PART I

The nature of personality traits

1 The trait concept and personality theory

Introduction: conceptions of traits

Everyday conceptions of traits

The idea of personality traits may be as old as human language itself. Aristotle (384–322 BC), writing the *Ethics* in the fourth century BC, saw dispositions such as vanity, modesty and cowardice as key determinants of moral and immoral behaviour. He also described individual differences in these dispositions, often referring to excess, defect and intermediate levels of each. His student Theophrastus (371–287 BC) wrote a book describing 30 'characters' or personality types, of which a translator remarked that Theophrastus' title might better be rendered 'traits' (Rusten, 1993). Basic to his whole enterprise was the notion that individual good or bad traits of character may be isolated and studied separately.

Contemporary English is replete with terms used to describe personal qualities. Table 1.1 shows some examples: the five words rated by American college students as the most and least favourable words in Anderson's (1968) survey of 555 personality terms, together with five words given a neutral rating. Allport and Odbert (1936) identified almost 18,000 English personality-relevant terms; more words than Shakespeare used! Nouns, sentences and even actions may also have personality connotations (Hofstede, 1990). The language of personality description permeates our everyday conversation and discourse.

Everyday conceptions of personality traits make two key assumptions. First, traits are stable over time. Most people would accept that an individual's behaviour naturally varies somewhat from occasion to occasion, but would maintain also that there is a core of consistency which defines the individual's 'true nature': the unchangeable spots of the leopard. In other words, there are differences between individuals that are apparent across a variety of situations. We might expect a student we have noted as a 'worrier' to be particularly disturbed and worried in several different contexts such as examinations, social occasions and group discussions. Stability distinguishes traits from more transient properties of the person, such as temporary mood states. Second, it is generally believed that traits directly influence behaviour. If a person spontaneously breaks into cheerful song, we might 'explain' the behaviour by saying that he or she has a happy disposition. Such lay explanations are, of course, on shaky ground because of their circularity. Aristotle suggested a more subtle, reciprocal causal

Table 1.1 *Ratings of likeableness of some favourable, neutral and unfavourable traits*

Favourable traits		Neutral traits		Unfavourable traits	
Trait	Rating	Trait	Rating	Trait	Rating
Sincere	5.73	Quiet	3.11	Dishonest	0.41
Honest	5.55	Impulsive	3.07	Cruel	0.40
Understanding	5.49	Changeable	2.97	Mean	0.37
Loyal	5 47	Conservative	2.95	Phony	0.27
Truthful	5.45	Hesitant	2.90	Liar	0.26

Note Each word was rated on a 0–6 scale by 100 US college students
Source Anderson (1968)

hypothesis: that it is through actions that dispositions develop, which in turn influence actions.

> It is by refraining from pleasures that we become temperate, and it is when we have become temperate that we are most able to abstain from pleasures. (Thomson's, 1976, translation of the *Ethics*, 1104a: 33–5)

One of the major tasks for a scientific psychology of traits is to distinguish internal properties of the person from overt behaviours, and to investigate the causal relationships between them. To avoid circularity, it is essential to seek to identify the underlying physiological, psychological and social bases of traits, which are the true causal influences on behaviour.

Scientific conceptions of traits

This book places the concept of the trait at centre-stage in the scientific study of human personality, because, 'if there is to be a speciality called personality, its unique and therefore defining characteristic is traits' (Buss, 1989). There is a large gap between the everyday concept of a trait, and a concept that is scientifically useful. Several distinct steps are necessary for developing a science of traits. The first step is the measurement and classification of traits. The simplest technique for personality measurement is just to ask the person to rate how well trait adjectives such as those shown in table 1.1 apply to himself or herself. We can also ask questions about behaviours that are thought to relate to personality. Measures of the extraversion–introversion trait typically ask whether the person enjoys parties, meeting people and other social activities, for example. We can also have a person who knows the respondent well, such as a spouse or close friend, provide ratings of his or her personality. Traits need not be measured solely by verbal report: real-world actions and behaviour in the laboratory may be assessed too (Cattell, 1973). We would expect an extraverted person to belong to many clubs and societies,

Table 1.2 *Examples of experimental studies showing correspondences between traits and objective behavioural measures*

