

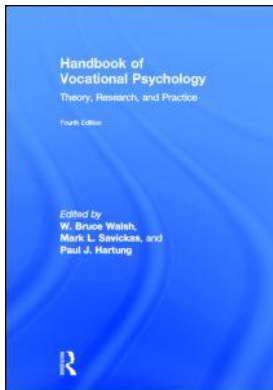
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## **Handbook of Vocational Psychology Theory, Research, and Practice**

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### **Convergence of Personality Frameworks Within Vocational Psychology**

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# Part II

## Research

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# Convergence of Personality Frameworks Within Vocational Psychology

Patrick J. Rottinghaus and Aaron D. Miller

Although the topic of personality has important connections to vocational behavior, the coverage of this construct has not been consistent. Pioneers such as Gordon Allport and Henry Murray established methods of studying personality from diverse perspectives that emphasized traits (Allport, 1937) while including holistic and dynamic ideas from depth psychology that incorporate interpretation of motives through idiographic methods (Murray, 1938). Raymond Cattell (1943) later advanced personality measurement and theory through factor analytic techniques and trait taxonomies. These approaches led to important advances in understanding how characteristic patterns of thoughts, feelings, and behaviors may be applied to vocational settings, especially for personnel selection and placement in military, educational, and industrial-organizational contexts (Danziger, 1990). Driven by broader forces within psychology during the mid-twentieth century, especially the rise of behaviorism and Mischel's (1968) *Personality and Assessment*, which challenged the very concept of a personality trait, the field of personality psychology made limited progress due to a polarization between various research camps (Hogan and Roberts, 2001). This trend changed in part due to the ongoing advances in research examining traits and the wide acceptance of the Big Five traits (Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness) since the 1980s (Goldberg, 1993). These broad factors have been discovered through factor analyses and have been influential in vocational psychology theory and assessment. Vocational psychologists have built a substantial literature applying the Five Factor Model (FFM) to career choice, selection, and satisfaction (Barrick and Mount, 1995; Walsh and Eggerth, 2005) as well as demonstrating connections with vocational interests (Larson, Rottinghaus, and Borgen, 2002; Mount, Barrick, Scullen, and Rounds, 2005).

Yet personality researchers from differing perspectives acknowledge that the concept of personality is much more extensive than traits alone, including biological factors, needs, motives, objective biography, the role of culture, and how transactions between these factors coalesce into a coherent, though somewhat malleable, personality system (McAdams, 1995, 2008; McCrae and Costa, 1996, 2008). Contemporary views on personality also incorporate a merging of the person and environment to involve the influence of daily events that affect psychological states, and ultimately inform personality development (Roberts, 2009). The

field of personality psychology has gradually moved towards an integrated understanding of the person (McAdams and Olson, 2010). These integrative frameworks provide a more sophisticated and nuanced view of personality that moves beyond the narrow scope of trait theories and expands insights for vocational psychology research and career counseling practice.

In this chapter we summarize theory and research on integrative approaches to understanding personality, and argue that the field of vocational psychology can follow recent integrative models conceptualizing personality from diverse perspectives that enable a more intricate and comprehensive understanding of how people view themselves. In particular, we propose a framework that incorporates ideas from McAdams and Pals' (2006; McAdams, 1995, 2008) New Big Five (NBF) framework and McCrae and Costa's (2008) Five Factor Theory (FFT) of Personality to consider how personality relates to vocational behavior. These integrative views acknowledge the roles of stability and change in personality by encompassing diverse factors that contribute to how people define themselves. Particularly, we adapt terms from the NBF framework as it presents a balanced synthesis of the various personality domains. Research and practice addressing personality in vocational psychology typically focuses on traits alone, but we suggest expansion by incorporating related components within a personality system that link with ongoing programs of research in the field.

