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Abstract

Purpose – This study seeks to investigate human resource practitioners' attitudes and beliefs about work related psychological tests. The purpose was to look at the structure and correlates of those beliefs.

Design/methodology/approach – In all, 255 practitioners from human resource and related disciplines completed a 64-item questionnaire on their attitudes to, and beliefs about, work-related psychological tests.

Findings – Overall, the participants were positive about the validity and hence usefulness of tests. Factor analysis suggested that attitudes to tests fell into four easily identifiable factors (Test complexity, Practical application, Bias, and Usefulness of psychological tests). It was found that all four factors were predicted by age or educational qualifications or both.

Research limitations/implications – The study had a restricted sample of test users. It would be interesting to test a bigger and more representative sample of those in HR, training and coaching and get more specific details on which tests they used, why those particular tests and how they used the data they provide.

Originality/value – The aim of this study is to investigate whether practitioners generally find psychological tests in general useful, what aspects of psychological tests are most valued and what aspects are least liked. It also set out to determine whether the perceived scepticism toward, or enthusiasm for, psychological tests could be predicted by test user experience, and test user academic qualifications. Whist some survey studies have been interested in expert opinion, this study looked at practitioners from HR and related disciplines.

Keywords Psychometric tests, Psychological tests, Workplace assessment, Practitioner, Test bias

Paper type Research paper

Introduction

A psychological test is any test used to quantify a person's mental abilities, aptitude, intelligence or personality. There is now almost 100 years of research into the development of psychological tests of ability and personality that have long been used in clinical, educational, industrial and organisational settings to facilitate decision making (Anderson and Cunningham-Snell, 2000; Bartram, 2004; Berman and Bradt, 2006; Jeanneret and Silzer, 2000; Hambleton and Oakland, 2004; Klehe, 2004; Lubin *et al.*, 1986; Oakland, 2004; Ones and Anderson, 2002; Ones and Viswesvaran, 1998). They have waxed and waned in fashion over the years (Green, 1978) and have been very passionate about issues like the use of the term "psychological" (Dattilio *et al.*, 2007) or sales to unqualified people (LoBello and Zachar, 2007). Some appear to be chosen more by trainers and consultants on their "usefulness" or "client friendliness" in specific settings while academic researchers use different criteria to judge the utility of particular tests.

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The aim of this study is to investigate if practitioners generally find psychological tests in general useful, what aspects of psychological tests are most valued and what aspects are least liked. It also set out to determine if the perceived scepticism toward, or enthusiasm for, psychological tests could be predicted by test user experience, and test user academic qualifications. Whist some survey studies have been interested in expert opinion (Lally, 2003; Norcross *et al.*, 2006) this study looked at practitioners from HR and related disciplines.

Various recent reviews have looked at trends and changes in the use of psychological tests (Kwiatkowski, 2003; Lievens *et al.*, 2002; Ryan and Sackett, 1988; Silzer and Jeanneret, 2000; Te Nijenhuis *et al.*, 2001; Van de Vijver *et al.*, 2002); the use of new technologies (Chapman and Webster, 2003) as well as how applicants view these procedures (Hausknecht *et al.*, 2004). Some have looked at the beliefs about professionals (i.e. lawyers) knowledge of, and beliefs about tests (Wetter and Corrigan, 1995). There has also been considerable research on applicant reactions to psychological tests (e.g. Carless, 2006), but little on HR practitioners' reactions to their use of tests.

This study looks at the attitudes and beliefs of frequent test users who are practitioners in HR and related disciplines. There have been various studies on practitioners' perceptions and uses of tests (Furnham, 2008a, b). For instance a British study (Hodgkinson *et al.*, 1995) of 176 UK employees showed the following rank order from most (always) to least (never) used methods:

(1) interview;
(2) references;
(3) application form;
(4) ability test;
(5) personality inventory;
(6) assessment centre;
(7) structured interview; and
(8) biodata.

