I Introduction to Selection and Assessment

1.1 INTRODUCTION

Imagine, for all sorts of reasons, you really want to understand an individual: what 'makes them tick', what drives them; will they 'make something of their lives'? You want to be as accurate and efficient (in terms of time and money spent) as possible, leading to a perspicacious and valid assessment. What are your options: give them a standard questionnaire [pen and paper/online]; interview them; ask others who know this individual; get a copy of their CV or work history; look them up on social media; contact previous employers with specific questions; determine their star sign; get a blood or saliva sample. This book is about the options people have in assessing others.

We spend much of our day assessing and evaluating people. We make judgements on how we are treated in restaurants and shops, how online people deal with our requests and on the competence and trustworthiness of people at work. Our data is in what they say and do. We also collect data, if not terribly systematically, on those we choose as long-term mates and spouses. Furthermore, we are regularly asked to provide information about ourselves.

This book is not about everyday assessment but rather the systematic collection of data designed to inform decisions. It involves measurement and evaluation. It does, or should, aim to provide accurate, insightful, precise and objective data that may be used to make better decisions. Because of the limitation of each data gathering method, it is usually recommended that one use multiple measures, sources, domains, settings, occasions and informants.

There is a great deal of interest in, and research into, assessing people at work. It is done for various reasons: selection, development,
promotion, redundancy and appraisal. Assessment can be formal and informal, based on test data or personal intuitive judgements, with more or less serious consequences. The field is alive and well and thriving (Piotrowski, 2019). There are all sorts of developments, such as the development of video resumes, the screening of a person’s social network profile and gamification of tests.

Essentially, most assessments and selection revolve around the concept of ‘fit’: helping people find the right environment, job, lifestyle and occupation for them and those who employ them.

In the ideal world, a selection process has various stages: do a comprehensive, up-to-date job analysis; identify the ability, attitudes and skills (competencies) required to complete the critical tasks in that job; develop or select the particular assessment devices; and apply them. There are, of course, all sorts of reasons why the ideal situation rarely occurs (Gatewood et al., 2015). Inevitably, some jobs have an easy-to-find measurement criterion such as sales: number of calls/orders; revenue/profit generated; number of customer complaints/returns; peer ratings. For other jobs it is much more difficult finding a set of accurate criteria for job success. One could assess a professor by the quality and quantity of publications (measured by the publicly available h-index), the amount of grant/fee money generated or students’ satisfaction scores.

I.2 VACATIONAL GUIDANCE AND PERSONNEL SELECTION

Vocational psychology concerns the reasons why people choose various vocations, the wisdom of those choices and the possibilities of giving them the best possible kind of advice, as to what to do and when and why to choose vocations. Many factors constrain job choices: ability, age, education and social, economic and political factors. Many jobs are not available to individuals, or competition for them is very strong. Quite simply, you cannot always get the job you want or are best suited to.
As there are striking individual differences in ability, aptitude, needs, personality and interests, different people will need different jobs with demands that better match their wants, expectations and skills. Vocational psychologists help people explore their long-range personal and professional goals, look at personal strengths and weaknesses and assess environmental threats and opportunities to examine salient and suitable career alternatives.

Many organisations are becoming aware of the career development of employees. Over time it is quite common for people to be promoted in rank or level (concomitant changes in responsibilities and skills) or move horizontally or laterally (with functional or technical changes). These lead to significant changes, which the individual might or might not be able to cope with.

It is usually assumed that vocational choice is based on a mix of things, such as a person’s ability, personality and values, as well as their social background (Furnham et al., 2012). Furthermore, through experience and socialisation, people in different jobs become more homogenous in background within certain industries/sectors, and therefore different from those in other jobs.

The Attraction-Selection-Attrition (ASA) framework, proposed by Schneider (1987), suggests that people are attracted to specific jobs because of their interests and personalities, organisations then select people they believe are compatible for and ideally suited to different jobs and later people leave a job when they feel they do not fit in. Chatman et al. (2008) have noted how this ASA process leads organisations and groups within them to become increasingly homogenous, hence jokes and stereotypes about people in certain jobs (i.e. accountants) often sharing certain very noticeable characteristics.

In this sense it is possible to talk of person–job ‘fit’ or ‘misfit’, or of congruity between a person and their workgroup (Schneider et al., 1998). Schaunbroeck et al. (1998) found support for the application of ASA theory in the examination of differences between public and private sector employees.
One implication of ASA theory is within-group specialty homogeneity: that is because people with a particular profile are attracted to different jobs, they tend to end up being very like each other and, therefore, often very different from other specialists. Therefore, when specialists come together in a team, they are often very different from each other, not only in terms of their specialist knowledge and skills but in how they like to work.

### 1.3 Personnel Selection

Assessment is *Big Business* but it difficult to get accurate results on who spends what with whom. A quick Google search will uncover a large number of businesses that have both their own bespoke, as well as traditional, tests on their platforms. Most now boast that they are AI powered, automated, comprehensive and very accurate.

