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THEORIES AND MEASUREMENT OF PERSONALITY CHARACTERISTICS

WHAT IS THIS CHAPTER ABOUT?

Whatever you call it, it's about power and money. It has been known by a number of aliases such as nature, temperament, disposition, character, and even charisma. Here we call it personality. Knowing about it well gives power over others through being able to predict or manipulate their behaviour. That power might lead to wealth, especially by selling such knowledge to others who also want to use it for their own ends. This explains the proliferation of books about it. Construct a popular questionnaire and it too might make you rich. As with intelligence any science of personality needs to be clear about what we mean by it, how it is distinguished from other constructs, and how we might measure it. We also need to be clear about the theories underlying assessment methods. Theory and assessment always work hand-in-hand, especially in the field of individual differences. We will lastly consider the use of questionnaires to describe personality characteristics, the issues involved, and their limitations.

THE CONCEPT OF PERSONALITY

We all have a natural curiosity about why people behave as they do. Differences in behaviour have always grabbed our attention and have led to many attempts to model it, some more scientific than others. Perceptions of specific behaviours thought to be consistent have led to a vast accumulation of words representing characteristics, as any dictionary will demonstrate. So psychology doesn't really own the phenomenon of personality, for example famous writers have been rewarded for their ability to create characters in a psychologically meaningful way. Thinking and theorizing have gone on for a long time and appear to be a natural tendency amongst just about everyone. Consequently, many different approaches have been adopted by both psychologists and non-psychologists.

Personality is a concept used in daily life because of the judgements we form, consciously or not, about others. Often, when the word 'personality' is used by people, it refers to a global implicit judgement made up of all the impressions and feelings created by someone. When people tend to react to situations in a fairly consistent manner, this will be observed by the typical non-psychologist. But any everyday assessment is bound to be subjective and associated with personal meanings and impressions. People often tend to muddle up different aspects, like affiliation with others and self-confidence.

As with intelligence, the 'pet' theories people have are called implicit personality theories (Bruner & Tagiuri, 1954). These proliferate because everyone has got one and they are overwhelmingly based on superficial, casual and chance observations. Because of this there is often a focus upon the most noticeable characteristics. People talk of someone having 'lots of personality' or 'no personality' or 'a strong personality', referring probably to social competence and popularity. Someone might be 'a personality' or even 'a big personality'. People use broad generalizations and stereotypes. Evaluations of personality could be based upon how someone reacts to situations or the person's behavioural tendencies, reflecting subjective impressions or feelings. In short, as with ability, people's views about the personalities of others reflect personal 'everyday' thinking.

Once again, we need to be scientific, to use empirical methods and to be explicit. Research into personality focuses on objective descriptions. To understand a person or to understand differences between individuals we need to know more, for example, about behavioural style, intellectual functioning, motives, attitudes, beliefs and values, as well as how these are organized. Personality combines with them all to construct the outward manifestation of someone. Any scientific approach needs to be more comprehensive and precise. Therefore, the science of individual differences

is founded upon an explicit empirical approach which views personality from a psychological perspective.

The difference between the explicit and implicit views lies between formal models and theories on the one hand and, on the other, those intimate 'theories' which seem to guide people's everyday interactions with each other relating to personal attributions, social perceptions, values, attitudes and other aspects of their own thinking. The emphasis of our formal models and approaches is on what is testable and empirical, focusing upon an evaluation of more permanent characteristics and individual differences. Our approach is designed to be comprehensive yet precise, to make predictions founded on measurement through the use of scores on rating scales and to involve statistical techniques.

Psychologists are interested in describing the whole range of characteristics that a person has with the aim of being able to predict how that person will behave. The word 'characteristic' implies consistency. We can distinguish between enduring characteristics which allow us to make predictions about behaviour and transient emotional states which may result in behaviour which is unpredictable.

A complete description of personality would include many factors, for example behavioural style, intellectual ability, special talents, motives acquired in the process of development and maturing, emotional reactivity, attitudes, beliefs and moral values. Psychology seeks to discover not just what characteristics a person has, but also the way in which these are organized within the person to make that individual different from others. It is concerned with the individual's unique way of understanding and interacting with the world and with the resulting manifestation of combinations of characteristics.

In the field of psychometrics personality is linked to more permanent characteristics or traits which are based upon how a unique individual adjusts to the environment and upon differences between individuals in doing this. As we saw in Chapter 1, there is a distinction between relatively enduring or more stable characteristics, known as traits, which can predict behaviour (McCrae & Costa, 1990) and other more transient emotional responses or moods called states (McConville & Cooper, 1992). A sudden experience of fear will pass with time, being a state. But if it persists it can become a trait, as with a person who has always been timid finding it difficult to change. This distinction isn't absolute, though traits are always long term and are less likely to change. They represent implied associations between observed behaviour and inner tendencies to act in certain ways. In psychometrics the focus is upon precise and objective measurement. Traits like emotional stability or impulsiveness can be measured in populations and their mean levels calculated, enabling normative assessment on reliable and valid scales. As we discussed in Chapter 3, the term 'normative' means that a person's trait characteristics can be compared with those of others having a similar background.

All being well, trait characteristics tend to be generally stable over the long term. However, as we saw in Chapter 7 in discussing the nature-nurture debate, both personality and ability develop through the complex interaction of genetic and environmental factors. Some personality traits might be more genetic in

origin with the genotype shaping environmental experiences, for example through intellectual stimulation and interests. Some determinants may arise from basic neural structures, resulting in perhaps a reactive inhibition from conception. Researchers have found three ways in which an individual's genotype may shape the environment. Firstly, the genotype may result from the genetic similarity of parents and children. This is likely to result in the parents automatically creating an environment compatible with the child's personality, for example intellectual stimulation or reinforcement of interests. Highly intelligent parents may provide a more stimulating environment for their child, thus creating surroundings which will interact in a positive way with the child's genetic endowment for high intelligence.

Secondly, the child's genotype may evoke particular kinds of reaction from the social and physical environment. For example, active happy babies evoke more positive responses from others than do passive unresponsive infants. Lastly, the child's genotype may play a more active role in shaping the environment. In this case the child seeks out or builds an environment which is congenial. Similarly, development may enhance certain tendencies. Extraverted children may seek the company of others, thus enhancing their own inclinations to be sociable.

So we can see here that genes affect the kinds of experiences which people have. This is immediately evident if we think about the effects that gender, IQ and temperament can have on our life experiences. Genes will seek to create an environment which is compatible with predisposing characteristics, providing basic underlying tendencies to respond to the world in particular ways. But the environment itself will also have major influences through a number of sources. These include the effects of the culture in which we live, for example British undergraduates have been found to be less anxious, more introverted, emotionally sensitive and radical than American students. The environment will begin with the family, the treatment of the child within the family, and its structure, as well as social differences between families. The nature of the socialization experienced by a child provides another influence, as well as educational differences. Socialization also depends upon cultural and social influences.

When we say that babies differ in temperament, we mean that they differ in systematic ways in their emotional and arousal responses to various stimuli, and in their tendency to approach, withdraw, or attend to various situations. Our early temperament is thought to be the substrate from which our personality develops. Starting at about two to three months of age, approximately five dimensions of temperament can be identified, although some will emerge later than others:

- Fearfulness.
- Irritability and frustration.
- Positive affect.
- Activity level.
- Attentional persistence (concentration level).

These seem to be related to the major dimensions of adult personality. The temperament of an infant has profound effects on a variety of important developmental processes, such as learning and relationships with others. Socialization also presents another source of personality difference, for example through how any one child is treated within the family group compared to other siblings, and there is the impact of family structure and differences between families. Education is yet another source of personality change. Lastly, we cannot discount the influence of television, technology and other media upon behavioural differences.

There are clearly some personality attributes which appear to be more genetic in origin and yet others which might be more the result of environmental influences, and some others which could be the result of an interaction between the two. As with ability in Chapter 7, the findings of twin studies and heritability research are the means of identifying the influence of different characteristics. These can identify the factors which affect variability in test scores. In addition, factors which affect variability in the interpretations given to those scores could include some form of test bias or misunderstanding of the cultural backgrounds of individuals.

We can see, therefore, that the factors of socialization, social environment, family (including differences in treatment of different members) and educational differences will all have an impact on personality. To these are added other factors such as race, ethnicity, culture, age and gender. The term 'race' relates to the major division of humans into those having distinct physical characteristics through genetic heritability. Ethnicity, however, is linked to the development of distinct social groups, each having a common tradition and origin. Culture is linked to customs, civilization and group achievements. And lastly, the term 'gender' relates to sexuality, i.e. the classification of people in sexual terms. We often emphasize the differences between groups, although individual differences are more often identified. There are also trait and behavioural differences between people, and there can be a gradual change in these over the lifespan. A greater change in personality may sometimes occur as a result of a traumatic experience, although the environment has a major influence upon different groups through the influence of culture. Other factors which also impact upon different race, ethnicity, culture, age and gender groups concern socialization (e.g. the family unit, education, television, and other forms of technology). All of these can create behavioural differences between people. Another aspect of interest here is that groups may appear distinct sometimes because of expressed behavioural differences rather than actual trait differences.

Situational and Dispositional Approaches

Some social psychologists have argued that personality doesn't exist. They say people change their behaviour across situations and over time, demonstrating no consistency, an approach called situationalism (Mischel, 1968, 2004; Wright & Mischel, 1987). The counter-argument suggests there is behavioural change, but that this can be accommodated in the way we measure characteristics. Change will depend on events, for example there are 'strong' situations having a big impact, whilst there are 'weak' ones having little effect. People will thus adapt their behaviour to fit.
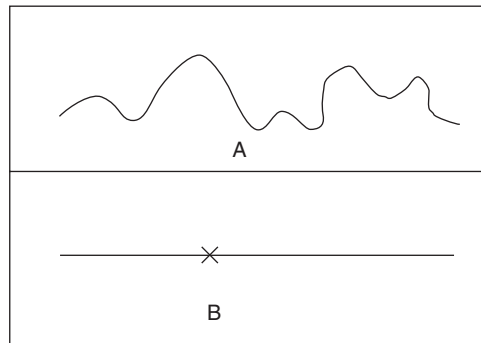
Figure 8.1   The situational view (A) sees personality as being inconsistent, while the dispositional approach (B) sees it as being consistent and unchanging on a trait continuum

Strong situations generally occur less often than weak ones. Even in occasional highly structured situations where behaviour is constrained, people will still demonstrate some aspect of their personality, even if only in a cautious way such as a sly nod or 'wink'.

Studies show people do behave consistently across different events, with most behavioural correlations being above 0.7 and others above 0.3 (Small et al., 1983). A number of characteristics have also been shown to remain largely invariable after the age of 30. So the evidence is that personality does exist. This counter-argument is sometimes called the dispositional approach, and it views personality through consistent and unchanging dispositions, regardless of circumstances.

How Do We Define Personality?

