Trait Theories of Motivation

3

David Scheffer and Heinz Heckhausen

3.1 From the Nomothetic to the Idiographic

Motivation emerges from the interaction of situational stimuli and dispositional characteristics. This chapter deals with the latter.

Dispositional factors of motivation are assumed to explain why some people show certain patterns of motivated behavior across situations, whereas others do not. Apart from specific situational stimuli, motivation is thus attributed to stable traits that are rooted in the individual personality and that distinguish between people across situations and, to a certain extent, over time.

Individual dispositions to show certain patterns of motivation across situations have been given various labels in psychological research, reflecting very different notions of which and how many such dispositions there are, how they develop, and how they influence motivation. Accordingly, theories of motivation differ in terms of the relative importance they attribute to dispositional and environmental influences. Whereas the five-factor model focuses on endogenous dispositions and assumes the environment to play only a minor role, systems theory approaches emphasize the complex interactions between external stimuli and internal dispositions.

In this chapter, we start with a simple model and gradually work our way toward a much more complex perspective on the role of dispositional factors in motivation. This does not mean to imply that one model is inherently preferable to another: all scientific theories of motivation aim to explain and predict in the most parsimonious and yet generally valid way possible why different people experience very different levels of tension and energy in similar situations and why their behavior is directed toward such different goals. The five-factor model pursues these objectives by reference to just five independent dispositions, and meta-analyses have confirmed the validity of this approach. Nevertheless, critics object that this and other models are overly reductionist and cannot be applied productively to specific situations. They argue that explanations of individual differences should draw on many more variables and are interested in how the various internal and external factors of motivation are related and interact. Since both approaches unquestionably have their merits, this chapter covers a broad range of perspectives – from the strictly nomothetic to the idiographic.

D. Scheffer (✉)
Nordakademie Graduate School, Hamburg, Germany
e-mail: David.Scheffer@nordakademie.de

H. Heckhausen (deceased)
Max Planck Institute for Psychological Research, Munich, Germany

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3.1.1 Key Issues in Trait Theories of Motivation

Person-centered explanations of behavior based on first-glance observations provide a natural starting point for the study of motivation. Individual differences in behavior under seemingly equivalent (or unheeded) situational conditions catch the eye immediately. Nothing would seem more reasonable than to attribute these differences to dispositions of varying strengths. That in itself constitutes a trait theory, albeit an incomplete one. When observed behaviors are described in terms of traits, such as helpfulness or pugnacity, they are endowed with motivational characteristics, implying that the individual strives to exhibit that behavior whenever possible.

Closer examination of the motive-like dispositions that underlie certain behaviors inevitably touches on some of the key issues of the motivation concept discussed in Chap. 1. One question to be asked is how individual differences can be objectified. Researchers only began to address this issue, which is essentially one of motive scaling, relatively recently. Their logical first step was to draw up a taxonomy of motives. How can one disposition be distinguished from other potential dispositions, and how many dispositions are there in total? Given that individual differences are not limited to a single behavioral domain such as helpfulness but are also apparent in many other domains, there must necessarily be numerous dispositions.

These motive dispositions do not all determine processes of motivation at once, however. Instead, one or a few motive dispositions become activated, while the others remain latent. But what are the mechanisms behind this activation process? This question brings us to the key issue of motive arousal: much as it is important to consider person factors in the form of motivational dispositions, it is also vital to be aware of the situational factors that contribute to the arousal of a motive. A taxonomy of motives must therefore take account of the various motives activated across different situations. In other words, how many categories of person-environment relationships can be distinguished on the basis of the motivation processes characteristically activated?

Once these questions have been addressed, a taxonomy of motives can be examined experimentally. The intensity and thematic content of the situational incentives can be varied systematically while observing the extent to which the motivation process remains equivalent, i.e., subject to the same motivational disposition. It is only when the situational incentives of individual motive dispositions have been determined that it is possible to tackle motive scaling by measuring individual differences in behavior, while the intensity and thematic content of situational incentives are held constant.

3.1.2 Definition of a Trait

Allport (1937) defined a trait as:

> **Definition**
> A generalized and focalized neuropsychic system (peculiar to the individual), with the capacity to render many stimuli functionally equivalent and to initiate and guide consistent (equivalent) forms of adaptive and expressive behavior. (p. 195).

The *achievement motive* (Chap. 6), e.g., might be defined as an internalized, highly generalized standard of excellence that is applied to stimuli as varied as playing chess, driving a car, chatting at a party, or doing one's job, in such a way that these stimuli are rendered functionally equivalent and lead to corresponding forms of behavior. Consistent (equivalent) forms of adaptive behavior that are congruent with the standard of excellence applied would be a strategic, ambitious approach to the game of chess, foresight and focus when driving, acquisition of useful information at the party, and professionalism at the workplace. Consistent (equivalent) forms of expressive behavior might be dogged determination in the game of chess, calm contemplation when driving, insistent interest at the party, and enjoyment of one's work. This definition of a trait is illustrated in Fig. 3.1.

The more stimuli (or, more generally speaking, situations) a trait can render functionally equivalent, the stronger it is. Extremely strong

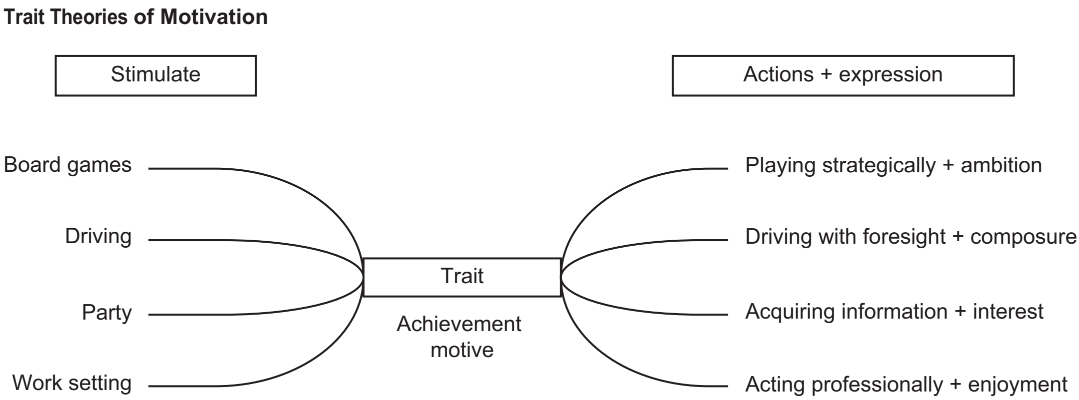

Fig. 3.1 The relationship between stimuli (situations), traits, and actions

traits may have detrimental effects. For example, a very strong achievement motive might lead someone to gauge his romantic life with a partner on a standard of excellence and to engage in corresponding forms of adaptive and expressive behavior. It goes without saying that this is unlikely to strengthen the relationship.

Allport's trait definition implies that extremely strong traits lead to uncompromising, inflexible reactions that can only be appropriate or adaptive in the presence of very specific environmental demands. In the course of human evolution, many traits have thus come to approximate a normal distribution; in other words, most people have traits of intermediate strength. Aristotle already described this principle in his *Nicomachean Ethics*. Later, the communication theory by Schulz von Thun (2002) expanded on this thought, while Scheffer, Schmitz, and Sarges (2007) and Scheffer and Sarges (2017) used it to develop models of competence. Erpenbeck, von Rosenstiel, Grote, and Sauter (2017) provide an overview of the various approaches that interpret traits such as implicit motives (see below) as competences to make them measurable in the practical fields of employee selection and human resources.

In the last two decades, empirical research has demonstrated that personality traits and their effects on behavior are implicit and not accessible to conscious self-report. For example, Stanton and Schultheiss (2009) report that men's explicit self-report about being dominant was unrelated to their objectively measured level of testosterone. In contrast, their implicitly assessed power motive correlated significantly with their testosterone level. Apparently, implicit motives such as the power and the achievement motive modulate complex configurations of cognitive and affective systems so as to optimize them for the satisfaction of needs (Kuhl & Kazén, 2008). Only a fraction of these processes in the central nervous system are accessible to consciousness. In a way, consciousness functions like a pilot in a modern airplane, who leaves 95% of the flight regulation to the automatic pilot and focuses on monitoring critical indicators and intervening in unusual or emergency situations. The practical implications of the functioning of such unconscious mental processes are being acknowledged and used in disciplines outside personality psychology, such as economics (Camerer, Loewenstein, & Prelec, 2005), market research (Zaltman, 2003), and diagnostics used in personnel decisions (Sarges & Scheffer, 2008).

Trait theories aim to identify and enumerate the major traits, to what degree they are conscious, to determine how they can be measured or inferred, and to establish the forms of adaptive and expressive behavior they can explain and predict. Moreover, they seek to predict how different traits interact with one another and with environmental stimuli.

The first question to be addressed is how many traits there are or, more specifically, which traits are important enough or seem to be of sufficient practical interest to warrant in-depth investigation. This brings us to the so-called classification problem, with its two potential errors:

1. All too often, people give observed behavior labels such as helpfulness or pugnacity, thus endowing them with the character of a trait and implying that the individual strives to exhibit that behavior at every opportunity. Although wanting to identify the dispositions underlying behavior seems reasonable, this approach can result in circular reasoning, with every observable behavior being attributed to a corresponding trait. Furthermore, it leads to the inflation of traits in behavioral explanations and thus violates the principle of parsimony.
2. Alternatively, too few traits may be assumed. Although in line with the principle of parsimony, the descriptions and predictions of motivation yielded by this kind of approach are just as invalid as those produced when the first error is committed.

Therefore, a good trait theory of motivation, like any other theory, must be "as simple as possible, and as complex as necessary."

In this chapter, we will first present theories that aim to explain motivational phenomena on the basis of relatively few variables. The models described will become gradually more complex, encompassing more variables and assuming these to interact with one another. This approach does not mean to imply that any one theory is inherently preferable to another. Simple models are not automatically better than complex ones because they are more parsimonious; complex models are not automatically superior to simple ones because they seem to be more valid and better applicable to specific situations.

3.2 The Lexical Approach or the Wisdom of Language

In this section, we present the five-factor model and Cattell's trait theory, both of which focus primarily on the classification problem. The two theories take a similar approach, relying on human intuition in the appraisal of others to generate hypotheses and using factor analysis to reduce redundancies in empirical data and identify the underlying factors.

Both theories draw heavily on the work of Allport and Odbert (1936), who investigated what is known as the sedimentation hypothesis, according to which all important interindividual differences that help to predict people's behavior in everyday life have been encoded in language over the course of linguistic evolution. Our ancestors' accumulated knowledge of human personality attributes is thus reflected in a corresponding vocabulary. Allport and Odbert found no less than 17,953(!) English words describing behavioral attributes.

In 1946, Cattell reduced this list to 171 variables, which he classified into bipolar pairs, such as:

- Forward-looking vs. preoccupied with the past
- Expressive vs. reserved

Thus, Cattell did much of the groundwork for the five-factor model. However, because the present chapter proceeds gradually from the nomothetic to the idiographic, we will nevertheless start with the five-factor model. Cattell's theory is broader in scope than the five-factor model and paved the way for the notion that motivation can be seen as a function of independent, but interrelating endogenous and exogenous systems. Here again, it is important for us to reiterate that our approach should not be interpreted as implying a rank ordering of models: a theory is not automatically any better than another, simply because it seeks to consider the complex interplay between environmental and personality factors. Science as an undertaking aims to increase efficiency. As we will see, the five-factor model offers a simple theory that allows individual differences in human motivation to be explained and predicted with great efficiency and methodological stringency.

3.2.1 The Five-Factor Model (The Big Five)

The five-factor model is today seen as the foremost trait theory, especially by practitioners in the field of personnel psychology. It is, in fact, a (relatively simple) model rather than a theory, but psychological research does not always differentiate carefully between the two. Widely used personality tests based on the five-factor model include the NEO-FFI (Costa & McCrae, 1985; see also Chap. 9) and the Hogan Personality Inventory (Hogan & Hogan, 1995). The popularity of the five-factor model owes a great deal to its simplicity. It reduces the wealth of personality attributes in human language to just five underlying factors and thus provides for a clear classification. The statistical procedure of factor analysis is crucial to the model, being used to identify clusters of correlating personality characteristics.

The five-factor model originated from a systematic observation of how people appraise others. The personnel selection psychologists Tupes and Christal (1992), who were responsible for screening applicants for the US Air Force, used the adjective list compiled by Allport and Odbert in their assessment centers. They noticed that five factors always seemed to emerge from factor analyses of appraisal data, even with very different samples of applicants and raters. They concluded that these five factors constitute the underlying structure of the language that observers use to characterize others.

Goldberg (1982) recognized the implications of this work, which was not made available to a general readership until 1992, and disseminated the findings in scientific circles. He developed the general hypothesis that the factors identified by Tupes and Christal reflect the structure of the language that humans use to describe, predict, and control their own and others' behavior in everyday social interactions – processes that social life in groups had rendered indispensable to survival over the course of human evolution (see also Hogan, 1996; Saucier & Goldberg, 1996).

Based on this empirically determined factor structure, Goldberg inferred the existence of certain universal neuropsychological structures or traits and suggested that humans intuitively screen others (and indeed themselves) for behavioral evidence of these traits. When we meet people for the first time and know that our interactions with them are likely to be important, we ask ourselves the following questions:

Intuitive Self and Other Evaluations on the Basis of the Five-Factor Model

- Is the other person lively, convincing, optimistic, and sociable (extraverted)?
- Is the other person friendly, and does he or she adhere to social norms (agreeable)?
- Is the other person reliable, goal striving, and hardworking (conscientious)?
- Is the other person well balanced, robust, and stress resistant (emotionally stable)?
- Is the other person flexible, imaginative, and intellectual (open to experience)?

3.2.1.1 Validity of the Big Five

Goldberg argued that humans are unable to process any more information when appraising others owing to the limited working capacity of the cognitive apparatus. Nevertheless, people seek to assess the strength of the traits of those around them as accurately as possible. There is one simple reason for this: if we know what makes other people tick, we can predict how they will behave, and this knowledge can help us to succeed in life. We are constantly making predictions about other people's behavior in everyday life: "Will this man be an emotionally stable father?," "Is this disagreeable insurance agent trying to take me for a ride?," "Will this employee be conscientious enough to get his/her assignments finished on time?," and so on. A high score on one of the Big Five factors is not always adaptive, however. For example, some CEOs deliberately promote junior managers who do not seem to be very agreeable, in the belief that they will otherwise not be sufficiently tough in a competitive environment (e.g., in their interactions with subordinates).

- The underlying assumption of the five-factor model is that linguistic structures that facilitate valid predictions will be more likely to survive than structures that reliably lead to flawed predictions.

In terms of evolutionary theory, the Big Five can thus be interpreted as a complex form of *memes* – cultural entities that evolve through a process of selection and variation, in the same way as genes.

The behavioral observation methods and questionnaires developed on the basis of the five-factor model have enjoyed widespread application, and meta-analyses have been conducted to examine the validity of the Big Five traits. These meta-analyses unambiguously support the construct and criterion validity of the questionnaires and adjective checklists developed on the basis of the five-factor model (Barrick & Mount, 1991; Meyer et al., 2001). For example, when self-report questionnaires are used to assess the Big Five, extraversion is found to correlate with a good sales record, conscientiousness with positive performance appraisals, agreeableness with a strong customer focus, etc.

