CHAPTER 1

Old and new selection methods

We've always done it this way

Why selection matters

Clark Hull is better known, to psychologists at least, as an animal learning theorist, but very early in his career he wrote a book on aptitude testing (Hull, 1928) in which he described ratios of output of best to worst performers in a variety of occupations. In an ideal world, two people doing the same job under the same conditions will produce exactly the same amount, but in the real world, some employees produce more than others. Hull was the first psychologist to ask how much workers differ in productivity, and he discovered the principle that should be written in letters of fire on every manager's office wall: *the best is twice as good as the worst*.

Human resource (HR) managers sometimes find that they have difficulty convincing colleagues that HR departments also make a major contribution to the organisation's success. Because HR departments are not making things or selling things, some colleagues think they are not adding any value to the organisation. This represents a very narrow approach to the way in which organisations work, which completely overlooks the fact that an organisation's most important asset is its staff.

Psychologists have devised techniques for showing how finding and keeping the right staff adds value to the organisation. The *rational estimate* technique (described in detail in Chapter 13) estimates how much workers who are doing the same job vary with regard to the value of their contribution. This gives the HR manager an estimate of the difference in value between an average performer and a good performer in any given job. For computer programmers, Schmidt, Gast-Rosenberg and Hunter's (1980) rational estimates indicated that a good programmer is worth over $10,000 a year more than an average programmer. Schmidt *et al*. also propose a rule of thumb, that the difference in value between a good worker and an average worker will be between 40% and 70% of the salary for the job. If the salary is £30,000, then the difference in value to the organisation between a good manager and an average manager will fall between £12,000 and £21,000. These estimates clearly indicate that the HR manager can add a great deal of value to the organisation by finding good managers in the first place, which is what this book is about, as well as by making managers good through training and development, and by keeping them good through avoiding poor morale, high levels of stress, etc.

Differences in value of the order of £12–42,000 per employee mount up across an organisation. Schmidt and Hunter (1981) generated a couple of examples for the public sector in the USA:

- A small employer, such as the Philadelphia police force (5,000 employees), could save $18 million a year by using psychological tests to select the best (Schmidt & Hunter, 1981).
- A large employer, such as the US Federal Government (4 million employees), could save $16 billion a year. Or, to reverse the perspective, the US Federal Government is losing $16 billion a year by not using tests.

Some critics see a flaw in Schmidt and Hunter's calculations. Every company in the country cannot employ *the best* computer programmers or budget analysts; someone has to employ *the rest*. Good selection cannot increase national productivity, only the productivity of employers who use good selection methods to grab more than their fair share of talent. At present, employers are free to do precisely that. The rest of this book explains *how*.

Recruitment

Figure 1.1 summarises the successive stages of recruiting and selecting an academic for a British university. The *advertisement* attracts applicants, who complete and return an *application form*. Some applicants' *references* are taken up, and the rest are excluded from further consideration. Candidates with satisfactory references are short-listed and invited for *interview*, after which the post is filled. The employer tries to attract as many applicants as possible and then pass them through a series of filters, until the number of surviving candidates equals the number of vacancies.

Recruitment sources

There are many ways in which employers can try to attract applicants, such as advertisements, agencies (public or private), word of mouth, the Internet, 'walk-ins' (people who come in and ask if there are any vacancies), job fairs, etc. Employers should analyse recruiting sources carefully to determine which of these find effective employees who stay with them. Employers also need to check whether their recruitment methods are finding a representative applicant pool in terms of gender, ethnicity and disability.

Realistic job previews

Many organisations paint a rosy picture of what is really a boring and unpleasant job because they fear no one would apply for it otherwise. In the USA, *realistic job previews* (Bretz & Judge, 1998) are widely used to tell applicants what being, for example, a call-centre worker is really like – fast-paced, closely supervised, routine to the point of being boring and solitary.

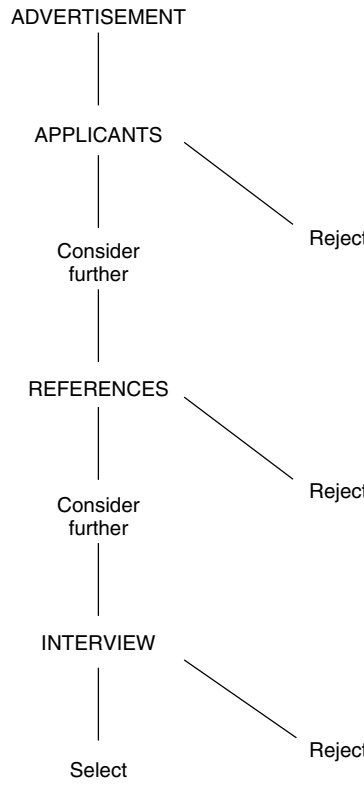

Figure 1.1 Successive stages in selecting academic staff at a British university

The more carefully worded the advertisement and the job description, the fewer unsuitable applicants will apply.

Informal recruitment

Applicants are sometimes recruited by word of mouth, usually through existing employees. Besides being cheaper, the 'grapevine' finds employees who stay longer (*low turnover*) according to several researchers (e.g. Saks, 1994), possibly because they have a clearer idea about what the job really involves. Fair employment agencies (e.g. the (British) Commission for Racial Equality) generally dislike informal recruitment; they argue that recruiting an all-white workforce's friends is unfair because it tends to perpetuate an all-white workforce.