Consistent with trends in personality psychology, the concept of personality has not been emphasized throughout earlier versions of the *Handbook of Vocational Psychology*. Indeed, throughout the years many leaders in the field would not acknowledge personality as relevant, whereas others, like Holland (1997), viewed interests as tantamount to personality (Borgen, 1999). In the third edition, Walsh and Eggerth (2005) examined personality research in relation to vocational behavior, primarily examining the use of the Five Factor Model (FFM; Digman, 1990) in predicting consequential outcomes such as job performance, job satisfaction, and subjective well-being. Although critical highlights from trait research on vocationally relevant outcomes are reiterated herein, we supplement this work by addressing additional insights from the personality literature. Drawing on several prominent integrative personality models, we take a different approach by considering additional aspects of personality that contribute to career choice and development (e.g., motives, goals, life stories).

In the first section, we provide a basic overview of the domain of personality and how this applies to vocational research. Next, we present an interdisciplinary framework outlining what we believe are essential elements to the personality system. Consistent with most vocational psychology research, the trait perspective is central to this conceptualization and we briefly highlight affiliated personality assessments that are used in research and practice. However, following recent trends in personality psychology (Barenbaum and Winter, 2008; Roberts, 2009) we incorporate concepts from *both* trait models *and* social cognitive approaches into a more holistic view of personality that can guide vocational psychology research and practice. Indeed, personality is more broad and dynamic than the Big Five traits alone (McAdams, 2008). Throughout this chapter we emphasize empirical research in vocational psychology that addresses personality within the context of this framework. A section is dedicated to key personality studies within vocational psychology since 2005. We conclude with suggestions for future research and practice endeavors.

## PERSPECTIVES ON PERSONALITY

First, we review various definitions of personality to provide context for how it is examined in vocational psychology. How researchers define personality has significant consequences for how such a vague construct is examined (Saucier and Goldberg, 2003). Personality generally refers to personal qualities, such as thoughts, attitudes, feelings, and behavioral patterns, that are relatively enduring. Although consistency among these characteristics typically emphasizes stability across various situations and over time, most theorists acknowledge change and development of the personality system. For example, Allport's (1937) definition allows for change within the overall structure: "Personality is a dynamic organization within the individual of those psychological systems that determine his unique adjustments to his [sic] environment" (p. 48). This definition also emphasizes a holistic quality that encompasses multiple systems within the individual, including change elements. Acknowledging that many texts omit a definition of personality altogether due to the inherent complexities, Larsen and Buss (2008) summarized key features as follows: "Personality is the set of psychological traits and mechanisms within the individual that are organized and relatively enduring and that influence his or her interactions with, and adaptations to, the intrapsychic, physical, and social environments" (p. 4). This definition captures the necessary notions of enduring traits within an individual, while featuring the idea that traits may affect the ways people interact with and adjust to aspects of the environment.

Historically, personality has been examined by nomothetic and idiographic approaches, emphasizing quantitative standing on individual difference dimensions across groups and intra-individual uniqueness to a lesser extent. Although most studies examine group-level tendencies based on levels of personality dimensions (e.g., Extraversion-Introversion) within a population, both approaches are useful in understanding vocational behavior. It is worth noting that pioneers in the field of personality, such as Allport and Murray, sought to develop a field that enabled the understanding of individuals scientifically. Drawing on this historical mission to understand how people are similar to each other, yet unique as well, McAdams and Pals (2006) offered the following integrative and somewhat comprehensive definition that guides our present analysis: "Personality is an individual's unique variation on the general evolutionary design for human nature, expressed as a developing pattern of dispositional traits, characteristic adaptations, and integrative life stories complexly and differentially situated in culture" (p. 212). Components of this model and their systematic relationships are explained in more detail as applied to vocational behavior in the following section.

## INTERDISCIPLINARY FRAMEWORK FOR CONSTRUCTS COVERED

The current chapter is guided by a broad interdisciplinary framework to organize various components of personality that have been included across several integrative systems. McAdams and Pals' (2006) New Big Five (NBF) levels of personality (i.e., human nature, dispositional traits, characteristic adaptations, integrative life narratives, and culture) can also be applied directly to career-related concerns (Rottinghaus and Van Esbroeck, 2011). This grand personality theory offers an integrative framework that informs the organization of multiple features that encompass critical qualities that comprise human personality. In their expanded conceptualization of personality, McAdams and Pals (2006; McAdams, 2008)