The answer is, with difficulty! Trouble is there has been a multitude of definitions. It was once said that there are as many definitions as there are theorists, which makes for a lot, and so there is no easily identifiable common approach. From ancient times thinkers have attempted to identify the main factors by which people differ and to create some form of classification, and yet there is still no agreement. Perhaps the problem is that personality is a concept which is broad and nebulous, making it difficult to define succinctly. What doesn't help either is the fact that definitions are based mostly on differing theories. But the fact remains that how we define a concept plays a crucial role in how we investigate it, making this an important matter. A simple definition might be 'personality is something which makes everyone either similar or different to others'. But this could equally be said of other traits such as intelligence and doesn't explain enough to make it satisfactory.

Gordon Allport defined personality in 1937 as 'the dynamic organization within the individual of those psychophysical systems that determine a unique adjustment to the environment'. In 1961 he again defined it, this time as 'the dynamic organization

inside the person of psychophysical systems that determine the person's characteristic patterns of behaviour and thought'. His definitions have been the most quoted. There has been a multitude of other attempts as well, and the most common references are to:

- a style or mode of behaviour;
- relatively stable or enduring characteristics enabling prediction;
- uniqueness;
- adaptation or adjustment to the environment;
- characteristic patterns of behaviour, thinking and feelings.

There has often been reference made to personality as arising from a combination of relatively enduring dimensions of individual differences, which means that other characteristics, such as intelligence and cognitive abilities, motives, values and attitudes, also have to be considered (Carver & Scheier, 2000). The reason for this is that some theorists have tried to study it from a holistic point of view. Personality thus becomes a unique combination of cognitive and affective characteristics which make up a relatively consistent pattern of behaviour. However they choose to define it, theorists will generally say that any significant behaviour should distinguish one person from others and be consistent over situations and time. Most psychologists would probably subscribe to the following as a broad definition:

> **The characteristic, stable patterns of behaviour and modes of thinking and feeling that determine a person's unique way of adjusting to the environment.**

The only problem is that we might include within this definition some other aspects which we want to assess. So how do we distinguish between personality and other attributes, such as attitudes, values and motivation?

Making Important Distinctions
Attitudes
The study of personality aims to distinguish it from what we often call the 'attitudes' of a person. This latter term is useful on two counts: firstly, when trying to explain someone's past or present behaviour towards some other person or object, and secondly, when predicting how the person will behave in the future towards this same person or object. If we observe that an individual avoids certain others, frequently makes disparaging remarks about them, and visibly bristles when one enters the room, then we will attribute to that individual a specific kind of negative attitude. Therefore, an attitude is an attribution. All that we observe is that someone behaves consistently towards a category of other people or objects across a large number of situations. It is this consistency which leads us to make the attribution. It is an invention of the observer in an attempt to make sense of someone's behaviour.

We looked at attitudes in Chapter 2. Allport's definition of an attitude was quoted there: 'An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related' (Allport, 1937, 1961). So it's a learned disposition to respond positively or negatively to any person, object, issue or event. Some psychologists have viewed this in terms of a tendency to evaluate a stimulus with a degree of favour or disfavour, and this tendency may be reflected in thoughts, feelings or behaviour (Ajzen & Fishbein, 2000). The common view is that our attitudes provide a predisposition to behave in a particular way.

Interests

These are thought to be a subset of a person's attitudes relating to the evaluation of personal beliefs. If we have a particular belief and feel positive about it, then we are more likely to want to do more or think more about that belief. Therefore we will tend to show more interest in it.

Values

Values relate to the usefulness, importance or worth we attach to either activities or objects and to how people should behave, and can be linked to our interests and attitudes. We define values as the ultimately desirable goals or end states, called terminal values, about which we have strong feelings (Locke, 1976). Examples might be 'happiness', 'a healthy body', 'fame', 'security', or 'a loving family'. We are thought to strive towards our values and to use them as a means of judging our actions and those of others. It is generally also thought that our values are developed throughout childhood.

Motivation

Motivation is a characteristic made up of our needs, interests and aspirations. This focuses upon what drives us to do some things but not others (i.e. our driving force), its direction and our persistence. A number of theories have been put forward to explain this, including instincts, drive theories, arousal theories and hedonistic (i.e. pleasure-seeking) theories (see Chapter 9 for more).

Beliefs

These are the expression, internal or external, of our feelings or thoughts about something.

Ability

This refers to an underlying capacity to be able to do something or to behave in a particular way.

On this basis, we can now distinguish between personality and other attributes of a person. Attitudes, values and ability are more likely to have longer-term stability,

whilst interests, beliefs and motivation could be more transient. Motivation, oddly enough, could be a state or a trait, given that some people are always highly motivated whatever they are doing (and therefore, a trait), compared to other people who might be motivated by one specific type of activity yet remain completely unmotivated by other activities (a state). Whenever you read a novel you may well be able to apply these kinds of attributes to different characters.

SUMMARY

Despite the views of 'situationalist' psychologists, who see personality as being ever-changing, researchers in psychometrics have taken a dispositional approach which views it as being made up of relatively consistent trait-based internal characteristics. We have discussed the difference between implicit and explicit theories of personality and emphasized the importance of our empirical and scientific approach. Many attempts have been made to define it, most notably by Allport, and the most common aspects refer to patterns of behaviour, thoughts and feelings. It has also been distinguished from other attributes such as attitudes, values and motivation. As with ability, personality seems to be founded upon a complex interaction between genetic and environmental factors, as well as with race, ethnicity, culture, age and gender.

THEORIES OF PERSONALITY

There have been a number of contrasting approaches to understanding this elusive concept. Not all theories embrace the same subject matter, viewing it instead in widely disparate ways, and this has had a big impact on assessment measures. Personality is a complex concept and can be conceptualized in many ways. It is not fixed and is influenced by factors that are both internal and external to any individual. Unsurprisingly, therefore, different ways of modelling and theorizing about it have emerged. No single theory encompasses everything. Methods of investigation have also varied widely, too.

Another important reason for the differences relates to how individuals or schools of thought have been limited by knowledge and understanding at the time of their thinking. Therefore, theories have their origins in different paradigms (i.e. alternative assumptions and patterns of thinking relevant at a specific historical time). There is a common aim, however, to develop a model providing a systematic account of the unique personality structure shared by people. Through this, theorists hope to generate a way of understanding individuals and individual differences. Some theories have a greater focus on assessment than others, for example psychometric and type approaches have used questionnaires, while social and behavioural ones tend to use rating scales.

As usual, it helps to classify theories but some issues make this difficult. We could classify them in terms of whether a scientific approach has been used, whether they make use of personality 'types' or not, or whether they link personality to biology

or other aspects of the body. Alternatively, we could distinguish between them on the basis of how they see people, either as unique individuals or from an individual differences viewpoint. This means that, before discussing theories, we need firstly to clarify two issues.

Types, Traits and Competencies

It has always been natural for people to think about personality 'types' and to stereotype others. Doing this makes it easier to cope with a complex social world through labelling, like the 'bookish' or 'bossy' types we all know so well. The concepts of the 'leader' and 'charisma' also reflect type thinking. The simplest type appears to have arisen in modern times, namely that which distinguishes 'winners' from 'losers'. Types have sometimes been linked to body structure or physiological functioning. Most non-psychologists are type rather than trait theorists because this seems to be a natural and easy way to think about other people.

Types can be seen as categories or clusters of traits. McCrae and Costa (1990) defined them as 'distinct groups of people characterized by a unique configuration of features'. They represent the oldest and simplest way of thinking about people, and this has made them popular. In the nineteenth century the Italian Lombroso characterized all criminals as having 'enormous jaws, high cheek bones and prominently arched eyebrows'. In the days before modern science, therefore, it was not unusual to attempt to distinguish people, often on the basis of observable differences in personality or bodily appearance, and this potentially-discriminatory view has persisted. However, these 'typologies' fail to recognize that human characteristics are normally distributed in any population and that it isn't really possible to classify all of the world's people using just a few categories.

In essence, they regard people as differing categorically from each other despite the fact that they may still share some characteristics: for example, three groups of people may be distinguished by 'tallness' in the first, the second having a particular skin colour and the third speaking a language unknown by the other groups, yet everyone within all of these groups could still be studying psychology. The dangers of this approach include the predisposition to 'stereotype' people. They also use rigid labels, which can be misleading, being too general an approach to make fine discriminations between people, and individual differences can result from a few basic observable differences in mental or physical functioning. Type theories could be grouped together, but can also be separated because of having their origins in different ways of thinking. There has been a proliferation of various type questionnaires over the years, such as the Belbin Team Role Inventory and the Honey and Mumford Learning Styles Test.

Overwhelmingly, trait questionnaires are viewed in terms of normative scales, being based on norms. They compare people with other people and are said to be norm-referenced (check back to Chapters 1 and 3). In contrast, type questionnaires can often be constructed on the basis of data gathered from the general population and yet be idiographic in their final form (the next section explains this). This means,

therefore, that the positions of individuals on each dimension are given relative to their position on every other dimension rather than comparing the scores to normative data. In Chapter 3 we described this approach as being self-referenced and used the label 'ipsative'. The process of making questionnaires this way is often called 'ipsativity'. As we concluded there, questionnaires having these characteristics are best reserved for discussion activities rather than for selection decisions.

Traits also have their limitations. For one thing, as with the type approach, there is a great number of them. Back in 1936 Allport and Odbert identified 18,000. The use of factor analysis and their separation into different forms have helped to reduce this number considerably. They are more straightforward than types, and are capable of measurement. They form a normally distributed continuum on a scale, having a mean score at the centre. The first assessment of extraversion found that it was distributed like this. In general, we identify traits by observing individuals behaving consistently in response to a variety of environmental conditions. In some instances traits are interpreted more narrowly as representing biological characteristics, as we shall see in discussing different theories: in many they simply indicate within-person consistencies of behaviour.

On this basis, traits can be defined as relatively enduring underlying characteristics (Cattell, 1973). They are assumed to be generally stable over the lifespan, especially after reaching adulthood. A trait is, therefore, any persistent characteristic, emotional, cognitive or behavioural, which influences the way in which personality is demonstrated. Being essentially abstractions, as they do not exist in the real world, they are independent of any specific immediate stimulus external to the person which elicits a response. Traits provide some stability and are non-situational (i.e. the person has these characteristics in all situations although they may be modified sometimes by how that person responds to events).

Traits also refer to single dimensions made up of related components: for example neuroticism, isolated as a fundamental and unique trait, includes behaviours and thoughts associated with guilt, low self-esteem, depression, phobia, anxiety and psychosomatic illnesses. Other examples might be how outgoing, assertive or caring of others we are. There are thousands of words which might be thought to reflect traits. (The term 'trait', by the way, is derived from the Latin word *traho*, meaning 'I draw' in the sense of 'I pull'. It is pronounced as it is spelt, with the final 't' spoken rather than silent.)