Selection by the classic trio

Having recruited a good, and representative, field of applicants, the employer then tries to select the most suitable person(s). Many organisations still select by using the traditional trio of *application form*, *letter of reference* and *interview*.

Application form

The role of the application form is to act as the first filter, choosing a relatively small number of applications to process further. This procedure is known as *sifting*. Research suggests that sifting is not always done very effectively. Machwirth, Schuler and Moser (1996) used *policy-capturing* analyses to reconstruct the way in which personnel managers sift applications. This approach works back from the decisions that the manager makes about a set of applications, to infer the basis on which the manager makes those decisions. Machwirth *et al*. have found that what the managers *do*, according to the policy-capturing analysis, often differs from what they *say*, when asked to describe how they sift. Managers say that they sift on the basis of proven ability and previously achieved position, but in practice they are likely to reject applicants because the application looks untidy or badly written.

Fairness and sifting

Davison and Burke (2000) reviewed 49 studies of gender bias in simulated employment decisions, and found bias against female applicants by female as well as male sifters. The less job information that is given, the greater the discrimination against females. In the UK, the Commission for Racial Equality recommends that application sifting should be done by two people. In the USA, the Equal Employment Opportunities Commission (EEOC) *Guide to Pre-Employment Inquiries* lists a wide range of application-form questions that are suspect because they may not be *job related*. These include questions about marital status, children, childcare, hair or eye colour, gender, military service or discharge, age, availability over holidays or weekends (which may discourage some religious minorities), height and weight, arrest records, etc.

A continuing concern is whether applicants tell the truth on application forms, although there is not much good quality research on this issue. Keenan (1997) asked UK graduates which answers on their application forms they had 'made up. . .to please the recruiter'. Hardly any admitted to giving false information about their degree, but most (73%) admitted that they were not honest about their reasons for choosing the company to which they were applying. More worryingly, 40% felt no obligation to be honest about their hobbies and interests.

Improving application forms: weighted application blanks

Application forms can be converted into *weighted application blanks* by analysing past and present employees for predictors of success (*see* Chapter 5). One study found that American female bank clerks who did not stay in the job long tended to be under 25 years of age, single, living at home, to have had several jobs, etc. (Robinson, 1972), so banks could reduce turnover by screening out applicants with these characteristics. (Robinson's biodata would probably not be legal today, however, because it specifies *female* bank clerks.)

Improving application sifting: training and experience (T&E) ratings

In the USA, application sifting is assisted by *training and experience (T&E) ratings* (*see* Chapter 9), which seek to quantify applicants' training and experience instead of relying on arbitrary judgements made by the sifter (McDaniel, Schmidt & Hunter, 1988).

Improving application forms: behavioural competences

Applicants are asked to describe things that they have done which relate to key competences for the job. For example, the competence *ability to influence others* is assessed by the request to 'describe an occasion when you had to persuade others to accept an unpopular course of action'.

Improving application forms: minimum qualifications

Levine *et al*. (1997) generated lists of minimum qualifications by asking a panel of experts to state what experience or qualifications a 'barely acceptable' employee ought to have. The results for pharmacy technicians indicated that the organisation had previously specified more experience than was needed, and that there were more ways of gaining that experience than was realised.

Background investigation (positive vetting)

The application form contains the information that the applicant chooses to provide about him- or herself. Some employers make their own checks on the applicant, covering criminal history, driving record, financial and credit history, education and employment history, and possibly even reputation and lifestyle. This is common practice in the USA, where specialist agencies exist to carry out the process. In the UK, background investigations are recommended for childcare workers, and are used for government employees with access to confidential information, a process that is known as *positive vetting*. The Criminal Records Bureau has been set up to supply information on the criminal records of people applying for work which gives access to children.

References

References work on the principle that the best way of finding out about someone is to ask someone who knows him or her well, such as a former employer or schoolteacher. The principle is sound – former employers may have valuable information. However, the practice is less perfect, and research reviewed in Chapter 4 shows that references often do not contribute much to finding effective employees.

Interview

The final hurdle is almost always the interview. A British survey of major companies, published in the *Times 1000*, found only one company that never interviewed (Robertson & Makin, 1986).

Box 1.1 Normal distribution

The Astronomer Royal of Belgium in the nineteenth century, Adolphe Quetelet, plotted a graph of the height of 100,000 French soldiers (Figure 1.2). The soldiers' heights formed a bell-shaped distribution, called the *normal distribution*.

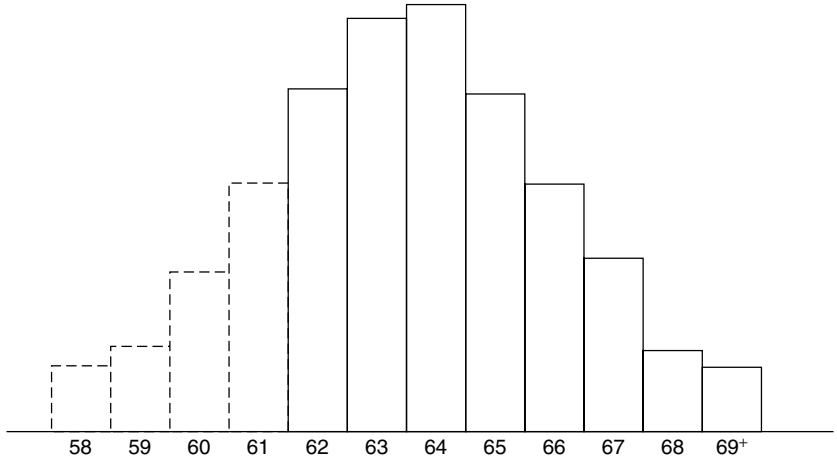

Figure 1.2 Distribution of height, in inches, for nineteenth-century French soldiers. *Note:* The distribution has been estimated for men less than 5 ft 2in tall who were not accepted as soldiers because they were too short

Other naturally occurring measurements when plotted as a graph also produce a normal distribution. Examples include chest diameter, vital capacity (how much air the person can draw into his or her lungs – still a selection requirement for the fire brigade), the time it takes to react to a sound, and the activity of the autonomic nervous system.