A similar American Study (Rynes *et al.*, 1997) of 251 employers, however, showed a rather different pattern:

(1) references;
(2) structured interview;
(3) drug tests;
(4) school/university grades;
(5) interview;
(6) work trial;
(7) work sample;
(8) ability test;
(9) personality inventory;
(10) assessment centre; and
(11) biodata.

Overall, an unstructured interview, references and some application form data seem to be collected for nearly every selection task (Cook, 2004). Paradoxically they have been shown to be some of the least valid ways to assess people (Furnham, 2008a, b).

In a British study concerned with test usage Brown (1999) did a telephone interview of 190 organisations that used personality questionnaires. All the sample of 190 used personality inventories but less than 60 percent were qualified to use ability tests 58 percent said they used tests for recruitment and selection, 23 percent for recruitment only and 17 percent for development only. In 2001, the American Management Association (AMA) conducted a review of workplace testing. They got 1,627 usable responses from those tested for selection purposes (i.e. applicants for jobs) and developmental or promotional prospects. A total of 68 percent of respondent firms engaged in various forms of job skill testing, which do focuses on skills and competencies necessary to perform specific job tasks. There was a slight decline from 1999 (70.9 percent) to 2001 (67.6 percent) and some indication of differences between the various sectors (i.e. Manufacturing vs Financial Services). The results also showed that 29 percent of respondent firms employed one or more of the forms of psychological measurement listed in the AMA questionnaire. The share has dropped precipitously over the years 1999-2001 from 48 percent in 1998 to 33 percent in 1999 and 2000, and to 29 percent in 2001. Skill shortages may explain this; when mission critical positions go unfilled in a tight labour marker, companies may well take shortcuts in the application and evaluation process.

Ryan and Sackett (2000) found all participants use interviews; well over three-quarters used both ability and personality inventories; however there are many dramatic differences in which various groups use personality and ability tests.

Our literature review however suggests that practitioners of psychological tests have not been systematically asked about their views concerning psychological tests. A general widespread positive view of psychological tests held by practitioners would add an additional weight to their effectiveness compared to the more traditional aspects of validity as measured by concurrent, predictive and content validity. For example, over the years a large amount of research has demonstrated the incremental predictive validity of the five-factor model personality constructs on the outcome of job performance (Anderson *et al.*, 2001; Salgado *et al.*, 2002) which provides statistical evidence of validity. The aim of this study is to supplement this research by providing evidence of the perceived value of tests by practitioners.

In this study, we were particularly concerned with enthusiasm and skepticism to the use of psychological tests. This study focused specifically on test users' attitudes to psychological tests. Tests can be, and are used, for very different purposes such as development, selection and promotion and the criteria by which tests are chosen may depend heavily on the purpose to which it is put. The study aimed to identify various positive and negative attitudes to test publishers, the tests themselves and test users. It focused particularly on the underlying dimensions of attitudes towards psychological tests.

Method

Participants

A total of 255 participants responded to invitations to complete the survey either in a paper format (73 percent) or on the internet (27 percent). Nearly all were HR

professionals, while a few were coaches or consultants. The vast majority (88 percent) were British based HR practitioners in large companies employing over 250 people. The average age was 40.23 yrs (SD = 11.37). The sample consisted of 48.4 percent males and 51.6 percent females. In all 148 respondents had British Psychological Society approved training in test construction and administration. This would mean they knew about and had experience of power and preference tests. Job titles of respondents varied widely and included trainers, managers, recruitment consultants and management consultants and all of the participants were familiar with the use of psychological tests. Most of the sample was recruited from a large pan-European HR consortium who had no major interest in psychological test use aside from their use of the tests as practitioners (Furnham, 2008a).

Measures

Participants read the instructions which contained the following: "Although tests that measure such concepts as cognitive ability – intelligence – and personality have been used in organisations for nearly 100 years, it's not been until comparatively recently that they have become widespread.

Starting around ten years ago, researchers began to conduct surveys that attempt to determine how, why and when organisations use psychological tests, and what their experiences of these tests are.