So the key distinction between types and traits is that where the type approach puts people into discrete categories, the trait viewpoint considers each characteristic as a continuum and describes personality in terms of where the person is placed on a number of continuous scales. On this basis, someone may be near the centre of a scale of intelligence, towards the low end of a scale measuring anxiety, towards the high end of a scale measuring dominance, and so on until an overall picture is gained.

We should also consider the distinction between traits and competencies used in organizations to evaluate job performance and individual development. Competencies are the set of behaviour patterns which someone needs to bring to a
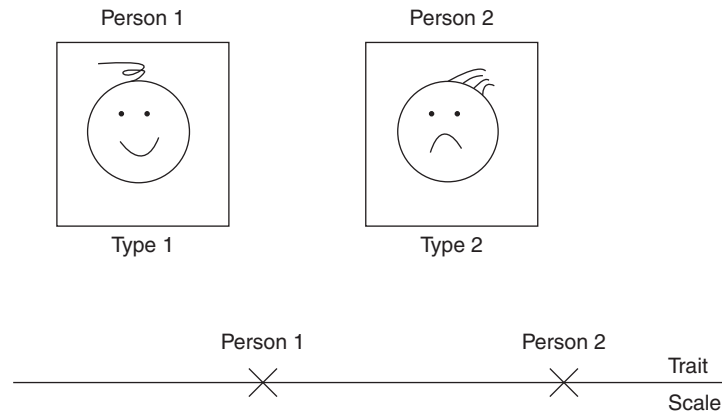
Figure 8.2   Types distinguish between people using categories, while traits distinguish them using scores on scales

job or other situation in order to be able to undertake tasks or functions competently. These are often represented as a set of knowledge, skills, abilities or other qualities, with a predominant focus on skills sets. Examples include communication or interpersonal skills, customer focus, flexibility, leadership and financial awareness. These are different from traits in that they are more skills based, are linked with behaviour patterns, and are more related to performance in some situation. Another important distinction between traits and states (e.g. moods or feelings) was discussed earlier in Chapter 1.

The design and construction of trait-based questionnaires have a number of implications and limitations. The approach is focused upon objectivity and the empirical construction of scores on continuous scales, resulting in an overall trait description or profile of an individual. Both the overall approach and the descriptions gained have the benefit that they can be explained to non-psychologists. The questionnaires can be administered to individuals or to groups and useful descriptions of typical behaviour can be derived. But the information gained is only descriptive of the person and there is no explanation of that person's development, how he or she got that way. Explanations of surface behaviour only are often gained and this means that a one-to-one discussion is needed in order to test out any resulting hypotheses. In the modern world there is a wide range of questionnaires available, having good reliability and validity, though registration is required within many countries to gain access to these.

Idiographic versus Nomothetic Approaches

Developing a theory about people will depend on what kind of a theory you want and what you want it to achieve. You might take a holistic view, believing in unique individuals and that to understand personality you need to evaluate as much of their

mental processes as possible (Magnusson & Torestad, 1993). You might think the differences between people outweigh the similarities. On this basis, data collection will involve qualitative methods such as interviews and observations. Assessments might include the Rorschach Ink-Blot or the Repertory Grid technique. This approach focuses on the individual and results in a potentially infinite number of descriptions. It is referred to as an idiographic approach, derived from the ancient Greek word *idios*, meaning 'private' or 'personal'. Researchers who use it prefer to investigate people on an individual basis only, for example in a therapeutic environment. Freud used it to create his theory. The idiographic paradigm is therefore based on an assumption that people have unique characteristics and cannot be described in identical terms. Although it provides a richer understanding of individuals, it is difficult to generalize findings to others.

An alternative method would be to identify some attribute which you think is an important aspect of personality and measure this within a large group, possibly using standardized questionnaires. By doing so you can identify individual differences in the extent of a particular trait or set of traits. The focus this time is on similarities, with the view that each person can be represented in terms of different degrees of the same thing. This is called the nomothetic approach, the term being derived again from an ancient Greek word for 'law'. It assumes the existence of a finite number of variables which account for differences and that these can be described, explained and predicted. Trait-based theories do this, and the psychometric approach links traits and measurement (see Table 8.1). The benefit is that they enable predictions to be made of behaviour.

Despite this distinction, psychologists using the nomothetic approach have argued that they do still accept and can work with uniqueness (Carver & Scheier, 2000). The uniqueness comes from a person's particular combination of personality variables, the degrees to which they exhibit them, and their interactions. Combinations and

Table 8.1   Comparing idiographic and nomothetic approaches

	Idiographic	Nomothetic
Approach	Sees individuals as unique	Sees common themes in the ways people behave
Aim	To understand each person	To identify traits which best describe all personality
Research approach	Qualitative	Quantitative
Data collection	Interviews, diaries, clinical/therapeutic data	Scores on self-report questionnaire scales
Advantages	Deeper understanding of the person	Comparison between individuals and ability to make predictions
Disadvantages	Problems in trying to make generalizations	Purely descriptive profiles which are more superficial

interactions make each one unique. Those working within the idiographic paradigm also often evaluate case studies to find common themes, create theories, and make predictions. So the differences may not be so clear-cut.

We can now review the principal theories of personality and its assessment. The literature abounds with different taxonomies and labels, so I have opted to use the term 'paradigm' as this enables us to group together theories which relate to similar patterns of thinking. Some theories will not be accommodated easily into just one paradigm and may be placed in others as well. We will consider assessment issues, especially reliability and validity.

The Physiological Paradigm

Approaches to personality here view it as being associated with the physiological characteristics of people. They range from simple descriptions of behaviour through to suggestions that characteristics are the result of different kinds of physiology. Theories which link personality to the wider aspects of biological functioning are more complex and so don't belong to this category. At this point we will meet classical and constitutional theories which take a type approach.

Classical typology

A classical typology comes from our old friends, the Greeks, who theorized about types and 'humours'. The physician Hippocrates made what is probably the first attempt at a formal theory to account for differences between people around 400 BCE, and his ideas were popularized by Galen in the second century CE. Hippocrates suggested that temperament was determined by relative amounts of certain bodily fluids, resulting in four kinds of temperament. He distinguished between them depending on whether the predominant fluid was blood, black bile, yellow bile or phlegm and mucous, as indicated in Table 8.2. The terms he gave to these types (sanguine, melancholic, choleric and phlegmatic) are still widely used today and

Table 8.2   The four temperaments of Hippocrates

Predominant body fluid	Type label characteristics	Temperament
Blood	Sanguine	Optimistic, cheerful, easy-going
Black Bile	Melancholic	Depressive, gloomy, slow to respond, sad
Yellow Bile	Choleric	Quick to anger, vehement, irascible
Phlegm and Mucous	Phlegmatic	Apathetic, listless, reticent

influenced the work of Eysenck. It wasn't considered possible for these types to combine in any way and they were thought to be inherited. They have been linked with the effects of endocrine activity on temperament.

The problem with this approach is that it assumes people have to slot into one of the categories rather than being made up of mixtures or combinations. It's perfectly possible in real life for many people to demonstrate something of more than one, possibly of three types, for example someone who is depressed, apathetic and easy to anger. This is often a problem where people are 'dropped' into boxes.

Constitutional typology

In the twentieth century other theorists sought to link personality with individual physique, an approach described as presenting a constitutional typology. Kretschmer (1925) began by stating, incorrectly as it happened, that schizophrenia could be associated with tall thin people, while short fat people were more prone to manic-depressive psychoses. An alternative was devised by W. H. Sheldon in the 1940s. He classified body build into three somatotypes, each referring to a physique which is expressed in relation to extreme types. His somatotypes were based on 'endomorphy', 'mesomorphy' and 'ectomorphy' components after he had studied thousands of photographs of male bodies (Sheldon, 1970). Endomorphy related to the digestive system and level of fatness observed, mesomorphy to the muscles and amount of musculature, and ectomorphy to the nervous system and brain and thus the body's leanness or fragility. These resulted in three somatotypes known as endomorphs, mesomorphs and ectomorphs, whose differing types of physique are described in Table 8.3. Sheldon used correlational studies to show that each type could be associated with temperament. Accumulating data on 45,000 participants, he also constructed tables of male body types using a grading scale to match individuals against the extremes.

Sheldon's work gave rise to debate and other studies of the relationship between personality and biology. He reported strong statistical relationships between body structure and personality, although he did not take account of measurement error.

Table 8.3   Sheldon's somatotypes

Physique label	Physique description	Personality characteristics
ECTOMORPH	Skinny, fragile	High physiological arousal, social restraint, need for solitude
MESOMORPH	Athletic, trim	Energetic, forceful, tough-minded
ENDOMORPH	Flabby, plum	Sociable, relaxed, high need for affection, love of comfort

Source: Sheldon, W. (1970) *Atlas of Men*. New York: Macmillan.

He was convinced scientific studies would eventually support his hypotheses, although this has not since been the case. However, he was an early pioneer in applying the concepts of psychometrics, for example in conducting surveys, using questionnaires and in trying to conduct correlational analyses. Thus he seems to have taken a partly empirical and rational approach to understanding personality.

The Psychodynamic Paradigm

Psychodynamic theories are concerned with dynamic interactions between conscious and unconscious psychological drives. They originated with Sigmund Freud (1856–1939), whose theory of psychoanalysis was both a form of therapy and a system of psychology. Freud began his pioneering work in the nineteenth century as a medical doctor dealing with psychiatric problems and became interested in the role of the unconscious as a driving force. Based on his observations, Freud saw personality as being like an iceberg: little exists in the conscious mind, while most lies submerged in the unconscious. To understand any individual we need to understand the structure and content of the unconscious mind (Freud, 1940/1969).

Personality was made up of three parts: the 'id,' 'ego' and 'superego'. The id contained the primitive, raw, inherited passions and desires of the personality and provided energy to drive the organism. Freud (1901/1965; 1923/1960) considered sexual and aggressive impulses to be the most powerful forces. The id seeks immediate gratification of its primitive drives. The ego represents the executive component which attempts to channel the id's drives into realistic processes. While the id is irrational and impractical, the ego is rational and practical. The superego adds a moral component. It can be considered as the conscience and seeks to counter the impulses of the id and to persuade the ego to consider moral and other rules in deciding how to satisfy impulses. Conflicts between these systems lead to anxiety. The ego copes by using defence mechanisms to distort reality so that people change the way they think about the anxiety. These mechanisms include denial, rationalization, repression and projection. People differ in the balance between the components and also in the mechanisms they use. Freud also believed that personality develops through a series of psychosexual stages.

Rather than being a single theory, like psychoanalysis, psychodynamics represents a group of associated theories which were developed from Freud's work by different thinkers, including Adler, Jung, Lacan, Horney, Fromm, Erikson and McDougall. The term 'neo-Freudian' is sometimes used to refer to these. In some instances they have adapted or rejected parts of Freud's ideas, although the underlying assumptions of psychoanalysis remain. The major contribution of psychodynamics lies in its recognition that behaviour is motivated by unconscious needs and conflicts.