Role of the Internet

Advertising, making applications, sifting applications and even assessment can now be carried out electronically, which can make the whole process far quicker. People now talk of making 'same-day offers', whereas traditional approaches took weeks or even months to fill vacancies.

- More and more jobs are advertised on the Internet, through the employer's own website or through numerous recruitment sites.

- People seeking jobs can post their details on websites for potential employers to evaluate. This gives the job seeker an opportunity that did not exist before. Previously, people could make speculative applications to possible employers, but could not advertise themselves on a global scale.
- Many employers now use electronic application systems, eliminating the need for the conventional paper application form. This makes it easier both to use electronic sifting systems, and to construct more sophisticated filtering systems. Half a dozen questions can screen out clearly unsuitable applicants, saving both employer and applicant time, before going on to collect more detailed information from the rest.
- Some employers are replacing their conventional paper application forms by short questionnaires that are completed over the Internet. Formerly HR staff inferred, for example, leadership potential from what applicants said they did at school or university. The new systems assess it more directly by a set of standard questions. This saves time that would otherwise be spent reading application forms, and could ensure more standardised assessment of core competences. In effect the conventional application form or CV has been replaced by a short personality questionnaire, which has been moved forward from its usual position at the short-list stage. No research has been published on how such systems work.
- Software has been developed that scans applications and CVs to check whether they match the job's requirements. This is much quicker than conventional sifting of paper applications by HR staff. The Restrac system can search 300,000 CVs in 10 seconds. Automated sifting systems can also eliminate bias based on ethnicity, disability or gender. Sifting software can scan paper applications, or its input can be electronic. Apparently President Clinton used one to select his aides from thousands of applicants.
- Aptitude tests or assessments of personality can be completed over the Internet by the applicant. This saves both time and travel costs.

However, Internet recruitment and selection is associated with a number of potential problems.

- Not everyone has access to the Internet. Surveys (Bartram, 2000) suggest that there are gender, ethnicity and age differences, which will have possible legal implications, as well as differences in income and education, which will tend to exclude the less fortunate.
- Electronic media do not bypass the problems that arise with paper. It is just as easy to lie through a keyboard as it is on paper or in person, and just as easy to give the answer you think that the employer wants to hear.
- Sifting electronically may be very fast, but it is not necessarily any more accurate. Accuracy depends on the decision rules that are used in sifting, which in turn depend on the quality of the research that the employer has done. Reports (Bartram, 2000) suggest some scanning systems do nothing more sophisticated than search for key words, and that once applicants get wise to this, they will take care to include as many as possible.

Researching accuracy of selection

Is there any reason why employees should not continue to be selected by application form, reference and interview? Most occupational psychologists will answer yes. Psychological research shows that references and interviews are inaccurate selection methods. Accuracy can be divided into two issues, namely reliability and validity. A good selection method is:

- *reliable* – meaning that it gives a consistent account of the person being assessed
- *valid* – meaning that it selects good applicants and rejects bad ones.

Reliability

Physical measurements (e.g. the dimensions of a piece of a furniture) are usually so reliable that their consistency is taken for granted. However, selection assessments are often not so consistent. At their worst they may be so inconsistent that they convey little or no information. Conway, Jako and Goodman (1995) have reviewed interview research, and found the conventional (unstructured) interview very unreliable. Two interviewers who see the same candidate will produce ratings that correlate on average by only 0.37, which means that their opinions are very different. If two interviewers reach different opinions, at least one of them must be wrong – but which one?

Box 1.2 Correlation

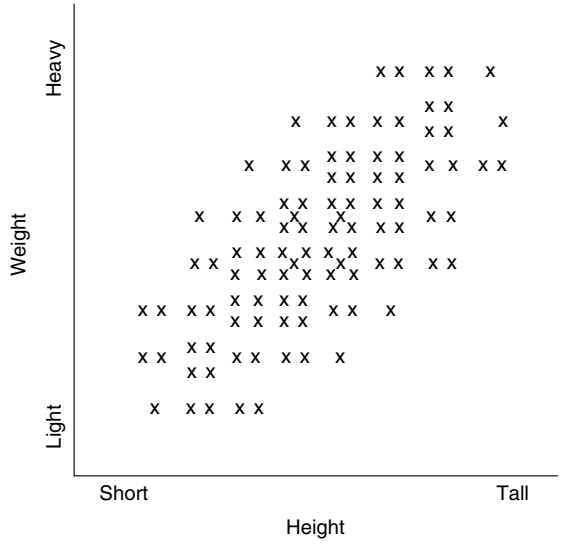

Figure 1.3 Height plotted against weight, showing a positive correlation of 0.75

Height and weight are *correlated*; tall people usually weigh more than short people, and heavy people are usually taller than light people. Height and weight are not perfectly correlated – there are plenty of short fat and tall thin exceptions to the rule (*see* Figure 1.3).