Notably, however, the mean, uncorrected correlations of self-reported Big Five with relevant criteria are below $r = 0.20$. This apparently low validity might be attributable to the limitations of self-evaluation questionnaires. Indeed, assessment center data show that direct evaluation of behavior made by the observers exhibit higher mean criterion validity, at $r = 0.38$ (for a summary, see Meyer et al., 2001).

Yet, even when the uncorrected correlations seem low, relationships between predictors and criteria are often worth taking very seriously. These relationships are often underestimated due to the low reliability of both the predictor and the criterion (!) variables and their frequently limited variance. The examples from the meta-analysis by Meyer et al. (2001) cited below illustrate this point.

Example

Important effects may be concealed behind seemingly low correlations:

Correlation between gender and height	***r* = 0.67**
Correlation between observers' ratings of the attractiveness of cohabiting pairs	$r = 0.39$
Correlation between the reliability of a test and its construct validity	$r = 0.33$
Correlation between smoking and the onset of lung cancer within 25 years	$r = 0.08$
Correlation between chemotherapy and the survival rate in breast cancer patients	$r = 0.03$

It would hardly be advisable to continue smoking on the basis of the seemingly low correlation between smoking and lung cancer. As this example illustrates, even low validity scores can be of great significance in the real world. Findings showing that significant validities determined for the Big Five can be replicated across numerous different samples testify to the soundness of the approach.

- Because the Big Five are empirically independent of one another (i.e., barely intercorrelate), meaningful predictions can be made on the basis of individual trait profiles.

The Big Five and the Structure of Human Temperament The Big Five traits derived from the five-factor model seem to be relevant to both research and practice for the simple reason that they represent a taxonomy of dimensions of human temperament (Angleitner & Ostendorf, 1994) that evidently also applies to other mammals (McCrae et al., 2000). Extensive international studies suggest that the five factors are basic, biologically rooted, endogenous traits, i.e., they are not affected by the environment in any way (McCrae et al., 2000, p. 175). The high heritability of the Big Five, which twin studies generally put at 50% (Loehlin, 1989), is one indication of this endogeneity. However, these estimates include measurement errors caused by the less-than-perfect reliability of the measures, as well as systematic method factors associated with the use of self-reports. When the method variance is reduced by combining self and other evaluations, estimations of heredity are much higher than 50%, at between 66% and 79% (Riemann, Angleitner, & Strelau, 1997).

The remaining 21–34% of the variance is explained almost exclusively by influences that siblings do not share, i.e., cannot be traced back to the social background, parenting styles, or similar factors. Harris (1995) argued that, after genetic factors, peers have the most important impact on the development of children's characters. However, it is also possible that the small proportion of variance in the Big Five that cannot be explained by genetic factors is attributable to biological factors; e.g., the prenatal hormonal environment may be influenced by stress during pregnancy (Resnik, Gottesman, & McGue, 1993).

Two further patterns of results support the notion that the Big Five are endogenous personality dimensions:

1. They are remarkably stable. Very accurate predictions of a 70-year-old's personality can be made on the basis of measurements taken 30 years earlier (Costa & McCrae, 1992).
2. There seems to be a universal, cross-cultural process of maturation of the Big Five: extraversion and openness to experience decrease with age, while levels of agreeableness and conscientiousness increase (McCrae et al., 2000). This observation does not contradict the assumption – based on test-retest correlations – that the Big Five are extremely stable. In fact, an individual's rank placement in a sample can remain virtually unchanged over time, with all participants experiencing similar changes in trait strength. The magnitude of this change as a function of chronological age is low, however ($r < 0.20$; see McCrae et al.). This process of maturation makes perfect sense from the perspective of evolutionary psychology: whereas high levels of extraversion and openness to experience motivate young adults to approach others (an approach that is conducive to the "mating effort"), higher levels of agreeableness and conscientiousness lead to increasing *staidness* with age, thus providing any offspring with the security and routine they need to develop and thrive (an approach that is conducive to the *parenting effort*).

The biological rooting of the Big Five brings us back to the sedimentation hypothesis, according to which only genetically anchored traits that remain stable from generation to generation are coded in human language. This process results in a universal grammar for the description of important personality characteristics. Today, this grammar provides a practical heuristic that can be used to consolidate observations of oneself and others into valid characterizations of oneself and others. Heuristics are "rules of thumb" that are primarily used when time is short and information is incomplete. Although they have the advantage of being fast and frugal (Fiedler & Bless, 2002), it is important to bear in mind that heuristics like the five-factor model can also lead to errors in the appraisal of others.

Block (1995) identified two potential errors in personality descriptions based on the five-factor model:

1. Neglect of the context: The five-factor model does not define specific situations that activate or deactivate the five essential traits. Thus, personality descriptions based on the five-factor model are at risk of being blind to the context and remain an overly simple form of assessment based on indiscriminate classifications of others.
2. Neglect of less salient, but important characteristics: Based on methodological considerations, Block (1995) argues that factor analysis is not a suitable procedure for examining the decision-making processes underlying personality appraisals. Klein, Cosmides, Tooby, and Chance (2002) have since shown that semantic and episodic memory cooperates in the perception of others and that the functioning of episodic memory, in particular, does not correspond with the logical structure and sequential approach of factor analysis. Yet episodic memory is thought to be decisive for detailed, finely nuanced personality descriptions. An exclusive focus on factors that explain a large proportion of variance in factor analysis can thus lead to important details being overlooked. And as Block points out, factors that explain a large proportion of variance may have only trivial implications for behavior, if any, whereas residuals with low eigenvalues (i.e., the 6th, 7th, or even 21st factor) may have significant effects.

Excursus

Human Evolution Has Produced a Wealth of Traits: The Swiss Pocket Knife Analogy

Evolutionary psychologists Cosmides (1989) and Cosmides and Tooby (1992) identified a specific psychological mechanism, the function of which is to detect people who are trying to cheat us. This mechanism enables us to solve formal, logical problems that often defeat us in other contexts. Their findings have two implications for the five-factor model:

1. *Psychological mechanisms that develop into differential traits through a process of natural selection seem to be domain specific*. In other words, they only render some potential stimuli functionally equivalent, e.g., all social situations in which cheating may occur. The mechanism is only activated in these situations.
2. *Numerous mechanisms of this kind seem to be needed for survival and reproduction, prompting Cosmides to compare the human psyche to a Swiss pocket knife.* Both have a number of different tools that can be applied to certain problems but that cannot solve others. Although these tools may appear to be similar on the surface, they evolved independently and represent distinct neuropsychological units, each with a specific evolutionary advantage.

Bearing in mind that the number of traits identifiable on the basis of Allport's definition is very high indeed, the five-factor model can nevertheless be put to worthwhile use as a heuristic. Labeling others as disagreeable may be interpreted as a product of the mechanism for detecting cheats, for example. After all, we have a vested interest in finding out whether or not the people with whom we interact are likely to abide by social norms.

All things considered, the five-factor model does not seem suited to solve the classification problem. Some personnel psychologists have long maintained that the five factors are much too broad for practical applications and that valid predictions of behavior require considerably larger numbers of better defined traits. Gough (1990) adopted a more differentiated strategy with the California Personality Inventory (CPI). He demonstrated that there are more than a dozen interculturally distinguishable *folk concepts* of traits that are regarded as independent in very different societies, even though their empirical intercorrelations are relatively high. Although dominance and sociability both load on the extraversion factor in the five-factor model, e.g., it is the dissociation of the two that provides the most valuable diagnostic information. The positive correlation between dominance and sociability means that they are relatively few in number but there are indeed individuals who are both highly assertive and very withdrawn and who thus seek to avoid public speaking and large crowds. According to Gough (1990), it is precisely this noncorrespondence of correlating traits that is often particularly meaningful for motivation (see also the dissociation-oriented approach presented in Chap. 12, according to which two variables that correlate strongly may be completely independent of each other, meaning that they should be assessed separately).

As the excursus above illustrates, Gough's notion that there is nothing to be gained from reducing a large number of traits to a few underlying factors has received support from researchers with a background in evolutionary psychology. Proponents of the five-factor approach do not claim the Big Five to be the only important human traits, however. They are well aware that there may be other independent personality dimensions, such as the willingness to take risks (Andresen, 1995). Indeed, nobody would be genuinely surprised if a Big Six or Big Seven model of endogenous personality dimensions proved to be necessary in the course of time. However, there would have to be very good arguments for the introduction of any new factors to ensure that the principle of parsimony is not violated.

Furthermore, McCrae et al. (2000) distinguish between the biologically anchored dispositions described by the Big Five and culturally conditioned characteristics, including acquired abilities, habits, values, and motives (McCrae et al., 2000). There can be no doubt that these environmentally determined systems exist, that they influence human motivation, and that they have dynamic characteristics that distinguish them from personality dimensions. Cattell provided factor analytic evidence for the orthogonality of temperament-related and culture-specific traits. He was also the first to point out that dynamic traits should be investigated using methods other than questionnaires (see the distinction between implicit motives, measured by operant tests, and explicit traits, measured by questionnaire methods, in Chap. 9).

In summary, the Big Five cannot solve the classification problem. This is because its relatively superficial and socially desired behavioral tendencies are derived from a *Wisdom of Language* and do not relate to specific contexts. Their correlation with the observable behavior of real individuals in real-life situations tends to be low (see Block, 2010). Recent studies have also shown that a psychometrically convincing assessment of the Big Five might be limited to educated Western populations, whereas people with sociodemographic disadvantages and indigenous populations seem to produce different factors and a low retest reliability (cf. Gurven, von Rueden, Massenkoff, Kaplan, & Vie, 2013; Gnambs, 2015).

3.2.2 R. B. Cattell's Trait Theory

Cattell's theory had a considerable influence on the development of the five-factor model but is itself much more complex. Cattell first distinguished three types of dispositions as the causes of observable classes of behavior:

- Cognitive dispositions (abilities), which are manifest in problem-solving situations of differing complexity
- Temperament dispositions, which are pervasive, i.e., are manifest regardless of the situation
- Dynamic or motivational dispositions, which increase or diminish in accordance with the incentive strength of the situation

These three types of dispositions are not distinguished conceptually in the five-factor model and are thus confounded in the tests based on that model.

The distinction between temperament dispositions (traits) and dynamic, motivational characteristics is one of Cattell's most significant contributions to research. In a longitudinal study, Winter, Stewart, John, Klohnen, and Duncan (1998) showed just how important this distinction is for predicting behavior. Whereas dynamic, motivational characteristics (like the motives covered in Chaps. 6, 7, and 8) describe and predict what a person strives to achieve, temperament dispositions reflect how he or she translates that motive into action.

Study

Motives and Traits May Have Interactive Effects on Behavior

Winter et al. (1998) already put the universal claim of the Big Five into perspective: in a longitudinal study with two different samples, they showed that implicit motives and traits may have interactive effects on social behavior. Extraverted and introverted individuals (extraversion-introversion was measured using the first vector scale of the CPI by Gough, 1990)) only differed on important behavioral criteria if they had scored high on the affiliation and power motives 20 years earlier. For example, women who were high in the affiliation motive 20 years earlier showed high levels of marital instability (more separations and remarriages) if they were later classed as introverted, but not if they were extraverted. This finding makes perfect sense if the trait of extraversion is interpreted as a motive implementation style: given their temperament, introverted individuals find it difficult to open up to others and to experience intimacy. Moreover, they may tend to overreact in marital conflicts. For someone with a high dispositional affiliation motive, responses of this kind must be seen as deficits that can put strain on the relationship (particularly if the partner is also introverted, although this aspect was not tested in the study by Winter and colleagues). For someone without a strong affiliation motive, on the other hand, this temperament-based interpersonal distance need not be seen as a deficit but can be perceived in positive terms, as a measure of independence. This might explain why introverted women who were low in the affiliation motivation 20 years earlier reported the highest levels of marital stability (although the differences were not significant) in the two samples examined.

Brunstein's distinction between implicit and explicit motives offers an equally plausible explanation for this pattern of results (see Brunstein, Schultheiss, & Grässmann, 1998; Schultheiss & Brunstein, 1999; see also Chap. 9). A questionnaire measure of extraversion can be interpreted as reflecting an explicit affiliation motive. If a person scores low on this measure, but high on a TAT measure of the implicit affiliation motive, the discrepancy is likely to have detrimental effects on well-being.

Asendorpf (2004) has drawn attention to a methodological shortcoming of the Winter et al. study. Whereas implicit motives were measured in young adulthood, the questionnaire measures of extraversion and social behavior were not implemented until 20 years later. Hence, discrepancies between implicit and explicit motives might also derive from experiences that influenced both motive types but could only logically be picked up by the questionnaires implemented at the second point of measurement. In this case, it would not be a matter of interactions between implicit and explicit motives but of changes in motive strength in response to social experiences.

This point can be illustrated by reference to two kinds of traits: the temperament disposition of extraversion, as contained in the five-factor model, and the motivational disposition of affiliation. The goal of the affiliation motive is to experience emotional warmth in social interactions with individuals and groups. It thus describes what a person strives to achieve. High extraversion, in contrast, describes the personal behavioral style, or how an individual expresses all manner of aspirations (even for power and influence) across very different situations. The following case study illustrates why it makes sense to distinguish between these dispositions, even though they seem so similar on the surface.

Example
Ben always sits by himself in the lecture theater. He rarely goes to parties. If his fellow students speak to him, his answers tend to be monosyllabic. His peers conclude that he is introverted and simply not interested in other people and soon begin to ignore him. They are very much mistaken, however, much to Ben's chagrin. Affiliation is in fact his strongest motive. But because he is so introverted, he does not dare talk to people he does not know very well, and he is at a complete loss for words whenever women speak to him. Consequently, he satisfies his need for social contact on the Internet, where nobody notices how shy and awkward he is. It is only in this context that he can reconcile his need for affiliation with his introverted temperament.

The what and the how of motivation do not correspond in this example. It is very much easier for people who seek to establish a wealth of social contacts to satisfy this need if they are extraverted – particularly in relatively new and unfamiliar situations (Winter et al., 1998). A high achievement motive might be more congruent with Ben's shyness; indeed, satisfying this motive is rather more compatible with an introverted temperament. What we are interested in at the moment, however, is the independence of motives and temperament. The contrasting case study that follows provides further illustration of this point.

Example
Lisa is always surrounded by a throng of students in the lecture theater. She goes to lots of parties and is always the center of attention. She loves to engage in lively discussions and has many friends and acquaintances. After a while, however, those who get to know her more closely and who observe her carefully, realize that she is not really interested in forming meaningful relationships. Other people simply serve her aims of getting ahead and getting her own way. Should they step out of line, she will – in her own charming way – drop them like hot potatoes.

Ben and Lisa are complete opposites in terms of their needs and temperaments. Although Lisa finds it very easy to establish relationships with others, her sociable behavior does not reflect her true motivation. Despite her many contacts with others, she feels no real need for affiliation and social bonding. This makes her very independent and helps her to gain power and influence over others. Ben, on the other hand, is unable to satisfy his most fervent wish of establishing meaningful relationships with others.

Cattell (1957, 1958, 1965) was the first to provide comprehensive empirical evidence for the independence of motivational, cognitive, and temperamental dispositions. In his search for unique, independent dispositions and their mutual boundaries, he did not rely on phenomenological descriptions, the accumulated labels of everyday language, or intuitive insights. Rather, he measured individual differences, often over broad domains of possible classes of reactions, to determine which reactions covary with each other. Unlike the proponents of the five-factor model, he was not content to submit the data obtained from questionnaires measuring motive-related characteristics such as helpfulness or sociability to factor analytic categorization and to regard the factors extracted as dispositions, with individuals being characterized in terms of their factor scores.