Freud did seek to consider the complexity of human behaviour and his model has been thought to possess face validity in terms of the conflict often experienced in making choices and the anxiety involved. Defence mechanisms also appear to provide good explanations of some common behaviours. The psychodynamic

approach is still influential in many ways and has made a major contribution to literary theory in the twentieth century. Although psychoanalysis played a significant role in the development of more humane treatment of mental patients, there has been much debate about its therapeutic value. From an assessment point of view, psychodynamic theories lack scientific rigour and methods. It is difficult to design objective experiments to test Freud's hypotheses, which were based on his interpretations through observations of individuals. His theory is also not conducive to prediction because different behaviours could be indicators of the same underlying impulse. His views focused much upon the role of the unconscious and his own rational views of others, though less upon the importance of individual learning or the influence of genetic or environmental learning. Psychoanalytic practice began with free association and dream interpretation, moving on later to influence the development of projective assessments. (Chapter 9 includes a more detailed discussion of these.)

Jungian type theory

Initially Carl Jung worked with Freud, although they later disagreed and Jung developed his own system of thinking which was related to psychoanalysis. His 'analytical psychology' was influenced by a combination of philosophy and mythology. Like Freud, Jung saw personality or 'psyche' as being made up of interacting components such as the ego. This, he said, was the conscious part of the mind which faced conflict from both a personal and a 'collective unconscious', including repressed individual and collective human experiences. The collective form contained aspects of experience which had been passed down through generations and were shared by all humans, enabling him to account for behavioural similarities. An outline of Jung's work is provided by Bennett (1983).

Jung's conception of personality was based upon the view that individual differences were the result of a few basic observable disparities in functioning. The first involved his distinction between extraversion and introversion, with people having a preference for being either extravert (E) or introvert (I). He viewed the two orientations or 'attitudes' as being distinct categories. The extravert is interested in the outer world and seeks external stimulation, whilst the introvert is oriented towards the inner world, needing internal stimulation. Further categorizations were made according to four fundamental functions by means of which a person sees the world and makes choices. These were.

Sensing (S) or Intuition (N)

Does a person perceive by means of the five senses using empirical observation, or go beyond what is present to focus upon associations between what is perceived and make use of inner judgement? Sensing concerns realistic representations of the world, whilst intuition is an unconscious process focused on the basic essence of reality. Note that intuition is represented by the letter N because I had already been used to represent introversion.

Thinking (T) or Feeling (F)

Are a person's decisions made objectively or subjectively? The Thinking function tends to be more intellectual and bases perceptions on objective facts and logic, while Feeling centres evaluations in the emotions, having an emphasis on attitudes, beliefs and values.

Jung combined these differing orientations by considering that people would have preferences between E and I, S and N, and T and F. The preferred pole in each case would make up one personality attribute and these would then be combined. One of the preferred functions, that used in the preferred attitude (E or I), is referred to as the dominant function and the other is the auxiliary function. For the introvert the dominant is used in the inner world and the auxiliary in the outer world; for the extravert the dominant is in the outer world and the auxiliary in the inner. The theory was developed further by Isabel Myers and Katherine Briggs, who added another dimension to help identify dominant and auxiliary functions.

Judging (J) or Perceiving (P)

Does a person become fixed when a decision is made or remain open to more information? Is there a preference for an organized lifestyle or for spontaneity and improvisation? If Judging is chosen, either Thinking or Feeling is used mostly in the outer world. If Perceiving is chosen, either Sensing or Intuition is used mostly in the outer world. The dominant function will vary for extraverts and introverts.

Myers and Briggs constructed a questionnaire known as the Myers-Briggs Type Indicator (MBTI). Individuals who complete the questionnaire are assigned to one side of each dimension and are allotted a four-letter type code, for example ENTP and INFJ, out of 16 possible types. They acknowledged that it was possible for a person to be balanced in the middle of any dimension. The instrument has been extensively used worldwide, having a strong following (Myers & McCaulley, 1985). Some modern versions have been constructed, the most notable being the Jung Type Indicator, which was constructed using modern test theory, and the Type Dynamics Indicator, which can also compare how people see themselves and how they would prefer to be.

Opinions on the MBTI are divided. Supporters say Jung's types have been operationalized successfully and that this is useful in selection and development assessments (DeVito, 1985). But its origin lies in psychoanalysis and it is, therefore, speculative (Kline, 2000). Like Freud's work it lacks a scientific foundation, making any rigid application of the types insupportable. The 16 outcomes appear to represent 'pure' types and it is unlikely people will be purely one of these. People can be extraverted in some situations and introverted at others: they may be capable of both objective and subjective thought. On these grounds, the approach could be too general to make sensitive discriminations and appears to take a more rational theory-based approach to personality. It doesn't consider genetic-environmental influences upon the person or the importance of learning.

Another issue is that the MBTI doesn't include any assessment of test-takers' attitudes, so conclusions can be distorted. Any true typology is expected to be

bimodal (i.e. having two score distributions centred upon the extremes; see Chapter 4) although this is not the case with the MBTI. The picture is even more difficult regarding validity (Stricker & Ross, 1964; Carlyn, 1977). Evidence for this is based upon correlational studies (see Chapter 6) yet the MBTI is partially ipsative, and therefore these are difficult to do. So there is inadequate evidence for its validity. Its use is best confined to discussion activities such as development, team, coaching or counselling activities (Kline, 2000).

The Cognitive-Behavioural Paradigm

Social learning theory grew out of classical learning theories, like those of Pavlov (1906, 1927, 1928) and Watson and Skinner, which disagreed fundamentally with psychoanalysis and demanded rigorous scientific methods. These behaviourists laid the foundations for a more scientific approach and gave rise to the work of Dollard and Miller (1941, 1950), who saw the value of thinking in terms of 'cognitive processing'. They also stressed the importance of observational learning because the performance of role models could be observed and imitated by others. From this basis social learning theorists see personality in behavioural terms, suggesting that our behaviour defines our personalities.

Miller and Dollard redefined psychoanalytic concepts in terms of stimulus-response relationships which result in learning to behave in certain ways. Therefore, personality is shaped through the development of habits and the influence of rewards and punishment. Early views focused on observable behaviour and saw learning almost as a reflex action. Later perspectives, from Rotter, Bandura and Mischel, incorporated cognitive and social factors. In their view behaviour patterns are still seen in relation to external conditions, but greater emphasis is given to internal variables.

Importance was also given to the interpretation of any situation by individuals, including intellectual thinking style and sociocultural influences. Bandura (1977, 1995, 1999, 2002) demonstrated the use of self-reinforcement, while Rotter referred to the expectancies applied in situations as locus of control (1966, 1982). At the Internal end of this dimension are people who view behaviour and events as being under personal control. At the other extreme are Externals who perceive their behaviour to be influenced by events out of their control and subject to luck, more powerful others, and fate. Rotter's measure of this dimension is still used in research, clinical and occupational work.

Social learning has not had much impact in terms of the wider assessment of personality. Its focus has been more upon assessments involving individuals and situational variables, making use of observations, diaries and interviews. But it has had an impact in encouraging improvements in assessment and the measurement of locus of control has been popular. There is evidence of an empirical approach and an emphasis on the importance of learning and the more objective views of others in understanding behaviour and underlying personality traits. Modern cognitive psychology, which tries to scientifically investigate inner mental constructs, may also be an outcome.

The Behaviour-Analytic Approach

The methodology of the behaviour-analytic approach, sometimes referred to as behaviour analytics, appears to have some of its origins in social learning, though it also has some links with the trait approach in that it seeks to adopt the measurement of traits through observations. It is based on the fact that psychological constructs are not directly observable even when they play a significant part in explaining observed behaviour. Thus, whilst we don't directly observe personality itself, we do recognize its impact on behaviour. We observe the behaviour of others and as a result make inferences that individuals demonstrate certain characteristics or types. In order to establish this and that it is not based upon chance observations, we need to show it meets certain criteria, for example that it can be reliably measured (see the discussion of inter-rater reliability in Chapter 5), is relatively stable over time, and has validity as a psychological construct. Therefore, the approach is based upon observations and the classification of behavioural characteristics.

In the rating scale method, another person evaluates an individual's traits either from what is already known or from direct observation. For the rating to be meaningful the rater must have a clear understanding of the scale. The techniques can also be improved by the training of raters and by clear definitions of what each point on the scale would mean in terms of behaviour. This is known as behavioural anchoring. Any rater must be sufficiently knowledgeable about the target person or have sufficient opportunity to observe so that meaningful judgements can be made. It is also necessary that raters are not influenced in making judgements through any favourable or unfavourable impression.

Extensive use has been made of behavioural analysis in a number of areas of applied psychology. The rating scale method has been used, for example, in making observations during assessment centres or other approaches to selection used by organizations. Elsewhere, it has enabled a greater understanding of children with learning problems through analysis of playground and classroom behaviours and of people having communication difficulties. Done well, the approach appears to have an empirical viewpoint which is focused upon the identification of stable traits and the objective view of observers. One of the problems, however, is that an individual under observation can 'act out' a particular attitude or behaviour purely for the occasion. As with social learning theory, there is evidence of an emphasis upon the importance of learning and the more objective views of others in understanding behaviour and personality.

The Phenomenological Paradigm

The phenomenological approach originated among philosophers who concentrated on direct personal and subjective experiences, and is linked to the twentieth century's existentialist movement. People working in this tradition believe unique individuals can only be understood in terms of inner experiences and that psychology should focus on them. Any separation of personality into its elements is thought to do an injustice to it. They form a diverse group but are united by the view that

personality can only be understood in terms of immediate and unanalysed experiences. Individuals are seen as responding to the world through perceptions which create personal experiences and meanings. The core position of this approach is, therefore, one of subjectivity.

The humanistic viewpoint

The most prominent contributors to the 'humanistic' school were Carl Rogers (1902–1987) and Abraham Maslow (1908–1970). According to them, the element of the environment which has meaning for an individual is the phenomenal field and the self is one element of this. The sum of all the attributions made about the self by a person is the self-concept. In growing up people discover they are the objects of conditional positive regard, which means they are accepted by others provided they live up to certain standards of attitude and behaviour or 'conditions of worth'. As adults, therefore, they are unable to achieve a fully functioning capacity unless others provide unconditional positive regard, which amounts to a warm and genuine acceptance of their worth. Free will and individual uniqueness are core aspects.