The correlation coefficient summarises how closely two measures like height and weight go together. A perfect one-to-one correlation gives a value of +1.00. If two measures are completely unrelated, the correlation is zero (0.00). Height and weight correlate by about 0.75. Sometimes two measures are inversely, or negatively, correlated. For example, the older people are, the less fleet of foot they (generally) are.

Validity

A valid selection method accepts good applicants and rejects poor ones. The basic building block of selection research is the *validation study*. A typical validation study collects two sets of data, namely the *predictor* and the *criterion*. Interviewer ratings form the predictor, while some index of work performance forms the criterion (Figure 1.4). Note that the interviewer's opinion of the candidates has to be quantified, as does the criterion measure of work performance. The researcher then computes a *correlation* (*see* Box 1.2) between the predictor and criterion data, which is the *validity coefficient*. Validation research is discussed in greater detail in Chapter 10.

A good selection method is also *cost-effective*; it saves the employer more in increased output than it costs to use (psychologists call cost-effectiveness *utility*; *see* Chapter 13).

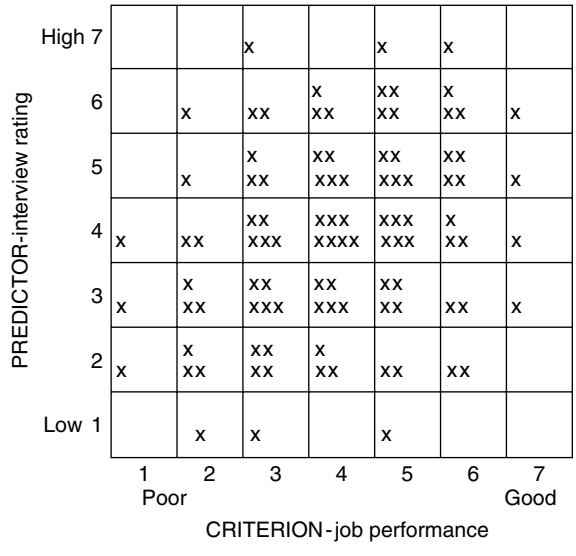

Figure 1.4 Schematic representation of a validity study, showing predictor and criterion data

The criterion problem: defining good work performance

Selection research compares a *predictor*, meaning an selection test, with a *criterion*, meaning an index of the worker's work performance. The *criterion* side of selection research presents greater problems than the *predictor* side because it requires researchers to define good work performance. The criterion problem can be very simple when work generates something that can be counted, such as widgets manufactured per day, or sales per week. The criterion problem can be made very simple if the organisation has an appraisal system whose ratings can be used. The supervisor rating criterion is widely used, because it is almost always available (in the USA), because it is unitary, and because it is hard to argue with.

On the other hand, the criterion problem can soon get very complex if one wants to dig a little deeper into what constitutes effective performance. Questions about the real nature of work or the true purpose of organisations soon arise. Is success better measured objectively by counting units produced, or is it better measured subjectively by informed opinion? Is success at work unidimensional or multi-dimensional? Who decides whether work is successful? Different supervisors may not agree. Management and workers may not agree. The organisation and its customers may not agree.

Objective criteria are many and various. Some are more objective than others. For example, *training grades* often involve some subjective judgement in rating written work. *Personnel* criteria, such as advancement/promotion, length of service, turnover, punctuality, absence, disciplinary action, accidents and sickness, are easy to collect. However, they may be very unreliable, and they often have skewed distributions. Analyses of selection research (Lent, Aurbach & Levin, 1971) have shown that a subjective criterion – the global supervisor rating – was clearly the favourite, used in 60% of studies. Criteria of work performance are discussed in greater detail in Chapter 11.

Looking for alternatives

The first research to be published on the interview, as long ago as 1915, showed that six personnel managers did not agree about a common set of applicants. Many more research studies since then have confirmed that interviews have less than perfect reliability and fairly poor validity. Research on the letter of reference similarly showed it to be unreliable and to have limited validity. These research findings prompted both personnel managers and psychologists to look for a better alternative. The various offerings over the years divide into the following:

- psychological tests
- group exercises
- work sample tests

– or any combination of these, and traditional methods. Intensive assessments of a group of applicants by multiple methods are often known as *assessment centres* (*see* Chapter 8).

Psychological tests

Alfred Binet wrote the first *intelligence test* in France in 1904. The Binet assesses children individually, whereas personnel selectors usually want to test adults in groups. A committee of American psychologists wrote the world's first adult group ability test, to classify US army recruits when America entered the First World War in 1917.

The *personality questionnaire* also owes its origin to the Great War. By 1917, armies had discovered that many men could not stand the stress of continuous battle. The US army devised a screening test, known as the Woodworth Personal Data Sheet, which was surprisingly sophisticated for its day. Questions were excluded if more than 25% of the healthy controls gave the keyed answer, or if the neurotic group did not give the keyed answer at least twice as often as the controls. Many items from Woodworth's test still feature in modern questionnaires. For example:

- Do you usually sleep well?
- Do you worry too much about little things?
- Does some particular useless thought keep coming into your mind to bother you?