Study	Trait	Behavioural measure
Carment, Miles and Cervin (1965)	Extraversion	More time spent talking
Edman, Schalling and Levander (1983)	Impulsivity	Faster reaction time
DeJulio and Duffy (1977)	Neuroticism	Greater distance from experimenter chosen
Ganzer (1968)	Test anxiety	More time spent looking away from the task during testing
Newman, Patterson and Kosson (1987)	Psychopathy	More persistence in gambling when consistently losing
Mehl, Gosling and Pennebaker (2006)	Extraversion	More time in conversation and less time alone
	Agreeableness	Fewer swear words used
	Conscientiousness	Less time spent at home and more time in class
Rhodes and Smith (2006)	Extraversion and Conscientiousness	More physical activity

for example. Experimental tests of typically extraverted behaviours may also be devised, such as amount of laughter at jokes and willingness to respond rapidly but inaccurately. In practice, however, personality measures based on objective behavioural tests have had only limited success, and few have been validated (see Kline, 1993). Verbal report has been the preferred method of trait assessment used by personality researchers.

As we have seen already, there is a huge number of words which may be used to describe personality. Many of these words have rather similar meanings: precise, careful, meticulous and painstaking would all seem to relate to some common quality of conscientiousness. Such overlapping traits can be grouped together as a broad aspect or dimension of personality. The question then becomes: what is the number of broad dimensions needed to describe the main elements of any individual personality? Much research effort has been devoted to drawing up classificatory schemes of fundamental personality dimensions: estimates of the number required range from three to thirty or so.

There is no guarantee that people's self-descriptions are accurate. The second step in personality research is to test whether and how traits relate to behaviours. Table 1.2 gives some examples of correlations obtained empirically between personality traits and objectively assessed behavioural measures. In each case, the data imply that the person's self-ratings or questionnaire responses are at least partially accurate. Traits may also be useful in applied settings, in

predicting a person's job performance, or the response of a patient to therapy, for example. A related research question is the consistency of behaviour in various situations. The implicit assumption of the trait approach is that people do in fact tend to behave consistently in different settings, an assumption which has been vigorously challenged, as we shall see in chapter 2.

A science of personality traits requires a final, but difficult step: development of a satisfactory theory of personality traits. We may be able to assess people's levels of extraversion and other traits, and show that our assessment predicts some aspects of their behaviour, but in themselves these observations tell us nothing about why the personality dimension predicts behaviour. One difficulty is that personality may be represented at a variety of levels of psychological description. For example, extraversion might be associated with simple properties of the central nervous system, such as the excitability of individual neurones, or with style of information processing, or with acquired social knowledge and beliefs. We can only distinguish these broad possibilities by the normal, somewhat laborious scientific methods of formulating specific hypotheses and testing them rigorously against experimental and observational evidence.

There are also some more subtle conceptual problems to be overcome. There is some question over whether we can ever develop a general scientific theory of traits at all. The idiographic approach to personality (e.g., Lamiell, 1981) considers that all aspects of personality are fundamentally unique and idiosyncratic to each individual, so that no generalised theoretical statements are possible. In this book, we adopt the alternative, nomothetic approach, which assumes that we can arrive at general hypotheses concerning stable individual differences through the normal scientific method. We cannot, of course, expect such hypotheses to predict all or even most of the person's behaviour; the uniqueness of individuals seems secure.

Causal primacy. There is uncertainty too over the causal status of traits. Suppose we have a person who obtains a high score on a measure of neuroticism, and also shows clinical symptoms of mild depression. Did neuroticism cause depression, did depression cause neuroticism, or are both qualities independently influenced by some additional causal factor such as a stressful life event? A traditional assumption of trait theorists has been the *causal primacy* of traits. Although, as suggested by Aristotle, there is probably some reciprocity of causal influence between traits and behaviours, it has often been supposed that the dominant direction of causality is from trait to behaviour. For example, Brody (1994) stated: 'I assume that personality traits are causal. They are genotypically influenced latent characteristics of persons that determine the way in which individuals respond to the social world they encounter.' That is, although measures of traits such as questionnaire scores are not causal agents themselves, they validly index underlying physiological or psychological structures which directly influence behaviour. One of the pioneering trait psychologists, Gordon Allport (1937), saw traits as organised mental structures, varying from person to person, which initiate and guide behaviour.