This survey is in that tradition. It has several parts: some deal mainly with personality inventories; others explore cognitive ability (intelligence) or aptitude tests. We are also interested in your attitudes to, and experience of, psychological tests. So you will be making a much-valued contribution to some leading-edge investigations.

Next, respondents completed a 64-item questionnaire (rated on an eight point scale from 8 = Strongly agree to 1 = Strongly disagree). The items were obtained from two sources: previous studies on the topic and in-depth interviews with ten senior HR managers and five informal focus groups run during a one day conference on latest developments in psychological testing. Around 80 items were generated. After pilot work looking at item clarity and overlap 64 were retained for use in the study. A Q-sort suggested that they fell into various groups roughly half positive and half negative about psychometric tests.

Highest educational qualifications. A five point scale was used such that a 0 = GCSE or "O Levels or similar". This would equate to 10th grade in America and suggest school leaving at around 16 years old; 1 = "A Levels or similar". This would equate to 12th grade in America and is the final school leaving qualification; 2 = "Undergraduate degree or similar"; 3 = "Masters or similar"; 4 = "PhD or similar". It was a linear variable based on time spent in education while it is quite possible that there are many qualitative differences between various degree courses. The practitioners were also asked various questions about their organization such as how much their organization spent on testing over a typical year. The modal amount was Euro 9,500.

Results

Descriptive statistics

In all, seven statements received mean scores of over 6 on the scale. They were 10, 11, 28, 36, 39, 57, and 63 (see Table I). With the exception of item 57 the theme of these statements was about insight, professionalism and differentiation. That is,

		Mean	SD
57.	It is very difficult for untrained people to differentiate between good and bad psychometric tests	6.56	1.56
11.	Psychometric tests allows recruiters to find out about a person, not just their qualifications and background	6.52	1.18
28.	Psychometric tests provide useful information before doing interviews	6.34	1.65
36.	Psychometric tests can help filter out unsuitable candidates	6.24	1.52
39.	Online tests offer both easier administration and faster turnaround	6.18	1.56
10.	Psychometric tests definitely improve on our current recruitment techniques	6.08	1.45
63.	We began to use psychometric tests because they improve on our recruitment techniques	6.06	1.47
52.	Psychometric tests are useful because they help to counter the perception of corruption, favouritism and "old-boy" networks being self-perpetuating	5.91	1.44
38.	Psychometric tests provide numeric information, which means individuals can more easily be compared on the same criteria	5.89	1.58
19.	Psychometric testing shows organisations are serious about recruitment practices	5.85	1.51
43.	Psychometric tests are scientific in that they are empirically based on theoretical foundations	5.85	1.43
34.	Psychometric tests help find out more about individuals' motivation	5.82	1.38
54.	Psychometric tests give explicit and specific results on personality rather than the ambiguous words found in references	5.81	1.43
58.	Psychometric tests can help understand both staff under-performance and misdeployment	5.70	1.52
30.	Psychometric tests are useful because they are practical and easy to administer	5.57	1.45
3.	Psychometric tests are useful, as interviews alone are an unreliable method for recruitment	5.53	2.05
8.	Many organisations do not use psychometric tests because no one in my organisation has the qualifications to interpret them correctly	5.49	1.60
31.	Most organisations do no know which tests are most appropriate to use	5.39	2.01
18.	Psychometric tests are objective and unbiased	5.36	1.59
32.	Resource constraints are often the reason for psychometric tests not being used	5.31	1.54
37.	Psychometric tests are often intimidating to potential employees	5.31	1.57
9.	Psychometric tests are very useful because they predict subsequent job performance very well	5.13	1.63
45.	Psychometric tests are comprehensive in that they cover all the basic dimensions of personality and ability from which other behaviour patterns derive	5.07	1.61
48.	Freedom of information legislation may mean that candidates would be able to see, and hence challenge either the scores or their interpretations	5.07	1.66
33.	Psychometric tests often lead to concerns about errors in interpretation of results	4.93	1.62
51.	Interpretation of psychometric tests takes skill, insight and experience, and these are either too expensive or not available	4.85	1.78
5.	Many organisations do not use psychometric tests as they are unsure about evidence of their reliability and the validity of evidence	4.69	2.02