Behavioural tests have been used for at least 3,000 years. The Book of Judges (Chapter 7, verses 4–7) tells how Gideon raised an army to 'smite' the Midianites, and found that he had too many volunteers. He used a simple test of fieldcraft to exclude the inexperienced from his army. He told the volunteers to go and take a drink from the nearby river, and he then selected only those who remained on their guard even while slaking their thirst.

Group exercises and assessment centres

Until 1942 the British army selected officers by Commanding Officer's recommendation and a panel interview. By 1942 this system was proving ineffective because the panels did not like or could not understand candidates with a grammar-school education or 'communist' opinions. The War Office Selection Board (WOSB) that replaced the panels used *group exercises*, both leaderless group discussions and more practical tasks, such as building a bridge across a wide gap with short lengths of timber. The WOSB was the model for the British Civil Service Selection Board (CSSB). In the USA, a similar intensive assessment programme was used by the Office of Strategic Services (OSS), forerunner of the CIA, to select spies. These early programmes inspired the *assessment centre* for evaluating managers, first used by AT&T in 1956. Assessment centres are discussed in greater detail in Chapter 8.

Work sample tests

In 1913 the Boston streetcar system asked Hugo Munsterberg to find a way of reducing the number of accidents. Munsterberg found that some drivers were poor at judging speed and closing distance (whether the streetcar would reach a pedestrian before the pedestrian had managed to get out of its way), so he devised a work sample test to assess judgement of closing distances and relative speeds. Work samples were used very extensively in military selection and classification programmes in World War Two. Work samples are discussed in Chapter 9.

Weird and wonderful methods

It is very difficult to select good staff, and quite impossible to make the right choice every time, so most personnel managers are conscious of frequent failures and always on the look-out for better methods. Some are led astray by extravagant claims for semi-magical methods.

Graphology

> . . . a hail-fellow-well-met who liked to eat and drink; who might attract women of the class he preyed on by an overwhelming animal charm. I would say in fact he was a latent homosexual. . .and passed as a man's man. . .capable of conceiving any atrocity and carrying it out in an organised way.

This is a graphologist's assessment of Jack the Ripper based on what might be one of his letters (*see* Figure 1.5). No one knows who really wrote the letter or committed the murders, so no one knows if the graphologist is right.

Graphology is widely used in personnel selection in France, by 85% of all companies according to Klimoski and Rafaeli (1983). Far fewer companies in the UK and the USA use it. Robertson and Makin (1986) reported that 7 to 8 per cent of major UK employers sometimes used graphology. If handwriting accurately reflected personality or work performance, it would offer a very cost-effective selection method, because candidates could be assessed from their application forms. Nor is it obviously absurd to suppose that handwriting reflects personality. However, Klimoski and Rafaeli conclude that research evidence indicates that 'graphology is not a viable assessment method', as two graphologists analysing the same handwriting sample independently show very poor agreement about the writer's personality. Graphologists' ratings of realtors (estate agents) are completely unrelated to supervisors' ratings and to actual sales figures.

Graphologists often ask people to write pen pictures of themselves, so the assessment is not based solely on handwriting. (The content of the letter in Figure 1.5 reveals quite a lot about the writer's mentality – the author enclosed half a human kidney and claims to have eaten the other half.) Neter and Ben-Shakhar (1989) reviewed 17 studies, comparing graphologists and

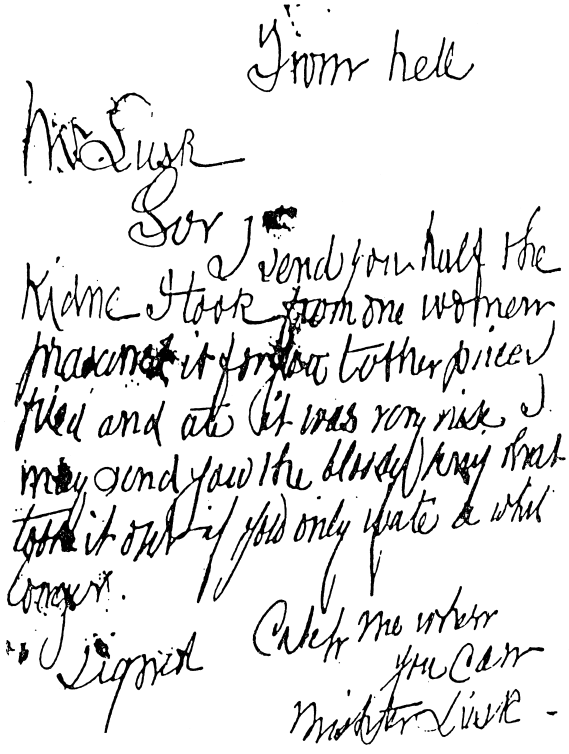

Figure 1.5 A letter attributed to Jack the Ripper

non-graphologists, rating neutral and *content-laden* scripts (such as pen pictures). With content-laden scripts, the non-graphologists, who know nothing about analysing handwriting, achieve better results than graphologists, which suggests that they interpret *what* people write, not *how* they write it, and interpret it better than the graphologists. With neutral scripts, neither group achieves better than zero validity, suggesting either that there is no useful information in handwriting, or that no one at present knows how to extract it.

Handwriting can be a *sign* or a *sample*. A personnel manager who complains that he or she cannot read an applicant's writing judges it as a *sample*; legible handwriting may be needed for the job. The graphologist who infers repressed homosexuality from handwriting interprets the latter as a *sign* of something far removed from putting pen to paper.