presented a dynamic psychosocial model that acknowledges the contribution of genetically influenced qualities (i.e., interests, abilities), while emphasizing how these features develop within changing contexts and coalesce into an evolving narrative identity. Trait theorists McCrae and Costa (1996, 2008) introduced a very similar system, the Five Factor Theory (FFT) personality system that acknowledges similar components, accentuating the Big Five personality traits. By stressing dynamic processes within a system of components, McCrae and Costa's (2008) FFT attempts to describe personality development that is considered applicable to scholars from diverse perspectives. The neo-socioanalytic model (Roberts and Wood, 2006) offers a third prominent integrative theory that informs our analysis. This perspective offers a broad attempt at organizing the elements of personality responsible for both continuity and change, thereby incorporating genetic and environmental factors. Roberts and colleagues emphasize how societies facilitate increased levels of consistency and psychological maturity with age. In addition, transactions between people and their environments further structure the life course, and may even change personality traits over time, based on resulting personal goals and expectations. Recently, Roberts (2009; Roberts and Jackson, 2008) presented a sociogenomic model of personality trait development that presents a more detailed analysis in an attempt to further integrate the trait and social-cognitive perspectives. This model features interactions between states and traits, such that repetitive states capture the essence of a trait.

By synthesizing these integrative personality theories we survey the status of personality within the context of vocational psychology research and practice. The trait perspective has received the most research attention in vocational psychology, typically organized by the Big Five personality factors; therefore this aspect of our framework is especially important due to its significant research base. Although serving as an important foundation, genes are not directly applicable to vocational behavior and receive less attention herein. On the other hand, cultural and contextual factors have wide-ranging influence across all other aspects of the personality system, and thus are highlighted. Recent influences from constructivist perspectives offer insights into how people establish unique career narratives. The following sections address these components of the personality system, emphasizing traits and middle-level characteristic adaptations that occur within evolving and complex sociocultural contexts.

Overall, we believe that attention to these integrative personality models contributes to ongoing attempts to understand common elements of a more unified system of person variables within vocational psychology. Scholars have addressed the empirical points of convergence between various individual differences constructs, effectively broadening the nomological network of personality. Spokane and Decker (1999) concluded that "It is increasingly apparent that interests, personality, self-efficacy, and other variants of personality and vocational self-concept may be facets of a unified set of complex underlying traits" (p. 230). Further integrating various elements of a multifaceted personality system related to vocational behavior, Ackerman and Heggstad (1997) noted dynamic transactions between individual differences and motives within a system: "abilities, interests, and personality develop in tandem, such that ability level and personality dispositions determine the probability of success in a particular task domain, and interests determine the motivation to attempt the task" (p. 239). Based on factor analyses, they identified sets of individual differences that combine into four trait complexes: Clerical, Social, Intellectual, and Science. Therefore it may be difficult to separate out various elements of these underlying complexes that influence patterns involved in vocational behavior.

Using McAdams and Pals' (2006) NBF personality framework, Rottinghaus and Van Esbroeck (2011) examined the related topic of self-knowledge to organize what people must know about themselves as they plan their careers. They summarized how using the five levels as a guide can help illuminate potential influences on career behaviors such as typical nomothetic studies of personality, including naturally selected characteristics (genes) and personal tendencies (traits). Careful consideration of the following additional questions can fill in the details of how individuals establish their unique personalities through work within society: "How does a person identify qualities that matter and establish, confront, and adapt the objectives they seek to achieve in their career?" (p. 40; characteristic adaptations). "How does a person identify themes and critical details of her or his educational, work, and personal histories, and organize this information into a unified and meaningful conception of her or his ongoing career life narrative?" (p. 40; life narratives). "How do cultural factors (e.g., race, ethnicity, gender, sexual orientation, spirituality, social class, language) affect individuals' career thoughts, feelings, processes, choices, and behaviors, which culminate in her or his ongoing subjective narrative identity?" (p. 41; culture).

Evident from [Figure 5.1](#), the overall NBF framework guides our thinking, but we also acknowledge the important insights from other integrative models, namely McCrae and Costa's (2008) Five Factor Theory of Personality, and Roberts and colleagues' work on the neo-socioanalytic model of personality trait development (Roberts and Caspi, 2003; Roberts and Wood, 2006; Roberts, 2009). The model presented in [Figure 5.1](#) offers a broad and tentative overview of an integrative personality system that may serve to guide future research and practice in vocational psychology.