(*continued*)

Table I. The 64 items showing the mean score for the group and standard deviation

		Mean	SD
6.	Personality tests are more useful for individual development than selection	4.69	2.02
61.	Personality tests are more useful for development than selection	4.69	2.04
23.	Psychometric tests are too expensive to purchase	4.62	1.82
50.	Some people do not have sufficient self-insight to report on their own feelings and behaviour	4.56	1.82
14.	Psychological test publishers are greedy	4.54	2.01
35.	Most organisations use psychometric tests because they have always used them	4.49	1.49
62.	In selection, personality tests are better at identifying the people who will not be able to do the job, than those who will be good at it	4.45	1.82
44.	Many psychometric tests are susceptible to faking	4.43	1.64
60.	Consultants over-emphasise the usefulness of psychometric tests	4.38	1.81
40.	Psychometric tests are simply too expensive to use extensively	4.31	1.86
47.	People have to be sufficiently literate or articulate to do psychometric tests and sufficiently familiar with North American jargon	4.24	1.73
59.	It takes too much time and money to be trained to use psychometric tests	4.20	1.86
64.	Nearly all psychometric tests are culturally biased	4.13	1.82
22.	Psychometric tests are often ethnically biased	4.02	1.82
42.	As psychometric tests become known, people can buy copies and practise, so that they can identify the correct or most desirable answers	4.01	1.87
15.	Intelligence (cognitive ability) tests are too prejudiced against certain groups to be used fairly in selection	3.85	1.84
53.	Psychometric tests are unreliable because all sorts of temporary factors, (e.g. test anxiety, boredom, weariness, headache, period pains) affect people's answers on different occasions	3.85	1.69
2.	Organisations use psychometric tests because their competitors do	3.79	1.63
25.	Psychometric tests are only really cost-effective for high level jobs	3.69	1.85
41.	Psychometric tests are poor predictors of workgroup compatibility	3.65	1.68
4.	Online tests reduce candidate faking	3.63	1.71
29.	Psychometric tests necessitate too much feedback and monitoring after testing	3.56	1.74
17.	In recruitment, we only use psychometric tests for higher level jobs	3.54	2.01
46.	Psychometric tests are unfair and biased in favour of white people of Anglo-Saxon origin	3.54	1.78
20.	Nowadays organisations do not use psychometric tests owing to legal concerns	3.42	1.56
24.	Psychometric tests discriminate against older applicants	3.30	1.56
56.	Psychometric tests may be able to measure all sorts of dimensions of behaviour, but not those crucial to the organisation	3.13	1.68
55.	Psychometric test results are too complicated to implement	3.12	1.62
49.	Most psychometric tests are invalid because they do not measure what they say they measure	3.00	1.45
21.	Psychometric tests are now unfashionable	2.86	1.57
1.	Even if properly used, psychometric tests are no better than traditional recruitment methods (e.g. interview, references, application forms)	2.68	1.59
16.	Psychometric tests present the wrong image to our employees at interview	2.55	1.55
27.	Psychometric tests are prejudiced against women	2.41	1.55

(*continued*)

Table I.

		Mean	SD
13.	We have stopped using psychometric tests for selection because we were worried about being sued	2.34	1.68
7.	Personality tests are more useful for individual development than selection	2.27	1.48
12.	Psychometric tests do not add value to existing recruitment techniques (e.g. interviews, references, application forms)	2.13	1.28
26.	Psychometric tests are pseudoscience and no better than graphology.	1.93	1.25

Table I.

psychological tests were seen able to improve on other techniques (10) find out more about the person, (11) provide useful insights (28), filter out unsuitable candidates (36) as efficient (39) and improve recruitment (63). The respondents also agreed that it is difficult for non-experts to differentiate between the tests (57).