Polygraph

The polygraph, also known as the lie detector, was once widely used in the USA to check staff who have the opportunity to steal. The principle of the polygraph is sound – anxiety causes changes in respiration, pulse and skin conductance – but its practice has drawbacks. The polygraph creates a high rate of *false positives* – people who appear to have something to hide but in fact

do not, and who may be nervous about the polygraph, but not because they are lying. The polygraph is likely to miss criminals and psychopaths, because these individuals do not see lies as lies or because they do not respond physically to threat, and might well miss a spy who has been trained to mask physical reactions. US law now prohibits use of the polygraph for most types of employee.

Selection and fair employment law

In addition to reliability and validity, selectors must bear in mind fair employment and equal opportunities laws. The law has shaped selection practices in the USA for 40 years, since the Civil Rights Act (CRA) of 1964 prohibited discrimination in employment on grounds of race, colour, religion, national origin or gender. Later laws in the USA also covered age and disability. Similar laws exist in the UK, namely the Race Relations Act (1976), the Sex Discrimination Act (1975) and the Disability Discrimination Act (1995). Figure 1.6 shows how fair employment laws work in the USA. Other developed countries, including the UK, have followed the same general model and adopted many of the key concepts. If selection excludes too many non-whites or women, it is said to create *adverse impact*. The employer can remove the adverse impact by *quota hiring* to 'get the numbers right'. Alternatively, the employer can argue that the adverse impact is justified because the selection test is *job related* or – in psychologists' terms – valid. The employer who succeeds in proving that the

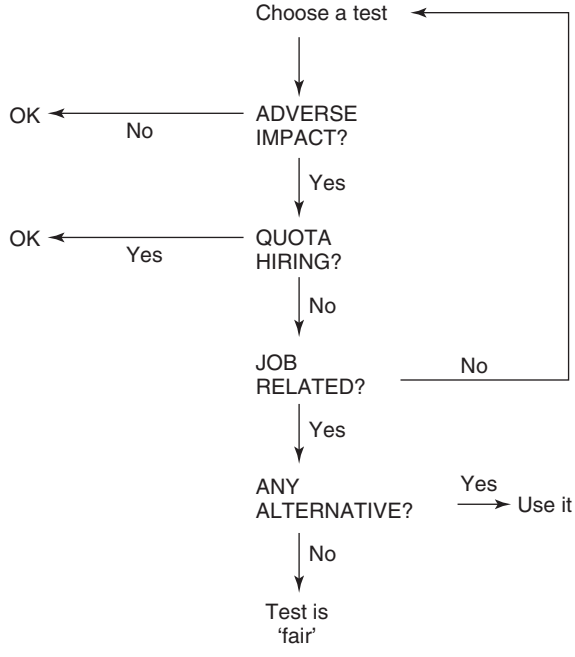

Figure 1.6 Stages in deciding whether a test is legally 'fair'

test is *job related* faces one last hurdle – proving that there is no *alternative test* that is equally valid but which does not create adverse impact.

Note that adverse impact is not what the lay person thinks of as 'discrimination'. Adverse impact does not mean turning away minorities in order to keep the job open for white males, or otherwise deliberately treating minorities differently. Adverse impact means that the selection method results in more majority persons getting through than minority persons. Adverse impact means that an employer can be proved guilty of discrimination by setting standards that make no reference to race or gender, and that may seem well-established, 'common-sense' practice. The important *Griggs* case in the USA ruled that high-school diplomas and ability tests created adverse impact, because fewer African–American applicants had diplomas or reached the pass mark set on the ability test. Height, weight and strength tests for police, fire brigade and armed forces create adverse impact because they exclude more women. In the UK, some employers sift out applicants who have been unemployed for more than six months, on the grounds that they will have lost the habit of working. The Commission for Racial Equality (CRE) argues that this creates adverse impact because unemployment is higher among ethnic minorities. Adverse impact assesses the *effect* of the selection method, not the *intentions* of the people who devised it.

Adverse impact is a very serious matter for employers. It creates a presumption of discrimination, which the employer must disprove, possibly in court. This will cost a great deal of time and money, and may create damaging publicity. Selection methods that do not create adverse impact are therefore highly desirable, but unfortunately they are not always easy to find.

Current selection practice

In the USA

Figure 1.7 summarises a recent survey of 251 US employers (Rynes, Orlitsky & Bretz, 1997), which found that reference checks are the most frequently used method, followed by structured interviews, drug tests, and then unstructured interviews. Biodata, assessment centres and psychological tests (of either personality or ability) are rarely used. New graduates are likely to be assessed by educational achievement or through a trial work period – methods that are not generally used for experienced applicants.

One survey (Harris, Dworkin & Park, 1990) delves a little deeper and asks *why* personnel managers choose or do not choose different selection methods. The most important factor was accuracy, and the least important factors were cost and – surprisingly, perhaps – risk of unfairness. Factors of middling importance were fakability, offensiveness to applicant, and how many other companies use the method. Interviews, although very widely used, were recognised as not being very accurate, as well as being easy to fake. Harris *et al*. suggest that personnel managers are aware of the interview's shortcomings, but continue to use it because it serves other purposes besides