There are two important qualifications to this general principle. First, as Hettema and Deary (1993) pointed out, the explaining of behaviour requires different levels of analysis, including genetics, physiology, learning and social factors. Allport's notion that all the various manifestations of traits can be explained at a single level of 'mental structure' is simplistic. Hence, causal models of trait action will vary depending on the level investigated, although the ultimate research aim is to develop a trait theory that will interrelate the various levels. Second, the causal effects of traits on behaviour may be indirect. As discussed in chapter 2, traits interact with situational factors to produce transient internal conditions or states, which may sometimes be a more direct influence on behaviour than the trait. For example, trait anxiety may interact with an immediate situational threat to generate transient state anxiety, which in turn disrupts ongoing information processing and impairs performance (Spielberger, 1966).

Inner locus. A second traditional assumption is that of the *inner locus* of traits. The most important traits, such as extraversion and neuroticism (a broad tendency to experience negative emotions), are assumed by some to relate to some fundamental, core quality of the person, which might be influenced substantially by genetic factors (Eysenck, 1967; McCrae et al., 2000). Again, even within theories that are sympathetic to the traditional view of traits, there has been some modification of the basic view. For example, Cattell and Kline (1977) distinguished 'surface' traits, which are simply clusters of overt responses which tend to be associated, from 'source' traits, which are deeper properties of the person with causal effects on behaviour. Modern developments of traditional theory seek to identify and explain underlying sources of consistency in behaviour, whether these are conceived of as genetic, physiological or cognitive in nature. The process of relating operationally defined measures such as questionnaire scores to theory is often referred to as construct validation, and is discussed further below.

Both assumptions of traditional trait theory – their causal primacy and inner locus – have been challenged more radically. The alternative to causal primacy is the view that traits are a construction with no independent causal status. For example, Buss and Craik (1983) argued that traits are simply descriptions of natural categories of acts. Wright and Mischel (1987) characterised traits as conditional statements of situation–behaviour contingencies. Furthermore, traits may be jointly constructed by two or more people in social interaction, according to the social dynamics of the situation (Hampson, 1988). Social psychological approaches to traits tend also to abandon the inner locus assumption. Even if traits represent genuine psychological structures, these structures may be no more than the superficial mask the person presents to the outside world, in order to present a socially acceptable self-image to other people. Such challenges to traditional views of traits are explored in more detail in chapters 5 and 8.

The upshot of these considerations is that there is no generally accepted scientific theory of traits. Some trait theorists have tended to take the relatively easy option of focusing on the dimensional structure and measurement of traits rather

than investigating their underlying nature (Goldberg, 1993). However, it should be clear from the preceding discussion that we cannot accept trait descriptions at face value, and that there may be various qualitatively different types of explanation for consistencies in self-reports and behaviours. In recent years progress has been made in developing psychobiological, information-processing and social psychological trait theories which are partly complementary and partly competing accounts. One of the major aims of this book is to show that trait psychology requires these theoretical endeavours as well as its traditional concern with psychometrics. Development of successful theories is necessary for the study of traits to take its rightful place as a fundamental area of psychological science.

A brief history of traits

The scientific study of traits develops two aspects of common-sense discourse on personality. First, it formalises the tendency in natural language to use trait descriptors of individuals. Second, it formalises the popular awareness that there are generalities of personality, such that individuals of a similar disposition may be grouped together. This tendency is seen in folk psychology: astrology has twelve personality-based sun signs, and there is a Chinese custom of ascribing certain aspects of personality to the year in which a person was born; for instance, those born in the years of the cow are said to be conscientious and hard working. Traits emerged from folk psychology and medicine, and from natural language. The history of traits is a story which may be told in various ways: through tracing the counterparts to extraversion and neuroticism identified in different epochs (Eysenck and Eysenck, 1969; Eysenck, 1981), or through emphasising the evolution of the currently dominant five factor model of personality (Goldberg, 1993). We confine ourselves to highlighting three aspects of the history of traits: the influence of classical thinking, the earliest scientific work on traits, and the emergence of current models of personality.