Next, we briefly describe the components and paths involved in the integrative personality framework as applied to vocational behavior. Following other integrative models, we include cultural and contextual factors throughout the system. Our model emphasizes the important influence of cultural identity features that are inseparable from personality. The dashes separating each factor reflect the permeable nature of these aspects and their interaction within a broader context. The paths connecting the six key factors roughly flow from innate features that are relatively fixed (e.g., biological, traits) to those that are actively created and modified by subjective experience (e.g., career narratives) within the context of everyday life events, situations, and broader environmental influences (e.g., culture).

*Biological factors* serve as the foundational level of personality and includes genes and other evolved qualities that provide structures that yield tendencies and variations of consequence to survival (McAdams and Pals, 2006). These factors influence the development of *dispositional traits* that reflect stable patterns of thoughts, feelings, and behaviors (e.g., Big Five). Dispositional traits interact with transient, though related, *states* (e.g., affect, mood). Drawing on research examining the interface between states, traits, and situations, Roberts (2009) asserted that traits reflect ongoing patterns of states, and subsequently influence future states. Variations in states and traits thus may combine to influence how the person interacts with the environment to establish personality features related to vocational behavior. *Characteristic adaptations* are central to the personality system in part because they are situated at the crossroads between traits, environmental context, and personalized views on one's evolving life story. McCrae and Costa (2008) noted that characteristic adaptations "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" (pp. 163–4). Because characteristic adaptations address how people adjust to the environment,



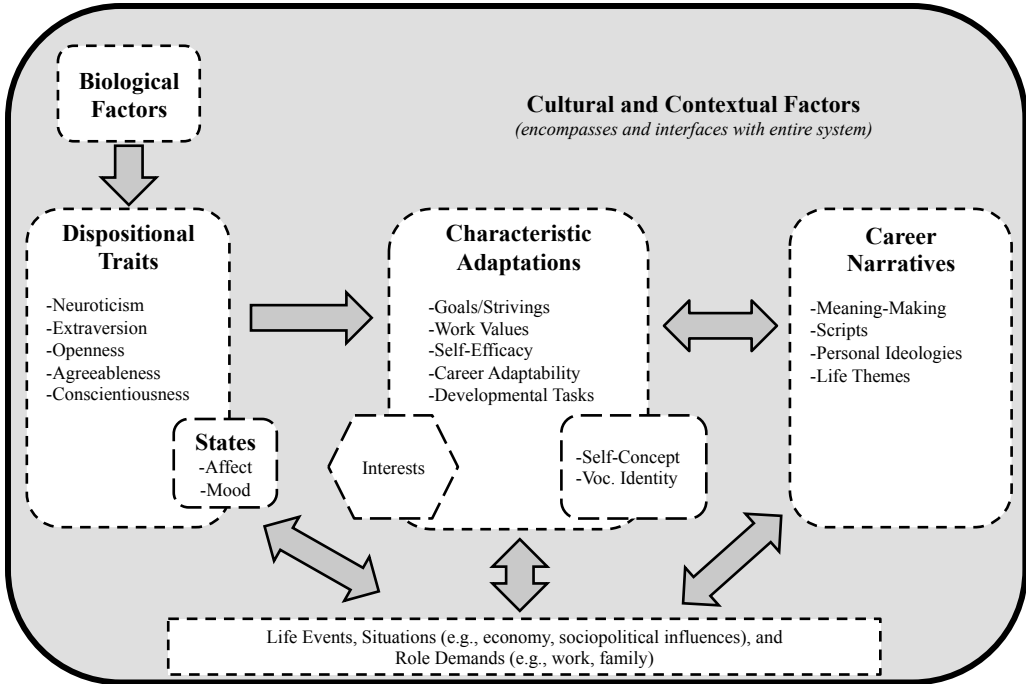


Figure 5.1 Cultural and Contextual Factors

many pivotal qualities featured in social-cognitive (e.g., self-efficacy, outcome expectations) and developmental (e.g., career adaptability) career theories are included within this domain. The characteristic adaptations domain features numerous motivational and developmental qualities examined within vocational psychology, including interests (depicted as Holland’s [1997] hexagon), self-concept, and vocational identity. Finally, these features culminate in a *career narrative* that encompasses an individualized life story that is continually modified and informed by reflection on one’s constructed career (Savickas, 2005).

The following sections summarize the features of our model and, although this framework is applicable to general behavior, we provide details on possible interactions between the levels within the context of vocational behavior. Incorporating ideas from these models affords a more comprehensive understanding of the complexity of personality by melding together constructs from diverse perspectives that previously were considered incongruous: traits–motives, stability–change, person–environment.

### BIOLOGICAL FACTORS

The first principle of the NBF model addresses what all humans have in common, underscoring that “Human lives are individual variations on a general evolutionary design” (p. 205). Buss’s (1991) work in evolutionary psychology summarizes how natural selection functions to enable humans to meet basic needs and solve problems of survival through adaptation of personality characteristics. Moreover, the McCrae and Costa’s (2008) Five Factor Theory (FFT) includes a “Biological Bases” component that encompasses “genes and brain structures” (p. 163) as precursors to the establishment of the basic tendencies (i.e., Big Five traits). They acknowledge that the FFT model does not address the precise mechanisms

involved within this aspect. Research from behavioral genetics, including twin and adoption studies, has concluded that personality characteristics (e.g., Extraversion, Neuroticism) are moderately heritable, accounting for between a 30% and 50% variance (Plomin, DeFries, McClearn, and McGuffin, 2001). (Of course, these studies also indicate the role of environmental influences.)

Applied to vocational behavior, biological elements of the personality system address naturally selected characteristics that may influence career behavior. Beyond the powerful examples of extraversion and neuroticism, a more focused case of the relevance of genetic influences is the gene for the D4 dopamine receptor, DRD4, which is associated with the personality trait of novelty seeking. Those high on novelty seeking (or sensation-seeking) tend to be excitable, exploratory, engage in impulsive behaviors, and have a higher frequency of substance abuse and attention-deficit hyperactivity disorder (Plomin and Caspi, 1999). Additional connections between genetic markers and personality strengthen the hypothesized pathways between biological bases and personality traits (e.g., Neuroticism and 5-HTTLPR). These genetic risk tendencies certainly affect how individuals approach career planning. However, it is important to note that any single gene only accounts for a small amount of variance in personality trait (e.g., DRD4 explains only 4% of the variance in novelty seeking), and that multiple genes are typically related to any given behavior (Benjamin et al., 1996). Nonetheless, several studies have suggested that preferences for aspects of jobs (e.g., income, prestige, competition, risk-taking, job security; Ellis and Bonin, 2003) and measured vocational interests are heritable (Betsworth et al., 1994).

### DISPOSITIONAL PERSONALITY TRAITS

Dispositional traits are “broad, nonconditional, decontextualized, generally linear and bipolar, and implicitly comparative dimensions of human individuality” (McAdams and Pals, 2006, p. 207). Personality traits reflect a relatively enduring set of basic tendencies or overall styles of thinking and feeling, which often connotes the Big Five (i.e., Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness) (Digman, 1990). McCrae and Costa (2008) underscore basic tendencies, or traits, as the centerpiece of their FFT. Their work is built upon a long history of research that attempted to identify taxonomies of terms used to describe people through lexical analyses (Allport, 1937; Cattell, 1943).

Applied to vocational behavior, this aspect of the self addresses tendencies that may affect career choice and adjustment behaviors. For example, individuals scoring high on a measure of extraversion (which includes sociability, dominance, activity, energy) may be more interested in occupations involving interpersonal contact, such as teaching and sales positions; they may also interact with counselors more directly within a counseling session to process the meaning of test results and insights from counseling, whereas introverts may prefer time alone to process the meaning of counseling discussions. Walsh and Eggerth (2005) provided a detailed analysis of studies examining relationships between the Big Five traits and key outcomes such as job performance, job satisfaction, and subjective well-being. Results from meta-analytic investigations demonstrate that Conscientiousness significantly predicts job performance across all occupations (Barrick and Mount, 1991), whereas Extraversion and Emotional Stability also yield significant relationships (Tett, Jackson, and Rothstein, 1991). Judge, Heller, and Mount (2002) concluded that job satisfaction related

to Emotional Stability, Conscientiousness, and Extraversion in a meta-analysis of 163 samples. Researchers have reported that some Conscientiousness facets (e.g., dependability, achievement) show stronger relationships to outcomes than other facets (e.g., organization) (Mount, Barrick, and Stewart, 1998; Tett et al., 1991).

A substantial literature has now examined empirical relationships between the Big Five and vocational interests including facets of personality. Two separate meta-analyses (Barrick, Mount, and Gupta, 2003; Larson, Rottinghaus, and Borgen, 2002) concluded that Holland's (1997) six interest dimensions and the Big Five, although largely distinct, show a few crucial areas of moderate convergence: Extraversion and Social and Enterprising interests; Openness to Experience and Investigative and Artistic interests; and Agreeableness and Social interests. Larson et al. also reported an additional smaller effect for Conscientiousness and Conventional. Other research has investigated how personality traits relate to interests using higher-order factors and at the more detailed analysis of Big Five subfacets. First, Mount, Barrick, Scullen, and Rounds (2005) used a sequential series of multivariate methods (including meta-analysis, cluster analysis, and multidimensional scaling) revealing that three higher-order motivational dimensions accounted for connections between personality and interests: "(a) Interests versus Personality Traits; (b) Striving for Accomplishment versus Striving for Growth, and (c) Interacting with People versus Interacting with Things" (p. 447). Consistent with Ackerman and Heggstad's (1997) work on compound trait complexes, Mount and colleagues noted that their results suggest that such combined measures may be beneficial in predicting important motivational outcomes. Broader affective states, such as negative affect and positive affect, are closely connected to more stable traits such as Neuroticism and Extraversion, respectively (see Larson, 2012, for a summary of research on trait complexes within vocational psychology).

On the other hand, Armstrong and Anthony (2009) used an integrative paradigm employing property vector fitting to examine personality-interest connections using more detailed narrow dimensions that revealed nuanced interpretations. Using Dutch translations of the *Self-Directed Search* (Holland, Fritzsche, and Powell, 1994) and *NEO PI-R* (Costa and McCrae, 1992), in addition to separate International Personality Item Pool (IPIP; Goldberg et al., 2006) measures of the NEO PI-R facets, they found that the Openness facet of Intellect/Ideas had significant relationships to Artistic and Investigative interests; whereas the Openness facet of Feelings/Emotionality showed linkages with Social interests. These and other results can inform Holland's theorized relationships among interest types, which themselves relate to a network of individual differences thereby informing an integrated model of personality. Armstrong and Anthony further emphasized that research examining individual differences should utilize more integrated models to better understand how individuals adjust to a changing environmental context as they make crucial educational and vocational decisions.

The measurement of traits in vocational psychology research and counseling applications typically focuses on the Big Five factors, although more specific and broader levels of measurement, based on the trait perspective research tradition, are commonly used in personality assessment. Next we provide a brief overview of prominent measures of these and other traits, including the *NEO Personality Inventory* (McCrae, Costa, and Martin, 2005), *Sixteen Personality Factor Questionnaire* (16PF; Cattell et al., 1993), *California Psychological Inventory* (Gough and Bradley, 1996), and proxy measures for each construct covered by these inventories have been established through Goldberg et al.'s (2006) International

Personality Item Pool (IPIP) collaboratory; we also summarize measures directly focused on vocational psychology, including the *Healthy Personality Inventory* (Borgen and Betz, 2008) and the Personal Style Scales of the *Strong Interest Inventory* (Donnay et al., 2005).