He considered this kind of approach injudicious for two main reasons. First, the factors emerging (the covariation patterns of responses) are largely dependent on the range of variability of responses that can possibly be elicited from the participant by the assessment procedure applied. For example, the factor analyses performed by the proponents of the five-factor model were essentially based on various forms of the almost 200 adjectives that Cattell conceived of as the range of response. It is hardly surprising that factor analyses of a given set of adjectives or behavioral descriptions derived from those adjectives always yield five factors. Measures that encompass representative samples of what occurs outside the test situation (on both the stimulus side and the response side) are needed to overcome the methodological biases inherent in the factors extracted. Second, the questionnaire instruments commonly used to scale the strength of motive dispositions have proved to have limited validity. Responses are based on introspective self-reports that can easily be falsified or influenced by response tendencies, especially since the purposes of the tests are normally quite transparent. Moreover, the extent to which individuals are capable of providing accurate self-reports varies (see Nisbett & Wilson, 1977 and the following excursus). For example, Lisa from the case study above might subjectively interpret her many social activities as indicative of a high affiliation motive, although her behavior is in fact driven by an implicit desire for power and influence. In a self-evaluation, she would not be willing or able to distinguish the what from the how of her motivation.

Cattell (1957) took a two-step approach to sidestep the inherent difficulties of self-report measures:

Step 1. He identified behavioral indices that reflect motive strength in the most direct and objective manner, i.e., are not subject to the individual's awareness and do not provide an opportunity for responses to be modified. This involved identifying unitary domains of motive-related interests and attitudes and constructing objective tests as indices of the corresponding behavior. The motive strength data obtained (for the domains specified a priori) were then subjected to factor analysis and classified according to their motivational components. These components do not represent different motives in themselves, but rather definable manifestations of each motive. The behavioral indices that form the basis of the components can thus be seen as devices by which individual differences in the strength of specific motives might be measured.

Step 2. These scaling devices were employed to determine the covariation patterns of a broad spectrum of different attitudes and interests. For Cattell, the differentiated motivational dispositions that emerged from this process had general psychological validity. Finally, specific criteria were used to categorize these traits in terms of whether they are biological or acquired through sociocultural learning.

To determine the strength of motivational components, Cattell first collated practically all of the behavioral indices that psychologists had ever posited to elicit motive tendencies. At one point, Cattell (1957) listed no fewer than 55 such measures of *motive manifestations*, originating from areas of psychological research including general knowledge (e.g., information about means-ends relationships), perception, memory, learning, reaction time, fantasy, autonomic responses, prejudice, and resumption of interrupted tasks.

Excursus

Telling More Than We Can Know? The Limits of Questionnaire Measures

In 1977, a classic article by Nisbett and Wilson showed that people are often not capable of providing accurate information about the reasons for their behavior. These findings cast doubt on the validity of the questionnaire measures commonly used by psychologists. In the 1980s and 1990s, cognitive psychology thus placed increased emphasis on the experimental investigation of implicit aspects of memory and learning, i.e., aspects that are not accessible to verbal description (Goschke, 1997; Schacter, 1987). Today, social psychology examines nonconscious attitudes by means of implicit association tests (Bosson, Swann, & Pennebaker, 2000; Greenwald & Banaji, 1995). In particular, the Implicit Association Test (IAT), which measures negative attitudes (e.g., toward members of another race) in terms of longer reaction times to specific word cues (e.g., names typical of members of another race, such as Jamel), has stimulated a great deal of theory building and testing in the field (Greenwald et al., 2002). Stable traits can also be investigated by means of implicit measures. Bosson et al. (2000) showed that narcissism is associated with high explicit (conscious) and low implicit self-esteem. In motivation psychology, the distinction between implicit and explicit methods of measurement has a long tradition. For example, it is known that findings from the TAT have much in common with many experimental operationalizations of implicit processes, but do not correlate with questionnaire measures of the same theme. This point is covered in-depth in Chap. 9.

These behavioral indices loaded on six motivational factors that related to motivation in general rather than to a specific motive. Three of these Cattell labeled with the psychoanalytic terms *id*, *ego*, and *superego*. These six factorial components of motive strength were then subjected to second-order factor analysis. From this emerged two second-order factors, an integrated and an unintegrated motivational component. The integrated component encompasses focused, conscious aspects of a motive disposition (ego, superego). The unintegrated component encompasses *complexes*, unconscious predispositions, and physiological reactions. Examples for this are bias and galvanic skin response. In subsequent studies, just these two motivational components were employed to measure strength in terms of their combined value, using a set of six principle indices that had proved particularly sensitive.

Cattell had thus created a generally applicable technique for scaling motive strength and could move on to the second step of delineating traits by means of factor analysis. He called this step dynamic calculus: the search for the factors of dynamic structures. Responses to devices covering a wide range of attitudes related to goal-directed behavior were factor analyzed. A number of clear factors emerged and were termed "unitary dynamic source traits"(Cattell, 1957). Some of these were labeled *ergs* (from the Greek *ergon*, meaning energy or work), which represented to Cattell a sort of biological drive, not unlike McDougall's (1908) original conceptualization of instinct.

Ergic traits can vary in their manifestations depending on situational incentives. Cattell also subjected intraindividual changes in the *level of ergic tension* to factor analysis. He identified two constant components – inherent or constitutional differences and the individual's past history – as well as three variable components: situational incentive, physiological state, and presence or absence of goal satisfaction. He thus demonstrated the dynamic nature of ergs, which wax and wane according to the incentive strength of the situation at hand. The ergs he identified are listed in Table 3.1.

Table 3.1 Action goals, emotions, and example attitude statements for six motive dispositions of the "erg" type (Based on Cattell, 1957, p. 541)

Action goal	Emotion	Attitude statement
1. Mating	Sex	I want to fall in love with an attractive man/woman
2. Gregariousness	Loneliness	I want to belong to a social club or team of people with congenial interests
3. Parenthood	Pity	I want to help the needy, wherever they are
4. Exploration	Curiosity	I like to read books, newspapers, and magazines
5. Escape to security	Fear	I want my country to be better protected against terrorism
6. Self-assertion	Pride	I want to be smartly dressed, with a personal appearance that commands admiration

Summary
Cattell used factor analysis to show that the ergs he identified are independent of traits. From today's perspective, however, it is regrettable that he did not continue to investigate ergs systematically and to test their antecedent conditions or consequences in theory-driven experimental analyses. Although the factor analytic approach is a great improvement on a priori definitions, it can only describe mean patterns of relations for the entire population of study participants and does not allow subgroups to be preselected on the basis of idiographic equivalence classes. This is because of the descriptive rather than explanatory nature of correlational analyses (including factor analysis), which can show which variables are associated and which are not but are unable to specify causal connections. Few insights into the key issues of motive arousal and motive development can thus be expected from this approach.

However, Cattell's creative approach to factor analytic trait theory made a substantial contribution to work on the fundamental issue of motive classification by helping to distinguish the motivational dispositions (ergs) listed in Table 3.1, to which we will return in later sections of this chapter.

3.3 Motives as an Expression of Needs

The three major proponents of need theories are McDougall, Murray, and Maslow. A need can be defined as a discrepancy between an actual state and a desired state (McClelland, Atkinson, Clark, & Lowell, 1953). Actual states are characterized by the presence or absence of certain motive-related incentives, the congruence or fit of which is essential to the trait disposition. For instance, the need for affiliation is activated only when people experience rejection, i.e., when the situation is at variance with the aspired outcome; and it is not deactivated until they have been accepted again. Other positive stimuli do not have the same effect (Shipley & Veroff, 1952).

The various motives activated across different situations must therefore be taken into account in any classification of motives by needs. Need theories investigate how many categories of person-environment relations can be distinguished on the basis of the motivation processes characteristically activated.

3.3.1 Instinct-Based Classification of Motives

To some extent, Cattell's descriptive system of motives was a revival of McDougall's explanatory model of behavior, which dates back to the early twentieth century. It was McDougall (1908) who first attempted to attribute all human behavior to motivational dispositions. At that time, these dispositions were commonly labeled *instincts* rather than *motives*, which explains why Freud's concept of *Trieb* was rendered as instinct (and not drive) in the original English translation. The nineteenth-century faculty psychologists had already proposed the concept of instinct as a counterpart to intelligence. With the increased acceptance of Darwin's theory of evolution, scholars had also begun to draw on instincts to explain human behavior.

James (1892) viewed instinct as the capacity to act intuitively. What for him was just one of several explanatory concepts, McDougall saw as the basic principle for all dynamic explanations of behavior. By elevating instincts to such a dominant position, McDougall triggered the great instinct controversy of the 1920s (Chap. 2). The main critics of instinct theory responded with a radical behaviorist position, attributing all behavior to simple reflexes and learning (Watson, 1919). At the same time, Woodworth (1918), who had long envisaged a "*motivology*," was prompted to reject the term instinct once and for all, replacing it by the term drive. It was Tolman who finally made McDougall's motivational psychology acceptable even to the behaviorists, by rendering it subject to experimental investigation. The concept of instinctive behavior was later investigated and clarified by ethologists such as Lorenz and Tinbergen.

What was McDougall's objective? He was opposed to a psychology limited to the description of mental contents and to approaches employing *mechanistic* explanations, such as association theory and reflexology. For McDougall (1908), all behavior was "teleological" – directed to the attainment of certain future goal states. He cited seven behavioral characteristics in support of this position:

1. A certain spontaneity of movement.
2. The persistence of activity, independent of the continuance of the impression that triggered it.
3. Directional change of goal-directed activity.
4. Termination of the activity as soon as the desired change in the situation has been brought about.
5. Preparation for the new situation brought about by the present action.
6. Improvement in the behavior's effectiveness when it is repeated under similar circumstances.
7. A reflex action is always a partial reaction, but a purposive action is a total reaction of the organism.

McDougall attributed these characteristics of behavior directed toward specific goal states to instincts. His original definition of instinct was fairly complex, encompassing three consecutive processes:

- A disposition to perceive selectively as a function of specific organic states (e.g., hunger increases sensitivity to edible objects)
- A corresponding emotional impulse (the core of instinct)
- Instrumental activities appropriate to attaining the goal (e.g., flight in response to fear)

McDougall's definition of instinct thus integrates very different phenomena. He viewed just one of the three determinants – emotion – as innate and unmodifiable, defining this component to be the core of instinct, but assumed the cognitive and motor components to be subject to change in response to biographical experience, adding to the complexity of the concept.

It was on the basis of this conceptualization that McDougall (1908) drew up a first list of ten instincts, although he was not able to assign clearly defined emotions to the last three (the corresponding emotions are shown in parentheses):

1. Flight (fear)
2. Repulsion (disgust)
3. Curiosity (wonder)
4. Pugnacity (anger)
5. Self-abasement (subjection)
6. Self-assertion (pride)
7. Parental instinct (tender emotion)
8. Reproduction instinct (–)
9. Acquisition instinct (–)
10. Construction instinct (–)

Because the term instinct came under heavy attack and led to the mistaken idea that behavior is determined largely by innate predispositions, McDougall later adopted the term *propensity*. There were no major changes to the concept itself, except for the distinction now made between propensity and tendency, as illustrated by the following quote from McDougall's last book (1932):

> A propensity is a disposition, a functional unit of the mind's total organization, and it is one which, when it is excited, generates an active tendency, a striving, and impulse or drive towards some goal; such a tendency working consciously towards a foreseen goal is a desire. (McDougall, 1932, p. 118)

Several propensities can combine to form *sentiments*. These are cognitive systems that result from learning and experience relating to the evaluation of objects and concepts, as we saw earlier in Cattell's approach. For example, the perception and evaluation of the concept "my country" involves several propensities. The self-sentiment – i.e., the perception of one's self – plays a central, organizational role in these cognitive schemata, which go to shape the character, i.e., the individual differences existing amid the innate, instinct-like emotional impulses of propensities.

One question that has remained unanswered is which empirical criteria might be used to infer the number of possible motive dispositions, beyond mere plausibility considerations. This question became perceived as increasingly urgent when – inspired by McDougall's lists of instincts – it became common practice, particularly in neighboring disciplines such as sociology and political science, to attribute all behavioral phenomena to specific instincts. War, for example, was attributed to an aggressive instinct. At the same time, the fact that people fight wars was cited as evidence for the presence of an aggressive instinct. The circularity of this approach (that McDougall himself would never have espoused) was the trigger for the great instinct controversy. The objections could have been countered with clearer criteria for instinctive behavior and systematic studies, but this possibility was overlooked in the heat of the exchange. A second, related reason for the controversy was the suspicion that the instinct concept might be used to revive faculty psychology and that all that was really being done was to describe and classify behavior. And how might behavior be categorized? As instinct-dependent behavior versus behavior resulting from acquired habits? To this end, it would be necessary to distinguish between interchangeable, instrumental activities and the goal states that are the focal point of behavior.

In the final analysis, opposing metatheoretical positions kept the controversy alive and prevented an objective, empirical resolution of the issues. Its opponents equated the instinct concept with McDougall's assertion that behavior is goal-directed, i.e., structured in terms of a goal. Associationists viewed this approach as unscientific, implying that McDougall had endowed instincts with a kind of mystical force, not unlike the vitalists who preceded him. As far as

McDougall was concerned, nothing could have been further from the truth. But these metatheoretical insinuations intensified the controversy and prevented an empirical clarification of the dispute. Because opponents of the instinct concept were unable to offer a better theory, there could be no objective resolution of the issue. The dispute finally petered out as interest in further speculation faded. All of those involved came to realize that more concrete and detailed experimentation was required, and the early 1930s saw a rapid increase in this kind of research (cf. Krantz & Allen, 1967).

Like Freud, McDougall introduced a thoroughly motivational approach to the explanation of behavior. His questions as to the nature and classification of motives raised central issues, and his descriptive and definitional responses to these issues triggered the controversies that were to determine much of the empirical motivational research of the subsequent decade. Is behavior predominantly the result of previous learning or of innate impulses? Is motivated behavior a function of its energizing or of its direction and selection? And, above all, is behavior to be explained in a mechanistic sense, i.e., in terms of stimulus-response bonds, or in a mentalistic way, in terms of anticipatory cognitions?

It now became taboo to use the term instinct to describe a motive disposition. Instead, the terms drive and need gained currency. The neglected problems of motivational incentives and effects were tackled. Another notable approach to the classification of motives came between McDougall's list of instincts and Cattell's factor-analytically derived catalogs, however, one that was closely linked to attempts at motive scaling.

3.3.2 Person-Environment Relationships

Murray's work *Explorations in Personality* (Murray, 1938) represents a point of intersection for several important strands of motivational research, particularly those originating from McDougall, Freud, and Lewin. Murray, whose main interest was in clinical and personality psychology, put needs at the center of a differentiated conceptual system that was not intended simply to describe behavior or to explain individual differences in responses to standardized situations. Rather, its function was to identify the idiosyncratic aspects of larger (molar) behavioral segments and to uncover the underlying themes in the cyclical recurrence of idiosyncrasies observed in individuals across situations and time. The individual is seen as an active organism who not only responds to the pressure of situations but actively seeks out situations and structures them.

Murray attempted to explain the goal directedness of behavior in terms of a continuous chaining of episodical interactions between individuals and their environments, i.e., a constant interaction of person and situation factors. This explanation went beyond a trait theory of motivation that attributes all behavior unilaterally to dispositional person factors, as the following quotation shows:

> What an organism knows or believes is, in some measure, a product of formerly encountered situations. Thus, much of what is now inside the organism was once outside. For these reasons, the organism and its milieu must be considered together, a single creature-environment interaction being a convenient short unit for psychology. A long unit – an individual life – can be most clearly formulated as a succession of related short units, or episodes. (Murray, 1938, p. 39–40)

Murray thus became the forerunner of the *modern* interactionist position (Bowers, 1973; Magnusson & Endler, 1977):

Definition
The organism (person) and the perceived situation form an interactional unit, mutually influencing each other. The two central and corresponding concepts are *need* on the person side and *press* on the situation side. Both cannot be observed directly but have to be inferred; they are not descriptive terms but hypothetical constructs.

But on what basis are they to be inferred? They cannot be read off momentary segments of presently occurring behavior or situations; they have to be inferred indirectly, from their effects. Thus, the motivational concept of need (which, incidentally, is not distinguished from drive) is determined by the goal state to be achieved by means of a person-environment interaction. There is a thematic correspondence between need and press: a press elicits the corresponding need, and a need seeks out a corresponding press. The interaction between need and press is called thema (hence the Thematic Apperception Test, see below). The thema is the actual unit of analysis in the stream of activity. Each episode in the stream has a thema, a goal-oriented sequence of behavior.

Murray uses the term need to refer to both dispositional and functional variables and classifies needs in terms of a number of attributes. A first distinction is made between primary (viscerogenic) needs (e.g., n(eed)Water, nFood, nSex, nUrination, nColdavoidance) and secondary (psychogenic) needs (Table 3.2). Primary needs arise from organic processes and may be cyclical (like nFood) or regulatory (like nColdavoidance). Further distinctions are made between positive (approach) and negative (avoidance) needs and between manifest and latent needs. Manifest needs are freely expressed in overt behavior (objectified); latent needs relate to make-believe or fantasy behavior (semiobjectified or subjectified). In certain situations, needs can combine to motivate behavior. There can also be conflicts between needs, or one need can become subservient to another.

Table 3.2 Murray's catalog of psychogenic needs (n = need; in alphabetical order)

1.	nAbasement (nAba)
2.	nAchievement (nAch)
3.	nAffiliation (nAff)
4.	nAggression (nAgg)
5.	nAutonomy (nAuto)
6.	nCounteraction (nCnt)
7.	nDefense (nDef)
8.	nDefendance (nDfd)
9.	nDominance (nDom)
10.	nExhibition (nExh)
11.	nHarmavoidance (nHarm)
12.	nInfavoidance (nInf)
13.	nNurturance (nNur)
14.	nOrder (nOrd)
15.	nPlay (nPlay)
16.	nRejection (nRej)
17.	nSentience (nSen)
18.	nSex (nSex)
19.	nSuccorance (nSuc)
20.	nUnderstanding (nUnd)

The following needs were provisionally listed but not investigated systematically:

nAcquisition (nAcq)
nBlamavoidance (nBlam)
nCognizance (nCog)
nConstruction (nCons)
nExposition (nExp)
nRecognition (nRec)
nRetention (nRet)

These conceptual categories are not simply a result of plausibility considerations, speculation, and invention. In fact, the conceptual framework was developed, refined, and tested using data obtained from 50 participants in a variety of research settings at the Harvard Psychological Clinic. The thematic demarcation of the secondary needs is a case in point (Table 3.2). A total of 27 staff, psychologists, and psychiatrists exposed participants to a variety of situations and observed the recurring manifestations of each participant's more dominant motives. Participants were also confronted with situations in which their less dominant motives were aroused. The research settings included interviews, written biographies, childhood memories, various testing procedures, and experiments relating to memory and levels of aspiration.

Murray's (1938) Thematic Apperception Test (TAT), which can be considered one of the most important research instruments in the field of motivational psychology (Chaps. 6, 7, 8, and 9), deserves special mention.

Murray's list of needs leaves much to be desired against the background of the classification problem, however. Does it really make sense to assume the existence of 27 independent needs? Empirical motivation research has offered a more pragmatic solution, providing evidence for the existence of a smaller set of much broader motives, which are presented in detail in Chaps. 6, 7, and 8. Motives can be distinguished from needs in terms of their broader scope. For example, the affiliation motive is not solely directed to satisfying the need for affiliation; seen from the perspective of developmental psychology (Chap. 15), it is clear that the affiliation motive is closely related to the satisfaction of needs for protection, nurturance, and warmth (Ainsworth, 1979; Bowlby, 1982; MacDonald, 1992). Empirical findings show that the affiliation motive is also associated with sexual activity (Scheffer, 2005). However, it is doubtful that the need for sexuality can be subsumed entirely under the affiliation motive, because it is evidently also related to the power motive (McClelland, 1975). Other models even consider sexuality to be an independent motive system in its own right (Bischof, 1985).

Summary

Besides developing the TAT, Murray collated and classified a wealth of ideas from a variety of theoretical approaches, all of which seemed relevant to the explanation of behavior. Drawing on this theoretical background, he developed an inventory of concepts that helped to focus research efforts on the measurement of motives and drew attention to aspects such as the dynamic shift between the interruption and resumption of motivation, the goal directedness of behavior, and motivational conflict. The TAT provided the basis for later breakthroughs in motive measurement (McClelland et al., 1953) and the dynamic conceptualization of motivation (Atkinson, 1957; Atkinson & Birch, 1970; Kuhl & Blankenship, 1979).

Although the classification problem remains unresolved in many respects, evidence for the existence of some broad-based motives could be provided by developing ways to measure motive differences (e.g., the TAT), validating these findings by reference to individual differences in behavior in seemingly equivalent situations, and demonstrating their universality. In the following, the achievement motive is used to illustrate this approach (McClelland et al., 1953).

3.3.2.1 The Achievement Motive as a Distinct Motive Class

Five determining criteria have been proposed for behavior in achievement-related situations. All five must be present for an action to be experienced or perceived as achievement-oriented by the actor or observer (Heckhausen, 1974). Specifically, the criteria are as follows:

1. The action must result in a concrete outcome.
2. The outcome must be measurable in terms of standards of quality or quantity.
3. The task must neither be too easy nor be too difficult. In other words, the action must have the potential to result in success or failure and (or at least) require a certain amount of time and effort.
4. The action outcomes must be assessed in terms of a certain standard, which must incorporate a certain binding norm value.
5. The action must have been intended by the actor and the outcome accomplished by him or her.

In short, achievement-motivated behavior is focused on the accomplishment of a task.

If the nature of the task does not reflect an objectifiable outcome or if its demands are too high or too low, the behavior cannot be characterized as achievement behavior, or only to a limited extent. The same holds if there are no binding standards or norms, if the actor has been forced to do the task, or if it has been accomplished without his or her active contribution. Admittedly, an observer does not determine whether all five of these conditions have been met before identifying another person's activities as being achievement-oriented. If one or more of these conditions appear to be present and there is no evidence of the absence of others, then the behavior will be perceived as achievement-oriented.

Situations that can elicit such achievement-oriented behavior, i.e., which are congruent with it, have already been alluded to as tasks. Specifically, they are situations that have the character of a task from the perspective of the actor or an observer. In addition, these situations must offer opportunities for the five criteria of achievement behavior (as defined in the previous section) to be realized.

The third criterion (that the task be neither too easy nor too difficult) plays an important role in individual development. Given that people can perceive only those tasks that appear to be neither impossible nor too easy as achievement-related, the set of achievement-eliciting situations will change over the individual lifespan, especially in childhood and adolescence. Task situations that were once impenetrable but are now within the individual's reach will be included in the set, whereas tasks situations that can now be solved with no effort at all will be excluded.

Some settings (in Barker, 1968, sense) are dominated by situations that require achievement-oriented actions, e.g., school and the world of work in modern industrial societies. There is no question that the societal framework of achievement-arousing situations, their value in relation to other types of settings, and their objective content are, to a large extent, culture and time specific. It is difficult to imagine a culture within human history that did (does) not manifest achievement orientation. But does this make achievement-oriented behavior universal, i.e., does it manifest itself in all individuals everywhere and at all times?

Authors like Kornadt, Eckensberger, and Emminghaus (1980) and Maehr (1974) have examined the available cross-cultural evidence and given a tentative positive reply to this question. Considering the abstract and fundamental nature of the five criteria of achievement behavior (and the corresponding achievement-related situations), there can be little doubt as to the universality of achievement-oriented situations and hence the achievement motive.

Kornadt et al. (1980) and Maehr (1974) pointed out that these abstract-determining components of achievement-motivated behavior manifest themselves in a tremendous, culture-dependent diversity, becoming concretized only in the context of a "subjective culture" (Triandis, 1972). First, there is the thematic diversity of culture-specific task domains, such as hunting, fishing, commerce, practice of religious rites, artisan and industrial production, buying and selling, scientific research, artistic creation, and much more. Then there are different forms of individual, collective, or cooperative organizations, including the division of labor for the purposes of task accomplishment. Within the thematic sphere of each task, furthermore, there are culture-specific criteria for objectifying achievement-oriented behavior. These include standards of comparison and norm values for assessing achievement, causal explanations of success and failure (e.g., the causal role attributed to higher powers, to fate or fortuna), and the consequences of action outcomes, their incentive values, and future orientation.

It would thus appear that – irrespective of the specific historical and cultural framework – the core meanings, i.e., abstractions, of achievement-oriented, person-environment relationships are universal. The historico-cultural context dictates the concrete contents of achievement-related behavior and its potential variation in a specific instance. Having examined the achievement-oriented equivalence class from an external, general perspective, we must now ask whether all individuals in a given cultural epoch perceive this equivalence class in the same manner. This is certainly not the case. Individuals differ in terms of the breadth of situations they perceive to have achievement implications, in the importance they attribute to these situations relative to other types of situations, as well as in other idiosyncrasies.

Returning to Allport's trait definition (1937), we can conclude that the individual's achievement motive depends on the number of stimuli, i.e., situations, that he or she perceives to be "functionally equivalent" and that thus "initiate and guide consistent and equivalent forms of achievement-oriented actions".

The question is thus whether there are, or ever were, individuals who, throughout their lifetime, failed to perceive any of the universal situations defined in terms of the previous criteria as eliciting achievement-oriented actions and who thus omitted to engage in achievement-related behavior. It is hard to imagine this ever being the case. Thus, it would seem that achievement-oriented situations are universal not only among the general population but also on the individual level. Despite its idiosyncratic variations, and although the concrete situations that elicit achievement-oriented behavior are always specific to the historico-cultural context, it would seem that the achievement motive applies to all individuals.

- The logical conclusion to be drawn from this analysis is that the achievement motive is indeed a trait in its own right and that it encompasses a number of the needs on Murray's list. For example, the need for order can be regarded as a facet of the achievement motive: achievement can often be characterized as a process of creating order from a state of entropy (whether the individual in question is creating an artwork or doing the housework).

Clearly, few motives are as broad and universal as the *Big Three*, each of which is covered in a separate chapter of this book (Chaps. 6, 7, and 8). Interestingly, Lawrence and Nohria (2002), who approach the subject from the perspective of economics and business administration, have proposed a classification similar to the one that has emerged from experimental motivational research. They identify four basic motives that cannot be reduced any further:

1. Bonding
2. Defending

   This motive has much in common with the aggression motive, which Kornadt et al. (1980) described as universal, and can also be interpreted as the power motive, which has been thoroughly researched in experimental motivational psychology.
3. Acquiring

   This motive can be likened to the achievement motive defined above.
4. Learning

Interestingly, this motive is not included in Murray's list. Accordingly, it has not been investigated in experimental motivational research.

Why was learning not identified as a need in its own right by Murray but included in the economists' much shorter list? In today's political climate, lifelong learning is frequently portrayed as a (required) basic motive that provides a particularly powerful index of individual differences.

Upon more careful inspection, however, a subtle difference can be discerned between learning and the other motives. Motivation research sees learning as a general outcome of motivation. From this perspective, learning is not a motive in its own right, but a function of motives: in the long run, organisms maintain and develop only those adaptive and expressive behaviors that serve to satisfy motives (McClelland, 1985). More generally speaking, certain outcomes of motives may assume the character of general values that take on global significance for individuals. Learning can be regarded as such a value – first, because it is an outcome of all motives; second, because it makes the future satisfaction of motives more likely.

In the past, research on the Big Three was slowed down by the time-consuming and arduous evaluation by coders who were trained to achieve a satisfactory objectivity. Therefore, it has been very difficult to study samples that are large enough to allow the investigation of important questions such as the relationship between the Big Three and learning. Recent developments in the fields of artificial intelligence and machine learning, however, suggest that the automatic and psychometrically convincing evaluation of texts with regard to their implicit motives might soon become possible (Scheffer, 2017).

3.3.3 Maslow's Hierarchical Model of Motive Classification

Abraham Maslow (1954) took an alternative approach in his book entitled *Motivation and Personality*, classifying motives in terms of needs. Maslow was a founder of humanistic psychology, a movement that evolved in the USA after World War II, influenced by the existentialist thought of Continental Europe. The movement saw itself as a *third force* in psychology, trying to free research from the constraints of either a purely behavioristic or a purely psychoanalytic approach and to shift the focus of attention in personality theory research to questions relating to the values and purposes of life. In so doing, the movement picked up on Dilthey's (1894) notions of analytical psychology, with its partly anti-Darwinian stance. True, humans are biologically determined, with innate capacities that unfold during maturation, but we are fundamentally different from infrahuman organisms in our ability and indeed our need, to achieve self-actualization.

Maslow developed an accessible classification system that differed from earlier taxonomies in two respects. First, it does not identify single needs but describes whole groups of needs. Second, these groups of needs are arranged in hierarchical order according to their relevance in personality development. This does not imply that the higher and highest needs are any less instinctual or innate than the lower needs. A need activates and influences behavior only as long as it remains unsatisfied. In fact, behavior is less *pushed* from within the organism than it is *pulled* by the external consequences of its satisfaction.

- Maslow's model is based on the principle of relative priorities in motive activation. It dictates that the lower needs must always be satisfied before higher needs can become aroused and determine behavior.

As illustrated in Fig. 3.2, the hierarchy of needs ranges from existential, physiological needs via security needs, needs for belongingness and love, and esteem needs, to the value of self-actualization.

Self-actualization can become a determinant of behavior only when all other needs have been satisfied. It can thus be seen as an outcome of need satisfaction and, like learning, be defined as a value. Every need is teleologically directed to the attainment of this value, and the satisfaction of every need brings individuals slightly nearer to it. Self-actualization thus pulls behavior; the force it develops is qualitatively different from the pushing effects of needs.

From the perspective of developmental psychology, the ascending groups of needs portrayed in Fig. 3.2 correspond to the ontological development of the individual (see also Erikson, 1963 research on ego development). The satisfaction of existential, physiological needs takes priority for infants, and security needs are most urgent for young children, followed by the needs of belongingness and self-esteem. It is not until adolescence that aspects of self-actualization become significant, to be finally realized, if at all, in adulthood.

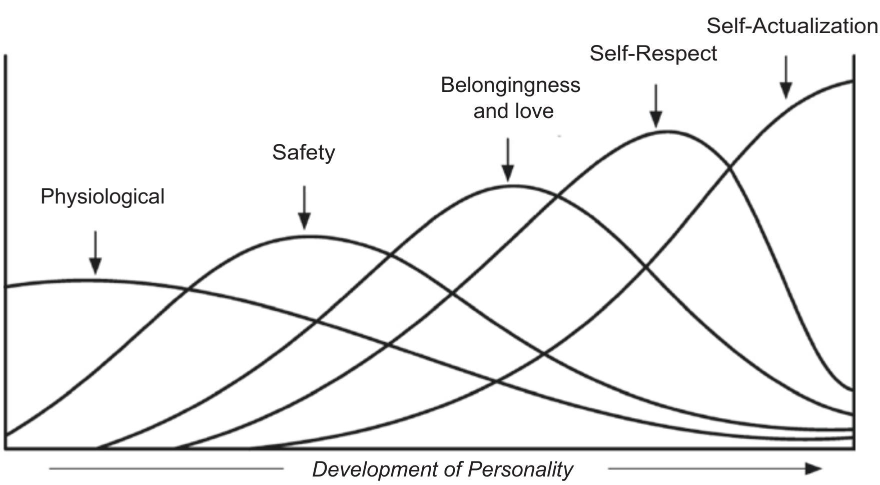

Fig. 3.2 Maslow's hierarchical model orders groups of motives according to the relative priority of need satisfaction (Based on Krech, Crutchfield, & Ballachey, 1962, p. 77)

A hierarchical structure of needs is also congruent with the principles of attachment theory (Ainsworth, 1979; Bowlby, 1982). The need to regulate physiological processes makes young children dependent on the support and protection of familiar others. Over time, this dependency can develop into a deep bond. If physiological needs are not satisfied, however, the development of a trusting relationship between mother and child is jeopardized, underlining the hierarchical relationship between existential needs and security needs. Without feelings of security and trust, it is unlikely that a secure bond will develop. Yet a secure bond is the prerequisite for exploration of the natural environment, which is in turn decisive for the development of self-esteem and autonomy. Children lacking in self-esteem and autonomy cannot really become adults capable of working and engaging in functional relationships; they cannot experience self-actualization. Thus, from the first months of life, human development is determined by sequential developmental tasks that imply a hierarchical directedness of needs, as reflected in the concept of focal times in developmental psychology (Keller, 1997a, 1997b; see the excursus in the next page).

Empirical support for Maslow's assumption that self-actualization is the highest value was provided by interviews with and biographies of prominent (contemporary and historical) figures, including Lincoln, Beethoven, Einstein, Eleanor Roosevelt, and Aldous Huxley. He saw this sample to be characterized by the following characteristics: superior perception of reality; acceptance of self, of others, and of nature; increased spontaneity; increased problem centering; increased detachment and desire for privacy; increased autonomy and resistance to enculturation; greater freshness of appreciation and richness of emotional reaction; higher frequency of mystic experiences; increased identification with the human species; deeper and more profound interpersonal relationships with a few close individuals; more democratic character structure; increased discrimination between means and ends; possessing a sense of humor; creativeness and nonconformity. Maslow further identified a number of major differences between higher and lower needs:

Excursus

Directedness of Development: Contingency, Security, Bonding, and Exploration

Around the second month of life, infants are physiologically able to control their head and body in such a way that they can direct their line of vision. In mastering this physiological need for control, they become able to engage in rudimentary forms of situational control. By about the third month, interactions between babies and their mothers are characterized by a high frequency of eye contact; this age seems to constitute a focal time for this thema, because it soon becomes less important. Researchers interpret the significance of this focal time for development as follows: Because newborn babies have such a short attention span (shorter than 800 ms), they are essentially unable to gauge the effects of their behavior on the environment. When they develop the ability to control their field of vision, parents have the opportunity to mirror their baby's signals – e.g., smiling or the *eyebrow flash* – in face-to-face interactions. If they do so reliably within the baby's short attention span, the baby learns that both his or her own reactions and those of the caregiver are predictable. This experience of contingency gives babies a feeling of security, which helps them to cope with the next developmental thema of establishing a personal bond with primary caregivers, and engaging in exploration beyond their secure base. Thus, satisfying physiological demands is directly related to satisfying the needs for security, bonding, and exploration in the first year of life (cf. (Keller, 1997a, 1997b; Keller, Lohaus, Völker, Cappenberg, & Chasiotis, 1999).

1. The higher need represents a later phyletic or evolutionary development.
2. The higher the need, the less critical it is for sheer survival, the longer its gratification can

be postponed, and the easier it is for the need to disappear permanently.
3. Living at a higher need level means greater biological efficiency, longer life, less disease, better sleep, more appetite, etc.
4. Higher needs are experienced as less urgent.
5. Gratification of higher needs produces more desirable and more personal results, i.e., more profound happiness, cheerfulness, and wealth of inner life (1954, pp. 98–99).

Maslow's approach is based on the notion that people are not only driven by needs but also attracted by their general outcomes. Outcomes with global significance for individuals can be defined as values. The precise definition of a value differs markedly across cultures. A cross-cultural perspective shows that overcoming the egoistic gratification of personal needs is the highest value in many non-Western cultures marked by material poverty (Greenfield, Keller, Fuligni, & Maynard, 2002; Keller, 1997c; Markus & Kitayama, 1991). Western industrialized nations, such as the USA, the UK, and Germany, are considered individualistic; i.e., people tend to take their personal, individual form of self-actualization very seriously and to give it priority over group needs. In most Asian, African, and South American cultures, in contrast, the prevailing orientation is more collectivist (more recently labeled interdependent). Group needs are given priority over individual needs, and fulfillment of these group needs is seen as true self-actualization (Triandis, 1997).

Summary
Unfortunately, Maslow's definitions of many of his concepts are rather vague, leaving much scope for subjective interpretation and making it difficult to subject the theory to empirical testing. In fact, no satisfactory empirical tests have been reported to date. Maslow's hierarchical model can be seen to reflect either an individualistic orientation directed at increasing personal need satisfaction or an interdependent orientation geared toward satisfying the needs of the community. It is quite possible that this elasticity of the theory is one of the main reasons for its continued popularity in training programs and seminars.

3.4 Basic Emotions as a Rudimentary Motivation System

Values involve the evaluation of actions, i.e., assessment of the extent to which actions are or are not expedient for motive satisfaction. These evaluations are not solely the product of rational consideration but are colored by emotions and feelings, the "prerational organs of perception" (Bischof, 1993). Emotions serve as navigational aids to motivation, without which the search for appropriate behavioral options in the vast network of stored, potentially relevant actions would be very protracted, if not hopeless (Damasio, 2000).

Emotions thus play a decisive role in the initiation of goal-directed behaviors designed to have certain effects on the environment and achieve certain outcomes. As psychological organs of perception, they indicate to the organism how close it has come to satisfying a motive and are responsible for the fine-tuning of motivational processes. In terms of Murray's theory, emotions can be seen as the point of interface between need and press. As such, they reflect the thema that is currently occupying and energizing an individual, and that a practiced observer can read fairly accurately from a person's face. Because emotions are involved in the evaluative phase of a motivational sequence (Chap. 11), they are – like values – endowed with the character of global rewards or punishments. The very anticipation of emotions such as joy or love can thus be motivating, even when they are not associated with the motive momentarily aroused.

- The emotions can be described as a rudimentary motive system that serves the internal and external communication of motivational sequences.

3.4.1 The Basic Emotions

There are a limited number of basic emotions that can be distinguished on the basis of facial expressions alone. As far back as 1872, Darwin identified the following basic emotions through careful observation of an infant:

1. Interest
2. Joy
3. Annoyance/grief
4. Surprise
5. Fear
6. Anger/rage
7. Disgust
8. Shame

Darwin realized that expressive behavior has a communicative function among social animals and observed phylogenetic continuity in the facial muscles, from the lower mammals via infrahuman primates to humans.

Aside from this phylogenetic continuity, there is another reason for characterizing basic emotions as innate dispositions, namely, the universality of their evocation (as manifested by facial expressions) and the degree of interobserver agreement in judgments of emotion-specific behavior. The claim that emotional expressions are part of the conventions of a culturally homogeneous population (e.g., Klineberg, 1938) prompted studies of tribes in Borneo and New Guinea who had previously had little contact with other cultures. Members of these tribes were read stories and then asked to select from several picture cues of the face that most accurately reflected the emotional state of the protagonist (Ekman, 1972; Ekman & Friesen, 1971). In other studies, they were asked to mimic the feelings of the characters in the stories. The facial expressions they produced were videotaped and later evaluated by American students. Interrater agreement was high in all conditions, dispelling any lingering doubts about universality in the production and recognition of emotion-specific facial expressions (only surprise and fear – two emotions frequently expressed in quick succession – were occasionally confused).

To gain a meaningful understanding of emotions, we need to abandon the layperson's view that they are restricted to mere feelings and stop seeing them as opposites to cognitions in the sense of thoughts or indeed to cognition in the sense of processing environmental information (Arnold, 1960; Tomkins, 1970, 1981; see also the debate between Zajonc (1980) and Lazarus (1984), which in essence seems to have been a battle over semantics).

3.4.1.1 Functions of Emotions

Some situations are vital to the organism, i.e., to its survival. Typical examples include the threat of a powerful enemy, exposure to an unfamiliar environment, or abandonment at a time when the help or company of others is needed. The perception of such vital situations is triggered partly by innate stimulus cues, which, in humans, are largely overlaid by subsequent experience. Watson (1924) was the first to draw attention to innate triggers, which he assumed to elicit emotions such as fear, rage, or affection in infants. These unconditioned triggers of emotions provide the necessary basis for the emotions to be conditioned to other, previously neutral stimuli (Watson & Rayner, 1920).

For the most part, experiences are overlaid on stimulus cues by means of classical conditioning, i.e., the association of a signal with specific organismic changes that facilitate the initiation of appropriate actions. This bonding process is accompanied by a certain emotional state that may enter into awareness. However, this bond does not constitute a fixed link between stimulus and response, such that a particular stimulus automatically elicits a particular response. Rather, a specific stimulus cue for a particular vital situation elicits changes in the organism's state that prepare it for subsequent expedient action. One component of this change in the organism's state is the experience of an emotion-specific sensation, which in its compressed and holistic form mediates a feeling for one's momentary situation. Accordingly, feelings are a kind of in-depth, split-second communiqué about the situation at hand, i.e., the vital situation being encountered. Arnold (1960) proposed a chain of effects comprising three links: perception-appraisal-action.

This chain of effects can be conceptualized as follows: information relating to an emotion-specific vital situation triggers biochemical changes in some areas of the central nervous system (e.g., the limbic system) that, in turn, lead to changes in four different spheres: first, in the peripheral nervous system, including the receptor organs (e.g., increased blood supply or an orienting reflex); second, in experience; third, in expressive movements; and fourth, in action-initiating patterns of behavior. Emotion-specific expressive movements can involve facial expressions, gestures, posture, body orientations, or vocal patterns. As previously mentioned, expressive movements are observable and can provide others with precise information about the actor's momentary emotional state and disposition to act. Admittedly, such expressive movements can be intentionally exaggerated, diminished, controlled, suppressed, or faked in response to "display rules" (Ekman, 1972), i.e., cultural prescriptions for certain social situations. Some expressive movements, especially gestures, may merge with action-initiating behavior patterns.

Table 3.3 presents the three different languages that can be used to describe the eight basic emotions postulated by Plutchic (1980): subjective, behavioral, and functional.

3.4.2 The Adaptive Value of Emotions

Emotions are adaptive in the phylogenetic sense of having survival value, both in emergencies, where needs must be satisfied urgently, and in situations where they can only be satisfied on the longer term. We need only consider how important it can be to respond both appropriately and quickly in situations that are decisive for an organism's well-being. Although purely reflexive bonds between stimulus and responses would always be quick, they would often be inappropriate, because they would necessarily ignore gradations in meaning and contextual features of the eliciting stimuli.

If the organism's first reaction is not a motor activity, but an emotion, the stimulus-response bond is loosened, thus creating the conditions for an appropriate response (Scherer, 1981). At the same time, emotion-specific processing of information can help initiate a prompt response to the situation at hand or at least induce a state of heightened readiness for action. If people relied solely on the cognitive, argumentative processing of information, involving the analytical elaboration and subsequent integration of incentive and expectancy features, there would be long delays in responding to the situation. Their eventual responses, although fitting, would come too late and thus be inappropriate to the situational demands.

The phylogenetic development of the basic emotions has facilitated a more flexible response to the demands of a changing and complex environment than could be achieved by simple reflex responses. Furthermore, the communication of emotions via various expressive behaviors can

The Information-Processing Model of Emotions (Based on Scherer, 1981)

First step: The incoming information is checked for novelty or entropy (Sect. 3.5.1 Zürich Model).

Second step: Depending on whether the information is found to relate to something pleasant or unpleasant, affects such as pleasure or displeasure or interest or fear/terror are triggered (cf. Schneirla, 1959).

Third step: The information is screened in terms of its relevance for the goal, i.e., whether it contains cues as to the nature of the situation that might facilitate, interrupt, delay, or hinder the current course of action toward an aspired goal (emotions of joy and fear; in the case of hindrances: frustration, anger, rage).

Fourth step: Goal-relevant features are analyzed in terms of their requirements and the chances of attaining the goal (emotions: joy, fear, distress, anger).

Fifth step: Action outcomes are compared with social norms or self-imposed standards (emotions: joy in the sense of pride, shame, guilt, contempt). This last step is probably unique to humans.

Table 3.3 Three languages that may be used to describe emotional states

Subjective language	Behavioral language	Functional language
Fear, terror	Withdrawing, escaping	Protection
Anger, rage	Attacking, biting	Destruction
Joy, ecstasy	Mating, possessing	Reproduction
Sadness, grief	Crying for help	Reintegration
Acceptance, trust	Pair-bonding, grooming	Incorporation or affiliation
Disgust, loathing	Vomiting, defecating	Rejection
Expectancy, anticipation	Examining, mapping	Exploration
Surprise, astonishment	Stopping, freezing	Orientation

solve problems arising from social interaction within a species, e.g., the bloodless resolution of mating and rank rivalries; cf. Lorenz, 1966.

Scherer (1981) proposed an information-processing model of emotions comprising five consecutive steps (see the following overview) that appear to correspond with phylogenetic and ontogenetic development as well as with the microgenetic sequencing of specific situations.

A close inspection of these five processing steps reveals that all but the first (checking for novelty) feature aspects of value and expectancy can be regarded as dispositional, i.e., as traits. Steps 2 and 5 (pleasure/displeasure and comparisons with norms) relate to values; steps 3 and 4 (relevance of situational aspects to goal attainment and available means for attaining the goal) relate to expectancies.

Definition
Emotions are thus prerational forms of values and expectancies that influence the motivational process.

Table 3.4 lists the basic emotions postulated by Darwin, Tomkins, Ekman, Izard, and Plutchic, respectively, arranged in a sequence that approximates Scherer's (1981) processing steps. There is considerable agreement among the diverse theorists who, as the table shows, all postulated between six and nine basic emotions (Ekman, 1972; Izard, 1971; Plutchic, 1980; Tomkins, 1962, 1970) that can be distinguished largely on the basis of facial expressions (cf. Rinn, 1984).

That interest is not viewed as a basic emotion by all of the theorists is understandable, given that the corresponding emotional expressions can also be viewed as attention arousal. Some of the authors see shame, and single authors see contempt and acceptance, as products of other basic emotions. All authors assume that the basic emotions can blend together when elicited simultaneously. Tomkins (1981) used the term affect complexes to describe potential assemblies of basic emotions with various perceived and conceived causes and consequences.

3.4.3 Personality Traits as Congealed Emotions

Having established that all basic emotions are phylogenetically deeply rooted and universal and that they serve adaptive functions in vital situations in the relationship between the individual (organism) and the environment, we can now consider the implications of these insights for a taxonomy of motive dispositions. The first problem is that emotions tend to be transient states that vary across situations. How can these states usefully inform a taxonomy of motive dispositions?

Some research findings indicate that it is worth returning at this point to the five-factor model as previously discussed. In recent years, researchers have increasingly interpreted the Big Five not only as correlating patterns of behavior or as descriptive labels but as traits according to Allport's definition. In other words, the Big Five are increasingly seen as mechanisms with the capacity to render many stimuli func-

Table 3.4 The basic emotions, in order of the sequential phases of information processing postulated by Scherer (1981)

Darwin	(1877)	Interest	Surprise	Joy	Sadness	Disgust	Fear	Anger	Shame	–
Tomkins	(1981)	Interest	Surprise	Joy	Distress	Disgust	Fear	Anger	Shame	Contempt
Ekman	(1972)	–	Surprise	Joy	Sadness	Disgust	Fear	Anger	–	–
Izard	(1971)	Interest	Surprise	Joy	Distress	Disgust	Fear	Anger	Shame	–
Plutchic	(1980)	–	Surprise	Joy	Sadness	Disgust	Fear	Anger	–	Acceptance

tionally equivalent and to initiate equivalent forms of adaptive and expressive behavior. From this perspective, extraversion can be seen as a propensity to experience positive emotions across situations and to behave with according optimism, whereas neuroticism (the opposite of emotional stability) can be seen as a propensity to experience negative emotions across situations and to behave with the expected caution (Watson & Clark, 1997; Watson & Tellegen, 1985; Watson, Wiese, Vaidya, & Tellegen, 1999). The close connection between emotions and muscular innervation was mentioned in Sect. 3.4.1. Taking a similarly *proximal approach*, traits can be conceptualized as dispositions based primarily on emotions.

Definition
Traits are the stable, dispositional side of emotions that make certain emotional states more or less probable. Traits can thus be compared to consolidated or congealed emotions – previously transient states that have developed into stable and situation-transcending characteristics.

The other traits of the five-factor model can also be interpreted as a dispositionally heightened sensitivity to certain emotions. The openness to experience factor is associated with a heightened sensitivity to the emotions of interest and curiosity (McCrae & Costa, 1997). The agreeableness factor can be interpreted as a heightened sensitivity to group norms and to the shame that occurs when they are violated (Graziano & Eisenberg, 1997). Likewise the conscientiousness factor, the driving force behind integrity and a sense of responsibility, involves a heightened sensitivity to guilt (a strict superego); the behavior of conscientious individuals is directed to avoiding feelings of guilt (Hogan & Ones, 1997).

The traits of the five-factor model can thus be interpreted as congealed emotions. This would explain why extraverts are likely to experience joy in a broader range of situations than introverts and emotionally stable individuals are less likely to experience fear and anxiety than neurotic individuals. As such, it makes perfect sense to discuss emotions in a chapter on trait theories. However, it is again important to remember to distinguish between motivational constructs that explain the whats of behavior and those that apply to its hows. Needs and motives (or ergs) describe the kinds of incentives to which organisms respond; they relate to desired states or behavioral objectives. Traits and the associated emotions serve to direct behavior; they thus describe its hows.

Summary
Emotions play an important role in motivational processes: they indicate to the organism whether progress is smooth or faltering, whether behavior is being supported or stalled, whether unexpected difficulties have arisen or happy coincidences have occurred, whether behavior is being deliberately inhibited, and finally whether or not binding standards can be fulfilled. A taxonomy of motives cannot be established on the basis of emotions, however, because all of the basic emotions listed in Table 3.4 can clearly be combined with any motive. Nevertheless, there do seem to be prototypical combinations of certain motives and emotions. For example, McClelland (1985) associates the power motive with the emotion of anger, the affiliation motive with the emotion of love, and the achievement motive with the emotion of curiosity/interest.

Excursus

Operant Motive Measures

In contrast to questionnaires, operant measures such as the TAT or the Operant Motive Test (OMT; Chap. 12) are not based on stable self-evaluations but on sensitivity to a motive-related thema (Asendorpf, Weber, & Burkhardt, 1994; Scheffer, Kuhl, & Eichstaedt, 2003). Murray introduced the term thema to describe the interaction between a latent motive and a corresponding incentive and noted that this interaction must necessarily lead to inconsistencies at the manifest behavioral level, because it would hardly be adaptive to focus attention on a single thema. Another reason for the low consistency of manifest motivation is that latent motives influence perception directly and only affect behavior indirectly. To achieve direct behavioral control, motives have to act in combination with implementation styles, which may entail situational fluctuations (e.g., state-oriented individuals can only implement their motives effectively in relaxed situations, Chap. 12).

3.5 Systems Theory Models of Motivation

Systems theory conceptions of motivation had an early heyday in the 1970s (Atkinson & Birch, 1970; Bischof, 1975): (Kuhl & Blankenship, 1979), and a parallel strand of research was developed in the context of social-cognitive personality theory (Bandura, 1978; Cervone, 2004; Mischel & Shoda, 1998). Systems theory conceptions are characterized by three main principles:

1. Personality is a complex system involving the interaction of multiple, highly integrated processes.
2. These interacting processes are rooted in basic cognitive and affective systems that initiate and direct behavior.
3. The personality interacts with the environment, and the behavior initiated contributes to shaping the environment (reciprocal interactionism).

The question to be addressed by motivation research is thus how motives and personality traits interact, and by means of which processes (e.g., emotions, self-regulatory styles), they trigger and direct behavior in given situations.

Systems theory approaches to motivation have far-reaching implications; e.g., they call one of the central assumptions of classical test theory into question. Using computer simulations, Atkinson, Bongort, and Price (1977) showed that motive measures can show high construct validity, even when the internal consistency of the TAT scales is very low. In other words, whether a manifest motivation is identified (e.g., in the TAT) is the result of a complex process of interaction between different dispositions (e.g., the affiliation, achievement, and power motives competing to control behavior) and situational stimulus conditions (influenced in part by behavior). For example, a piece of cake may lose its incentive value to someone who has just eaten a large piece. Tuerlinckx, De Boeck, and Lens (2002) have demonstrated that a particular manifest motivation in the TAT is replaced by other forms of motivation in a stochastic drop-out process. This results in the "behavioral oscillations" described by Atkinson and Birch (1970).

The low consistency with which motives tend to become manifest is nevertheless compatible with Allport's definition of a trait. It is only when a motive is extremely strong that it emerges consistently across different situations; motives of moderate strength do not have such broad impact on the stream of behavior (Scheffer, Kuhl, & Eichstaedt, 2003). This is quite plausible from the perspective of evolutionary and developmental psychology, given that human motivation must be sensitive to the context and change and develop over the course of ontogenesis. In his model of social motivation, Bischof (1985) shows that this process of change involves an elemental conflict between the intimacy (bonding) and autonomy (achievement and power) motives (see Sect. 3.5.1).

3.5.1 The Zürich Model of Social Motivation

Bischof's (1975, 1985) Zürich model of social motivation is an ethological systems theory of motivation. Bischof was a student of Konrad Lorenz, and the concept of imprinting was central to his work.

- Imprinting takes places in sensitive periods during which the organism is especially receptive to environmental information (compare the concept of focal times) and has a sustained or even irreversible effect on character.

However, it is not motives that get imprinted but detectors for certain stimulus characteristics. From the ethological perspective, a distinction can be made between type detectors, which discriminate between conspecifics and other species, and individual detectors, which mark out the boundary of the nuclear family, and thus signal what is perceived as familiar. This boundary has a dual function: it suppresses altruistic behavior toward conspecifics beyond it, and it prevents sexual responses to those within it. Both kinds of detectors help to determine the familiarity of an object or situation.

Definition
The familiarity of a stimulus is directly and inversely related to its entropy, that is, its degree of novelty and complexity. Ambivalence, incongruence, and dynamics of a stimulus increase its entropy and decrease its familiarity. Another important input variable in this model is the relevance of an object. Together these input variables influence the felt security and arousal of an organism: a large, strange-looking creature making straight for an organism will trigger more arousal and less security than, say, its parents.

Compared to lower animals, like Lorenz's graylag geese, the processes by which type detectors and individual detectors are imprinted on humans are very complex. There is considerable variation across individuals and cultures in what is perceived as familiar or as alien. Phenomena such as customs, dialects, and traditional costumes amplify familiarity and may thus also trigger the individual detectors when we meet people for the first time. In view of these individual differences in the perception and evaluation of what is *familiar* and what is *alien*, Bischof's theory – although intended as a general psychological model – is also relevant as a trait theory.

Seen in this way, the first form of learning in ontogenesis is the discrimination between familiar and alien (Bischof, 1985, 1993). Young children experience familiarity as positive and as a source of security and protection. Unfamiliarity initially implies danger and is experienced as negative. This will change over the course of development when a second guiding principle takes effect: unfamiliarity can then also lead to a positively experienced state of arousal. For both of these guiding principles, the need for security and the need for arousal, individual set points define the ideal degree of unfamiliarity for an organism. There are certain similarities to Murray's list of motives, which are therefore provided here alongside Bischof's concepts:

- The set point for security (*dependency*), which has conceptual similarities with the affiliation motive
- The set point for arousal (*enterprise*), which comprises facets of the achievement motive

Four basic motivational tendencies emerge from the interplay of the level of familiarity (as determined by the detectors) and the two set points dependency and enterprise:

- Appetence for, or aversion to, security (bonding vs. surfeit)
- Appetence for, or aversion to, arousal (exploration vs. fear)

The detectors serve to evaluate the stream of incoming information. If the level of familiarity indicated by the individual detector is below the set point, the organism will experience insecurity and seek to resolve it. This endeavor is defined in

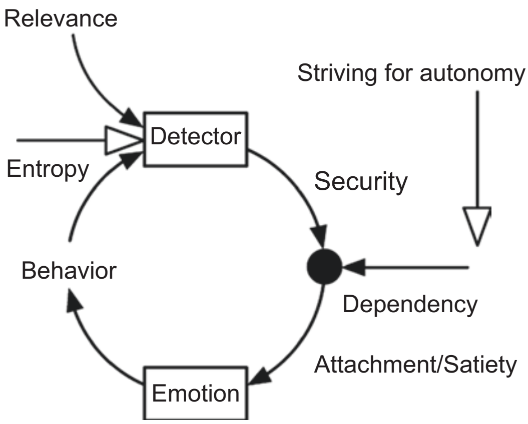

Fig. 3.3 The security system of the Zürich model (cf. Bischof, 1996, p. 501)

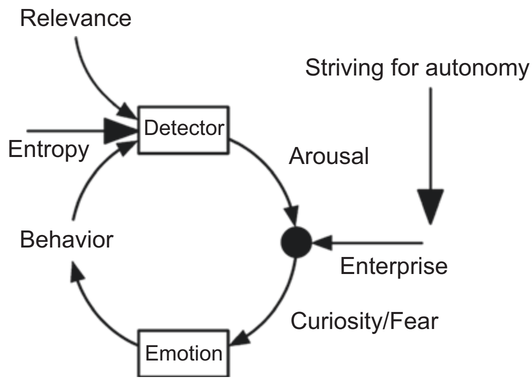

Fig. 3.4 The arousal system of the Zürich model (cf. Bischof, 1996, p. 500)

the Zürich model as attachment motivation. If, on the other hand, the level of security is above the set point, there is a surfeit response. This motivation, which runs counter to attachment motivation, takes effect most prominently in puberty, when the security parents provide is felt as a surplus to requirements and they become perceived as overly familiar, boring, and overprotective. From the sociobiological perspective, this is an adaptive development that serves to prevent incest. The relations between the variables of the security system are illustrated in Fig. 3.3.

When an object has low entropy, as shown by the unfilled arrow in Fig. 3.3, it triggers security in the organism's detector system (i.e., sensory structures), particularly if a familiar object is also highly relevant. The level of security experienced and desired depends on individual differences that change in the course of development. The older children get, the less security they need, i.e., their dependency decreases. This development seems to be influenced by the quality of early interactions with the primary caregiver (Ainsworth, 1979). The detectors also mature with time; what a small child considers complex and collative barely triggers any entropy anymore in puberty.

Figure 3.4 shows the part of the Zürich model that explicates the arousal system. It is connected to the autonomy motive, which describes facets of the achievement and power motives. Autonomous behavior is directed at implementing one's goals. It is positively related to the set point enterprise, because it necessitates direct confrontation with unfamiliar and relevant stimuli, i.e., it involves high entropy. Given a combination of high autonomy and high enterprise, arousal is perceived as pleasant and prompts diverse exploration and confrontation. The emotion of interest signals that the stimuli acting on the organism have not yet exceeded the set point for enterprise. As soon as this happens, it will be signaled by a feeling of fear, prompting the organism to take steps to remedy the excess of entropy, e.g., by flight, exploration, or aggression.

- Thus, emotions, motor activity, and the regulation of social distance differ markedly depending on whether the individual is high or low in the autonomy motive. Even when faced with essentially harmless threats, individuals high in dependency respond with concern, alarm, or even horror. It is only in environments that others find unbearably dull that they feel comfortable. The set points represent the true core of this complex system; they prompt the system to establish a dynamic balance within itself and in relation to the environment.

From the perspective of the Zürich model, the type of motivation that serves to promote development and self-actualization is the result of a balanced, developmentally graded equilibrium between security and arousal. A certain congruence can be seen here between the Zürich model and Csikszentmihalyi's motivational theory of flow, which is defined as a state of concentrated absorption in activities (Csikszentmihalyi, 1990, 1997; see Chap. 13 for details).

The ideal balance between security and arousal can be reinforced by the influence of traits. In his risk-taking model of achievement motivation, Atkinson (1957) postulated that only individuals high on the approach component of the achievement motive tend to experience maximally arousing challenges (the demands of which are appropriate to individual ability level, meaning that the probability of success is moderate) as attractive and conducive to achievement. Individuals who are afraid of failure tend to choose tasks that are either too easy or too difficult and experience conditions that elicit arousal (if unsolicited) as less stimulating than alarming.

The achievement motive begins to influence individual choices early in life, thus shaping the social environment and the level of challenge potentially experienced in ways that seem difficult to compensate. Heckhausen and Tomasik (2002) found that males approaching the end of high school in Germany only aspired to a vocational training program that matched their scholastic achievement level if they had a high achievement motive score on the OMT. Given that an early person-job fit is vital for the favorable development of job satisfaction and performance (Holland, 1997), a weak achievement motive seems to set young people off on an unfavorable path that is very difficult to change later in life.

The principle of fit. The principle of fit also seems to play a key role in the development of the achievement motive. Heckhausen (1972) saw variables such as sensumotor exploration and "wanting to do it oneself," which can be observed in the striving for control or the pleasure in functioning (*funktionslust*) as early as the second and third years of life, as the precursors of achievement motivation. Heckhausen emphasized the interaction between the parent's expectations of independence and the age appropriateness of these demands (principle of fit), assuming that parental encouragement of independent behavior would have positive effects on the achievement motive if it matched the child's level of development, i.e., did not overstretch the child. Drawing on the principle of fit, Cube (2003) attributes many of the problems of modern industrialized societies (drug addiction, listlessness, and apathy) to the tempting, but ultimately destructive approach of providing children with too much security, the outcome of which is often quite the opposite: the ceaseless pursuit of ever stronger kicks to compensate for the overriding boredom of school or work. A study by Gubler, Paffrath, and Bischof (1994) shows that it is possible to predict human behavior on the basis of these system states, although the difficulties entailed in modeling such complex systems often make it extremely difficult to test them empirically. The difficulties of empirical investigation may account for the fact that the Zürich model to date has only scarcely been put to the test, empirically. As a consequence, the Zürich model plays only a marginal role in the basic research in this area. On the other hand, Bischof's model did exert significant influence in psychologically informed market research and has been adopted for practical applications by two leading marketing companies (Häusel, 2007; Scheier & Held, 2007).

3.5.2 Kuhl's Personality Systems Interactions Theory

Personality systems interactions (PSI) theory (Kuhl, 2001) is a theory describing motivational systems. It has been developed on the basis of both systematic conceptual inquiry and experimental research (Kuhl & Beckmann, 1985, 1994) and focuses on two major questions:

- How does self-facilitation and growth result from the integration of discrepancies, incongruities, and information that is not understood spontaneously (= entropy)?
- How is volitional facilitation and enactment of intentions realized when obstacles are encountered?

3.5.2.1 The Self-Facilitation System

Two subsystems make up the Self-Facilitation System: the low-level object recognition system (ORS) and the high-level extension memory (EM). The ORS recognizes objects as single entities, be they external things, internal states, emotions, etc. Because these objects are checked against templates that have been stored in the past, the ORS is oriented toward the past. It further entails a figure-ground sharpening mechanism that makes it inflexible, in the sense that it is ill-equipped to deal with degraded input, unlike intuitive information processing, which is oriented toward the present or the future. EM is an evaluation and decision-making system based on high-level intuition. It has extensive connections to a multitude of subsystems in the brain, drawing on a broad informational base and including a great number of needs, preferences, values, and other self-aspects.

Comparable to the Zürich model, PSI theory conceives of self-facilitation as a circular system (Fig. 3.5).

A self-facilitation cycle is activated when the ORS detects discrepancies or entropy. Highly entropic stimuli are initially associated with negative affect. They are transmitted to extension memory (EM) as incongruent or threatening. Because EM is a parallel memory system that integrates the totality of personal experiences, it is able to integrate information that the ORS cannot handle or interpret by drawing on related experiences. Once the new (discrepant) information has been successfully integrated, negative affect becomes downregulated (in the terminology of PSI theory: [A(−)]).

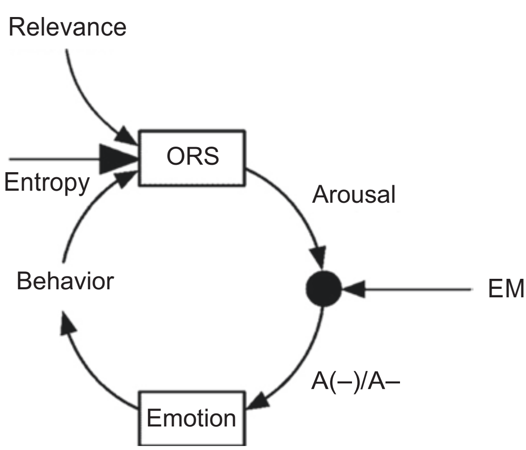

Fig. 3.5 The self-development system of PSI theory. *A –*, negative affect; *A*(−), downregulated negative affect; *EM*, extension memory; *ORS*, object recognition system

When negative affect (or arousal in the terms of the Zürich model) is not downregulated, however, which may result from individual differences in the activation of this system, negative affect (A–) persists and is translated into consciously accessible negative emotions that in turn trigger avoidance behavior.

Downregulated negative affect elicits a positively experienced emotion such as interest or acceptance, not unlike the concept of negative reinforcement in classical learning theory (Watson & Tellegen, 1985; Watson et al., 1999).

3.5.2.2 The Volitional Facilitation System

This system comprises two subsystems: the low-level intuitive behavior control (IBC) system and the high-level intention memory (IM). IBC has a double function. The first is the intuitive processing of information, involving the integration of contextual information within and across various modalities. The second is to initiate action and spontaneous reaction. Like all intuitive systems, the IBC has a rather rough but, at the same time, robust mode of operation and overlooks mistakes and incongruence. The intention memory is able to form explicit representations of intended actions. Its most important role is to inhibit immediate intuitive reactions in order to facilitate planning and analytical thinking, which would otherwise have to be terminated.

Like Piaget's sensorimotor schemata, intuitive behavior control entails a form of nonconscious perception that does not involve individual objects being extracted from their contexts but integrates numerous stimuli within parallel networks that simultaneously support intuitive motor programs. The IBC system does not interpret high-entropy stimuli as discrepant and threatening like the ORS would but finds or constructs some sort of meaning, or familiarity (reflected by the unfilled arrow representing

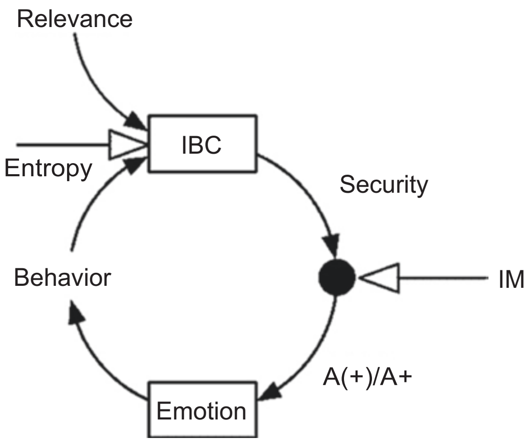

Fig. 3.6 The volitional facilitation system of PSI theory. *A*+, positive affect; *A*(+), inhibited positive affect; *IM*, intention memory; *IBC*, intuitive behavioral control

entropy in Fig. 3.6). Familiarity triggers feelings of security that can be interpreted as primary positive affect (Bischof, 1993). An adaptive feature of IBC is its speed and fun component. As a result of its connectionistic architecture, it is relatively generous, overlooking mistakes and ignoring dangers. This can be disadvantageous, particularly in the face of potential threats. A further top-down system, intention memory, is therefore responsible for monitoring and regulating the IBC system.

- IM serves to inhibit premature or irrational intuitive processing and to delay automatic responding when difficulties arise. This process is called volitional inhibition. Intentions that cannot yet be implemented are maintained in IM, to the effect that they can be enacted later.

To facilitate volitional inhibition, primary positive affect (e.g., based on security) is down-regulated (in the terminology of PSI theory: A(+)) and transformed into a negative emotion that is not characterized by fear, but by the reduction of positive affect (e.g., frustration or dejection), and that may be expressed as rational, matter-of-fact behavior, listlessness, or even depressive mood. This negative emotion inhibits approach behavior (see Kuhl, 2000, for a more detailed description).

If, on the other hand, IM is unable to inhibit IBC (e.g., because of individual differences in the activation of this system, see Chap. 12), the motivational system remains in the intuitive mode.

Summary
According to PSI theory, motivation can be seen as a function of systems interactions (or configurations). This perspective provides better explanations of complex, recurrent patterns of behavior (e.g., self-facilitation, volitional facilitation) than do isolated traits. PSI theory places particular emphasis on the (down-)regulation of affect. Regulation of positive and negative affect can be seen as a volitional act that becomes necessary whenever emotions elicited directly by a situation would not suffice for motivation or would be dysfunctional. Baumann and Scheffer (2010) report empirical evidence about the phenomenon of achievement flow (see also "Flow" addressed in Chap. 13), showing that volitional effort is involved in shifts from reduced positive affect to self-regulated activation of positive affect. These self-regulatory processes also operate outside of consciousness and are guided by the autopilot of unconscious processing (Jostmann, Koole, Van der Wulp, & Fockenberg, 2005; Koole & Jostmann, 2004).

Intuitive behavior control is more appropriate when the information to be processed relates to issues that are very familiar to the individual, however complex they may be, e.g., social interaction. It is also the preferred – and often more efficient – approach when time is short and in the face of unexpected situations or spontaneous yielding to temptations.

Whenever a critical analysis of objects is required (e.g., because there is a problem to be solved), these intuitive behavioral routines have to be interrupted quickly and the analytical, systematic mode activated. This mode is appropriate when an important decision has to be made, when there is plenty of time, and when it is not yet clear how to proceed.

Scheffer and Kuhl (2006, 2010) have described the advantages and disadvantages of each approach for various occupational activities, underlining the practical value that classifications based on systems configurations can have for studies of everyday behavior in occupations and organizations. For some time now, personnel psychologists have emphasized that compound variables – e.g., service orientation as a combination of the traits of extraversion, agreeableness, and dispositional achievement motivation – have much higher validity than individual traits when it comes to explaining and predicting patterns of behavior that are highly significant at the workplace, e.g., the capacity for teamwork, service orientation, and leadership potential (Schneider, Hough, & Dunnete, 1996). The availability of implicit methods to measure personality systems which exclusively use visual items and can be done quickly with large samples while still achieving good psychometric properties further (Scheffer & Manke, 2017) increases the practical relevance of the PSI theory.

Finally, it remains to note that systems theory may be criticized to the extent that assuming systems configurations to be the basis for motivation further complicates the classification problem previously discussed. It is then no longer a question of how many universally verifiable traits are involved in human motivation, but of which of these traits universally and verifiably interact with one another to create more complex, higher-order traits of predictive value that direct and guide a broad spectrum of functionally equivalent forms of adaptive and expressive behavior. The functional profiles of the systems and their interactions are nomothetic. Given the multitude of possible combinations, however, the precise configuration of a personality system will always be unique. Ultimately, then, investigation of system configurations must take a complementary, idiographic perspective that emphasizes the unique pattern of traits present in each individual and their interactions with environmental variables. This brings us back to an idiographic perspective on individual differences, though on a higher level of systems theory, integrating person and situation across the developmental trajectory of the lifespan.

3.6 Carver and Scheier's Model of Dynamic Self-Regulation

The intellectual roots of this influential approach go back to Cannon's (1932) descriptions of homeostatic processes and to Wiener's (1948) cybernetic formulas of communication and control processes, which go on in organic as well as artificial systems. The following section addresses the aspects of Scheier and Carver's model that are relevant for trait approaches to motivation.

What are the important contributions of the Carver and Scheier model for the development of a comprehensive trait theory of motivation? Carver and Scheier (2002) argue that the constructs of homeostasis and cybernetics are essential for understanding personality processes are still not yet directly applied in the field. The theories of Julius Kuhl and of Norbert Bischof as outlined previously (and with regard to Kuhl's theory in Chap. 12) are exceptions in this regard. Moreover, recent developments in personality psychology that have adopted constructs of goal pursuit (see review in Scheffer & Kuhl, 2010) have also called attention to the logic of cybernetic self-regulation. In particular, Carver and Scheier's model of processes involved in goal pursuit has used these constructs to bring important phenomena and constructs into sharper focus.

Processes of goal pursuit involve a feedback loop that reduces discrepancy in the case of positive or approach goals and that enhances discrepancy in the case of negative or avoidance goals (also referred to as anti-goals) (Carver & Scheier, 1998, 1999, 2000). Behavior can thus be viewed as the result of feedback processes involving a cybernetic system with four elements:

1. A comparator that compares actual and desired value
2. The neuronal capacity to represent a goal or standard of reference frame (desired value)
3. A channel for inputting information into the actual value
4. The means to influence the actual value (output channel)

These four elements appear straightforward, but we owe the insight into their specific structural and functional characteristics to Carver and Scheier's reasoning. The specific structural and functional characteristics of these four elements play a major role in the workings of personality systems, and this is what matters in the context of this chapter on trait approaches to motivation. The sometimes-conflicted, sometimes-cooperative psychodynamic of different subsystems varies across interindividual differences in personality systems (as also conceived by Allport). These differences are apparent because different personality systems:

1. Compare actual and desired values differently, depending on how the comparator works, which in turn is a function of which personality system is dispositionally activated.
2. Represent desired values, reference frames, and goals differently.
3. Process input information differently.
4. Facilitate or inhibit certain behaviors in different ways (specific personality systems have their own specific output channels).

For example, some people compare actual and desired values explicitly by listing and weighing them, whereas other people make such comparisons more implicitly by using intuitive-holistic heuristics. Depending on such personality difference, the comparator (see #1) is bound to work differently. The desired values (see #2) also vary according to the personality type. Some people form specific and measureable goals, whereas others generate vague goal paths without including a specific timing for goal pursuit and attainment. In addition, the input for determining the actual values (see #3) is subject to selective perception. Some people see their goal attainment under threat whenever even a small obstacle occurs, whereas others do not become aware of obstacles until it is almost too late. Finally, there are also individual differences in the output of behavioral regulation (see #4). A case in point is the personality dimension of impulsivity versus passivity.

Carver and Scheier's model conceptualizes personality as the product of a dynamic system that generates approach and avoidance behaviors (Carver, 2001, 2006). They view individual differences in the degree of approach and avoidance behaviors in the context of a dynamic system of personality. This approach integrates empirical insights from neuropsychology, psychopathology, and psychopharmacology about neurostructural bases of discrepancy-enhancing and discrepancy-reducing feedback loops.

In the case of an approach motive, the feedback loops serve to reduce the discrepancy between actual and desired (i.e., goal) values. In these negative (!) feedback loops, positive emotions (e.g., love, pride) play a major role. These positive emotions are attainable only via advances in goal attainment. Otherwise, they switch over to negative emotions (e.g., unrequited love).

Some negative emotions serve as approach goals and result from blocked approaches to a desired goal (Carver, 2006). A prime example is anger, an emotion that motivates an individual to make up for lost ground in goal pursuit. In contrast, sadness implies that further attempts at goal pursuit will be futile.

Avoidance goals involve an inverse relationship in that they aim at increasing the distance between the actual state and an undesired state (anti-goal). Initially, avoidance striving involves negative emotions such as fear, disgust, or contempt. These negative emotions switch over to positive emotions of relief and gratification as the individual is successful in avoiding the undesired state. Another characteristic of discrepancy-enhancing processes is that they – unlike discrepancy-reducing processes – have no particular direction, except away from the undesired state.

People differ with regard to their sensitivity to approach goals versus avoidance goals. Given that these two systems can be conceived as independent from each other, we arrive at four types of personality: high approach and high avoidance, high approach and low avoidance, low approach and high avoidance, and low approach and low avoidance. These personality types can be identified using the BIS or BAS scales (i.e., Behavior Inhibition or Approach Scales) and, for optimism, the LOT scales (i.e., Life Orientation Test). The two extremes of high-high and low-low can be contrasted and identified clearly:

1. The high-low types can mostly (see the following exception) be classified as optimists. They are responsive to positive, not negative, incentives in terms of approaching positive states and ignoring negative threats. These people are unlikely to adjust their frame of reference downward if they experience a setback. They try to change the situation, not their standard for success.
2. The low-high types can be classified as pessimists. They are highly responsive to negative, not positive, incentives. When confronted with a setback, they are likely to adjust their frame of reference downward, giving up their standards for success more easily than striving to change the situation. The downscaling of goals may be adaptive if it reflects a realistic assessment of the situation and the controllability of goal attainment that facilitates the pursuit of feasible goals (Carver & Scheier, 2000).