The general themes underlying the items that respondents tended to agree with are the following: Tests are useful because interviews are unreliable; Many organizations are ignorant about test validity and which tests to use; Organizations have insufficient trained test administrators; Tests predict job performance very well;

Tests improve on other techniques; Tests are scientifically-biased, comprehensive, and explicit; Tests are objective, unbiased, practical, easy to administer; Tests give a good impression to recruits; Tests give provide useful, pre-interview data information; Tests explore/reveal individual motivation; It is mainly resource constraints that stop tests being used; Tests can filter out unsuitable candidates; Tests can be intimidating to potential employees; On-line tests are efficient; Candidates may challenge their scores under freedom of information legislation; Tests help understand under-performance and mis-deployment.

On the other hand there were a number of items that generated a fair amount of disagreement in the sense that they had lower mean scores. There were all supportive of tests. That is the respondents strongly disagreed with the item that suggested psychological tests did not add value (12); led to litigation (13); presented the wrong image (16), were unfashionable (21), no better than traditional recruitment methods (1), prejudiced against women (27), not specifically useful for individual development (7) or a pseudo science (26).

The general themes which respondents disagreed with are as follows:

- tests are no better than other methods;
- organisations use tests only because their competition do;
- on-line tests reduce faking;
- tests are more useful in deciding who to let go rather than keep;
- intelligences tests are too biased (race, age) to use in selection;
- psychological tests are only used for higher level jobs;
- organisations do not use tests for legal reasons;
- tests are out of fashion;
- tests necessitate too much feedback/monitoring after testing;
- tests are poor predictors of work group compatibility;

- tests are essentially invalid;
- tests counter corruption, favouritism and nepotism;
- tests are unreliable;
- tests are too complicated to implement; and
- tests do not measure the most essential organizationally prescribed dimensions of behaviour.

There were a few items where the mean score was very near the average or mid point.. They did not indicate bi-modal distributions; rather a normal distribution with a few people strongly agreeing or disagreeing but with most being neutral. There were 12 in this category. Themes included the idea that:

- tests are more useful for development then selection;
- test publishers are greedy; tests are too expensive;
- tests are very susceptible to faking;
- respondents have to be literate, insightful, and articulate to take tests;
- it is too expensive to be trained in the use of tests;
- consultants over-emphasize the use of tests;
- tests are better at identifying those not able, rather than those able to do the job; and
- tests are culturally biased.

Overall, the evidence suggests that respondents tended to be very positive about tests. They tended to endorse the statements that suggested tests were efficient and effective at assessment and reject all those suggesting the opposite. Interestingly they had divided opinions about the costs of tests.

Factor analysis

Various analyses were performed:

- principal components;
- exploratory orthogonal; and
- oblique rotations.

The aim was to find clear coherent factors that underlined the data. The analysis chosen for further analysis is shown in Table II. This shows the loading on the four scales which are used in subsequent analyses. These were labeled to reflect the themes: the complexity of tests, the practical application of tests; test bias and the usefulness of tests.

Correlational analyses are shown in Table III. All scales have very good alpha internal reliabilities ($\alpha = 0.82$ or more). Perceptions of test complexity are significantly negatively correlated to "Usefulness of psychological tests" and "Practical application", and positively correlated with "Bias in psychological tests".

It is interesting to note that older test practitioners tend to perceive tests as being more practical and useful and less biased. It seems that the effect of gender is quite small except that women in the same tend to have fewer higher educational qualifications and tend to be younger in the sample.