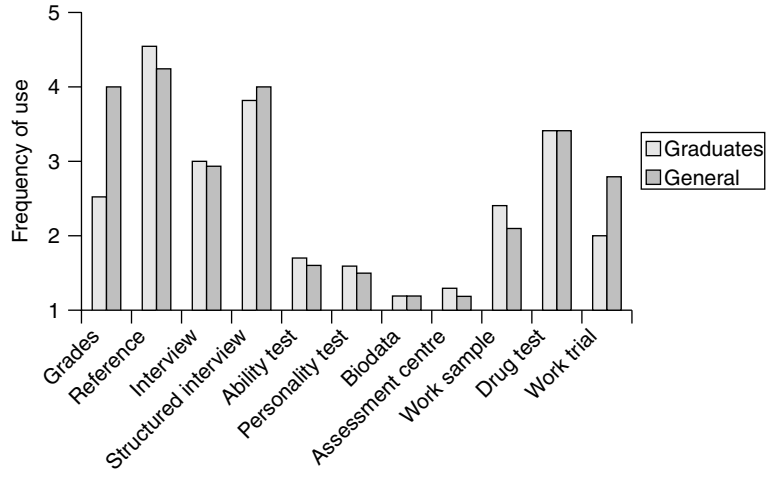

Figure 1.7 Survey of 251 American employers, showing methods used to select graduate entrants and experienced staff. Data taken from Rynes *et al*. (1997). 1 = never, 3 = sometimes, 5 = always

assessment. By contrast, Terpstra and Rozell (1997) asked personnel managers why they did *not* use particular methods. Some they did not consider useful, such as structured interviews and mental ability tests. Some they had not heard of, such as biodata. They did not use mental ability tests because of legal worries.

In the UK

The most recent British survey (Hodgkinson, Daley & Payne, 1995) finds that the classic trio is still almost universal, but that it is being joined by other methods (*see* Figure 1.8).

Graduate recruitment

Keenan (1995) reports a survey of UK graduate recruitment. At the screening stage, employers use the application form, interview and reference. For the final decision, all employers use the interview again, and nearly half of them use assessment centres. Clark (1992) surveyed British executive recruitment agencies which are used by many employers to fill managerial positions. They all used interviews, most (81%) used references, nearly half (45%) used psychological tests, and they rarely used biodata or graphology.

University staff

Foster, Wilkie and Moss (1996) confirm that staff in UK universities are still selected by application form, reference and interview, and that psychological tests and assessment centres are virtually never used. Nearly half of their sample say that they use biodata, but in fact they have probably confused it

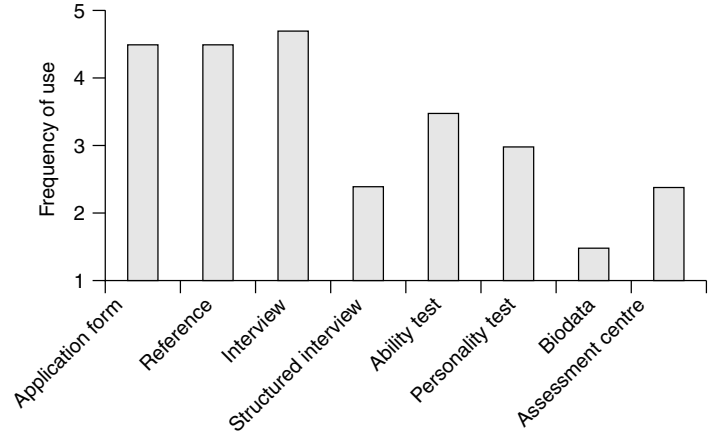

Figure 1.8 Selection methods used by 176 UK employers. Data taken from Hodgkinson *et al*. (1995). 1 = never, 3 = sometimes, 5 = always

with the conventional application form. However, most universities do use one addition to the classic trio that might have some value – they ask the applicant to make a presentation to existing academic staff.

Small business

Most surveys look at large employers, who have specialised personnel departments who know something about selection. However, one-third of the UK workforce work for small employers with fewer than 10 staff, where such expertise is likely to be lacking. Bartram *et al*. (1995) found that small employers rely on interview, at which they try to assess the applicant's honesty, integrity and interest in the job, rather than his or her ability. One in five use work samples or tests of literacy and numeracy, and a surprising one in six use tests of ability or aptitude. Bartram characterises small employers' approach to selection as 'casual'.

In Europe

The Price-Waterhouse–Cranfield survey (Dany & Torchy, 1994) covers 12 Western European countries and nine methods. Table 1.1 reveals a number of interesting national differences.

- The French favour graphology, but no other country does.
- Application forms are widely used everywhere except in The Netherlands.
- References are widely used everywhere, but are less popular in Spain, Portugal and The Netherlands.
- Psychometric testing is most popular in Spain and Portugal, and least popular in West Germany and Turkey.
- Aptitude testing is most popular in Spain and The Netherlands, and least popular in West Germany and Turkey.

Table 1.1 The Price-Waterhouse–Cranfield survey of selection methods in 12 Western European countries: percentage of employers using method.

	AF	IV	Psy	Gph	Ref	Apt	AC	Grp
UK	97	71	46	1	92	45	18	13
Ireland	91	87	28	1	91	41	7	8
France	95	92	22	57	73	28	9	10
Portugal	83	97	58	2	55	17	2	18
Spain	87	85	60	8	54	72	18	22
Germany	96	86	6	6	66	8	13	4
Netherlands	94	69	31	2	47	53	27	2
Denmark	48	99	38	2	79	17	4	8
Finland	82	99	74	2	63	42	16	8
Norway	59	78	11	0	92	19	5	1
Sweden	na	69	24	0	96	14	5	3
Turkey	95	64	8	0	69	33	4	23

Source: Reproduced from Dany & Torchy (1994) by permission of Thomson Publishing Services.
Methods: AF = application form; IV = interview panel; Psy = psychometric testing; Gph = graphology; Ref = reference; Apt = aptitude test; AC = assessment centre; Grp = group selection methods.