Optimists and pessimists differ in their coping behavior, with optimistic coping not always being the adaptive choice. In a study with women patients who had early-stage breast cancer, Carver and colleagues (1993) identified the following coping strategies as adaptive:

- Acceptance
- Humor
- Positive reframing (reassessing values)

Notably, the Carver and colleagues study (1993) also found a negative effect of optimism in terms of enhancing the maladaptive coping strategy of denial. If the approach is overly positive and denies realities, coping with a serious illness is hampered. Overall, however, optimism was associated with adaptive strategies of acceptance, humor, and positive reframing, whereas pessimism was related to prematurely giving up, the most detrimental of all coping strategies. Carver and colleagues thus showed how coping strategies mediate the effect of personality differences of optimism versus pessimism on individuals' physical health and subjective well-being.

Hence, optimism can be characterized as the propensity to remain focused on important goals in life, even under adverse circumstances. In this regard, it resembles Kuhl's construct of action orientation. Both of these personality constructs emphasize the role of realistically perceiving threats and overcoming negative affective responses to threats. Being optimistic is not simply wishing one's problems away and in this sense cannot be equated with sensitivity to negative events but instead involves intermediate sensitivity to negative events coupled with high responsiveness to positive events. So when confronted with a chronic illness, for instance, the optimist will act following the guideline of actively addressing the new reality, whereas the pessimist would view the new reality as exceeding his or her coping capacity.

When observing a dynamic system for a longer period of time, certain behavioral strategies become more salient than others. In Carver and Scheier's model of dynamic self-regulation, these locations of greater probability are referred to as *attractors* (Carver, 2006). An example is the tendency of some people to select specific avoidance goals and vague approach goals, which leads them to respond to all challenges with avoidance and to all positive incentives with half-hearted approach attempts. The attractor for such a person is located on the periphery of both negative and positive incentives and will cause the individual to behave fairly consistently, avoiding negative incentives yet not striving for specific positive incentives (see Allport's definition and examples of traits).

A system can have more than one attractor, which typically means that neither attractor captures the behavior entirely. At first glance, the shifts of behavior from being regulated by one attractor to being regulated by the other can appear chaotic and random. However, these apparent inconsistencies can be understood when considering the structure and functionality of the system. The complement to attractors is *repellers*, states that are actively avoided by the system (e.g., feeling embarrassed in front of others).

Complex systems have the capacity for self-organization. The diverse forces interact in such a way that not one force can determine the system function. These dynamic and interactive systems spontaneously generate patterns of behavior, a notion that does not leave room for a central executive, such as the free will that could force the system in a certain direction. Such a model of self-organization is hard to apply to living and acting systems such as the human individual and thus is regarded by many merely as a descriptive metaphor (Carver & Scheier, 2002). However, at the level of organizing perception, the model of self-organization has significant benefits, because it accounts for preconscious perceptual and behavioral biases that reflect both situational stimuli and internal forces. The Carver and Scheier model of dynamic self-regulation conceptualizes the personality of the individual as a major determining force in the self-organization of perception and behavior. As such, their dynamic system model of self-regulation has significantly expanded our understanding of personality traits involved in motivation and action regulation.

3.7 Allport's Idiographic Approach

Observers of human behavior intuitively believe that they differ consistently from other people across a broad range of situations. Personality and differential psychologists were, and continue to be, of the same opinion. It thus seemed reasonable to assume that individual differences in behavior in all manner of future situations could be reliably predicted on the basis of individual trait strength. When scholars sought to confirm this assumption in empirical research, however, the consistency of behavior proved to be disappointingly low. Bem and Allen (1974) labeled this phenomenon, which has been the subject of considerable discussion, the consistency paradox.

Hartshorne and May (1928, 1929) placed children in situations where they had the opportunity to cheat, deceive, or steal. In a test situation, e.g., they could copy from their peers or surreptitiously continue to work after they had been told to stop. The correlation coefficients indicated that the consistency of behavior was rather low (between 0.20 and 0.40). Children who cheated in one situation were unlikely to do so in another. Those who cheated in one subject were honest in another. Upon closer consideration, this should not come as a surprise. After all, behavior is determined by the way the individual perceives the situation at hand, and not by the objective perspective of the observing psychologist. Yet it is the latter who assigns the various behaviors to a particular class – defining them, for example, as tempting situations that might induce someone to act dishonestly or deceptively.

To avoid the "nomothetic fallacy" (Bem & Allen, 1974) of this approach, it is first necessary to determine which classes of situations and related behaviors are equivalent from the perspective of each individual. Only then can the consistency of behavior be assessed. In other words, we can only expect consistency in an individual's behavior within subjectively equivalent classes of situations and actions (cf. Bem & Allen, 1974). In the final analysis, equivalence is defined by what the individual perceives as "equifinal" (Brunswik, 1952, 1956), i.e., as producing equivalent outcomes. Hence, two or more situations or actions may be seen as equivalent because they promise the same desirable outcomes or threaten to bring about the same undesirable outcomes. Therefore, a student may decide to cheat in only one of two subjects, because it is here that her grades are in need of improvement. Another student may take the opportunity to carry on working in secret but decide not to copy from her neighbor, because it would simply be too embarrassing to get caught.

Furthermore, Hartshorne and May found that consistency also depends on the broader context in which opportunities to deceive are embedded. Students who cheat in class will not necessarily do so in competitive sports or at Sunday school. Just these few examples show three things: first, that equivalence classes of situations and actions must be individually determined; second, that they are connected and interrelated; and third, that they are shaped and held together by expectations of achieving desirable goals (values) or avoiding undesirable outcomes. Ultimately, then, the outcomes that people are able to bring about in a given situation determine classes of equivalence and hence consistency. G. W. Allport was already aware of this in 1937, when he defended the trait concept against the situational explanations of Hartshorne and May. He suggested that low consistency correlations proved only that "children are not consistent in the same way, not that they are inconsistent within themselves" (Allport, 1937, p. 250).

The inconsistencies observed are also caused by researchers assuming their respondents consider the same behaviors and situations as they do to be equivalent, and thus pooling them in questionnaire items and manipulated situations. This assumption is highly questionable, however. In his theory of the architecture of personality, Cervone (2004) suggested that both the contents of knowledge (about oneself and others) and the way this knowledge is linked to certain situations vary idiosyncratically; people who describe themselves using the same construct (e.g., "I am extraverted") may relate this construct to very different circumstances. As such, findings of inconsistency do not reflect transsituational inconsistencies in individual behavior as much as a lack of agreement between researchers and study participants on what constitute equivalent situations and equivalent behaviors. Before trait consistency can be studied, respondents would first have to be pretested to determine idiosyncratic equivalence classes of situations and actions and be divided into groups accordingly. This explains why people do not question the transsituational consistency of traits in everyday life. Unlike empirical psychologists, we do not seem to work on the assumption that there are generally valid (nomothetic) classes of situations and actions. Rather, we proceed idiographically, differentiating and categorizing situations and actions to fit the particularities of each individual case.

McClelland (1985) illustrated this point with an example that we would like to reproduce here in slightly modified form.

Example
What would you think of a dog that barks and bites, howls, scratches, jumps up, rolls on the ground, stretches out its neck, and finally urinates – all within a period of 10 min? You might see this behavior as thematically disconnected, inconsistent, or even disorganized. Looking at the situation from the dog's perspective, however, you would have to revise this interpretation immediately. Only then would you realize that the dog had not been fed for a week and that the owner was now approaching the kennel with a large piece of meat but showing no signs of handing it over. Driven by the need for food, the dog applies all of the strategies available in its behavioral repertoire to obtain the food. From the dog's perspective, then, the behavior is entirely consistent.

McClelland (1975) provides an impressive overview of the different strategies that people apply to gain power and status (e.g., accumulating status symbols, ensuring that they are the center of attention, associating with powerful individuals or organizations, helping others without being asked, criticizing others, etc.). In certain situations, people try out all of the strategies available to them in succession. This behavior may seem inconsistent to the outside observer, but is not at all inconsistent from the idiographic perspective – behaviors that seem qualitatively very different are in fact equivalent forms of adaptive and expressive behavior serving to satisfy (in this case) the power motive.

From the perspective of evolutionary psychology, it makes sense to consider motives and behavioral strategies separately. In complex social interactions, a strong autonomy or power motive can rarely be implemented by means of a single behavioral strategy. The more ambiguous situations become and the more often people encounter differently structured situations, the more important it is for them to be able to switch flexibly between different systems configurations in order to satisfy their motives. MacDonald (1988) used the term compartmentalization to emphasize that people behave very differently in different situations – callously to their foes and warmly to their friends, for example. High consistency of behavior is not an evolutionary end in itself; like all other behavioral patterns, its adaptive value is tested over the course of natural selection. The fact that flexibility in the application of different behavioral strategies has the appearance of consistency from the subjective perspective is not a contradiction in terms but accentuates the need for an idiographic approach to complement nomothetic research.

We cannot assume consistency on the motive level, either, because the various motives have to compete with one another for access to the stream of behavior, which thus takes a dynamic course that is hard to predict (Atkinson & Birch, 1970; Kuhl & Blankenship, 1979). The resulting *behavioral oscillations* are not necessarily subjectively perceived as inconsistent, however; it can be part of the stable core of a personality to switch from one motive to another in certain situations. Equally, a motive conflict might characterize the consistency of a biography from the idiographic perspective, rendering many different situations equivalent across the life course.

Based on Allport's trait theory presented at the beginning of this chapter, a high consistency of behavior can only be expected when one motive is so strong that it dominates the others. Indeed, in operant tests such as the OMT (Chap. 12), high internal consistencies of thematic responses are found only in groups high or low in one of the three primary motives (Scheffer et al., 2003). Individuals with average motive strength, in contrast, show inconsistent response behavior across the different picture cues. From the idiographic perspective, these responses are by no means inconsistent, because each individual interprets the ambiguous picture cues on the basis of his or her own prior experience, thus giving them coherent meaning (see Cervone, 2004).

Summary

There are two reasons for complementing the nomothetic perspective by an idiographic approach that emphasizes the unique pattern of traits present within each individual. It is precisely in the normal ranges of motive strength that diagnosticians (professionals and laypeople alike) can only usefully describe and characterize individuals by taking an approach that acknowledges the context dependence and the underdetermined nature of behavioral and biographical trajectories and recognizes the role of personal goals (Baltes & Staudinger, 2000; Sternberg, 2003; Scheffer & Manke, 2013). In acknowledging the limits of the nomothetic perspective, however, we do not mean to imply that it is entirely without merit, as we aimed to show in this chapter by proceeding gradually from the nomothetic to the idiographic. Both approaches have their advantages and disadvantages and should therefore be considered complementary. They should ultimately be combined in such a way that the nomothetic approach is able to show how idiographic variety emerges from certain nomothetic regularities.

Longitudinal studies show that highly effective models and theories can be derived from the study of motivation; it is possible to predict behavior in disparate domains over very long time periods (up to 16 years!) on the basis of motives and traits. Domains examined to date include intimate relationships and psychosocial adjustment (McAdams & Vaillant, 1982), number of divorces and jobs (Winter et al., 1998), promotion to top positions in a large company (McClelland & Boyatzis, 1982), and business activities (McClelland, 1965).

Although trait theories only permit the prediction and change of human motivation in a statistical sense and although predictions are restricted to the probability of a certain behavior occurring later in life, these findings clearly confirm that – to draw on Kurt Lewin – there is nothing more practical than a good theory.

Review Questions

1. *Define the concept of trait and give an example.*

   A trait is a neuropsychic system with the capacity to render many stimuli functionally equivalent and to initiate and guide equivalent (consistent) forms of adaptive and expressive behavior, for example, the achievement motive (Fig. 3.1).

2. *How can the traits of the five-factor model be interpreted?*

   The Big Five traits can be interpreted as dispositionally heightened sensitivity to certain emotions. The dimensions distinguished are extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness. These five traits are assumed to be endogenous.

3. *What do the five-factor model and Cattell's trait theory have in common and where do they differ?*

   Both theories are based on the sedimentation hypothesis, the lexical approach, and the method of factor analysis. Cattell's theory is much broader than the five-factor model, however, in that it covers dynamic ergs as well as endogenous traits.

4. *Why did McDougall's instinct-based classification of motives fall into disrepute in scientific circles?*

   Attempts to infer instincts that underlie behavior can lead to circular reasoning, with every observable behavior being attributed to a corresponding instinct. Inspired by McDougall's list of instincts, it became common practice, particularly in neighboring disciplines such as sociology and political science, to attribute all behavioral phenomena to a specific instinct. For example, war was attributed to an aggressive instinct. At the same time, the fact that people fight wars was cited as evidence for the presence of an aggressive instinct.

5. *What did Murray mean by thema, and how did he seek to measure individual differences?*

   Murray used the term thema to describe person-environment relations, which he saw in terms of interactions between need (person) and press (environment). He developed the Thematic Apperception Test to measure individual differences in the relative strength of themas.

6. *Which are the needs identified in Maslow's hierarchical model?*

   Maslow's hierarchy ranges from existential, physiological needs via security needs, needs for belongingness and love, and esteem needs to the value of self-actualization at the very top of the hierarchy.

7. *Discuss the adaptive value of emotions.*

   Emotion-specific processing of information can help initiate a prompt response to the situation at hand. If people relied solely on the cognitive, argumentative processing of information, involving the analytical elaboration and subsequent integration of incentive and expectancy features, there would be long delays in responding to the situation. Their eventual responses, although fitting, would come too late and thus be inappropriate to the situational demands. The disadvantage of purely emotion-specific information processing is its context specificity, which may lead to a shortfall in abstract, situation-transcending action strategies.

8. *What are the three basic principles of systems theory models of motivation? What do these principles imply for our understanding of motive dispositions?*

   Personality is a complex system involving the interaction of multiple, highly integrated processes. These interacting processes are rooted in basic cognitive and affective systems that initiate and direct behavior. The personality interacts with the environment, and the initiated behavior contributes to shaping the environment. From this perspective, motivational dispositions can be interpreted as systems configurations. In other words, several independent dispositions such as high levels of enterprise, autonomy, and intuitive behavioral control can be interconnected, jointly rendering numerous stimuli functionally equivalent and initiating consistent (equivalent) forms of adaptive and expressive behavior. As the systems configuration takes effect on the environment, the latter can change the system configuration (reciprocal interactionism), such that behavior becomes inconsistent, even though the dispositions involved remained stable.

9. *What is the consistency paradox?*
   The inconsistencies frequently observed in behavior are caused by researchers assuming their respondents to consider the same behaviors and situations as they do to be equivalent, and thus pooling them in questionnaire items and manipulated situations. This kind of approach might lead a researcher to assume, for example, that someone who is dominant at work behaves the same way at home. For some respondents, however, assertive behavior in the private sphere will not mean a discernible gain in status. Thus, there is no incentive in this context for their idiographic power motive. From the respondents' own perspective, they are behaving entirely consistently, because dominance in the family circle cannot satisfy their power motive (the reverse case is also conceivable).

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