The four humours

Amongst the earliest progenitors of present-day trait theories, apart from Aristotle and Theophrastus, were Hippocrates (ca. 460–377 BC) and Galen of Pergamum (AD 130–200) (Stelmack and Stalikas, 1991). The Hippocratic conception of the aetiology of physical illnesses was based upon the theory of humours, or bodily fluids, notably blood, phlegm, black bile and yellow bile. It was in the writings of Galen, a Greek physician, that the humours became the bases of temperaments. Galen's temperamental terms, melancholic (tending towards low mood), choleric (tending towards anger), phlegmatic (tending towards stolid calmness) and sanguine (tending towards optimism and confidence), survive in today's English. When the humours were blended in a balanced fashion, an optimal temperament resulted:

> in his soul he is in the middle of boldness and timidity, of negligence and impertinence, of compassion and envy. He is cheerful, affectionate, charitable and prudent. (Stelmack and Stalikas, 1991, p. 259)

Imbalance led to physical illness, but also to mental disturbance. For example, the melancholic temperament, associated with feelings of depression and anxiety, resulted from an excess of black bile. In the seventeenth century, Burton's (1837; originally published 1621) description of the melancholic character has some resemblance to the high neuroticism scorer on a present-day personality questionnaire:

> that which is a flea-biting to one causeth unsufferable torment to another; and which one by his singular moderation and well-composed carriage can happily overcome, a second is no whit able to sustain; but, upon every small occasion of misconceived abuse, injury, grief, disgrace, loss, cross, rumour etc. (if solitary, or idle) yields so far to passion, that his complexion is altered, his digestion hindred, his sleep gone, his spirits obscured, and his heart heavy, his hypocondries misaffected; wind, crudity, on a sudden overtake him, and he himself overcome with melancholy. (vol. 1, p. 140)

The humoral terms exist today merely as descriptive metaphors. Their aetiological significance did not long outlast the Middle Ages. Immanuel Kant recast the four humoral temperaments along the dimensions of 'feeling' and 'activity' to yield a typology of four simple temperaments that emphasised their psychological nature. The humoral terms also appear in the writings of the father of modern psychology, Wilhelm Wundt. Wundt described the four temperamental types in terms of two dimensions: strong–weak emotions versus changeable–unchangeable activity. The relationships between the humoral terms and the schemes of temperament classification devised by Kant and Wundt are shown in figure 1.1. Stelmack and Stalikas (1991) described the relationship between these schemes and the present-day dimensions of neuroticism and extraversion as 'uncanny'. However, any veracity they have is owed to shrewd psychological observation and not the classical theory of the humours.

Beginnings of the science of traits

Three ingredients were required for the initiation of scientific research on traits: systematic data collection, statistical techniques for data analysis, and development of testable theories. These prerequisites became available around the beginning of the twentieth century. Of key importance were the new techniques of correlation and, somewhat later, factor analysis (Kline, 1994). Before the introduction of factor analysis there was no objective method for reducing the huge numbers of trait terms to a manageable number of broad dimensions. Thurstone's (1947) introduction of multiple factor analysis proved particularly influential, and the systematic use of factor analysis began the modern research era in personality.