- Assessment centres are not used much, but are most popular in Spain and The Netherlands.
- Group selection methods are not used much, but are most popular in Spain and Portugal.

Further afield

Very much less is known about selection in other parts of the world. Recent surveys of New Zealand (Taylor, Mills & O'Driscoll, 1993) and Australia (Di Milia, Smith & Brown, 1994) found a very similar picture to that in the UK. Interview, references and application are virtually universal, with personality tests, ability tests and assessment centres only being used by a minority. Arthur *et al*. (1995) described selection in Nigeria and Ghana, where interviews were nearly universal (90%) and references were widely used (46%); paper-and-pencil tests were less frequently used, as were work samples (19%) and work simulations (11%).

The most recent survey covers no less than 20 countries, although some samples are rather small (Ryan *et al*., 1999). Mental ability tests are used most in Belgium, The Netherlands and Spain, and least in Italy and the USA. Personality tests are used most in Spain, and least in Germany and the USA. Projective tests are used most in Portugal, Spain and South Africa, and least in Germany, Greece, the UK, Ireland, Italy and Singapore. Drug tests are used most in Portugal, Sweden and the USA, and least in Italy, Singapore and Spain.

Acceptability of selection methods to candidates

In times of high unemployment, employers may feel that they can afford to take less notice of candidates' reactions; in times of labour shortage, unpopular methods could drive applicants away. Candidates' views of selection methods may shape their opinion of the organisation and their decision as to whether to accept a job offer. A recent survey in Belgium (Stinglhamber, Vandenberghe & Brancart, 1999) even reports that a candidate who does not like an organisation's assessment methods may stop buying its products.

Surveys also indicate that some assessment methods are more popular with applicants than others (Steiner & Gilliland, 1996; Ryan & Ployhart, 2000). Candidates like interviews, work samples and assessment centres, but they do not like biodata, peer assessment or personality tests. Smither *et al*. (1993) reported that candidates regard more job-related approaches, such as simulations, interviews and more concrete ability tests (e.g. vocabulary, maths), as fairer. They regard personality tests, biodata and abstract ability tests (letter sets, etc.) as less fair because they are less job related. Steiner and Gilliland (1996) found that preferences in the USA and France are broadly similar, with two exceptions. Personality tests and graphology are more acceptable in France, although they are still not very popular. Research indicates that people like selection methods which are job related, but they do not like being assessed on aspects which they cannot change, such as personality.

Key points

In Chapter 1 you have learnt the following.

- Employees vary greatly in value, so selection matters.
- Traditional methods of selection (application form, letter of reference and interview) are not very accurate, so employers who rely on them are probably not selecting very effectively.
- Selection research compares a selection test, known as a *predictor*, with work performance, known as the *outcome* or *criterion*. This is called a *validity study*, and it yields a *validity coefficient*.
- Selection methods should be *reliable* – that is, give a consistent account of the candidate.
- Selection methods should be *valid* – that is, accept good candidates and reject poor candidates.
- Deciding which application to proceed with and which to reject is called *sifting*. It is often done inefficiently or unfairly.
- Conventional paper application methods can be improved.
- The Internet may greatly change the application process.
- Selection methods must conform with fair employment legislation.
- The problem with fair employment is not deliberate or *direct discrimination*, but *adverse impact*, whereby the method results in fewer women or minority

persons being successful. Adverse impact will create problems for the employer, so it should be avoided if possible.
- Non-traditional methods include psychological tests, assessment centres and work sample tests.
- Magical methods such as graphology rarely work.
- Selection in developed countries follows broadly similar patterns, with some local variations.
- Some selection methods are more acceptable to candidates than others.

Key references

Bartram (2000) discusses the role of the Internet in recruitment and selection.

Dany and Torchy (1994) describe the Price-Waterhouse–Cranfield survey which studies selection methods in 12 European countries.

Davison and Burke (2000) review research on gender bias in application sifting.

Murphy and Davidshofer (2000) is an up-to-date textbook of psychological testing.

Neter and Ben-Shakhar (1989) analyse research on the value of graphology as a selection method.

Ryan and Ployhart (2000) review research on the acceptability of selection methods to candidates.

Ryan *et al*. (1999) describe selection methods in 20 countries, including the USA and the UK.

Rynes *et al*. (1997) describe a survey of selection methods in the USA.

Schmidt and Hunter (1981) present some striking data on the possible savings that can be achieved by effective selection.

Useful websites

www.bps.org.uk/about/psychometric.cfm. The British Psychological Society's Psychological Testing Centre.
www.checkpast.com. A (US) background checking agency.
www.factsffinder.com. Another (US) background checking agency.
www.hrzone.com. Offers advice on a range of human resource issues in the USA.
www.hr-guide.com. Offers advice and information on a range of human resource issues in the USA.
www.incomesdata.co.uk. Income Data Services, a UK company that reports interesting research on human resource issues, including a survey of selection tests.
www.restrac.com. The leading American résumé scanning service.
www.siop.org. (US) Society for Industrial and Organisational Psychology, includes details of conferences, and *The Industrial/Organisational Psychologist*.