple and accurate.





## 13 **People science is really no different from horoscopes**

Horoscopes are particularly well known for the Barnum effect. The Barnum effect refers to the phenomenon whereby people accept personality feedback about themselves, whether it is universally valid or trivial, because it is supposedly derived from valid and possibly mysterious personality assessment procedures. People fall victim to the fallacy of personal validation, which means they accept the generalisations, the trite bogus descriptions that are true of nearly everybody, to be specifically true of themselves.

We are all hungry for compliments but sceptical of criticism. That is, the feedback must be favourable. It need not be entirely, utterly positive, but if it is by-and-large positive with the occasional mildly negative comment (that itself may be a compliment) people will believe it. There is massive evidence that both astrology and graphology are bogus and invalid whereas many people science tools are highly valid.

## 14 **It's inappropriate to ask people to take tests as part of job applications as they give companies access to highly personal and private information that is not relevant to work**

This is a debatable and, indeed, a legal issue. The aim of most tests is to get full understanding of an individual's ability, motivation and personality. Not all the dimensions or factors measured are relevant to the job. Only essential information should be sought, and all information and test scores stored, secured and accessed by those appropriately qualified to interpret them.



*People fall victim to the fallacy of personal validation, which means they accept the generalisations*

## 15 Tests have really nothing to offer test-takers themselves

This may be partly true unless the testers provide (true and accurate) feedback to the person taking the test, which many do. Many organisations follow guidelines which suggest a candidate is given a thorough debriefing on their test performance which many find extremely useful. Selectors do report that some people strongly reject what the test (supposedly) says about them, which may be a good indicator of self-awareness (lack thereof). And who really wants to know they are scored relatively low on cognitive ability or some socially-valued personality dimension (like creativity or honesty)?

## 16 People science doesn't tell you anything that someone's academic background doesn't

There's data going back 100s of years which shows that some highly talented and intellectually gifted students never seem to realise their ability, while those who struggled and often failed at school become very successful.

The ability to do well in a school and university setting is indicative of a number of traits, but not enough to ensure success in the "real world". Think of all the well-known very successful business people who did badly at school, dropped out of university, or never went. Their academic record was a very poor indicator of their business success. Many poorly educated people, or those socially disadvantaged, have latent potential that can be revealed only by a good psychometric test.



## 17 Practising psychometric IQ tests will make you more likely to pass them

There is clear evidence that practice helps as in all skilled activities. The data suggest that you might gain as much as 5-10 IQ points by practising, but it depends on which tests are used.

Practising on one type of test (e.g. arithmetic/maths) may have little impact on other tests (e.g. comprehension). So, if your real score on an IQ test is 115, you may without being familiar with the test, score around 110, but with practice and familiarity it should indicate the "real score" of 115. And it is not usually the case of pass or fail: it is an indication of level.

## 18 Tests are reductionist and the idea that people all fit into neat categories or types ignores most of the complexity of what makes us unique

Ah... the ticky-tacky song. It was about "little boxes" of different colours "all made out of ticky-tacky" and which "all look just the same". The idea that your amazingly complex personality could be "reduced" to four letters (INTJ; ESFP) seems laughably ridiculous to many people. Yet psychologists have spent at least 100 years trying to describe and understand individual differences in the most comprehensive way.

Most tests allow for a finer grained analysis and description of a person, if that is required. In fact, tests with even a small number of factors or dimensions (3-5) can provide a rich description of a person, as each person occupies a position in this n-dimensional space.

## **19** Just because someone does well in psychometric testing, doesn't mean they'll be good at the job

This is certainly true of ability tests, but less so of personality tests and not at all true of motivational tests. Some people don't seem to want to "apply" their ability at work; others less prepared to knuckle down to the requirements of the job. It is crucial to understand an applicant's general and specific motivation at work as well as their natural ability and personality traits. 'Will do' is needed alongside 'can do' – personality and motivation modifies all else.

## **20** People are rightly anxious about the use and abuse of psychometric testing

Indeed, they should be where organisations use unproven and unvalidated tests to make decisions. Worse, some tests do not have good norms or evidence of any diversity differences. Many of the established tests have been very carefully designed and tested to ensure that all people are treated fairly; and they give advice about how to use them well. Of course, the same could be said of application forms and interviews: this information can always be abused.



# Summary

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Of course, there might be other myths like: personality tests are designed to identify a culturally biased profile – candidates ‘like us’. People science denies the role played by the individuality of the person. Tests are based on old and irrelevant data. Big data, machine learning and AI have replaced old fashioned pencil-and-paper type tests – we are in a new world of psychological testing.

But I rest my case M’Lud: a well chosen and a well applied people science tool is a scientifically validated and extremely efficient way to get an insight into a person.

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# Contact us

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**We hope you enjoyed exploring these insights.**

**Get in touch to learn more about the power of people science.**

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