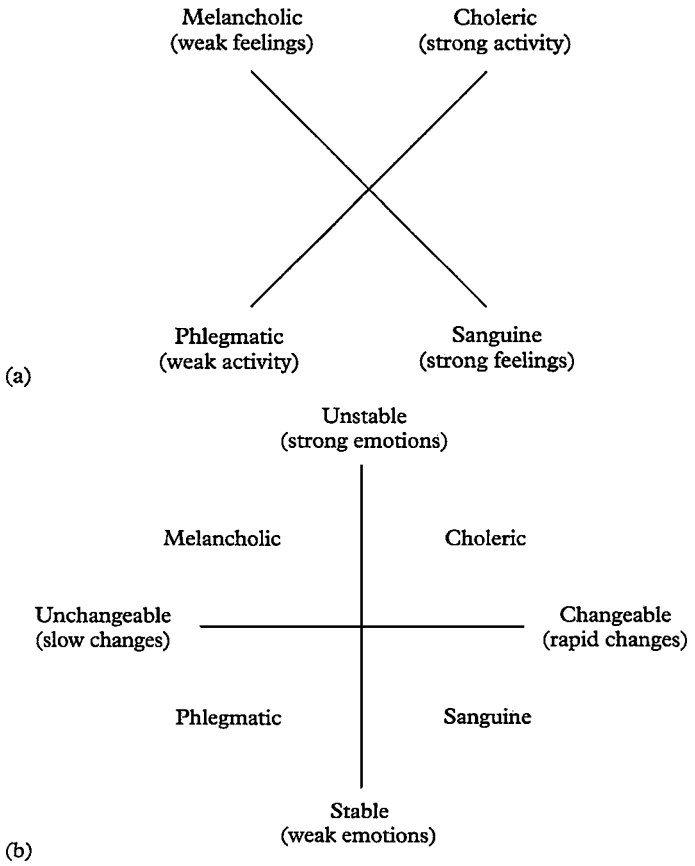

Figure 1.1 *Humoral schemes of temperament proposed by (a) Kant and (b) Wundt*

The first empirical studies

The raw materials, or stimuli, for some early researchers were gathered from the dictionary. Sir Francis Galton (1884) was prescient in hypothesising that individual differences in personality might be represented in natural language terms, and trawling *Roget's Thesaurus* for character-descriptive terms. This was later dubbed the 'lexical hypothesis', for which De Raad (2000) provides a history. Pioneers of empirical personality research included the Dutch psychologists Heymans and Wiersma (1906) who, in a series of papers between 1906 and 1909, obtained ratings of character for large numbers of subjects and attempted to reduce these to smaller numbers of factors or dimensions. They employed a statistical method that was conceptually related to factor analysis, though much more crude, and obtained three factors. Eysenck (1970) identified the first dimension with emotionality, and the other two with introversion–extraversion.

After Spearman's (1904) epoch-making study of mental ability, in which he discovered general intelligence and introduced an embryonic form of factor

analysis, similar techniques were used under his supervision to analyse character. Webb (1915) collected detailed ratings of mental qualities on 194 students at a teacher training college and 140 younger schoolboys. The individual rating items were collected under the headings of intellect, emotions, sociality, activity, and self qualities. Webb used such statistical techniques as were available to deduce that, after general intelligence had been extracted, a second general factor of character could be identified. This second factor was called 'persistence of motives' or 'will'. There are many aspects of Webb's study which make it a good source of data: the subject sample was large, the ratings were performed consistently, by more than one rater, for each subject over an extended period of time, and the range of personality qualities assessed was broad. As a result, it has been re-analysed at intervals since its publication: these re-analyses are documented by Eysenck (1970). A comprehensive re-analysis showed that five or six factors existed in Webb's data, and trait researchers consider them to be very similar to modern dimensions of personality (Deary, 1996).

The beginnings of trait theory

In addition to minimally adequate statistical procedures for dealing with traits, and some conception of where to begin to search for trait stimuli, there was a contemporaneous theoretical development of trait psychology. In part, this theoretical development was driven by an awareness of the fact that trait psychology was perforce beginning with common-sense terms in everyday use. Allport (1937) commented that:

> To use trait terms, but to use them cautiously, is, then, our lot. Nor need we fear them simply because they bear the age-long sanction of common sense.

Carr and Kingsbury's article from 1938 addressed many core issues of trait psychology at a conceptual level. They emphasised the predictive nature of traits, i.e., knowing the traits of an individual was predictive of that person's likely future behaviour. Moreover, they articulated the notion that traits were not directly observable – traits may only be inferred from behaviour. This continues to be the view of prominent trait theorists. For example, McCrae et al. (2000, p. 175) stated:

> Traits cannot be directly observed, but rather must be inferred from patterns of behaviour and experience that are known to be valid trait indicators.

Carr and Kingsbury emphasised the need for trait scales in order to compare individuals on a given characteristic. They lamented the blind progress of trait psychology and its lack of 'principles of orientation in reference to the concept'. This last continued to be one of the most contentious issues in the theory of traits (Pervin, 1994). One of their closing comments is ironic when one reflects on the pre-eminence of the dimensions of neuroticism (emotional stability) and introversion–extraversion today: