Mood and Motivation 9

Key Terms

acquired needs theory
arousal theories
ERG theory
expectancy theories
goal-setting theories
Maslow's hierarchy of needs
mood states
motivation
two-factor theory
two-process theories

Chapter Outline

9.1 INTRODUCTION
9.2 BEYOND OR UNDERNEATH TRAITS
9.3 DEFINING MOTIVATION
9.4 FROM BIOLOGICAL REFLEXES TO PSYCHOLOGICAL SELF-REALIZATION
- 9.4.1 **Reflexes**
- 9.4.2 **Instincts**
- 9.4.3 **Drive theories**
- 9.4.4 **Psychodynamic approaches to motivation**
- 9.4.5 **Reinforcement: Motivation as learned associations**
- 9.4.6 **Arousal theories**
- 9.4.7 **Expectancy theories**
- 9.4.8 **Goal setting**
- 9.4.9 **Maslow's hierarchy of motives**
- 9.4.10 **Alderfer's ERG theory**
- 9.4.11 **Herzberg's two-factor theory**
- 9.4.12 **McClelland's acquired needs theory**
- 9.4.13 **Two-process theories**

9.5 MOOD STATES
9.6 STRUCTURE OF MOOD
9.7 SITUATIONAL DETERMINANTS OF MOOD
9.8 DISPOSITIONAL INFLUENCES ON MOOD STATES
9.9 INTEGRATIVE AND RECENT APPROACHES TO MOOD STATES
9.10 SUMMARY AND CONCLUSIONS

9.1 INTRODUCTION

So far I have examined individual differences in relatively stable and invariable factors, such as personality traits and cognitive abilities. As seen in chapter 7, there is strong evidence for the heritability of these factors. Even though environmental variables may influence the acquisition of crystallized abilities or the development of specific personality traits (e.g., Openness and Conscientiousness), variations *within* individuals tend to be less important when it comes to understanding individual differences in personality traits and intelligence. Individuals' IQ remains pretty much the same after the age of 15, and few individuals show drastic changes in their personality after the age of 30. Indeed, it would almost be impossible to establish any comparisons between people if everybody behaved differently all the time.

At the same time, it would be foolish to think that individuals always behave in the same manner. If this were the case, measures of individual difference would be perfect predictors of everyday outcomes. Although ability and personality tests can predict a wide range of variables (e.g., academic achievement, life satisfaction, mental health) with relative good accuracy, they rarely account for more than 50 percent of their variance. One reason for this is that trait measures encompass very general aspects of the individual and deliberately neglect situational influences on behavior (see section 2.5 and Mischel, 1968). Thus personality inventories provide information on what a person usually does, whereas cognitive ability tests are aimed at measuring the best a person can do (Cronbach, 1949; Hofstee, 2001). However, personality traits are only predictive of behavior insofar as they affect specific states. For example, if Neuroticism did not relate to state anxiety or the experience of anxiety at a specific point in time, it would not predict low performance in an exam (Spielberger, 1972b). Likewise, cognitive ability tests are only accurate to the extent that individuals are fully motivated to do their best when taking the test (Chamorro-Premuzic & Furnham, 2005).

Indeed, people do not always behave in the same way and it would thus be impossible to fully understand individual differences without taking into consideration two important sources of within-individual variability, namely *mood* and *motivation*. Just as with other individual difference constructs, mood and motivation determine behavioral outcomes. The difference is that traits (including abilities) tend to be longitudinally stable, whereas mood and motivation tend to *fluctuate* and are largely dependent on situational circumstances, though they are also influenced by traits (Cooper, 1998).

The study of motivation and mood states attempts to shed light on individual differences from the perspective of situational factors, that is, taking into consideration the specific sets of processes that trigger behavior, regardless of a person's historical behavioral tendencies. As such, mood and motivation are more context-dependent than traits and need not be reliable in traditional psychometric terms. An individual's score on an IQ test should be approximately the same every time he/she takes the test (otherwise the test would be considered unreliable). However, a person's level of mood may vary within days or hours. In fact, we would probably expect individuals' mood to be higher on Fridays than on Mondays, and just before than after holidays. It is precisely this fluctuation of mood states and motivation that represents the essence of these constructs and this approach to individual differences.

9.2 BEYOND OR UNDERNEATH TRAITS

Although a plethora of psychometric studies has provided consistent evidence for the validity of personality traits in the prediction of a wide range of contexts (see again chapter 3), traits do not always explain behavioral outcomes. In some situations it is necessary to look *beyond* or *underneath* traits to understand individual differences. For example:

> Mark is a cheerful, optimistic guy. He rarely worries about future or past events and has a positive outlook on life. Mark would score high on Extraversion and Agreeableness, and low on Neuroticism. He is thus a stable, friendly, easy-going individual.

Now, suppose Mark's wife is diagnosed with cancer. Do you think Mark would behave in a happy, cheerful manner? In other words, would it be useful, in that situation, to predict Mark's reaction on the basis of his personality scores or how he usually behaves?

Consider a second example:

> Roger is a lazy, unenthusiastic, and relaxed man. He rarely takes on challenges and prefers to sleep all day than go to work. He would score low on Conscientiousness and would rarely be described as proactive by his friends.

Now suppose a friend of Roger's offered him £15,000 for a one-week job (stuffing envelopes), plus an extra £20,000 if he does the job properly. Do you think Roger would not be motivated? In other words, would it be accurate to predict Roger's performance just by looking at his personality scores or typical behavioral patterns?

The above examples show that, in some circumstances, traits may have little significance when it comes to predicting – let alone understanding – an individual's likelihood of acting in certain ways. In fact, the above examples show that there are many potential circumstances in which individuals would *not* be likely to behave in their habitual manner. One reason for this is that both mood and motives can influence behaviors irrespective of traits, and may depend on situational or external factors rather than on internal dispositions. Thus states may mediate the relationship between traits and behavior, but situational factors may moderate the relationship between traits and states (Rusting, 1998). This complex interaction is illustrated in Figure 9.1.

In that sense, it is always more accurate to predict a person's behavior by measuring states rather than traits, at least theoretically. In practice, however, this would involve collecting daily or hourly measures of mood and motivation, and even then it would be difficult to account for all the possible situational

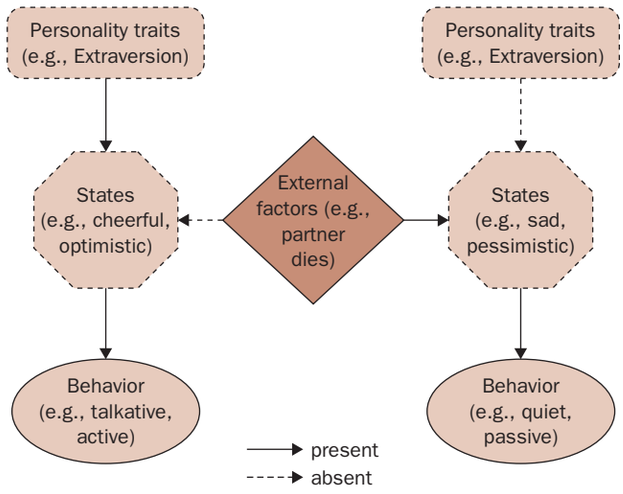

Figure 9.1 Traits, states, and behavior.

changes that may influence behavior. This is precisely why psychologists have devoted more time to developing instruments for the assessment of general tendencies than situational factors (see chapter 7).

Inevitably, emphasis on trait or dispositional approaches has generated a lack of research on the psychology of mood and motivation within differential psychology. There are nonetheless many theories that deal with the relationship of mood and motivation with behavioral outcomes. Some of these theories will be examined throughout this chapter.

9.3 DEFINING MOTIVATION

motivation an internal state, dynamic rather than static in nature, that propels action, directs behavior, and is oriented towards satisfying both instinctual and cultural needs and goals

Although everybody knows what **motivation** is, most people would have trouble defining it, not least because motivation is a psychological notion, that is, a latent construct for explaining behavior. It is therefore impossible to observe motivation directly; we can only infer it through behavioral cues. So, what is motivation?

Motivation is an internal state that:

a) *Drives* people into action.
b) *Energizes*, *directs*, and *perpetuates* behavior.
c) Is directed towards the *satisfaction of needs and drives*.
d) If unsatisfied, will generate a state of physiological or psychological *arousal* (and sometimes both).
e) Is a *general* rather than a specific psychological force.
f) Is *dynamic* rather than static, i.e., a *process* rather than a trait.
g) May encompass a wide range of goals, from instinctual (e.g., eating, sleeping, reproducing) to cultural (e.g., winning the Nobel Prize, composing a symphony, writing a book).

Motivation has been part of the psychological vocabulary for more than a century. Indeed, experts such as Furnham (2005) have argued that "one of the oldest, and most difficult, topics in psychology is the fundamental problem of why people are motivated to do anything at all, and if they do something, why that and not something else" (p. 277). Yet, motivation was only established as an independent area of research in 1953, when the first symposium on the topic was held in Nebraska. A decade later, Cofer and Appley (1964) published the first textbook on the subject, and today there are several peer-reviewed journals (e.g., *Motivation and Emotion*, *Journal of Occupational Behavior*, *Journal of Applied Psychology*) and textbooks (e.g., Boggiano & Pittman, 1993; Geen, 1995; Sorrentino & Higgins, 1986; Weiner, 1986; Wong, 2000) dedicated to the study of motivation.

Conceptions of motivation have varied over time. In the late nineteenth century motivation was simply regarded as the "spring of conduct" (Rommanes, 1881). In the late 1930s it was mainly conceptualized in terms of *needs* and *drives* (Hull, 1943; Murray, 1938). Later definitions (Buck, 1985) viewed motivation in terms of *potential* for the activation and direction of behavior within a specific system, in a similar way to mechanics and physics conceptualizing energy as a potential force (note that we never actually observe energy, only its effects). Kleinginna and Kleinginna (1981a, b) compiled a list of definitions of motivation and noted that traditional approaches tended to emphasize *behavioral control* and distinguished between three components, namely motives, goals, and behaviors. More recently, researchers have provided wider definitions of motivation. For example, Beck (1990) and Franken (1993) conceptualized motivation as "what makes people act the way they do." Thus motivation research asks two basic questions about behavior: why, and with what level of effort.

The distinction between physiological and psychological motives has marked a broad division in the study of motivation. In both cases, however, motivation is associated with the study of behavioral goals, which are central to distinguishing motivation from mood states (see section 9.5), as the latter are not linked to the accomplishment of any goals.

9.4 FROM BIOLOGICAL REFLEXES TO PSYCHOLOGICAL SELF-REALIZATION

As seen in section 9.3, motivation is defined very widely. This makes it necessary to distinguish between different types of motives. One major distinction is that between impulses arising from within the organism and those resulting from external objects, including other individuals (Nuttin, 1984). Early developments in the field of motivation can be characterized by the transition from *biological* to *psychological* needs (Maslow, 1954; Murray, 1938).

9.4.1 Reflexes

One of the earliest scientific attempts to study motivation conceptualized behavior according to the *electromechanics* paradigm

of physics. The concepts of *force*, *inertia*, and *energy* brought to psychology by the German physician and physicist Hermann Von Helmholz (1821–94) became very fashionable in the early twentieth century, such that they even constituted a central feature in Freud's (1900/1999) early model of the *psychological apparatus*. This conception of behavior suggested that the mind and body are structured like a mechanical engine and operate according to the principle of energy discharge. Metaphorically, motivation was thought of as "gasoline," and some even attributed the causes of behavior to the type of food ingested (Holt, 1931).

A classic example of the mechanical approach to motivation was the notion of *reflexes* as fixed and unlearned motivational systems that react to specific external or internal stimuli. As such, they were regarded as the most basic determinants of human action (Cofer & Appley, 1964), representing automatic reactions such as salivating in the presence of food or closing your eyes when you are frightened. However, reflexes rarely explain individual differences. Instead, the apparatus model refers to what is constitutive of *all* human beings and, in fact, other mammals, too. Thus reflexes conceptualize similarities rather than differences between people. On the other hand, the gasoline metaphor is not an accurate reflection of human behavior: unlike cars, individuals tend to react when they "lack gasoline" rather than when the "tank is full" (Hull, 1952) (see section 9.4.3).

9.4.2 Instincts

Instincts are psychophysiological entities that mobilize energy in specific directions to accomplish biologically predetermined goals. Like reflexes, they are largely innate and inherited, but, unlike reflexes, they pursue an action on the external world, affecting the environment. Examples of instinctual motives are the need for food, water, sex, and sleep. Such needs are generated by physiological imbalances and can be satisfied by a variety of stimuli or objects, though always through the same set of behaviors (eating, drinking, sleeping, etc.). Animal psychologists such as Konrad Lorenz (1903–89) showed that some behavioral patterns were predetermined for an entire species and thus referred to instincts in terms of "fixed-action patterns" (Hess, 1962; Lorenz, 1937). Like reflexes, instincts are useful to understand the causes of ubiquitous human behaviors but cannot explain individual differences in social or cultural motives.

9.4.3 Drive theories

Drive theories of motivation (Hull, 1952) were still based on the biological notion of instinct but emphasized the mediating role of internal *drives* as psychological forces. Indeed, Woodworth (1918) proposed the notion of drives as an alternative to instincts and conceptualized individuals' behavior as a consequence of their attempt to reduce drives. Thus drive reduction theories account for the fact that behavior is often prompted in response to absence rather than presence of stimuli, such that absence produces the drive (see section 9.4.2). For example, eating can be explained as an attempt to reduce the drive generated by hunger, whereas drinking would be an attempt to reduce the drive generated by thirst, and so on. The process of restoring physiological levels of balance was known as *homeostasis* and drives were seen as indicators or signals of homeostatic imbalance. Figure 9.2 represents motivation as the process by which biological needs push or drive individuals into action. As shown, behaviors that reduce the drive are preferred over those that do not (see also section 9.4.5).

9.4.4 Psychodynamic approaches to motivation

On the other hand, psychodynamic approaches to motivation have used the term "instincts" to refer to quite different motivational processes. Freud quickly abandoned his mechanical model of the mind to develop an intrapsychic taxonomy of behavior that conceptualized *sex* and *aggressiveness* as the two primary motivational forces. This idea was consistent with the philosophical *Zeitgeist* and represented a major step in the transition from biological to cultural or psychologically superior motives. Thus Nietzsche (1886/1973) famously argued: "Physiologists should think before putting down the instinct of self-preservation as the cardinal instinct of an organic being. A living thing seeks above all to discharge its strength – life itself is will to power; self-preservation is only one of the indirect and most frequent results" (section XIII). Although the psychological forces conceptualized by Freud were "instinctual," in the sense of being inborn and common to all humans, they were directed towards symbolic rather than biological objects. Thus we can feel hungry when reading the menu of a restaurant, or thirsty when seeing a Diet Coke ad on

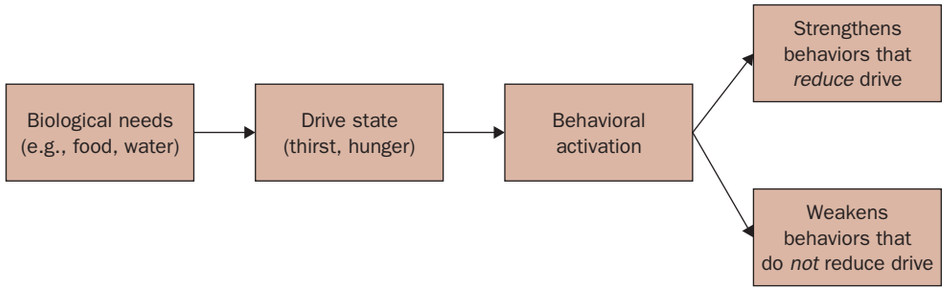

Figure 9.2 Motivation as drive reduction.

television. According to Freud, even artistic products could serve the expression of instincts. For example, Freud's concept of *sublimation* referred to the canalization of sexual impulses through socially rewarded behavior. Thus an artwork allows artists to channel their sexual energy in a subconscious manner. In a well-known psychoanalytical essay, Freud (1964) interpreted the prolific artistic and scientific activity of Leonardo Da Vinci (1452–1519) as compensation for his sexual inactivity. Although Freud's ideas remained largely disputed, not only in regard to motivation, they were no doubt influential in increasing the focus on psychological motives.

9.4.5 Reinforcement: Motivation as learned associations

The motivational theory of reinforcement is essentially an application of the behaviorist paradigm to the study of motivation. As seen in sections 3.8.2 and 4.4.2, behaviorism is based on the idea that individuals' behaviors, as those of other animals, are modified or *conditioned* through rewards and punishments (Spencer, 1872). Accordingly, motivation was interpreted in terms of particular stimulus–response associations. For example, a stimulus (hunger) is initiator of a response (eating) that leads to another stimulus (food), which positively reinforces the association (hunger–eating–food). As seen in 9.4.3, a similar process was hypothesized by Hull's (1952) drive theory.

Skinner (1938) introduced important modifications to the behaviorist theory of motivation through the principle of *operant conditioning*, which conceptualized a variety of *reinforcement tools* for manipulating an individual's motivation and behavior. These were:

a) positive reinforcement (*reward*);
b) negative reinforcement (*punishment*);
c) avoidance learning (*removal of punishment*);
d) extinction (*removal of positive reward*).

More recent studies (e.g., Corr, Pickering, & Gray, 1995) have used the reinforcement paradigm to explore the relationship between personality states and traits, notably in the context of Gray's and Eysenck's personality models (see sections 2.6 and 2.9). It seems that Neuroticism – trait anxiety – is associated with an oversensitive behavioral inhibition system (BIS), which compares expected versus actual events and consequently generates more intense responses to fear and novelty stimuli (Matthews & Gilliland, 1999). Thus physiological processes, at the level of the brain, underpin the expression of both traits and states (Eysenck & Eysenck, 1985).

Despite wide acceptance of the physiopsychological links outlined by Eysenck's and Gray's personality theories, the relationship between arousal, traits, and states may be more complex. To this end, Thayer (1989) differentiated between two dimensions of subjective arousal, namely *energetic* (vigor vs. tiredness) and *tense* (anxiety vs. calmness). The former reflects activity in the reticulocortical system and is associated with Extraversion/Introversion, whilst the latter reflects individual differences in the limbic arousal system and is associated with Neuroticism/Stability. Whereas high levels of energetic arousal (vigor) may improve performance (Matthews, 1992a, b; Revelle, 1993), high levels of tense arousal (anxiety) are likely to cause negative emotionality. A third bipolar mood dimension, namely *hedonic tone*, was incorporated by Matthews to account for the experience of feelings along the happiness–sadness continuum (see also section 9.6).

9.4.6 Arousal theories

Motivational theories of arousal posit that individuals vary in their level of physical energy and that these differences are a major cause of individual differences in behavior. The simplest and arguably most elegant explanation of arousal defined it as the "inverse probability of falling asleep" (Corcoran, 1965). Arousal levels may vary between as well as within individuals. Accordingly, different people will have different average levels of energy (as seen in sections 2.8 and 2.9), but the same individual may feel energetic at times and tired at others. For instance, most people feel tired after physical exercise, but not all people experience the same level of tiredness after the same exercise. On the other hand, some people may feel more energetic when they wake up than when they go to bed, whereas for others it may be the other way around.

arousal theories motivational theories that account for individual differences in behavior in terms of differences in people's level of physical energy (arousal), which varies between as well as within individuals

There are two fundamental principles underlying the relationship between performance and arousal. The first is that this relationship is *curvilinear*, such that an intermediate level of arousal is optimal for performance (i.e., better than low and high arousal). This effect was first reported by Yerkes and Dodson (1908), who found that mice performed best after receiving moderate electro-shocks (a motivational factor!). The second principle posits that the optimal level of arousal will be negatively correlated with *task difficulty*, such that more complex tasks have lower optimal arousal level and vice versa (Duffy, 1962). When graphically represented, the relationship between arousal and performance resembles an inverted "U" curve (Hebb, 1949) (see Figure 9.3).

There are many everyday examples to illustrate the two laws of arousal. For example, professional athletes tend to perform better in competitions than in training sessions because they are under-aroused during training. Conversely, they may be unlikely to perform at their best during major competitions, such as the Olympics or World Cup finals, which over-arouse them. Likewise, one would expect students to perform better in real than in "mock" exams (dummy assessments), unless they were not prepared. In fact, if students know the subject perfectly, they will only perform well when their performance actually matters. Finally, experienced drivers may prefer to listen to the radio while driving long distances, whereas inexperienced drivers may prefer to drive in silence as they will already be sufficiently aroused.

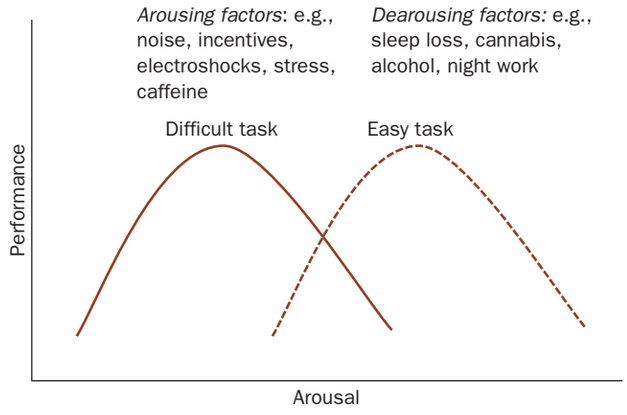

Figure 9.3 Performance and arousal.

Conceptualizations of arousal have also been influenced by electrophysics and mechanics. Thus the concept of arousal is largely mirrored by Duffy's definition of *energy mobilization* as "the energy used in tensing the muscles in preparation for overt response as well as that used in the overt response itself. Figuratively speaking, it is the rate at which the bodily engine is running" (1951, p. 32). This rate can be measured in terms of:

a) major behavioral states (e.g., asleep vs. awake);
b) subjective alertness and perceived emotion;
c) peripheral nervous system activity (e.g., heart rate and skin conductance);
d) electroencephalogram (EEG) waveform patterns.

EEG measures are the most widely used indicator of activity in the central nervous system and have been described as the "standard measure of cortical arousal" (Eysenck, 1994, p. 167). They involve placing passive electrodes on the scalp of the participant and decoding the raw measure of electrical activity produced by the brain. Hence the obvious advantage of these studies, which provide an objective and quantitative measure of arousal and motivation. However, different measures of arousal (e.g., self-reports, neurotransmitter activity, and EEG) are not always significantly intercorrelated, implying that arousal may not be a unitary dimension (Lacey, 1967). Further, arousal measures such as EEGs and indicators of peripheral nervous system activity are often complex to interpret, as they may confound sympathetic and para-sympathetic activity (e.g., interaction of respiratory and cardiovascular systems) (Matthews & Gilliland, 1999, p. 596). Arousal laws also fail to explain why higher levels of arousal would impair performance (Naatanen, 1973; Neiss, 1988). Indeed, excessive levels of arousal may lead not necessarily to quantitative differences in input (i.e., how much effort is applied to the task) but to qualitative ones (i.e., which other strategies should be used) (Sanders, 1983). Criticisms of the Yerkes-Dodson arousal laws have been extensively reviewed by Matthews and Amelang (1993).

9.4.7 Expectancy theories

Another approach to motivation has been guided by **expectancy theories**, which posit that behavior is chosen, performed, and maintained according to the individual's evaluation or *expectation* of its consequences. Accordingly, subjective beliefs will not only predict but also motivate future behaviors (Bandura, 1977, 1989).

expectancy theories theories that explain motivation in terms of people's expectation of the consequences of a chosen behavior, emphasizing the role not only of individuals' predictions of the behavioral outcome but also their evaluation of its usefulness and importance

Expectancy theories are particularly useful to explain people's behavior at work and have therefore been extensively tested in organizational or occupational psychology (Furnham, 1992, 2005). However, their scope goes beyond work environments and explains a wide range of everyday behaviors. For example, you may be unmotivated to train for a sports competition if you think the event is unimportant, and you may only be motivated to read this book if you think it is important to maximize your exam performance. Expectancy theories emphasize not only the role of an individual's prediction but also his/her valuation or *valence* of the behavioral outcome as well as the usefulness or *instrumentality* of the chosen behavior. Thus higher expectancy, instrumentality, and valence lead to higher effort, and in turn higher performance (see Figure 9.4).

9.4.8 Goal setting

Similarly to expectancy theories, **goal-setting theories** conceptualize motivation in terms of the consequence of behavior. However, rather than assuming that behavior is always motivated by the accomplishment of certain goals or rewards, they posit that it is often executed without the prospect of accomplishing goals other than the behavior itself. Behaviors that are goal-oriented or motivated by their consequences are called *extrinsic*, whereas behaviors that are simply executed for the sake of it are called *intrinsic*. For example, you may be attending lectures to keep a good attendance record (extrinsic motivation) or because you find them intellectually stimulating (intrinsic motivation). Likewise, you may choose to go for a walk (intrinsic motivation) or walk to a meeting (extrinsic motivation). Finally, you may read this book because it will help you revise for the exam (extrinsic motivation) or because you enjoy reading it (intrinsic motivation). Thus extrinsic motives are "means to an end" and pursue external rewards. Conversely, intrinsic behaviors are motives in themselves and are performed with no other intentions (Deci, 1975; Deci & Ryan, 1985).

goal-setting theories theories that conceptualize motivation in terms of the consequence of behavior; behaviors that are goal-oriented or motivated by their consequences are extrinsic, whereas behaviors that are performed for the sake of it are intrinsic

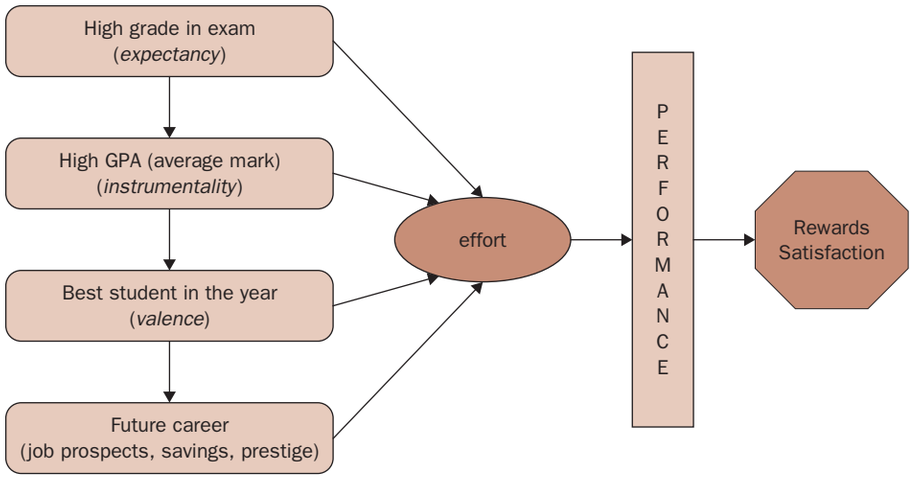

Figure 9.4 Motivation as expectancy of behavioral outcomes.

Although the distinction between extrinsic and intrinsic motivation is straightforward, it may be elusive at times. For example, a professional pianist may perform a piano concerto as part of her job (extrinsic motivation), but still be intrinsically motivated, i.e., feel thrilled and aroused when playing the piece. On the other hand, intrinsic motives are difficult to conceptualize and may hide extrinsic motives. Even prototypical intrinsic behaviors such as listening to music may have some extrinsic components. If listening to music makes you feel good, the ultimate goal may be to feel good rather than listen to music, and this logic can be applied to any intrinsic motives.

In addition, goal-setting theories (e.g., Wood & Locke, 1990) argue that goals must be *specific*, *challenging*, and *attainable*. These principles are consistent with the Yerkes-Dodson arousal laws, as they conceptualized a motivational equilibrium between challenging (arousing) and attainable (not over-arousing) tasks. Thus individuals are motivated to perform complicated tasks, but only if they think they can accomplish them. Very difficult or impossible tasks have demotivating effects, even when the reward is high. Indeed, excessive rewards may over-arouse individuals, increasing their sense of responsibility and making them *choke under pressure* (Baumeister, 1984).

Integrating expectancy and goal theories, social-cognitive approaches to motivation, such as Dweck's (1986), have examined the self-fulfilling and self-defeating effects of overconfident or underconfident cognitions in educational settings. For example, believing that intelligence is fixed or an *entity* will lead to lower motivation and efforts, whereas believing it is malleable or *incremental* will have motivating effects, and in turn improve performance.

9.4.9 Maslow's hierarchy of motives

An evolutionary classification of motives suggests that there are different hierarchical levels of behavioral determinants. At the lowest level, one could conceptualize biological reflexes and instincts, which are simple, common to all individuals, and produce relatively predefined and rigid responses to stimuli. At the highest level, one may identify more complex psychological and cultural motives, which are more dependent on individual differences. In psychology, this idea was made famous by Abraham Maslow (1908–70), who developed a theory of the **hierarchy of needs**.

Maslow's hierarchy of needs Maslow's theory conceptualizing behavioral determinants in terms of a hierarchy or pyramid, with basic physiological needs at the base, followed by security needs, social needs, the need for esteem and recognition, and finally the need for self-fulfillment or self-actualization

Maslow's (1954) theory is best illustrated by a pyramid, which summarizes the different hierarchical levels of human goals (see Figure 9.5). At the lowest level of the pyramid Maslow conceptualized *basic physiological needs*, such as the need for food, air, and water. The next level up comprised *safety needs*, which serve security and protection and attempt to reduce pain. One level up, Maslow conceptualized *social needs*, the need for friends, love, and relationships. Next he located *esteem needs*, the need for approval and recognition. The top level of the pyramid comprised what Maslow referred to as *self-actualization* or *self-fulfillment needs*, which are the most intrinsic of all motives, such as art appreciation and intellectual curiosity. The bottom two levels of the pyramid refer to biological needs, whereas the top three levels refer to psychological needs.

Interestingly, Maslow argued that *all* needs are inborn and universal. This does not imply that all individuals should behave in the same way, but that they have goals in common. Thus different people may choose different behaviors to accomplish their safety needs, but all people will need to accomplish such goals. More importantly, Maslow emphasized that higher-order needs only emerge once individuals have satisfied lower-order needs.

However, critics have argued that it is often possible to choose behaviors that simultaneously satisfy different levels of the need hierarchy (Cofer & Appley, 1964). Indeed, the idea that individuals

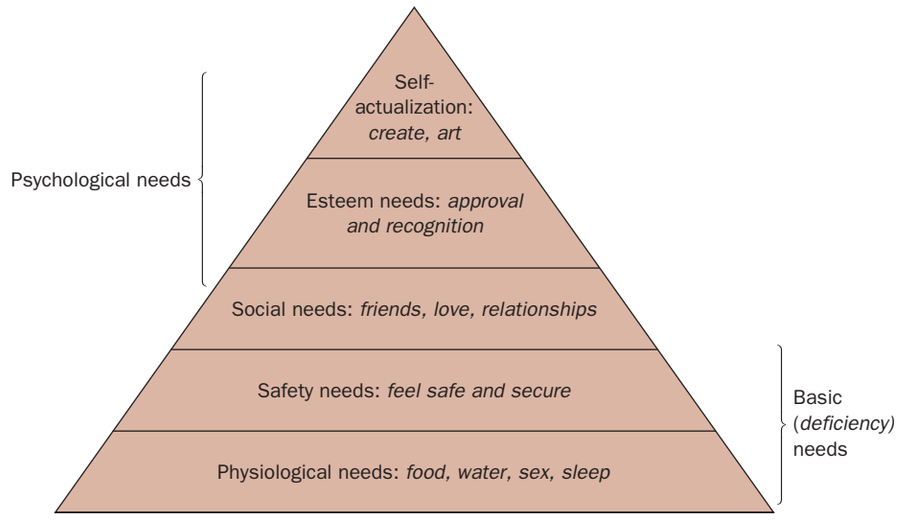

Figure 9.5 Maslow's hierarchy of needs.

would progressively and systematically ascend the pyramid of needs seems oversimplistic. Human beings are immersed in a symbolic world which routinely confounds biological and psychological needs. For example, we can be thirsty for a specific brand of beer rather than a glass of water, and being in love does not imply that we have satisfied more basic needs such as sexual appetite.

9.4.10 Alderfer's ERG theory

Alderfer's (1969) theory of *existence*, *relatedness*, and *growth* (ERG) was based on Maslow's hierarchy of needs but introduced important modifications. In some ways **ERG theory** is a simplification of Maslow's theory, as it conceptualized three levels of motivational needs that could be mapped onto Maslow's pyramid (which had five). The lowest level of the hierarchy comprised *existence needs* and represented Maslow's physiological and safety needs, thus referring to physical well-being. At the intermediate level, Alderfer conceptualized *relatedness needs*, which referred to the need to form social relationships (e.g., friends, partners) and were equivalent to Maslow's social needs. At the highest level, Alderfer located *growth needs*, such as the need to develop one's potential, satisfy one's intellectual curiosity, and increase one's competence. Hence growth needs represented Maslow's self-actualization goals.

ERG theory theory of motivation based on **Maslow's hierarchy of needs**, but with three rather than five levels, namely, existence needs (E), relatedness needs (R), and growth needs (G)

As Maslow, Alderfer believed that needs were prioritized counterhierarchically, such that individuals must satisfy basic needs before moving upwards in the pyramid of goals. However, ERG theory also posited that failure to satisfy higher goals may lead individuals to focus on lower-order needs, a principle called *frustration regression*. In that sense Alderfer's theory is more flexible than Maslow's and suggests that satisfaction and dissatisfaction are two different processes, the former being represented by an escalation in the hierarchy of needs, the latter by a descent. This idea influenced the development of Herzberg's two-factor theory of motivation (see section 9.4.11). Despite their popularity, particularly within humanistic psychology (a movement substantially indebted to Maslow), hierarchical theories of needs remain largely untested and have thus lost most of their appeal within differential psychology (Furnham, 1992, 2005).

9.4.11 Herzberg's two-factor theory

Frederick Herzberg (1923–2000) developed a **two-factor theory** of motivation that conceptualized *satisfaction* and *dissatisfaction* of needs as two separate factors rather than two extremes of the same dimension (Herzberg, 1966). Thus the opposite of satisfaction is not dissatisfaction but *no satisfaction*, whilst the opposite of dissatisfaction is not satisfaction but *no dissatisfaction*. This model is graphically depicted in Figure 9.6.

two-factor theory theory of motivation developed by Herzberg that conceptualizes satisfaction and dissatisfaction as two separate factors rather than two extremes of the same dimension; it argues that hygiene factors (e.g., good working conditions) determine individuals' level of dissatisfaction, while satisfaction is dependent on additional motivational factors such as high salary

Herzberg's theory has been extensively applied to occupational/organizational settings as it provides a useful model for identifying the causes of good job performance, as well as those conditions that need to be absent to ensure job satisfaction (Furnham, 2005). Specifically, Herzberg (1966) argued that *hygiene* factors, such as reasonable workload, friendly co-workers, and good working conditions, determined the level of dissatisfaction. If these needs are

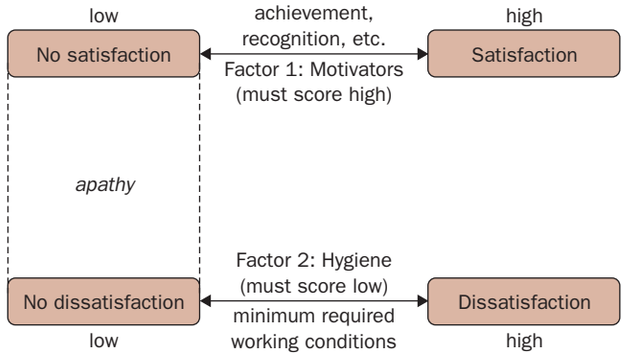

Figure 9.6 Herzberg's two-factor theory.

successfully addressed, employees will score low on dissatisfaction. This alone, however, does not ensure employees' satisfaction. Rather, additional motivators are needed to enrich individuals' work experience and motivate them. Motivational factors may include extrinsic variables such as high salary, bonuses, and promotion, or intrinsic ones such as personal satisfaction with one's contribution to the organization. In some cases motivators can make up for low hygiene factors. For instance, soldiers' motivation to serve their country in war may compensate for the poor hygiene conditions of field combat, whereas highly paid professionals may be so motivated by their bonuses that they will happily sacrifice holidays. However, high hygiene can rarely compensate for low motivators. Thus employers should not only try to satisfy employees' basic needs but also ensure they are motivated.

9.4.12 McClelland's acquired needs theory

acquired needs theory according to McClelland, motivation is the acquisition of three basic needs: the need for achievement (desire to master skills), the need for affiliation (desire to be social), and the need for power (desire to influence others)

Acquired needs theory, developed by David McClelland (1917–98), conceptualizes motivation as the acquisition of three basic needs, namely, *achievement*, *affiliation*, and *power* (McClelland, Atkinson, Clark, & Lowell, 1953; McClelland & Steele, 1972; McClelland & Winter, 1969).

a) Need for achievement can be defined as the desire to master skills and accomplish moderately difficult goals.
b) Need for affiliation is described as the desire to form relationships and be social in general.
c) Need for power can be understood in terms of the desire to influence and control others.

McClelland (1965) also provided a test, called the Thematic Apperception Test (TAT), to assess individual differences in these needs. TAT is a *projective* rather than psychometric test and, as such, it differs substantially from most types of instrument described in this book. Whereas psychometric tests such as self-reports or ability tests involve multiple-choice questions and are scored objectively, projective tests such as TAT present individuals with open-ended stimuli and are based on the assumption that people "project" certain aspects of their personality in their responses (the most famous projective test is Rorschach's ink blot test).

Crucially, projective measures are not scored or analyzed in comparison with other individuals but assess each response on its own. Thus they are *idiographic* rather than *nomothetic* (see section 2.2), and individuals' responses are only meaningful in the context of a theory that the examiner uses to interpret them. According to McClelland, needs represent individual differences in acquired personality traits. For instance, individuals high in need for achievement are entrepreneurial, highly competitive, choose moderately difficult tasks, and tend to be rational in their assessment of the potential risks underlying their choice of behavior (McClelland et al., 1953). McClelland argued that need for achievement is a ubiquitous human dimension that can be found in any form of society (McClelland & Winter, 1969). Thus a country's level of motivation may be used to predict its level of growth. Despite the commonsense idea underlying this argument, the projective nature of TAT has made it difficult to test this hypothesis empirically as there are no objective and reliable ways to quantify McClelland's trait with that instrument. However, dispositional approaches like the Big Five personality inventory (Costa & McCrae, 1992) have conceptualized and measured individual differences in achievement motivation as a sub-facet of Conscientiousness (see section 2.11).

9.4.13 Two-process theories

Two-process theories of motivation apply economic principles to psychology (Adams, 1963, 1965) and tend to explain motivation in terms of social comparison, that is, the comparisons people make among themselves. These theories are widely used in management and organizational psychology as they explain how employees select behaviors to meet their needs, and how they rate success (Furnham, 2005).

two-process theories theories of motivation widely used in organizational psychology that focus on the impact of extrinsic motivational factors and individuals' expectations on motivation and performance

Adams's *equity theory* focuses on the role of extrinsic motivational factors or external rewards, and provides a formula to predict whether individuals will believe that they are treated fairly (compared to other employees) or not. As shown in Figure 9.7, equity results from the perception that the ratio between one's outcome (e.g., pay, fringe benefits, bonuses) and input (e.g., qualifications, effort, ability) is similar to others'. Thus, one's efforts and achievements need to be relatively in proportion to those of others; disproportions will lead to perceived inequity and, in turn, diminish one's motivation to perform. Adams hypothesized several consequences of inequity:

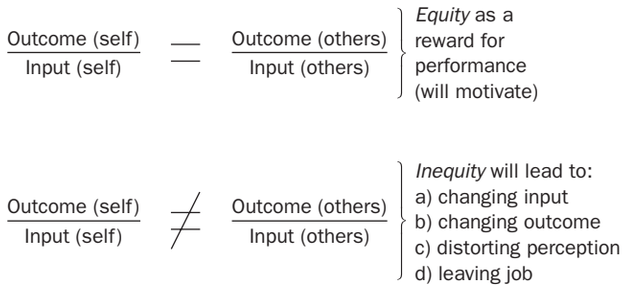

Figure 9.7 Adams's equity theory.

- changing input (if employee feels she is working more than others);
- changing output (if employee feels she is achieving more than others);
- distorting one's perception (fooling oneself by "pretending" one works as hard/achieves as much as others);
- leaving the job.

The second element of the two-process theory is, again, *expectancy*, in particular the impact of expectations on motivation and performance. Expectations can be influenced by self-perceived and actual abilities, and take into account the probability of performing at the expected level and the importance of achieving the specific outcome (see again section 9.4.7).

9.5 MOOD STATES

Mood states have been defined as relatively sporadic emotional states, which tend to last for minutes or hours (Matthews, Davies, Westerman, & Stammers, 2000). Thus, they are indicative of human emotions, such as anger, happiness, and surprise, and are manifested physiologically (e.g., heart beat and perspiration) as well as behaviorally (e.g., smiling, crying and shouting), though only the latter are intentional.

mood states sporadic emotional states, lasting for minutes or hours, that indicate emotions such as happiness or anger and that are manifested through physiological signals, e.g., increased heart rate, and behavioral signals, e.g., smiling

Although there is debate as to whether mood states and motivation are conceptually distinguishable (Cooper, 1998; Morris, 1989), motivation is traditionally associated with goals whereas mood states are not. That said, it is conceivable to attribute behavioral consequences to certain mood states. For example, the experience of fear may cause you to seek help, and feeling displeasure may cause you to vomit. Yet, the same emotions may be felt without the presence of such or any other goals (for a different view see Buck, 1985). Mood states are also distinguishable from cognitive states, such as worry, though they are often correlated (e.g., anxiety and worry are often experienced together) (Revelle, 1993).

There are several reasons for studying mood states in the context of individual differences:

1. Mood states are related to individual differences in *personality*. In fact, personality traits may partly be regarded as aggregates of mood across different situations and moments in time.
2. Mood states influence individuals' *behavior* irrespective of traits. For example, anxiety may impair people's performance in an exam or IQ test independent of their knowledge and ability; sadness may affect people's interpersonal relations (e.g., friends, work colleagues, partners) regardless of their charm or personality.
3. Diagnostic classifications in psychopathology are often based on an examination of mood states in specific contexts. For example, feeling ecstatic after being fired, or depressed after getting married (assuming you had a choice!), may indicate departures from normal emotionality and anticipate mood disorders.
4. Mood states are important to understand individual differences in *creativity*, specifically the psychological processes by which individuals may be inspired to create (see chapter 10).

There seems to be a certain element of *Schadenfreude* underlying psychological research into mood states. Just as the media tend to prioritize bad news over good, psychologists have paid more attention to negative than positive mood states. This is probably due to the fact that mood states and emotions have been predominantly explored in the context of clinical psychology (see chapter 4). As a consequence, there are more inventories to assess depression, anxiety, helplessness, and even suicidal tendencies than happiness, excitement, enthusiasm, and satisfaction (Cooper, 1998).

One theoretical problem underlying the assessment of mood states is that there are no clear boundaries between one set of affects and others. Thus different researchers have used different labels for the same mood states, or the same names for different mood states. Either way, this has led to the development and use of numerous inventories, making it difficult to interpret results, compare findings, and integrate the literature. For instance, studies on negative affect, stress, anxiety, and negative self-efficacy may all refer to the same construct (Judge, Erez, Bono, & Thoresen, 2002). There has also been a lack of conceptual clarity to distinguish between emotions at the state and trait level. Hence, anxiety may simultaneously refer to an emotion, a mood state, and a trait (Neuroticism). In order to overcome this problem, researchers have used data reduction techniques such as factor analysis (see sections 2.7, 9.6).

9.6 STRUCTURE OF MOOD

As with personality traits and abilities, differential psychologists have tried to identify the *structure* of mood, that is, work out how many dimensions are needed to describe individuals' experiences of mood and whether they can be organized hierarchically. This requires researchers not only to compile an extensive list of mood adjectives but also to examine the degree of similarity and overlap between different words, which can be done via factor analysis (Cattell, 1973; Storm & Storm, 1987).

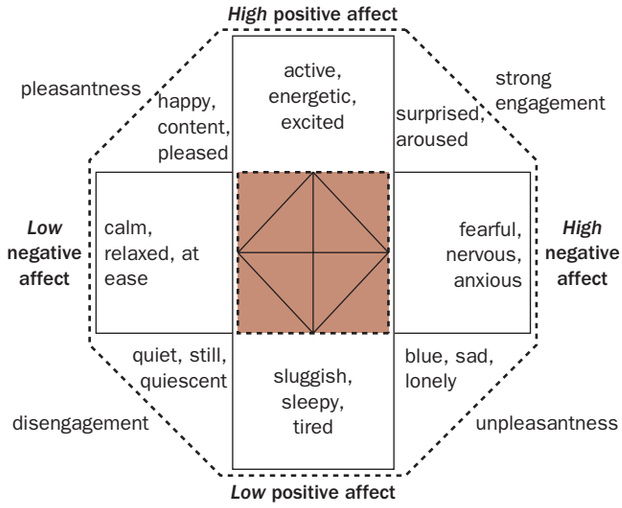

Figure 9.8 The bidimensional structure of mood.
Source: Adapted from Watson & Tellegen (1985).

In a seminal review on the topic, Watson and Tellegen (1985) reanalyzed a number of studies of self-reported mood and concluded that the universal structure of mood comprised two robust factors, namely *positive affect* and *negative affect*. These factors are orthogonal or uncorrelated, such that scores on one factor do not predict scores on the other (Diener, 1984). Watson and Tellegen (1985) argued that the two-dimensional structure of mood "can be demonstrated across all the major lines of research on affective structure: Self-rated affect, studies of mood words, and analyses of facial expressions" (p. 222). Perhaps more importantly, the authors admitted that *minor dimensions* of mood may underlie these two factors and provided a detailed hierarchical taxonomy to integrate main and minor mood states (see Figure 9.8). For instance, negative affect may be represented in terms of the minor dimensions of sadness, fear, or anxiety, whereas positive affect may be indicative of activity, excitement, or happiness. Thus their bidimensional model "is complementary to, rather than competitive with, multi-factorial structures" (Watson & Tellegen, 1985, p. 220).

Some cognitive psychologists, such as Matthews, Jones, and Chamberlain (1990), have preferred to describe mood in terms of three dimensions, namely *energy* vs. *fatigue* (which represent positive affect), *tension* vs. *relaxation* (which represent negative affect), and *happiness* vs. *unhappiness*. Unlike the first two dimensions, happiness–unhappiness is not significantly linked to autonomic arousal measures and is thus more psychological than physiological in nature. As seen in Figure 9.8, Watson and Tellegen (1985) conceptualized happiness at the crossroads of high positive and low negative affect rather than considering it a major dimension of mood.

Although studies on self-reported mood have been quite successful at replicating positive and negative affect as the basic dimensions of mood, there is some controversy about the universality of emotions. For example, Russell (1991) showed that some languages have no equivalent words for "fear" and "anger," though expression such as "I feel good" or "I feel bad" can be found in all languages (Wierzbicka, 1999). Ekman (1994) and Russell (1995) have disputed whether the expression of emotions (through facial cues) is a pan-cultural phenomenon or not, whereas Brebner's (2003) cross-cultural studies have revealed gender differences in the expression of some emotions in some countries but not others. Last but not least, Öhman (1999) concluded that "different emotion systems have different evolutionary histories and are better viewed as independent than as parts of a general domain of emotion" (p. 337).

Despite considerable expectations generated by the consensual identification of the structure of mood, research into mood states vanished towards the early 1990s, a period which, non-incidentally, marked the beginning of the Big Five era and the dominance of dispositional approaches. Thus mood states became mere expressions of dispositions or personality traits (see section 9.8).

9.7 SITUATIONAL DETERMINANTS OF MOOD

Like motivation, but unlike traits, mood states are largely a function of specific situational factors and therefore subjected to change over time. For instance, after winning the lottery or passing a difficult test, you will probably feel happiness, even if you are a negative person. Likewise, after failing an important exam or being fired you will probably feel miserable, even if you are an optimistic person.

Experimental studies provide evidence for the manipulation of mood states under laboratory conditions. This technique, known as the "Velten method" (Velten, 1968; Martin, 1990), requires participants to read a series of statements and *experience* the moods associated with these statements. Thus individuals' mood influences the way they perceive, encode, and retain information. In particular, inducing positive affect would bias individuals to interpret events in a positive vein, as though they "wore rose-coloured glasses" (Niedenthal, 1992). In contrast, individuals who have been primed to experience negative affect would exhibit a tendency to interpret events in a negative manner.

The problem with the Velten method is that participants can easily figure out whether they are expected to experience positive or negative affect, such that they may not be naïve to the experiment's aims. In fact, a meta-analysis of Venten studies found that mood induction was stronger when participants were told (explicitly) that the study intended to manipulate mood (see Rusting, 1998).

9.8 DISPOSITIONAL INFLUENCES ON MOOD STATES

The two dimensions of positive and negative affect (see section 9.6) are often interpreted as personality traits. Thus they may reflect *dispositional influences* on mood states referring to individual differences in the experience of positive and negative affect (Watson, Clark, & Tellegen, 1988), which implies that individuals' mood experiences are relatively consistent over time

(Diener & Larsen, 1984). Indeed, studies reported longitudinal stability of measures of mood up to a 7-year time period (Watson & Walker, 1996). Along these lines, various studies found substantial correlations between positive mood and Extraversion measures on one hand, and negative affect and Neuroticism on the other (Costa & McCrae, 1980; Gilboa & Revelle, 1994). This led Watson and Clark (1992) to conclude that "individual differences in personality and emotionality ultimately reflect the same common, underlying constructs" (p. 468). However, McConville and Cooper (1999) concluded that a substantial percentage of mood variance cannot be explained by personality traits.

Dispositional approaches have also conceptualized individual differences in the stability of mood states experienced. Eysenck and Eysenck (1985) predicted that choleric individuals (those high in both Neuroticism and Extraversion) (see section 2.4) would display the most erratic mood states. In contrast, they expected phlegmatic individuals (those low in both Neuroticism and Extraversion) to show the least variable mood states. Because high Extraversion is associated with more frequent experiences of positive affect, and high Neuroticism is associated with more frequent experiences of negative affect, some have argued that in choleric individuals opposite average mood states would cancel each other out. Accordingly, one would expect a combination of high Neuroticism and *low* Extraversion to result in more variable mood experiences (Williams, 1990). Conciliating these two theoretical positions, recent studies (which used the Big Five rather than Gigantic Three) have shown that high Neuroticism *alone* is the best predictor of mood variability (Murray, Allen, & Tinder, 2002).

Traditional approaches to mood regulation have also identified individual differences in the extent to which people focus on negative or threatening stimuli. These individual differences have been conceptualized in terms of *repression* and *sensitization*. Repressors tend to focus away from negative stimuli, whereas sensitizers tend to draw attention to such stimuli and are generally more prone to experience negative affect. In fact, Holmes (1974) reported correlations as high as .90 between anxiety and sensitization scales.

9.9 INTEGRATIVE AND RECENT APPROACHES TO MOOD STATES

The irony of mood states is that they were first used to refute (Mischel, 1968) and then to validate (Costa & McCrae, 1980) trait taxonomies. Although the latter caused a rapid slowdown of studies into mood states, there has been a recent increase of research in the topic.

Recent approaches to mood states have emphasized the importance of affect in regard to human performance (Matthews, Davies, Westerman, & Stammers, 2000; Revelle, 1993). Whilst individual differences in ability and personality may predict various performance outcomes, individuals may underperform due to temporal mood states such as anxiety or fatigue (Matthews, Jones, & Chamberlain, 1990). If such mood states can be predicted by personality traits, there is reason to conceptualize an overlap between ability and personality, at least at the level of psychometric or measured constructs (Chamorro-Premuzic & Furnham, 2005). Similar implications derive from theories of emotional intelligence (see section 8.7), which define individual differences in the ability to identify and manage one's own and others' emotions. However, there is heated debate as to whether such differences should be conceptualized within the ability or personality realm (Matthews, Zeidner, & Roberts, 2002; Petrides & Furnham, 2001; see also section 8.10).

Table 9.1 Core affect, mood, emotion regulation, and empathy: short definitions

Core affect	Neuropsychological state perceived as feeling; can be more or less hedonic (pleasure–displeasure) or arousing (sleepy–activated)
Mood	Extended affect with no reference to specific objects or events
Emotion regulation	Attempts to modify current emotional state
Empathy	Simulated experience of another individual's affect

Source: Adapted from Russell (2003).

Rusting (1998) presented an integrative framework for understanding the link between personality traits and mood states. Mediational models posit a chain reaction or "domino effect" to explain causal paths between traits and states. For example, Spielberger's (1972a, b) theory of anxiety indicated that trait anxiety or Neuroticism affects state anxiety or the experience of anxiety, which in turn impairs emotional information processing. On the other hand, moderational models predict that traits and states interact to affect emotional information processing and are therefore independent. Rusting concluded that "the mediation approach has not been directly tested; however, the personality and emotion literature suggests that a mediation framework may best capture the underlying processes responsible for emotion-congruent processing" (p. 190).

In a review of the literature, Russell (2003) attempted to provide a conceptual clarification of the different overlapping psychological concepts for emotion, such as affect, mood, emotion regulation, and empathy (see Table 9.1 for brief definitions). Furthermore, he conceptualized *core affect* as the most elementary or basic form of emotion: "At the heart of emotion, mood and any other emotionally charged event are states experienced as simply feeling good or bad, energized or enervated. These states – called *core affect* – influence reflexes, perception, cognition, and behaviour and are influenced by many internal and external causes" (p. 145); these states are "primitive, universal, and simple (irreducible on mental plane). [Core affect] can exist without being labelled, interpreted, or attributed to any cause" (p. 148). Core affects, then, are comparable to corporal temperature: we always have them and extreme levels are particularly noticeable.

9.10 SUMMARY AND CONCLUSIONS

In this chapter, I examined theories of mood and motivation and their relevance in regard to individual differences. As seen:

1. Theories of motivation have varied widely in their definitions, conceptualizations, and approaches to the topic, no doubt due to the scope of the concept. Biological theories are less useful than psychological ones for understanding individual differences because they refer to *common* instincts such as the need to sleep, eat, or drink. Thus they eliminate rather than emphasize individual differences, highlighting common goals. However, as we move from biological needs towards psychologically complex motives, it becomes more difficult to investigate motivation through objective or experimental means. For example, it is easy to obtain physiological measures of hunger, whereas the motivation to do well in a university exam may only be assessed through self-report inventories.
2. Broad definitions of motivation, such as "what makes people act the way they do," are overly ambitious because they assume that one variable is sufficient to account for the complexity and diversity underlying human behavior. Yet, motivation continues to be understood as an overarching psychological phenomenon. Thus Revelle (1993) concluded: "Motivation is the vital link between knowing and doing, between thinking and action, between competence and performance. [It] explains why rats solve mazes faster when hungry than well fed, why bricklayers lay more bricks when given harder goals than easier ones, why assistant professors write more articles just before tenure review than after, and why people choose to be fighter pilots rather than dentists" (p. 346).
3. Mood states are an essential psychological component underlying behavior and individual differences, and it would be difficult to understand the meaning of major personality dimensions such as Neuroticism and Extraversion without reference to basic mood states such as positive and negative affect. Although emotions can often be predicted by stable personality dimensions, they are often independent and more influenced by situational variables. Crucially, mood states can influence cognitive processes and distort individuals' perceptions and interpretations of events.
4. The link between mood and motivation represents one of the most promising areas for understanding the processes underlying individual differences. Although in this chapter I have treated them as separate, current progress in differential psychology is largely a function of integrating mood, motivation, and dispositional approaches with information processing theories, which, in simple terms, involves investigating the (not so simple) link between cognition and emotion.

In chapter 10 I will look at the construct of creativity, which has a longstanding history in individual differences despite only recently receiving sufficient attention in the field.

KEY READINGS

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215.

Dweck, C. (1986). Motivational processes affecting learning. *American Psychologist*, *41*, 1040–1048.

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

Revelle, W. (1993). Individual differences in personality and motivation: Non-cognitive determinants of cognitive performance. In A. Baddeley & L. Weiskrantz (Eds.), *Attention: Selection, awareness and control. A tribute to Donald Broadbent* (pp. 346–373). Oxford: Oxford University Press.

Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review*, 145–172.

Rusting, C. L. (1998). Personality, mood, and cognitive processing of emotional information: Three conceptual frameworks. *Psychological Bulletin*, *124*, 165–196.

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, *98*, 219–235.