Component	I Experience of psychometric tests	II Bias of psychometric tests	III Psychometric test complexity	IV Usefulness of psychometric tests
Rotation sum of squares % var	12.94	11.65	9.15	7.59
Rotation sum of square Cum % var	12.94	24.58	33.72	41.32
Psychometric tests are simply too expensive to use extensively	−0.11	0.08	*0.72*	−0.11
It takes too much time and money to be trained to use psychometric tests	−0.09	0.17	*0.67*	−0.14
Interpretation of psychometric tests takes skill, insight and experience, and these are either too expensive or not available	−0.09	0.24	*0.66*	−0.09
Psychometric tests necessitate too much feedback and monitoring after testing	−0.16	0.28	*0.54*	−0.28
Psychometric tests are too expensive to purchase	−0.04	0.06	*0.65*	−0.21
Psychometric tests are only really cost-effective for high level jobs	−0.07	0.16	*0.58*	−0.22
Personality tests are more useful for development than selection	−0.22	0.21	*0.59*	0.13
Consultants over-emphasise the usefulness of psychometric tests	−0.31	0.26	*0.37*	−0.12
In recruitment, we only use psychometric tests for higher level jobs	0.18	0.05	*0.54*	−0.16
In recruitment, we only use psychometric tests for higher level jobs	−0.34	0.05	*0.44*	0.12
Psychological test publishers are greedy	−0.03	0.19	*0.42*	0.20
Many organisations do not use psychometric tests as they are unsure about evidence of their reliability and the validity of evidence	−0.02	0.15	*0.37*	0.05
Resource constraints are often the reason for psychometric tests not being used	0.20	0.19	*0.38*	0.14
Psychometric tests definitely improve on our current recruitment techniques	*0.72*	−0.19	−0.14	0.17
Psychometric tests do not add value to existing recruitment techniques (e.g. interviews, references, application forms)	*0.53*	−0.34	−0.10	0.23
Psychometric tests allow recruiters to find out about a person, not just their qualifications and background	*0.70*	−0.22	−0.05	0.05
Psychometric tests are pseudoscience and no better than graphology	*0.46*	−0.36	−0.12	0.48

(*continued*)

Table II. Principal components analysis of the items used in the scales: Rotated varimax component matrix

Component	I Experience of psychometric tests	II Bias of psychometric tests	III Psychometric test complexity	IV Usefulness of psychometric tests
Rotation sum of squares % var	12.94	11.65	9.15	7.59
Rotation sum of square Cum % var	12.94	24.58	33.72	41.32
Psychometric tests can help filter out unsuitable candidates	*0.62*	−0.20	−0.18	0.00
Psychometric tests present the wrong image to our employees at interview	*0.43*	−0.40	−0.05	0.31
Psychometric testing shows organisations are serious about recruitment practices	*0.65*	−0.11	−0.02	0.13
Psychometric tests are useful because they are practical and easy to administer	*0.63*	−0.03	−0.23	0.09
We began to use psychometric tests because they improve on our recruitment techniques	*0.59*	−0.02	−0.04	0.28
Psychometric test results are too complicated to implement	*0.35*	−0.35	−0.36	0.41
Even if properly used, psychometric tests are no better than traditional recruitment methods (*e.g.* interview, references, application forms)	*0.40*	−0.17	−0.29	0.34
Psychometric tests provide useful information before doing interviews	*0.48*	−0.32	0.06	0.12
Psychometric tests give explicit and specific results on personality rather than the ambiguous words found in references	*0.62*	−0.10	−0.04	0.09
Most psychometric tests are invalid because they do not measure what they say they measure	*0.36*	−0.38	−0.31	0.26
Psychometric tests are poor predictors of workgroup compatibility	*0.40*	−0.39	−0.16	0.22
Psychometric tests are objective and unbiased	*0.42*	−0.46	−0.03	0.12
Psychometric tests help find out more about individuals' motivation	*0.56*	−0.04	−0.01	−0.09
Psychometric tests are scientific in that they are empirically based on theoretical foundations	*0.48*	0.17	−0.07	0.15
Psychometrics tests can help understand staff	*0.46*	−0.14	0.09	0.11
Psychometric tests are useful because they help to counter the perception of corruption, favouritism and "old-boy" networks being self-perpetuating	*0.49*	0.04	0.04	0.19

Table II. (*continued*)

Component	I Experience of psychometric tests	II Bias of psychometric tests	III Psychometric test complexity	IV Usefulness of psychometric tests
Rotation sum of squares % var	12.94	11.65	9.15	7.59
Rotation sum of square Cum % var	12.94	24.58	33.72	41.32
Psychometric tests are very useful because they predict subsequent job performance very well	*0.60*	0.01	0.03	−0.16
Psychometric tests provide numeric information, which means individuals can more easily be compared on the same criteria	*0.45*	0.13	−0.14	0.16
Online tests offer both easier administration and faster turnaround	*0.34*	0.05	−0.08	0.26
Psychometric tests are unfair and biased in favour of white people of Anglo-Saxon origin.	−0.12	*0.75*	0.12	0.08
Nearly all psychometric tests are culturally biased	−0.04	*0.71*	0.23	0.04
Psychometric tests are prejudiced against women	−0.24	*0.64*	0.10	−0.28
Psychometric tests discriminate against older applicants	−0.15	*0.65*	0.13	−0.21
Psychometric tests are unreliable because all sorts of temporary factors, (e.g. test anxiety, boredom, weariness, headache, period pains) affect people's answers on different occasions	−0.26	*0.45*	0.25	−0.35
Psychometric tests may be able to measure all sorts of dimensions of behaviour, but not those crucial to the organisation	−0.28	*0.43*	0.28	−0.43
Psychometric tests are often ethnically biased	0.13	*0.63*	0.09	−0.01
People have to be sufficiently literate or articulate to do psychometric tests and sufficiently familiar with North American jargon	0.08	*0.55*	0.27	−0.04
Intelligence (cognitive ability) tests are too prejudiced against certain groups to be used fairly in selection	−0.09	*0.57*	0.16	−0.08
As psychometric tests become known, people can buy copies and practise, so that they identify the correct or most desirable answers	0.01	*0.53*	0.18	−0.18
Many psychometric tests are susceptible to faking	−0.08	*0.57*	0.12	0.11
We have stopped using psychometric tests for selection because we were worried about being sued	−0.12	*0.47*	0.06	−0.25

(*continued*)

Table II.

Component	I Experience of psychometric tests	II Bias of psychometric tests	III Psychometric test complexity	IV Usefulness of psychometric tests
Rotation sum of squares % var	12.94	11.65	9.15	7.59
Rotation sum of square Cum % var	12.94	24.58	33.72	41.32
Psychometric tests often lead to concerns about errors in interpretation of results	−0.07	*0.42*	0.26	−0.02
Nowadays organisations do not use psychometric tests owing to legal concerns	−0.09	*0.34*	0.20	−0.08
Some people do not have sufficient self-insight to report on their own feelings and behaviour	0.03	*0.32*	0.30	−0.18
Personality tests are more useful in choosing whom to make redundant than whom to employ	−0.04	0.27	0.16	−0.54
Even if properly used, psychometric tests are no better than traditional recruitment methods (e.g. interview, references, application forms)	0.17	−0.08	−0.02	*0.81*
Organisations use psychometric tests because their competitors do	0.23	−0.12	−0.10	*0.78*
Psychometric tests are useful, as interviews alone are an unreliable method for recruitment	0.25	−0.07	0.04	*0.74*

Table II.

Regression

Age, gender and educational qualifications were used to predict each of the four scales using multiple regression. In the prediction of test complexity, just educational qualifications were significant (B = −0.266, $t = -3.563$, $p < 0.001$; $F(3,185) = 4.747$, $p = 0.003$; $R^2 = 0.071$). In the prediction of "Practical application", just age was significant (B = 0.199, $t = 2.542$, $p = 0.012$; $F(3,185) = 4.158$, $p = 0.007$; $R^2 = 0.063$). In the prediction of Bias, just age was significant (B = −0.223, $t = -2.892$, $p = 0.004$; $F(3, 185) = 6.046$, $p = 0.001$; $R^2 = 0.089$). In the prediction of Usefulness of psychological tests, age and educational qualifications were significant (B = 0.229, $t = 2.992$, $p = 0.003$; B = 0.190, $t = 2.601$, $p = 0.010$ respectively; $F(3,185) = 7.201$, $p < 0.001$; $R^2 = 0.105$).

Discussion

Implications for practice

Results of this study provide strong support for the use of psychological tests by practitioners in the applied or HR testing community. Aside from the issue of test cost which can be high for some tests, respondents tended to regard them as efficient, fair and useful. Our results provide evidence of the belief in the general construct validity of psychological tests in the testing community which provides a different perspective to the statistical arguments related to concurrent and predictive validity provided by

Table III. Descriptive statistics, reliability coefficients, and correlation matrix for all variables

Variable	Mean	SD	1	2	3	4	5	6	7
Psychometric test complexity (1)	57.76	13.70	0.83	−0.38*	0.57*	−0.25*	−0.21*	−0.03	0.07
Practical application of psychometric testing (2)	137.82	19.92	0.91		−0.49*	0.47*	0.25*	0.20*	−0.07
Bias in psychometric tests (3)	58.86	15.70	0.87			−0.41*	−0.17*	−0.26*	0.10
Usefulness of psychometric testing (4)	12.23	4.49	0.88				0.22*	0.26*	−0.08
Highest educational qualifications (5)	3.18	1.33						0.24*	−0.27*
Age (6)	40.23	11.37							−0.39**
Gender (7)									

Note: * $p < 0.01$

the academic perspective. It is clear from Table I that practitioners tended to agree with statements that attested to the usefulness of tests primarily in selection while also disagreeing with statements critical of tests. The main conclusion that we reach is therefore that psychological testing is well regarded from within the HR community.

The factor analysis of the questionnaire did reveal four, clear interpretable factors that were logically interrelated: two positive and two negative. They had impressive alphas and could be used as scales for future research. We found that age of test practitioner predicts practical application and bias of tests, educational qualifications predicted test complexity, whereas age and educational qualifications predicted usefulness of psychological tests. All this suggests that cognitive skills associated with age and educational qualifications are closely linked to being able to understand and apply the abstract nature of psychological testing. Our results suggest that younger people or people who have less access to education will have a more limited understanding of psychological testing.

One conclusion from these results is that psychological test designers need to understand the limitations of the test practitioner in that simpler tests continue to have widespread appeal compared to more complex tests. For example, a psychological test based on principles of mediation advocated by Jackson (2005, 2008) which measures the processes associated with functional and dysfunctional learning in the workplace is of high complexity and may be too complex for test users; on the other hand a test measuring independent scales of revised-reinforcement sensitivity theory (Jackson, in press) may be of the right level of complexity. From this perspective, it seems little wonder that psychological tests with poor reputations but which are simple to use are still widely prevalent in the workplace.

Implications for future theory

Our research has identified four important factors which identify how practitioners from HR and related disciplines understand psychological tests. We think that these four scales could be used in future theory building about practitioners' understanding of psychological tests, why some tests become widely used and well known whereas others remain poorly utilized and in better understanding how the abstract and statistical nature of psychological tests might lead to poor quality test usage.

Implications for society as a whole

More and more psychological tests are being used in the selection and evaluation of people in the workplace. It is therefore important that psychological tests are well designed and used wisely. Our research suggests that test designers should take into account practioners' viewpoints in terms of their complexity, usefulness, bias and practical application.

Limitations

Naturally there is potential concern about the sampling in this study and whether the people used in this study are representative of the HR and related communities. There is, however, good reason not to believe that they should be particularly biased either for or against psychological tests. They were the same sample as reported in Furnham (2008a) who examined their knowledge and experience of ability and personality inventories. On a six-point scale looking at their experience of ability and personality inventories there was a good distribution in their experience from around a quarter

who said very little to around one-tenth who said a great deal. Furthermore they seemed reasonable well informed about psychological tests. Certainly, the organizations from which they were mainly recruited, namely a large pan-European HR consortium which ran conferences, did not have any specific interest in the use of psychological tests in HR.

Implications for future research

It is desirable to re-run the study on a larger sample and one which is recruited from a broader sample of HR practitioners who use psychological tests in the workplace. Certainly further studies from this kind of research perspective are needed before generalizations can be made and will prove very useful for tracking changes in attitudes and beliefs over time as psychological tests develop and change.

The next issue will probably the use of biological (genetic based) and physiological (PET Scans) tests for educational and employment assessment as well as for clinical applications.

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