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Chapter 5

A Five-Factor Theory of Personality

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EMPIRICAL AND CONCEPTUAL BASES OF A NEW THEORY

In a narrow sense, the Five-Factor Model (FFM) of personality is an empirical generalization about the covariation of personality traits. As Digman and Inouye (1986) put it, "If a large number of rating scales is used and if the scope of the scales is very broad, the domain of personality descriptors is almost completely accounted for by five robust factors" (p. 116). The five factors, frequently labeled Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C), have been found not only in the peer rating scales in which they were originally discovered (Tupes & Christal, 1961/1992) but also in self-reports on trait descriptive adjectives (Saucier, 1997), in questionnaire measures of needs and motives (Costa & McCrae, 1988), in expert ratings on the California Q-Set (Lanning, 1994), and in personality disorder symptom clusters (Clark & Livesley, 1994). Much of what psychologists mean by the term *personality* is summarized by the FFM, and the model has been of great utility to the field by integrating and systematizing diverse conceptions and measures.

In a broader sense, the FFM refers to the entire body of research that it has inspired, amounting to a reinvigoration of trait psychology itself. Research associated with the FFM has included studies of diverse populations (McCrae, Costa, del Pilar, Rolland & Parker, 1998), often followed over decades of the lifespan (Costa & McCrae, 1992c); employed multiple methods of assessment (Funder, Kolar, & Blackman, 1995); and even featured case studies (Costa & McCrae, 1998b; McCrae, 1993-94). As Carlson (1984) might have predicted, these diverse research strategies have paid off handsomely in substantive findings: The FFM "is the Christmas tree on which findings of stability, heritability, consensual validation, cross-cultural invariance, and predictive utility are hung like ornaments" (Costa & McCrae, 1993, p. 302). After decades of floundering, personality psychology has begun to make steady progress, accumulating a store of replicable findings about the origins, development, and functioning of personality traits (McCrae, 1992).

But neither the model itself nor the body of research findings with which it is associated constitutes a theory of personality. A theory organizes findings to tell a coherent story, to bring

into focus those issues and phenomena that can and should be explained. As Mayer (1998) argued, personality may be viewed as a system, and an adequate theory of personality must provide a definition of the system, a specification of its components, a model of their organization and interaction, and an account of the system's development. Five-Factor Theory (FFT; McCrae & Costa, 1996) represents an effort to construct such a theory that is consistent with current knowledge about personality. In this chapter we summarize and elaborate it.

The FFM and Trait Theory

Although the FFM is not a theory of personality, McCrae and John (1992) argued that it implicitly adopts the basic tenets of *trait theory*—that individuals can be characterized in terms of relatively enduring patterns of thoughts, feelings, and actions; that traits can be quantitatively assessed; that they show some degree of cross-situational consistency; and so on. The hundreds of studies of personality correlates that employ measures of the FFM both presume and confirm that personality traits exist.

It is therefore somewhat surprising that, in a recent volume on the theoretical basis of the FFM (Wiggins, 1996), some of the psychologists most closely associated with the FFM explicitly disavowed a trait perspective. Saucier and Goldberg (1996) stated that their "lexical perspective is not an instance of 'trait theory,'" which they describe as "a rubric that may have no meaning outside introductory personality texts" (p. 25). They are concerned only with the phenotypic level of personality and do not even presume that trait descriptive adjectives refer to temporally stable attributes. Hogan (1996), who advocates a socioanalytic perspective, argued that personality attributes are not neuropsychic structures within the individual but "categories that people use to evaluate one another" that "reveal the amount of status and acceptance that a person has been granted" (p. 173). Responses to personality questionnaires, according to Hogan, are not veridical self-descriptions but strategic self-presentations; socioanalytic theory does not presume that there is any "link between item endorsements and other behavior" (p. 176). Wiggins and Trapnell (1996) follow Sullivan in seeing the locus of personality not within the individual, but in patterns of interpersonal relationships; their major conceptual orientation is

guided by the metatheoretical concepts of agency and communion.

Perhaps these positions can be understood historically as reactions to the disrepute into which traits had fallen in the 1970s. Today, however, they seem needlessly modest: Why restrict theoretical ambitions to the phenotypic level? Why not hypothesize temporal stability for traits when stability is already well documented? Why doubt neuropsychic structures exist when the heritability of traits has been amply replicated? Why locate personality in interpersonal space when we can understand interpersonal behavior as a result of characteristics within the individual (Côté & Moskowitz, 1998)? FFT is unabashedly a trait theory, making full use of the empirical results of the last two decades that constitute the FFM in the broader sense.

Personality traits are recognized by laypersons, who have a rich vocabulary for describing themselves and others (e.g., *anxious, bold, curious, docile, efficient*), and traits have been formally studied by psychologists from Francis Galton to Gordon Allport to Hans Eysenck. Despite theoretical distinctions, on an empirical level other individual difference variables (including needs, types, and folk concepts) appear to be closely related to traits (Costa & McCrae, 1988; McCrae & Costa, 1989; McCrae, Costa, & Piedmont, 1993). In fact, most psychological questionnaires measure some form of personality trait.

Traits (under one name or another) have proven so very interesting to personality psychologists because they explain much of what defines the individual person—the chosen focus of personologists. Universal characteristics—like the need for oxygen or the capacity for language—tell us much about the species but nothing about the individual. Conversely, specific behaviors, transient moods, and biographical details tell us about the individual-in-context but may not permit generalizable insights. From the perspective of trait theory, these two levels appear to yield only truisms and trivia. By contrast, traits point to more-or-less consistent and recurrent patterns of acting and reacting that simultaneously characterize individuals and differentiate them from others; and they allow the discovery of empirical generalizations about how others with similar traits are likely to act and react.

As a practical matter, trait psychologists do routinely ignore the universal and the particular in their research. Except when dealing with very

unusual populations, trait researchers do not bother to remind readers that their subjects could understand the questionnaires, had self-concepts on which to base their self-reports, and continued to breathe normally for the duration of the testing session. Nor, except in the occasional case study, do they give concrete instances of how traits are expressed in specific times and circumstances.

But a theory of personality cannot afford to ignore these two levels of explanation. Part of making sense of trait findings requires putting them into a broader context and showing how they in turn form the context for specific behaviors and individual lives. In Mayer's (1998) terminology, the trait system must be identified in terms of its boundaries with other systems, higher and lower. These links will form a recurrent theme in this chapter.

Assumptions about Human Nature

The trait perspective, like every psychological theory, is based on a set of assumptions about what people are like and what a theory of personality ought to do. Most of these assumptions—for example, that explanations for behavior are to be sought in the circumstances of this life, not karma from a previous one—are implicit. FFT explicitly acknowledges four assumptions about human nature (cf. Hjelle & Siegler, 1976)—*knowability*, *rationality*, *variability*, and *proactivity*; all of these appear to be implicit in the standard enterprise of trait research.

Knowability is the assumption that personality is a proper object of scientific study. In contrast to some humanistic and existential theories that celebrate human freedom and the irreducible uniqueness of the individual, FFT assumes that there is much to be gained from the scientific study of personality in individuals and groups.

Scientific study does not necessarily imply experimentation, and we do not agree with Eysenck (1997) that a persuasive paradigm for personality psychology must involve a unification of correlational and experimental methods. Science proceeds by many methods and works best when the method is dictated by the nature of the problem rather than academic fashion and prestige. In particular, correlational methods can capitalize on natural experiments, especially in longitudinal, twin, and cross-cultural studies. Yang, McCrae, and Costa (1998), for example, looked at the impact of China's Cultural Revolu-

tion on personality formation—an experimental manipulation whose scope, intensity, and duration could never be matched in the laboratory.

Rationality is the assumption that, despite errors and biases (e.g., Robins & John, 1997), people are in general capable of understanding themselves and others (Funder, 1995). In this respect, psychology is an unusual science. Physicians would not ask their patients to estimate their own white blood cell count, because patients could not be expected to possess such information. But trait psychologists routinely—and properly—ask people how sociable or competitive or irritable they are and interpret the answers (suitably aggregated and normed) as meaning what they say. Psychologists are able to do this because with respect to personality traits, laypersons are extraordinarily sophisticated judges who employ a trait language evolved over centuries to express important social judgments (cf. Saucier & Goldberg, 1996).

The assumption of rationality does not mean that FFT is merely folk psychology. Lay understanding is largely limited to the phenotypic level, whereas FFT attempts to account for the genotypic level and its operations. People understand whether someone is arrogant or modest, but they do not intuitively know the heritability of modesty, or its lifespan developmental course, or its evolutionary significance. Trait psychology is thus like representational art: Viewers recognize the face or flower, although they may know nothing about the laws of perspective or the techniques of overpainting.

Variability asserts that people differ from each other in psychologically significant ways—an obvious premise for differential psychology. Note, however, that this position sets trait theories apart from all those views of human nature, philosophical and psychological, that seek a single answer to what human nature is really like. Are people basically selfish or altruistic? Creative or conventional? Purposeful or lazy? Within FFT, those are all meaningless questions; *creative* and *conventional* define opposite poles of a dimension along which people vary.

Proactivity refers to the assumption that the locus of causation of human action is to be sought in the person. It goes without saying that people are not absolute masters of their destinies, and that (consistent with the premise of variability) people differ in the extent to which they control their lives. But trait theory holds that it is worthwhile to seek the origins of behav-

ior in characteristics of the person. People are neither passive victims of their life circumstances nor empty organisms programmed by histories of reinforcements. Personality is actively involved in shaping people's lives.

It is important to recognize that proactivity of personality is not equivalent to proactivity of the person; one's proactive basic tendencies are not necessarily the same as one's conscious goals. Failure to adhere to a diet may be as much an expression of one's personality as success in dieting; anxiety and depression may be one's own natural, albeit noxious, way of life.

A UNIVERSAL PERSONALITY SYSTEM

Personality traits are individual difference variables; to understand them and how they operate, it is necessary to describe personality itself, the dynamic psychological organization that coordinates experience and action. Previously (Costa & McCrae, 1994; McCrae & Costa, 1996), we have described our account of this as a "model of the person," but to distinguish it from the five-factor model, it would perhaps be better to call it

the FFT *personality system* and to describe it in the terms that Mayer (1998) used for his systems framework. It is represented schematically in Figure 5.1.

Components of the Personality System

The personality system consists of components that correspond to the definitions of FFT and dynamic processes that indicate how these components are interrelated—the basic postulates of FFT. The definitions would probably seem reasonable to personologists from many different theoretical backgrounds; the postulates distinguish FFT from most other theories of personality and reflect interpretations of empirical data.

The core components of the personality system, indicated in rectangles, are designated as *basic tendencies*, *characteristic adaptations*, and the *self-concept* (actually a subcomponent of characteristic adaptations, but one of sufficient interest to warrant its own box). The elliptical peripheral components, which represent the interfaces of personality with adjoining systems, are labeled *biological bases*, *external influences*, and the *objective biography*. Figure 5.1 can be interpreted cross-sectionally as a diagram of how

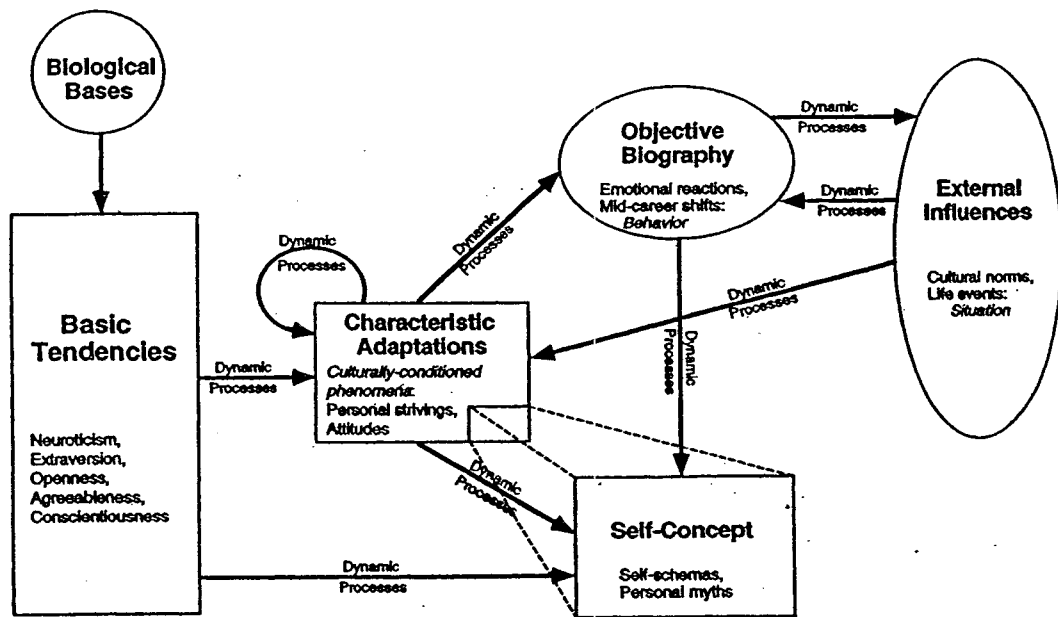


FIGURE 5.1. A representation of the five-factor theory personality system. Core components are in rectangles; interfacing components are in ellipses. Adapted from McCrae and Costa (1996).

TABLE 5.1. Some Examples of FFT Personality System Components

Basic tendencies	Characteristic adaptations	Objective biography
Neuroticism N3: Depression (a tendency to experience dysphoric effect—sadness, hopelessness, guilt)	Low self-esteem, irrational perfectionistic beliefs, pessimistic attitudes	"Betty" (very high N3) feels guilty about her low-prestige job (Bruehl, 1994).
Extraversion E2: Gregariousness (a preference for companionship and social stimulation)	Social skills, numerous friendships, enterprising vocational interests, participation in sports, club memberships	J.-J. Rousseau (very low E2) leaves Paris for the countryside (McCrae, 1996).
Openness to Experience O4: Actions (a need for variety, novelty, and change)	Interest in travel, many different hobbies, knowledge of foreign cuisine, diverse vocational interests, friends who share tastes	Diane Ackerman (high O4) cruises the Antarctic (McCrae, 1993–1994).
Agreeableness A4: Compliance (a willingness to defer to others during interpersonal conflict)	Forgiving attitudes, belief in cooperation, inoffensive language, reputation as a pushover.	Case 3 (very low A4) throws things at her husband during a fight (Costa & McCrae, 1992b).
Conscientiousness C4: Achievement Striving (strong sense of purpose and high aspiration levels)	Leadership skills, long-term plans, organized support network, technical expertise	Richard Nixon (very high C4) runs for President (Costa & McCrae, in press).

personality operates at any given time; in that case the external influences constitute the situation, and the objective biography is a specific instance of behavior, the output of the system. Figure 5.1 can also be interpreted longitudinally to indicate personality development (in basic tendencies and characteristic adaptations) and the unfolding of the life course (objective biography).

It may be helpful to consider some of the substance of personality to flesh out the abstractions in Figure 5.1. Table 5.1 presents some examples. For each of the five factors, an illustrative trait is identified in the first column of the table. The intrapsychic and interpersonal adaptations that develop over time as expressions of these facet traits are illustrated in the second column, and the third column mentions an instance of behavior from an individual characterized by the high or low pole of the facet.

At present, FFT has relatively little to say about the peripheral components of the personality system. Biological bases certainly include genes and brain structures, but the precise mechanisms—developmental, neuroanatomical, or psychophysiological—are not yet specified. Similarly, FFT does not detail types of external influences or aspects of the objective biography.

Like most theories of personality, FFT presumes that "situation" and "behavior" are more or less self-evident.

What FFT does focus attention on is the distinction between basic tendencies (abstract psychological potentials) and characteristic adaptations (their concrete manifestations). Somewhat similar distinctions have been made by others—for example, in the familiar contrast of genotypic and phenotypic traits (Wiggins, 1973/1997) and in McAdams's (1996) distinction between Level 1 and Level 2 personality variables. FFT, however, insists on a distinction that other theories usually make only in passing, and it assigns traits exclusively to the category of basic tendencies. In FFT, traits are not patterns of behavior (Buss & Craik, 1983), nor are they the plans, skills, and desires that lead to patterns of behavior (Johnson, 1997). They are directly accessible neither to public observation nor to private introspection. Instead, they are deeper psychological entities that can only be *inferred* from behavior and experience. Self-reports of personality traits are based on such inferences, just as observer ratings are.

Although it smacks of obfuscation, there are good reasons to uncouple personality traits from

the more observable components of personality. Characteristic adaptations—habits, attitudes, skills, roles, relationships—are influenced both by basic tendencies and by external influences. They are *characteristic* because they reflect the enduring psychological core of the individual, and they are *adaptations* because they help the individual fit into the ever-changing social environment. Characteristic adaptations and their configurations inevitably vary tremendously across cultures, families, and portions of the lifespan. *But personality traits do not:* The same five factors are found in all cultures studied so far (McCrae & Costa, 1997b); parent-child relations have little lasting effect on personality traits (Rowe, 1994; see also Fraley, 1998, on the precipitous drop in the continuity of attachment); and traits are generally stable across the adult lifespan (McCrae & Costa, 1990). These well-replicated empirical generalizations make sense only if personality traits are insulated from the direct effects of the environment. Human nature is proactive because personality traits are endogenous basic tendencies (McCrae, Costa, Ostendorf, et al., 1998).

Operation of the System

The welter of arrows in Figure 5.1 indicate some of the most important paths by which personality components interact. The plural *processes* is used because many quite distinct processes may be involved in each pathway. For example, the arrow from objective biography to self-concept implies that we learn who we are in part from observing what we do. But interpreting what we have done may involve social comparison, selective attention, defensive denial, implicit learning, or any number of other cognitive-affective processes. (Evolutionary psychologists such as Buss, 1991, have also emphasized that there are likely to be a very large number of evolved psychological mechanisms for specific problems in adaptation.)

One implication is that personality theories that posit a small handful of key dynamic processes (repression, learning, self-actualization, getting ahead and getting along) are unlikely to prove adequate. Another is that psychologists who prefer to study processes instead of traits—"doing" instead of "having" (Cantor, 1990)—face the challenging prospect of identifying the most important of these many processes to study. There is as yet nothing like an adequate taxonomy of processes, and although evolution-

ary theory points to certain adaptive functions for which mechanisms must presumably have evolved, the evolutionary significance of much of human behavior is not clear (Buss, Haselton, Shackelford, Bleske, & Wakefield, 1998). FFT acknowledges the issue of multiple dynamic processes and specifies important categories of processes that share a common function in the organization of the personality system. It does not, however, detail the specifics. A complete theory of personality will ultimately include sub-theories that elaborate on such specific topics (cf. Mayer, 1998).

Table 5.2 lists the 16 postulates originally proposed to specify how the personality system operates (McCrae & Costa, 1996). They are intended to be empirically testable, and in fact most of them are based on a body of empirical literature. Although it may generate novel predictions, FFT was designed primarily to make understandable what was already known.

The most radical of these postulates is 1b, *Origin*, which flatly declares that traits are endogenous basic tendencies. This postulate is based chiefly on results from studies of behavior genetics, which consistently point to a large role played by genetic factors and little or no role for common environmental factors (Riemann, Angleitner, & Strelau, 1997). Future research may well force some modification of this postulate; culture (McCrae, Yik, Trapnell, Bond, & Paulhus, 1998) or birth order (Sulloway, 1996) may be shown to affect trait levels. But as stated, Postulate 1b parsimoniously summarizes most of what is now known and offers a clear alternative to most older theories of personality, which emphasize the importance of culture and early life experience in forming personality. Today, even clinicians have begun to recognize that the standard environmental theories of personality are inadequate (Bowman, 1997).

Postulates 1b and 1d recently inspired a novel twin study (Jang, McCrae, Angleitner, Riemann, & Livesley, 1998). FFT clearly implies that N, E, O, A, and C are heritable, a claim long since supported in the cases of N and E, and more recently with respect to O, A, and C (Loehlin, McCrae, Costa, & John, 1998; Riemann, Angleitner, & Strelau, 1997). But are the specific facet traits that define the five factors also specifically heritable; or are they better interpreted as characteristic adaptations, the environmentally molded forms in which the heritable factors are manifested? One could easily suppose that

TABLE 5.2. Five-Factor Theory Postulates

<p>1. <u>Basic tendencies</u></p> <p>1a. <i>Individuality.</i> All adults can be characterized by their differential standing on a series of personality traits that influence patterns of thoughts, feelings, and actions.</p> <p>1b. <i>Origin.</i> Personality traits are endogenous basic tendencies.</p> <p>1c. <i>Development.</i> Traits develop through childhood and reach mature form in adulthood; thereafter they are stable in cognitively intact individuals.</p> <p>1d. <i>Structure.</i> Traits are organized hierarchically from narrow and specific to broad and general dispositions; Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness constitute the highest level of the hierarchy.</p> <p>2. <u>Characteristic adaptations</u></p> <p>2a. <i>Adaptation.</i> Over time, individuals react to their environments by evolving patterns of thoughts, feelings, and behaviors that are consistent with their personality traits and earlier adaptations.</p> <p>2b. <i>Maladjustment.</i> At any one time, adaptations may not be optimal with respect to cultural values or personal goals.</p> <p>2c. <i>Plasticity.</i> Characteristic adaptations change over time in response to biological maturation, changes in the environment, or deliberate interventions.</p> <p>3. <u>Objective biography</u></p> <p>3a. <i>Multiple determination.</i> Action and experience at any given moment are complex functions of all those characteristic adaptations that are evoked by the situation.</p> <p>3b. <i>Life course.</i> Individuals have plans, schedules, and goals that allow action to be organized over long time intervals in ways that are consistent with their personality traits.</p> <p>4. <u>Self-concept</u></p> <p>4a. <i>Self-schema.</i> Individuals maintain a cognitive-affective view of themselves that is accessible to consciousness.</p> <p>4b. <i>Selective perception.</i> Information is selectively represented in the self-concept in ways that (i) are consistent with personality traits; and (ii) give a sense of coherence to the individual.</p> <p>5. <u>External influences</u></p> <p>5a. <i>Interaction.</i> The social and physical environment interacts with personality dispositions to shape characteristic adaptations and with characteristic adaptations to regulate the flow of behavior.</p> <p>5b. <i>Apperception.</i> Individuals attend to and construe the environment in ways that are consistent with their personality traits.</p> <p>5c. <i>Reciprocity.</i> Individuals selectively influence the environment to which they respond.</p> <p>6. <u>Dynamic processes</u></p> <p>6a. <i>Universal dynamics.</i> The ongoing functioning of the individual in creating adaptations and expressing them in thoughts, feelings, and behaviors is regulated in part by universal cognitive, affective, and volitional mechanisms.</p> <p>6b. <i>Differential dynamics.</i> Some dynamic processes are differentially affected by basic tendencies of the individual, including personality traits.</p>	<hr/> <p><i>Note.</i> Adapted from McCrae and Costa (1996).</p>
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people inherit only a global tendency to be Open to Experience and become open to Aesthetics, or to Ideas, or to Values as a result of individual learning experiences. But behavior genetic analyses of specific facet scores (from which the variance accounted for by the five factors had been partialled) showed that in almost all cases, specific variance was significantly heritable. It appears that the genetic blueprint for personality includes detailed specifications of dozens, perhaps hundreds, of traits.

Postulate 1c is also ripe for minor revision. At the time it was proposed, there was little convincing evidence of systematic personality change after age 30. Newer analyses, especially cross-cultural analyses (McCrae, Costa, Lima, et al., 1999), suggest that cross-sectional decreases in N, E, and O and increases in A and C continue at a very modest pace throughout adulthood. Strikingly similar results from cross-cultural studies of adult age differences in personality do, however, strongly support the