Rogers, who was a clinical psychologist, thought personality problems were a result of patients experiencing a gap between what they were (their real selves) and what they would ideally like to be (their ideal selves) and how they tried to cope with this gap (1956, 1961, 1977). To evaluate these he thought patients' subjective experiences provided the most useful data. As a consequence of his theory he
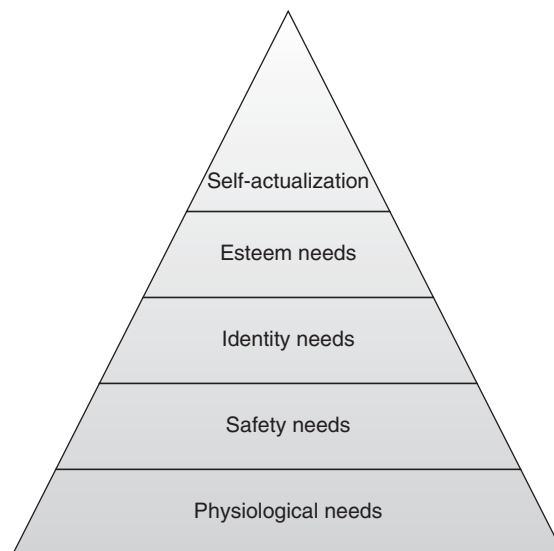
Figure 8.3   Maslow's hierarchy of needs

Source: Maslow, A. H. (1954) *Motivation and Personality*. New York: Harper

became the founder of person-centred therapy, which was designed to provide a supportive environment for treatment. The aim was to help individuals create positive change while a therapist supported them.

Humanistic thinkers believe that, basically, people are generally well-intentioned and have a need to develop their potential. They place emphasis upon the positive characteristics of growth, self-expression and self-fulfilment. Maslow, for example, is well known for saying that everyone strives to reach a state of self-actualization, which represents an idealistic harmony between the real and ideal selves (Maslow, 1954, 1968, 1969). Self-actualization was seen as a major force in the development of personality: it was also the key to mental health, and thus people will play an active role in determining their own personalities.

One benefit of humanism is that it brought to attention cross-cultural differences in assessment. However, although some people do still cling to Maslow's hierarchy of needs (including physiological and safety needs, the need for belonging and love, and esteem needs) this has not stood up to scientific validation. His work and that of Rogers are littered with ill-defined concepts based on little evidence: they are idiographic, lacking objective methods. Assessments tend to be focused on interviews and case studies. The emphasis appears to be upon a rational understanding of a person, though often through that person's self-related views, as well as a developmental view of personality.

Some techniques for evaluating feelings and attitudes have been developed, including Stephenson's Q-sort (1953), along with some self-concept scales and self-esteem inventories. The Q-sort provides cards with statements on them, such as 'I worry about what people think of me', which participants must sort into piles ranging from the most relevant to the least relevant. This is repeated so that changes can be monitored and so provides a quantifiable measure of a person's feelings over time (Rogers & Dymond, 1954; Block, 1961), although there are issues concerning distortion and the identification of real sources of change. Self-esteem inventories tend to have poor validity.

Personal constructs and the Repertory Grid

Like social learning theorists, George Kelly (1905–1966) believed people could be understood only in terms of personal experiences. Kelly (1955, 1958, 1963) thought that internal models (which he called 'constructs') were formed by individuals because they behaved like scientists. People wanted to understand events and to make predictions about them, so they created internal construct systems by continually formulating hypotheses about the world and then testing these out. In this way they would develop personal systems which determined behaviour and personality. Those systems which did not properly reflect the world resulted in psychological ill-health.

Kelly's Personal Construct Theory has been significant in the development of assessment techniques. The Role Construct Repertory Grid, known commonly as the Rep Grid Test (although Kelly insisted it was not a test), was designed to elicit and investigate constructs. It is based on an assumption that everyone interprets

events differently. The rep grid focuses upon 'elements' in the life of a person, which could be the self, other people, objects and even events. An example of its use is as a case study. The questions then are these: how does the individual construe such elements and what are their relationships?

The repertory grid might be defined as 'a method for gathering the self-ratings of a person in relation to a set of statements'. A person may list or be presented with a list of people, whose names are given in groups of three, and the individual is asked to indicate how two of the three are similar and the third is different from the others. For example, someone might say that two are generous whilst the third is mean. Effectively, the participant then sorts people into categories of personal relevance. This is repeated for different groups of three people from the list, enabling the constructs used to organize information to emerge.

In many instances constructs are represented by two terms or phrases which have opposing meanings, such as decisive/indecisive or friendly/unfriendly. Participants are encouraged to provide distinct psychological attributions rather than physical or other descriptions. Gradually, a matrix can be built up through this process, having the elements across the top and the constructs elicited listed down the sides, as shown in Table 8.4. After a sufficient number have been recorded (usually about 12), the participant can be asked to rate each element on a scale, such as 1 to 5 or 1 to 7, in terms of each construct. Examination of the matrix indicates which dimensions are important.

Although there is no standard method for scoring, a wide range of analyses is possible, ranging from a simple evaluation of the similarities to factor analysis. Analysis can focus on the number of constructs elicited, their nature, which attributes of others are most emphasized, and any differences between elements. High correlations between two or more constructs may indicate an underlying core component. It has been suggested, therefore, that the method can assess the cognitive complexity of individuals (Bieri, 1955).

Kelly saw the therapist's role as helping people to become more aware of faulty constructs and the need to change them. Studies were significant in finding differences between the personal construct systems of patients suffering from schizophrenia and those experiencing depression, neuroses and mild organic disorders, and with a healthy control sample. This technique has been adapted for other applications, for example, becoming an objective method for conducting job analysis in organizations.

The method can provide a useful awareness of the ways in which people perceive their world, how they organize attitudes and beliefs, how emotional responses are generated and their influences on behaviour and personality. It focuses on uniqueness whilst also viewing everyone within the same conceptual framework, and is adaptable to situations. For these reasons it has been popular with therapists, counsellors, psychologists and Human Resources professionals. A good introduction to its use is provided by Fransella (2003).

The Repertory Grid's main advantage has been through the identification of a person's constructs and perceptions. But the process of undertaking this however

Table 8.4   Kelly's repertory grid

	Sister	Brother	Friend	Father	Mother	
Generous	3	1	3	4	2	**Mean**
Decisive	4	2	2	3	1	**Indecisive**
Friendly	5	1	5	4	3	**Unfriendly**
Intelligent	3	3	5	3	3	**Dim**
Gentle	1	5	2	1	5	**Violent**
Caring	4	1	3	3	5	**Uncaring**
etc.						**etc.**

is complex, especially if factor analysis is used, demanding expertise and being time-consuming. It tends also to focus too much on thought processes at the expense of other aspects of personality and could be seen as mechanistic. Its effective use depends on expertise in interpreting outcomes and no systematic interpretation is provided, introducing some subjectivity. There may also be the problem of whether participant and assessor have a mutual understanding of the constructs elicited. The participant might seek to sabotage or distort the process by making inappropriate or inadequate disclosures, and this can be controlled by establishing a good rapport, offering confidentiality and feedback, and codifying and quantifying the constructs obtained. Any bias in the approach used might be controlled by supporting a good understanding and evaluation of the criteria involved.

Being idiographic in nature, the repertory grid cannot enable any standardization process or identify individual differences. A new version needs to be constructed each time it is employed, meaning that the reliability and validity will have to be re-checked. It seems to view personality as stable and based upon individuals' reflections about themselves. For these reasons, the rep grid is not really an objective measure of personality: fundamentally, it is simply a structured way of obtaining personal information.

Murray's Theory of Needs

Every one of us has needs and these are an important driving force in constructing personalities, according to H.A. Murray (1938). The concept of needs has a long history and Murray was prominent among thinkers, suggesting that they arise in parts of the brain. Older theories said that whenever a gap arises between a person's state and the equilibrium required for survival, the experience produced is felt as tension and a need arises to overcome this. Feeling hungry, for example, creates a need for food. Murray focused on psychological needs which would also reduce tension.

His theory sees personality as a result of the relative amounts of each need and the ways in which they are organized. He identified a long list of them, in total more than 30. Some have stood the test of time and are still researched, for example the

need for achievement, or 'achievement motivation' (McClelland, 1976; Koestner & McClelland, 1990). This has been defined as the need to accomplish something significant and surpass others. Two other interesting needs are the need for affiliation, linked to trust, affection and empathy, and the need for power.

Murray developed the first assessment of needs, the Thematic Apperception Test (TAT), seeing it as a tool for understanding personality. A projective assessment (see Chapter 9), it consists of a series of unstructured pictures which were designed to be open to different interpretations. Some examples are:

- A young boy looks at a violin on a table.
- A young woman stands with her face in her hands, her left arm against a door.
- A small girl climbs a winding staircase.
- Strange clouds overhang a snow-covered cabin.

Designed to be sufficiently ambiguous to elicit differing stories from people, the pictures are used to encourage participants to create stories about their perceptions. They may be asked to say what is happening, who the people are, what has happened before and what could be the outcome, although there has been much variation in the administration, scoring and interpretation of responses, as well as in which subset of cards is administered. Responses are analysed using a strict scoring system to identify recurring themes, as well as potential 'projections'. The manual provides a range of needs and emotions which can be identified. Many theories of personality can be applied to interpret responses, especially the psychoanalytic approach.

Originally the technique was popular and highly regarded. How the interpretation is conducted is of importance and different interpreters should be expected to obtain similar conclusions about participants (i.e. their findings should correlate: this type of correlation was called inter-rater reliability in Chapter 5). Having a clear guide for scoring suggests there is a satisfactory level for this form of reliability and a figure of 0.9 has been claimed. But the issue of other forms of reliability is more complex and subject to debate. Murray emphasized the need for well-trained and 'gifted' testers, although how these are identified is a problem. Used well, therefore, the TAT could provide good information about personality, but its pictures have been described as old-fashioned, are not seen as relevant to applied settings, and take a long time to score. The approach is purely idiographic, being adopted by clinicians who place emphasis upon the depth of understanding they gain of individuals. From a psychometric view, there are problems relating to administration and a lack of objectivity and standardization, meaning there can be no comparison of individuals, and therefore use of the TAT has declined. There appears to be no indication of whether the approach to personality is based upon a stable or developmental view of the self or the importance of learning. Study of the need for achievement by McClelland has attracted more attention.

The Biological Paradigm

Links between biology and psychology make sense. When you're hungry or tired the chances are that you will become bad-tempered: the brain is at the centre of all this. Being enormously complex, it is connected throughout the body and can transmit messages rapidly. It manages both our unconscious body systems, such as digestion, and our conscious processes, including thinking which links to behaviour. If you suffer brain damage there is a chance you may suffer changes in your personality as well. Neuropsychology is concerned with these links and seeks to use scientific methods in understanding them. It's not surprising, therefore, that attempts have been made to develop biological models of personality.

Eysenck's theory

The most well-known is that of Hans Eysenck (1967, 1990, 1994), who was one of the first to devise a biological model. According to Eysenck, the brain contains two sets of neural operations, one excitatory and the other inhibitory. The first tries to keep us active and awake whilst the other is focused on inactivity, and we must try to maintain a balance. Sitting at the base of the brain is the ascending reticular activating system (ARAS) which controls the arousal level of the cortex above, effectively acting as a kind of 'dimmer switch'.

Eysenck's theory suggests that the systems for extraverts and introverts work at different levels, with the introvert's cortex being more aroused. Most people prefer a moderate arousal level and any very high or low level is perceived as unpleasant. Therefore, in situations where external stimulation is present introverts will experience greater arousal and try to escape from it. As a result they will need more effort to adapt, whilst extraverts, having a need for more arousal, will be more comfortable. Because of their natural arousability levels, introverts try to avoid intense stimuli while extraverts seek them out.

Eysenck also referred to a second brain process involving a part known as the limbic system which, he said, accounted for individual differences in neuroticism. This is defined as being made up of traits such as anxiety, worrying and moodiness, although Eysenck viewed it in terms of emotionality (highly neurotic people tending to experience more extreme emotional responses). This was associated with the arousability of the limbic system which is connected in turn to the autonomic nervous system (ANS): regulating involuntary processes such as the activity of muscles, heart rate and sweat glands. The ANS is also known as the peripheral system because it functions mostly outside of the brain and spinal column. Part of this, the sympathetic nervous system (SNS), appears to be over-active in anxious people, whilst the associated parasympathetic nervous system (PNS) opposes it and is calming, being stronger in more unemotional people. Neurotic individuals possess a hyper-arousable limbic system and are more likely to experience emotional reactions. Eysenck also suggested that individual differences in psychoticism might be linked to a chemical messenger in the brain.

Gray's theory

A similar approach came from Jeffrey Gray, who studied under Eysenck. His reinforcement sensitivity theory (Gray, 1970, 1981, 1987) suggests that personality is connected with the interaction between two brain systems: the Behavioural Approach System (BAS) and the Behavioural Inhibition System (BIS). The BAS centres on motivations to approach the environment, causing people to be sensitive to rewards and to look for them, while the BIS focuses on motivations to avoid, causing people to be sensitive towards dangers. These were associated with the characteristics of impulsivity and anxiety, with individuals high on approach being more impulsive and those high on inhibition more anxious. A questionnaire based on the two scales was developed in the USA.

Cloninger's theory

A third model was proposed by C. Robert Cloninger, who combined findings from psychological, social and medical sciences. His theory is related to seven personality domains, including 'temperament' domains of novelty-seeking, harm avoidance, reward dependence and persistence, and 'character' domains of self-directedness, cooperativeness and self-transcendence (Cloninger, 1987; Cloninger et al., 1993). Self-directedness relates to a person's level of autonomy, cooperativeness to links with society, and self-transcendence to beliefs about mystical experiences. Cloninger linked these to neurotransmitters in the brain, as well as to learning through rewards and punishments. His work is associated with the Eysenck and Gray models, for example reward dependence reflects Gray's BAS system.

The evidence for these biological theories is inconsistent and contradictory despite much research (Matthews & Gilliland, 1999) and evidence linking physiology to personality is still needed. Some findings have supported Eysenck's thinking in terms of arousal, as well as for the approach/inhibition systems of Gray, although others have not shown support for these and suggest a weak relationship. A link between neuroticism and arousal is not generally supported. However, it seems that characteristics are associated with physiological activities such as heart rate, skin conductance and brain activity. Given that the brain is a complex organism with substantial interconnections, it is possible that each theory represents an oversimplification and that some combination is needed to establish a connection with personality.

The theories have contributed to assessment, including the questionnaire developed for Gray's scales and Cloninger's Tri-dimensional Personality Questionnaire (revised as the Temperament and Character Inventory), based on his biological factors and used to assess personality disorder. The Cloninger inventory may be a variation on Eysenck's model. Most notable, however, are the interconnections between the theories and the fact that Eysenck's is linked to his factor-analytic studies of personality and his development of a psychometric trait-based measure. There have thus been attempts to relate biology to the empirical measurement of personality, though it is not clear whether there are any links to developmental or stable characteristics, genetic or environmental factors, or the importance of learning.

The Trait Paradigm

Forget all the theorizing about personality for a moment and let's ask some basic questions. Is personality just one thing itself? Can it be taken apart? If so, what do the parts look like? Is it like a Lego model made up of a lot of parts joined together? Some historical approaches might answer that it can't be pulled apart, that it is something to be understood purely as a whole. This is an idiographic view. But it makes sense to compare individual differences: someone might appear to be a dominant person, but just how much more dominant compared to others? Logic indicates that we need to be able to distinguish between people who are mildly, moderately or very dominant. If personality is one thing then we can't make those distinctions and so we will have to try to take it apart. We might decide to separate it into types. The alternative, however, is to take a hammer to it and examine what we find.
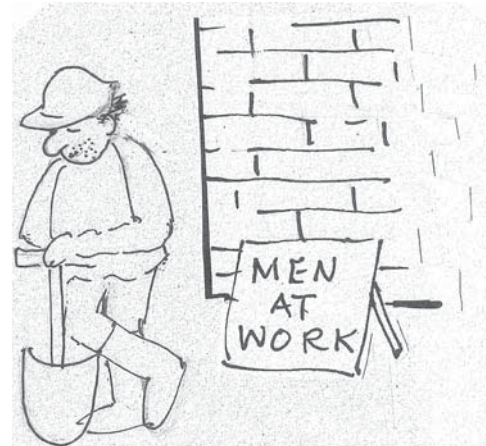
Doing this goes back to Allport in 1937 and the demolition work has since been continued by others such as Eysenck, Cattell, and Costa and McCrae. They suggested that personality is made up of components called traits, which we have discussed a number of times thus far. Measured perfectly on them people's scores are spread along a continuum, probably looking like a normal distribution curve, having most people around the average and fewer at the extremes (as Figure 8.4 shows), which we saw in Chapter 4.
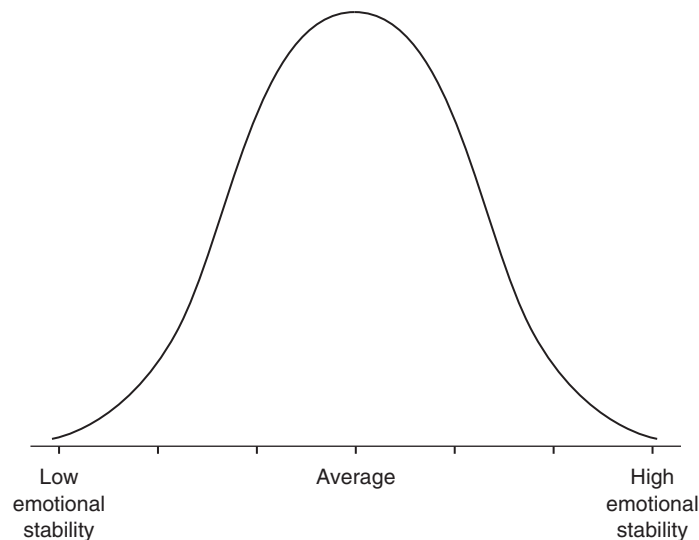
Figure 8.4   A normal distribution of people on the trait of emotional stability

This approach describes personality in terms of continuous scales and an inventory (which is the name given to many questionnaires) is made up from any number of the scales . Someone may be at the centre of a scale measuring intelligence, towards the low end of a scale of anxiety, towards the high end for impulsiveness or openness to change, and so on, until an overall picture is gained. In everyday life we come closest to the trait approach in making comments such as 'shy,' 'quite dominant' or 'not very confident'. Thousands of words might be considered as traits and psychologists have attempted to construct a short list of the most important. The trait paradigm assumes that:

- our thoughts, feelings and behaviours vary in a number of ways;
- these variations can be measured;
- when they are measured, they are normally distributed like other characteristics.

On this basis there is no such thing as trait theory because it's not a theory: it's about what the parts of personality might be, not about the aspects of a typical theory such as how it develops and whether it can be changed. All we have developed is a system for specifying the components and measuring them, and this provides a means of describing what any personality is like but does not explain how it developed. For this reason some people will say we are just labelling and quantifying personality. Maybe that's so, but then along any dimension there are different places for different people, and when we look at one individual's positions on a number of dimensions we can combine them in a unique description. Having a normal distribution enables us to do parametric statistics, and because of this the discovery of traits has made a major contribution to the study of personality.

That recurring technique called factor analysis has enabled researchers to identify the underlying basic dimensions or 'factors' of many trait labels. A few factors can be found to underpin hundreds of traits: for example, labels such as friendly, co-operative and good-natured might be found under the heading of 'agreeableness'. This is sometimes called the 'lexical hypothesis', going back to Galton (1884), and the approach was developed further by a number of theorists, including Eysenck and Cattell. The term 'lexical' suggests that this approach was founded upon the words which are used in languages. Basing his work on empirical observations and large-scale analyses, Eysenck (1967) suggested there were three dimensions along which personality varies:

- Introversion – Extraversion.
- Neuroticism – Stability.
- Psychoticism – Normality.

These major dimensions resulted from correlations between groups of traits. For example, extraversion derives from traits including sensation-seeking, assertiveness, activity, liveliness, sociability and others all found to correlate with each other. His neuroticism includes tension, guilt, depression, anxiety and moodiness. Eysenck described his third dimension as representing the degree to which a person is tough-minded and called it 'psychoticism', following observations that people suffering from

a psychosis score highly on this. They are impulsive, impersonal, egocentric, cold, aggressive, anti-social, and lack empathy. They are also creative, which according to Eysenck was consistent with the theory that genius and madness are linked. Overall, the dimensions encompass 21 traits. Eysenck's theory resulted in his development of questionnaires: the Maudsley Personality Inventory (MPI), the Eysenck Personality Inventory (EPI), and the Eysenck Personality Questionnaire (EPQ). A modern version of the EPI is the Eysenck, Cook, Cripps Occupational Survey (ECCOS).

Cattell's original interest lay in determining whether the unitary patterns of personality discussed by clinical psychologists could be measured objectively. He checked out their models by obtaining extensive empirical databases and by developing and refining measuring instruments for assessing the dimensions of their models. He subsequently identified 16 important dimensions or 'source traits', some of which corresponded with Eysenck's findings (Cattell et al., 1970).

In order to do this he collected some 17,953 trait names used in everyday language to describe behaviour before eliminating synonyms (words or phrases that mean exactly or nearly the same as other words or phrases), and combined the data with information from other sources such as observations of behaviour. Questionnaires were also used to explore the perceptions of individuals. Lastly, objective data were obtained from observations of what people did, rather than what they said, in pre-planned structured situations. All of the data were collated and subjected to correlation and the techniques of factor analysis.

People were rated on the remaining descriptions, revealing some 40–50 dimensions which were factor analysed down to 12 factors. A questionnaire was developed and the outcomes were once again analysed, leading to four more dimensions, making a total of 16 including the addition of a general reasoning scale. These form the basis of the 16 Personality Factor inventory (or 16PF for short). He called these primary factors, although they are source traits and represent enduring aspects of behaviour, accounting for the variation in more observable surface traits (Cattell, 1950). What we see on a daily basis are the surface ones corresponding to common generalizations and these are less stable. Source traits are fundamental units which govern behaviour whilst interacting together and with other characteristics. When analysis was conducted again they revealed second-order factors, including Eysenck's extraversion and anxiety.

The original 16PF has gone through a number of revisions and so today there are also equivalent questionnaires which will measure much the same factors, such as Psytech's 15 Factor Questionnaires (the 15FQ and the 15FQ+). In contrast, some inventories appear to measure more of the original surface traits, such as the Occupational Personality Questionnaire (OPQ). The source traits of the modern 15FQ+ and its second-order factors are shown in Table 8.5. Looking at these you might ask why are there no D, K or J factors and why there are Q1 to Q4 factors. The reason for this is that some factors did not prove to be replicable in adults (i.e. D, J and K) in the original 16PF and were removed and that Cattell's original letter labels remained unchanged. Four others were found in questionnaires only and not in the analysis of language and are distinguished as factors Q1 and Q4. There have been debates about Cattell's work and its outcomes, and arguments over scale reliabilities, although these have been improved. In the case of the 15FQ+ Cattell's original factor B, measuring general reasoning and

Table 8.5   Descriptions of the 16 source traits and four second-order factors of the 15FQ+

Factor	Low Score Distribution	High Score Description
fA	Distant Aloof	Empathic
fB	Low Intellectance	High Intellectance
fC	Affected by Feelings	Emotionally Stable
fE	Accommodating	Dominant
fF	Sober Serious	Enthusiastic
fG	Expedient	Conscientious
fH	Retiring	Socially Bold
fI	Hard-Headed	Tender-Minded
fL	Trusting	Suspicious
fM	Concrete	Abstract
fN	Direct	Restrained
fO	Confident	Self-Doubting
fQ1	Conventional	Radical
fQ2	Group-Orientated	Self-Sufficient
fQ3	Informal	Self-Disciplined
fQ4	Composed	Tense-Driven
E	Introversion	Extraversion
N	Low aNxiety	High aNxiety
O	Pragmatism	Openness
A	Independence	Agreeableness
C	Low Self-Control	High Self-Control

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having poor reliability, has been replaced by that of 'intellectance', a measure of personal preference for complex thinking. The letters designated for the second-order factors relate to the 'Big Five' scales which we shall discuss soon.

BOX 8.1   Personality and Management Development

Development centres provide one of the most useful tools for accurately identifying the gaps between an individual's abilities and those needed for jobs. They give information on individual abilities and provide a mechanism for empowering people to develop themselves and to improve organizational performance. Psychometric assessments can make a major contribution to outcomes and are most effectively used as one element in a range of procedures (Coaley & Hogg, 1994; Lee & Beard, 1994).

Mrs Greene took part in a development programme provided by an international company. This was designed to enhance organizational performance through the identification of potential and to encourage self-development. In taking part Mrs Greene completed the 15FQ+. The outcomes of this, discussed during feedback, revealed that she was ambitious to progress in management.

The analysis suggested Mrs Greene was able to cope with most social situations, although she did not always choose to socialize. She was reasonably expressive and warm towards others, at times liking to be sociable and at others preferring non-social activities. She tended towards being precise and exact in her work and could be assertive, although she would defer to others wherever appropriate.

Mrs Greene was not easily intimidated and did not often experience anxiety. She was confident in interactions with others and was comfortable speaking to groups. She was communicative and self-disclosing to a typical level, although tended to lack concern for maintaining a socially approved image, and overall maintained a balance between being dependent upon others and high independence.

In thinking style Mrs Greene suggested she took an objective approach to her work and was able to adjust to the facts of situations. She was open to change, but did not have any need for excessive variety. In general, she preferred to think things through before committing herself to action and would take issues seriously and anticipate difficulties. She would be guided by rules to a typical extent and had a realistic level of scepticism. In evaluating information, she could shift flexibly between focusing on the practical and being oriented towards ideas, balancing operational and strategic needs.

In work style, she was confident and thoughtful. She preferred to work in a team, and was likely to be tactful and diplomatic. Preferring to be organized and to plan ahead to meet goals, Mrs Greene experienced typical levels of tension. She was able to cope with life's demands and to tolerate frustration as much as others. She did not experience selfdoubt to any great extent, and could remain relatively calm in difficult situations.

Following the programme Mrs Greene undertook an MBA and is now a senior manager.

The 15FQ and 15FQ+ were broadly constructed in a similar manner to the 16PF using interviews, observations and initial questionnaires. These were followed by the use of factor analysis, although both the questionnaires were designed to have items which were more applicable to organizational environments. From these methods the scales were developed. The original standardization sample for the 15FQ was made up of more than 5,500 adults in the UK. The aim was to maintain the advantages of the 16PF and to overcome its problems, such as the low reliability and poor face validity of some of the original scales. Large samples of people over a wide range of occupational groups were used to establish both of these questionnaires, and they have particular relevance to personnel assessment and selection as well as to training and development contexts. The technical manual, which can be downloaded from the Psytech website, shows there is good evidence of both reliability and validity for all of the scales. Both

questionnaires also include distortion measures, including social desirability, infrequency and central tendency (more about these soon). Because of their similarity in research design and construction, both correlate highly with the original 16PF.

For both the 16PF and the versions of the 15FQ the primary dimensions were obtained by a detailed factor analysis. The dimensions are statistically related, although they are functionally independent of each other. They each measure personality traits which are different from any of the other dimensions. Thus any one item contributes to an individual's score on one and only one factor. Correlational analysis confirms the degree of statistical relationship between factors: the correlation coefficients between them are quite small, suggesting that each one provides new information about the individual concerned. If the correlations between the factors are subjected to a further factor analysis, then the series of 'second order' factors is derived. These are often referred to as 'global factors' and sometimes as 'higher-order factors'. They help to provide a broader picture of personality. In general, we need to consider both the primary factors and the second-order ones because they provide a greater understanding of someone's profile. For example, factors C, Q4 and O are all components of the higher order factor of anxiety. It helps to appreciate the general level of anxiety, as well as those specific primary factors which contribute to it.

Primary factors can also be related to specific criteria such as creativity or leadership. The sten scores (remember these from Chapter 4?) are multiplied by particular fractional weightings and the results are added together in a specification equation. The result of this process gives an idea of the degree to which a person conforms to the picture of, for example, the creative individual or the good leader. In recent years software programs have been designed for this purpose.

The assessment materials discussed so far have had a number of dimensions, ranging from Eysenck's four factors to Cattell's 16. However, researchers have discovered that essentially all personality can be reduced to just five components. Tupes, Chrystal and Goldberg were the first to discover this, with a review by Goldberg (1981). Costa and McCrae (1985; 1992) also factor analysed a number of broad-based questionnaires and their work has become the most well-known. Despite using different terms the research has produced five main factors, said to describe all of personality 'space' and making up the modern dominant model of personality. Labels for the traits found differ among researchers and from questionnaire to questionnaire, although the ideas making up the scale contents are the same. Known as the 'Big Five,' the most common terms appear to be:

- Extraversion;
- Emotional stability;

- Agreeableness;
- Conscientiousness;
- Openness to experience.

As a result it should be possible to summarize any profile on the basis of these factors alone. Many psychologists would now agree that when the data are summarized in this way the same five constructs emerge, and that Eysenck's first two factors correspond with the first two of the 'Big Five'. Elements of the remaining Big Five can also be found in Eysenck's final factor. Costa and McRae (1992) developed a measure based upon these findings known as the NEO as an acronym for three of the five traits (i.e. neuroticism, extraversion, and openness to experience). The second-order factors arising from many questionnaires can often be aligned with them: for example, those of the 15FQ and the 16PF can be aligned with the model, as shown in Table 8.6. Each of the Big Five factors can be described as follows:

- *Extraversion*, or positive affect, represents a predisposition to experience positive emotional states, having more social confidence and feeling good about oneself and the world in general. People with higher levels of extraversion are more socially outgoing and have a predisposition towards the company of others.
- *Neuroticism* represents a tendency to experience negative emotional states and negative views of oneself, such as anxiety, self-consciousness and vulnerability. People with higher levels of neuroticism experience more negative moods and stress and are less able to cope with difficult situations.
- *Agreeableness* represents a tendency to get along well with others, as well as a desire to get things done, to make things happen. This links personality to our responsiveness in many situations.
- *Conscientiousness* represents a tendency to be careful, meticulous, organized and structured in behaviour. It also includes how much individuals internalize moral values and rules in an environment.
- *Openness to experience* represents a tendency to be more open to a wide variety of experiences, to be original and creative, and tolerant towards differing views. Someone high on this scale is likely to be more open to change.

The importance of the Big Five factor model of personality is that it provides an organizing framework for the overall domain of personality, in the same way as the concept of 'g' does for ability and intelligence. It reduces the wide complex domain of personality to just five main components. There has been some variation in the names given by different researchers, yet the scale contents are essentially similar regardless of the names given. The simplicity, conciseness and straightforward nature of the Big Five make them appealing.

An overall view

Overall, a review of the different theories of personality, from typology to traits, would suggest that all of the various approaches to personality can offer insights into and ways of understanding its complexity, although none of these provides an entirely adequate perspective. Psychoanalytic and humanistic views give an understanding of the total or whole person but are not conducive to scientific validation and cannot predict behaviour adequately. Type approaches are too generalist and tend to over-simplify the nature of personality. However trait, biological and social learning approaches are based upon scientific research, and are therefore capable of being evaluated in an empirical way. On the one hand, social learning theory has tended to focus upon behaviour but neglect other aspects of the person, whilst the trait approach enables us to describe an individual in detail although it fails to consider situational and developmental variables. Psychoanalytic, humanistic, social learning and type views find their most useful applications in therapeutic, coaching, counselling and personal development settings. The trait approach tends to be most useful in the field of organizational psychology where we are more interested in the 'what' rather than the 'why' of personality.

No single theory is capable of providing an over-arching and comprehensive description of personality, probably because we are trying to understand the most complex organism known to humankind: ourselves. All have something to offer in the various areas of human activity, although we should always remember the dangers of their misuse. Personal attributions about others are subject to a range of biases: research has demonstrated that people have a poor ability in making judgements of others. This means there will always be a need for evidence of both good reliability and validity.

Table 8.6 Matching 15FQ and 16PF global factors with the Big Five

The Big Five	15FQ	16PF
Extraversion	Introversion – Extraversion	Introversion – Extraversion
Neuroticism	Anxiety	Anxiety
Agreeableness	Independence	Independence
Conscientiousness	Control	Self-Control
Openness to Experience	Pragmatic	Tough Poise/Tough-Minded

SUMMARY

Theory and practice are necessarily linked. We have reviewed a range of personality theories and their relationships with assessment methods, from classical typology to trait theory. Psychodynamic theories have resulted in assessments such as

the Myers-Briggs Type Indicator, whilst cognitive-behavioural thinking led to a few scales, most notably locus of control. The phenomenological perspective provided the humanists' Q-sort technique, the repertory grids of Kelly and the Thematic Apperception Test. A biological view prompted the development of some question-naires, as also did Eysenck and Cattell in their trait approach. This latter approach provides the most objective and empirical assessment of personality characteristics. The benefits and limitations of different approaches have been discussed.