Some concentrate on ‘soft skills’ others on more analytical skills.

Yet, as Ihsan and Furnham (2018) have noted:

> It is also important to note that job selection is essentially an arms race. For every improvement on the employer side (e.g., online personality assessments), there can/may/will be a reactive step-up on the applicant side. Thus, savvy applicants clean’ their Facebook profiles and photos, in anticipation of an upcoming interview. Therefore, the question is whether it is widely known that your social media will be scraped for employability data. Many people will either create a dark social media presence or go off-the-grid for information that might be coded in a negative fashion

*(p 165).*

There is a great deal of interest in the testing and assessment industry, and some work psychology academic journals dedicated to the whole issue [Greiff & Illiescu, 2017]. There are many websites and test publishers that are happy to advise and sell their instruments [Gatewood, 2016].
It remains a ‘hot topic’, particularly in countries where it may have been abused in the past (Sehlapelo & Blanche, 1996). There are also a number of reviews on what companies currently do in assessing people, most of which have been done for long periods of time (multi-source feedback, personality tests, interviews, etc.; Church & Rotolo, 2015).

There is also development in traditional approaches, such as trying to understand the dynamics of individual functioning: how people change over time and in different situations (Sosnowska et al., 2018). Indeed, Ferguson and Lievens (2017) argue that traits are no longer thought of as stable, deterministic predictors of future behaviour but rather as dynamic and flexible across generations, lifespan and contexts. In this sense, traits can be modified or trained.

This relates to the question of whether to invest most in selection (because people do not change a great deal) or training (because you can teach them all the skills they need).

**1.3.1 Reasons for Selection**

Assessing people at work is important for many reasons. The most important is the cost benefit analysis: the benefits of the right decision over the costs of getting it wrong. In other words, there are great financial benefits in hiring a positive and productive person, and many costs, especially financial, in hiring an unhappy, unproductive and difficult person.

Using good assessment tools has other benefits: it can ‘up-skill’ managers who use various tools and techniques and increase their psychological mindedness. It also has a major benefit for the interviewee as feedback can considerably increase their self-awareness. Furthermore, if a test is used widely in an organisation, people can often have a useful shared language to discuss issues in terms of psychological profiles and preferences.

With very few exceptions (handedness) all characteristics are normally distributed: intelligence, height, shoe size, ability to throw a ball, creativity. The same is true of work output measured
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qualitatively or quantitatively. We have data going back 100 years on this when it was possible to accurately measure an individual’s contribution. It means, in effect, that the top 10–20% of what the top workers produce may be three to five times what the poorest workers produce. Hence the importance of selecting superior workers: it makes clear economic sense.

1.3.1.1 Costing Assessment and Value for Money

Often, HR specialists (and others) are required to justify the amount of money spent on selection and assessment exercises. Indeed, it may cost an organisation many thousands of pounds from recruitment to the final selection of a good candidate. We provide here one method to address this issue.

Start by asking ‘what is the ratio of the best to worst performers in any job?’ That is, assuming we could get a sensitive and accurate measure of various people’s performance, how much more productive (measured by quality or quantity) is the best worker (in the top 10%) in comparison to the worst/least effective worker (bottom 10%)?

While the answer depends on the job, the simple rule appears to be that the best produce about twice as much as the worst and that this ratio increases for more difficult and complex jobs. It is therefore possible to calculate the difference between good and bad workers in any job. Another rule of thumb for researchers appears to be 40%–70%. That is, the difference between good and bad workers is between 40% and 70% of their salary whereas the difference between the best and worst may be much higher. So, the rule of thumb (Cook, 2004) is:

The value of a good employee minus the value of a poor employee is roughly equal to the salary paid for the job.

At £60 000 one may assume one is getting around £81 000 worth from the good, and £39 000 from the bad, but £102 000 from the best and £18 000 from the worst. Whilst these exact calculations are in dispute, they do point to the importance of selecting the right people. There are also ways of calculating the return on selection. The
calculation is based on five factors that are put into a formula, they are: the validity of the test, the calibre of the recruits, the distinction in value between good and bad employees, the cost of selection, and the proportion of applicants selected. Using this formula, it is quite possible to show that on a set salary of, say, £30 000, the savings for the organisation (per annum) by selecting good, over poor, candidates may be £5000 per annum. This number can be multiplied by the number of candidates.

So, can we determine when it is a good idea to invest more in selection procedures? The answer is clear. Spending more money on selection assessment is a good idea when firstly the calibre of the recruitment is high, rather than uniformly average. Secondly, employees differ quite widely in their worth to the organisation.