PERSONALITY QUESTIONNAIRES: ADVANTAGES AND LIMITATIONS

The trait model, as we have seen, focuses on traits relevant to how individuals adjust to the environment and the differences between people. Sometimes also being called the psychometric model, it involves a normative process with the placing of scores on scales and use of statistical methods. To do this questionnaires are generated. Even where this model isn't used, as with type approaches, questionnaires are often developed. These are usually self-report, though such questionnaires have both advantages and limitations.

Self-report data

In completing questionnaires people will, of course, answer questions about them-selves. The accuracy of the data gained will therefore depend on personal insight. This is variable: it's possibly linked to age, maturity and intelligence, although we cannot be sure. Interpretation should be conducted with caution and include discussion with the individual concerned in a feedback interview. Questionnaires are often, justifiably, considered susceptible to sabotage and distortion by test-takers, especially in selec-tion settings. It is therefore necessary to distinguish between these two tricksters:

- *Sabotage* is a deliberate intention by the test-taker to misrepresent the outcome of the assessment. People who desperately want to get chosen for a job will thus deliberately misrepresent themselves in responding to items.
- *Distortion* also involves a misrepresentation of the outcome although through less conscious factors, for example because of a particular mood state, fatigue, or a lack of motivation to complete the questionnaire.

Variability in scores can be influenced in two ways. Firstly, the variability can be introduced by factors which influence responses, for example as sabotage or distor-tion or a lack of understanding of the language used. Secondly, there can be vari-ability caused by how the scores are subsequently interpreted by the person giving the questionnaire to others as a result of a misunderstanding or misrepresentation of the outcomes, for example through a lack of training in how to understand a personality profile and give feedback. This can sometimes occur when a feedback-

giver makes statements which are designed to please the person who completed the questionnaire. (This is often referred to as the 'Barnum effect', which will be explained in Chapter 9.)

The construction of questionnaires is deigned to minimize such problems, but it is also the responsibility of the administrator to neutralize such tendencies as much as possible. It is important to develop a good rapport with people undertaking the questionnaire and let them see that it can best contribute to their own benefit if they cooperate with frank and honest reports. This is clearly easier to do where it is being used for development purposes. In recruitment, it may be helpful to state that the questionnaire is only one aspect of the selection procedure being used and that they will gain helpful feedback. The results can then be linked to other known aspects of the individual. Applicants will, of course, be less happy in the job if they gain it through suggesting that they have characteristics they don't really possess.

Questionnaire items are often chosen to be as 'neutral' in value as possible, to emphasize both desirable and undesirable aspects at both ends of trait scales. In addition, items which are not 'face valid' (i.e. which do not obviously refer to the trait but which are known to measure it through correlational research) are chosen wherever possible as an in-built protection against sabotage, distortion or faking.

In any case, this problem of faking is probably less serious than people often think since they are most likely to complete the questionnaire when they realize that an accurate result will contribute best to their own welfare (i.e. during development projects). If time is taken to ensure that people understand the importance of careful and truthful responses, a long step towards achieving good measures will have been taken. Not all personality questionnaires include methods to assess all of the possible test-taking styles in various assessment situations, although they will generally include a measure of 'socially desirable' responding if the questionnaire is to contribute towards some form of decision making.

Socially Desirable Responding

In some instances people will 'fake' responses to questions as a result of their expectations or mindset, especially where an inventory is used in decision making. They might portray themselves in an unrealistically positive light and as being socially likeable, indicating higher 'social desirability' (Paulhus, 1984; Rees, 1999). This can be identified by the inclusion of items specially designed to determine whether someone is responding in this way and which can be scored. Simply mentioning the existence of a distortion measure during the administration session can significantly reduce distortion. It can also be reduced by the offer of feedback and confidentiality. Social desirability might also be seen as another aspect of personality itself, representing a desire to be accepted by others.

Random responding

This is a particular problem when respondents have little motivation to complete a questionnaire or have been strongly encouraged or coerced to do so. There is a risk

that they may select responses at random and be unlikely to read items. Such an event is relatively rare in selection settings, although it may arise in forced programmes of assessment. Random responses can be identified by the inclusion of an infrequency scale, consisting of items which have only one correct answer, but unlike those used in reasoning tests the answer is obvious, for example 'Babies generally walk before they can crawl'. A random-responder is unlikely to notice that this is factually incorrect. The problem is that these types of item tend to be obvious to people who are reading carefully and can then pose a distraction. Some inventories are linked to software using an infrequency scale which identifies responses having a low endorsement rate.

Central tendency

Central tendency is the name given to the style of people who constantly choose the middle option for items, having a response set to do this. People might be defensive and don't want to reveal too much information, or they may be young people who lack certainty about themselves. Careful wording of items can minimize the effect and it can be measured also through the use of software (Rust, 1996; Huba, 1997). If scores are high on a central tendency scale, then the profile may not validly represent the test-taker. The person may have been disinclined to reveal too much, is lacking in personal insight, or genuinely holds moderate views and attitudes compared to most other people. A good feedback interview afterwards could help determine whether the profile is genuine.

Measurement error

Scales used in inventories are subject to measurement error, as Chapter 5 shows. There can be no 100% accuracy and rating scales should have evidence of good reliability. Reputable inventories will usually have carefully researched items designed to ensure a consistent assessment of traits. Even with the best there will be a margin of error, and this means scores can't be seen in any rigid way: they should be considered as guides to how individuals might behave in many circumstances. Having said this, it is still a better guide than the subjective views of an interviewer.

Correlational Approaches to Validation

In Chapter 6 we discussed validation. We saw that in many of the processes designed to provide evidence for construct validity publishers will correlate scores with those on other measures. High correlations will then suggest they are measuring the same or a similar thing. However, in the case of assessing the validity of scales within a personality inventory the use of correlations raises a problem. This is caused to some extent by the fact that there are often more scales in an inventory (from just three in the case of the EPI, to 16 in the 16PF, and 30 for the OPQ). If scores on a number of scales are correlated with scores on other measures we can end up with cross-correlational matrices. Imagine I develop a personality inventory having 15

Table 8.7   An example of a correlation matrix

							Personality Scales								
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Appraisal evaluation	ns	ns	Ns	Ns	ns	ns	ns	.53	ns	ns	Ns	ns	ns	ns	ns
Qualification Level	ns	.47	Ns	Ns	ns	ns	−.5	.57	.42	ns	Ns	ns	ns	ns	ns
Attendance	ns	ns	Ns	Ns	ns	ns	−.6	.61	ns	ns	Ns	ns	ns	.44	ns
Punctuality	ns	ns	Ns	Ns	ns	ns	Ns	Ns	ns	.4	Ns	ns	ns	ns	ns
Customer Ratings	ns	ns	Ns	Ns	ns	ns	Ns	Ns	ns	ns	Ns	.4	ns	ns	ns
Length of Experience	ns	ns	Ns	Ns	ns	ns	−.6	.58	ns	ns	Ns	ns	ns	ns	ns

scales, called factor A to factor O, and that I then correlate the scores acquired from a large sample of employees with their scores on six measures of performance. The correlation matrix produced is shown in Table 8.7.

This matrix shows 15 x 6 (i.e. 90) correlations. Of these, 12 are given as being statistically significant, the others having 'ns' recorded as being not significant. The publisher might, on this basis, state that there is good evidence for the validity of factors G and H, whilst there is some support, albeit lower, for factors B, I, J, L and N. But there is a problem here arising from probability theory which says that if lists of random numbers are continually recorded one or more of them will eventually correlate reasonably well with some of the criteria, suggesting that some of the random numbers are valid. If the sample size is small a set of random numbers giving a high correlation will rapidly become clear. In contrast, if the sample size is large then it will take a longer time before a set of higher correlations becomes available. Therefore, 'spurious' correlations can occur purely by chance depending on the sample size (the word 'spurious' here signifies that these will appear to be statistically significant when they may not in fact be so).

Usually tests of statistical significance will take sample size into account in any research process and deal with it. There are corrections which can be applied. But this is often not considered in the case of validation studies having large matrices. In the case of statistical tests the probability of a significant correlation occurring by chance is less than 5% or 1 in 20. If a matrix of 20 correlations is constructed using random numbers, then one of them will have a high chance of being significant purely by chance. When the matrix has 100 correlations, by the laws of probability we can expect that at least five of them will be significant by chance alone. A publisher might take advantage

of this and publish the five correlations, suggesting that they indicate evidence of validity and hoping you don't know about this effect. But now you do! This provides a word of warning for anyone buying a personality inventory.

So our matrix includes 90 coefficients, 12 of them given as significant. For each 20 coefficients one could be significant by chance, suggesting that 4.5% could occur among the total. We can't have half a correlation, so we will round this up to 5. The number of significant coefficients needs to be greater than this to have some which are potentially genuine, and this is the case. Obviously, the spurious ones occur at random and therefore don't appear as a pattern. In our example the factors which appear most valid would be H and G, although it is worth saying that the matrix is provided only as a simplified example and more significant coefficients would normally be generated. A statistical correction can eliminate the effect.

SUMMARY

The use of self-report questionnaires to assess personality characteristics continues to grow. Issues concerning their use, such as those relating to response styles, including sabotage, distortion, central and random responding, as well as measurement error, have been largely met by developments in technology and the application of codes of good practice for their administration, data management and feedback interviews to individuals.

WHAT HAVE WE DISCOVERED ABOUT THE ASSESSMENT AND MEASUREMENT OF PERSONALITY?

In this chapter we have looked at personality and its assessment. This area has been much debated over a long time and there are no simple solutions to how it should be assessed, although good professional practice suggests a need for objective and empirical methods. Most assessments have been linked to theories which reflect different historical periods and each has its benefits and limitations. Our choice depends upon whether we take a more holistic view, as in counselling and development settings, or whether we are seeking to make comparisons between people. We have learned about:

- the distinction between subjective and objective models, and contrasting views relating to the nature of personality;
- how attempts have been made to define and distinguish it from other characteristics;
- how thinkers and scientists have evolved different models and processes, some of which have enabled the assessment of individual differences;
- how personality inventories have been constructed, why they are useful, and their benefits, issues and limitations.

SOME KEY QUESTIONS

How would you distinguish between personality, attitudes, interests, values, motivation, beliefs and ability?

Is personality simply a result of genetics? What do you think?

Compare the different theoretical approaches to personality. How useful are these?

How would you explain Jungian type theory and its uses?

Why do you think the trait or psychometric approach is widely used for the assessment of personality?

Explain what is meant by the 'Big Five'. Why is this thought to be so important?

What are some of the problems relating to the use of personality questionnaires?