Cook (2016, pp. 170–172)

It is fairly easy to calculate the cost of selection, although many employers only think of doing so when asked to introduce new methods; they rarely work out how much existing methods, such as day-long panel interviews, cost. It is much more difficult to calculate the return on selection. The formula was first stated by Brogden in 1946, but for many years it had only academic interest because a crucial term in it could not be measured – SDy, the standard deviation of the value of employee productivity. Until the rational estimate technique was devised, there was no way of measuring how much more good employees were worth. Brogden’s equation states:

$$\text{SAVING per EMPLOYEE per YEAR} = (r \times SDy \times Z)-(C/P)$$

Where:

- $r$ is the validity of the selection procedure (expressed as a correlation coefficient)
- $SDy$ is the standard deviation of the value of employee productivity, in pounds, dollars or euros
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\[
\begin{align*}
Z & \quad \text{is the calibre of recruits (expressed as their standard score on the selection test used)} \\
C & \quad \text{is the cost of selection per applicant} \\
P & \quad \text{is the proportion of applicants selected}
\end{align*}
\]

Here is a worked example:

- The employer is recruiting in the salary range £40,000 p.a., so SD_y can be estimated – by the 40% rule of thumb – at £16,000.
- The employer is using a test of mental ability whose validity is 0.45, so \( r = 0.45 \).
- The people recruited score on average 1 SD above the mean (for present employees), so \( Z = 1 \). This assumes the employer succeeds in recruiting high-calibre people.
- The employer uses a consultancy, who charge £750 per candidate.
- Of ten applicants, four are appointed, so \( P = 0.40 \).

The SAVINGS per employee per year is:

\[
(0.45 \times £16,000 \times 1) - (£750/0.40) \\
= £7,200 - £1,875 \\
= £5,325
\]

Each employee selected is worth some £5,000 a year more to the employer than one recruited at random. The four employees recruited will be worth in all £21,300 more to the employer each year. The larger the organisation, the greater the total sum that can be saved by effective selection, hence the estimate of $18 million for the Philadelphia police force. Note also that SD_y increases as test validity increases: using the latest (and highest) estimate of MA test validity, incorporating correction for indirect range restriction, means SD_y increases to £9.325 and the savings for four recruits increases to £37,300.

Selection pays off better when:

- The calibre or recruits is high.
- Employees differ a lot in worth to the organisation, i.e. SD_y is high.
- The selection procedure has high validity.
Selection pays off less well when:

- Recruits are uniformly mediocre.
- SDy is low, i.e. workers do not vary much in value.
- The selection procedure has low validity.

Employers should have little difficulty attracting good recruits in periods of high employment (unless pay or conditions are poor). Rational estimate and other research shows SDy is rarely low. The third condition – zero validity – may apply quite often, when employers use poor selection methods. But if any of the three terms is zero, their product – the value of selection – is necessarily zero too. Only the right-hand side of the equation – cost – is never zero.

### 1.3.2 What to Assess

The question for assessors is essentially *what to assess, who is best suited to do it, when and how*. To some extent the ‘what’ can neatly be divided into three areas

Assessors need to know all three things about the person they are assessing.

**What a person can do?** This refers to their ability. It is about their capacity to do various tasks efficiently given that they have the desire to do so. It also refers to their ability to learn new tasks. Assessing what a person can do is more often measured by cognitive ability (intelligence) and skills tests, though it may also be useful to assess creativity as well as the ability to lead others.

**What a person will do?** This refers to a person’s motivation or what they want to do. Motivation refers to a person’s values and drives. Everyone can be persuaded to do things as a function of rewards and punishments, but this refers to what a person will do on an everyday basis without strong rewards or punishments trying to shape behaviour.

**What a person wants to do?** This refers to preferences for certain activities over others. It is about what a person likes to do and will do so freely without any form of coercion. It is about their values and personality and motivation, which push them in one direction or another.
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1.3.2.1 The Essential Methods
There are, in essence, five different methods to collect data on people. Of these, the first three are most commonly used.

A: Self-Report
This is essentially what people say about themselves in:

- Interviews: both structured and unstructured.
- Personality and other preference tests as well as projective techniques
- Biodata data questionnaires and autobiographical data
- The CV, personal statement or application form

The data may be given face-to-face or online. These are very common ways of assessing people, and candidates (not they) nearly always want and expect an interview where they can answer questions and talk about themselves.

There are however two major problems with self-report.

The first is called by various names: dissimulation, faking or lying. It concerns people giving false information, or embellished information about themselves.

This behaviour has been broken down by psychologist into two further types of behaviours.

**Impression Management**: This is where the person attempts to create a good impression by leaving out information, adding untrue information (errors of omission and commission) and giving answers that are not strictly correct but, they hope, create a good impression in the interviewer's mind. This is done consciously and is very common. Indeed, it is expected in the answer to some questions but it can be very serious when, for instance, people claim to have qualifications or experiences they have not had, or leave out important information (about their health, criminal past, etc.).

**Self-Deception**: This occurs when a person, in their own view, answers honestly but what they say is untrue because they lack self-awareness. Thus, they might honestly believe that they are a 'good