### **The Revised NEO Personality Inventory (NEO-PI-3; McCrae, Costa, and Martin, 2005)**

This is a personality assessment based on the trait theory proposed by Paul Costa and Robert McCrae. Originally published in 1985, the *NEO Personality Inventory* (NEO-PI; Costa and McCrae, 1985) measures the Big Five personality traits that were discovered through factor analysis: Extraversion, Neuroticism, Openness to Experience, Conscientiousness, and Agreeableness. The inventory has been revised in 1992 (NEO-PI-R; Costa and McCrae, 1992) and most recently in 2005 (NEO-PI-3; McCrae, Costa, and Martin, 2005). To increase the utility of the inventory there is also a short version of the measure which has undergone two revisions (NEO-FFI-3; McCrae and Costa, 2007). The abridged version of the inventory has been advantageous in conducting research on the FFM of personality.

Many vocational psychologists have suggested the utility of the NEO inventories in career counseling (Bullock and Reardon, 2008; Costa, McCrae, and Kay, 1995). Personality assessments can provide information above and beyond clients' interests, values, and abilities. For example, a career counselor may work differently with a client who scores high on Social interests based on his or her level or Extraversion.

In addition to the broad Big Five personality traits, the NEO inventories also provide information on specific facets of personality. For example, facets of Neuroticism include anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability. In addition to Armstrong and Anthony (2009), Tokar, Thompson, Plaufcan, and Williams (2007) suggest that facet-level measures of personality may lead to a more nuanced understanding of career-related variables.

### **The Sixteen Personality Factor Questionnaire (16-PF; Cattell et al., 1993)**

This was developed in 1949 to assess 16 primary factors identified by Raymond Cattell's empirical analyses of personality traits. Some factors directly related to career counseling include Dominance, Openness to Change, Perfectionism, Self-Reliance, and Warmth. The 16-PF includes measures of the Big Five, Holland types, and facets of leadership (e.g., Self-Control, Emotional Resilience). Counselors can use the 16-PF career development report to address problem-solving resources, coping patterns, interpersonal styles, interests, organizational role, work-setting preferences, and other lifestyle considerations. This profile also compares clients' scores with members of specific occupations, analogous to occupational scales of the Strong.

### **The California Psychological Inventory<sup>434</sup> (CPI 434; Gough and Bradley, 1996)**

This emphasizes normal personality and addresses numerous career-relevant behaviors across four clusters of content: 1) interpersonal functioning; 2) normative orientation and values; 3) cognitive and intellectual functioning; and 4) role and personal styles. The CPI 434 shares the same true-false response format and numerous items with the MMPI, but the focus is on normal behaviors and interpersonal content instead of psychopathology. There

are 20 specific folk scales, including Flexibility, Independence, Responsibility, Sociability, Empathy, and Achievement via Conformance. A structural model comprising the 20 folk scales yielded three broad personality vectors: 1) Internality–Externality measures the degree of participation or involvement, and relates to extraversion; 2) Norm Questioning–Norm Favoring measures the degree of acceptance of rules; and 3) Self-Realization measures the degree of ego integration, self-realization, and fulfillment. Clients' profiles are assigned to one of four classification (or lifestyle) types based on being high or low on Internality–Externality versus Norm Questioning–Norm Favoring and one of seven levels of Self-Realization. For example, Alphas are high on acceptance of social norms and externality, which is more common among leaders within a traditional organization. Savickas, Briddick, and Watkins (2002) found that Alphas have the highest career maturity among the CPI types. In addition, clients receive scores on seven special purpose scales that offer useful information related to career decisions, including Managerial Potential, Work Orientation, Creative Temperament, Leadership Potential, Amicability, Law Enforcement Orientation, and Tough-Mindedness. Norms are also available comparing respondents' scores with college major and occupational samples.

### **The Healthy Personality Inventory (HPI; Borgen and Betz, 2008)**

This is a newly developed measure of 17 personality dimensions organized into five broader style scales related to the Big five (i.e., Cooperative, Productivity, Interpersonal, Intrapersonal, and Thinking) available in the CAPA system (Betz and Borgen, 2010a). Constructed to emphasize strengths and positive terminology for use with a normal population, the HPI includes 225 adjectives (e.g., precise, upbeat) and uses a five-point Likert scale ranging from "Very rarely describes me" to "Very often describes me." Betz and Borgen (2010b) reported strong internal consistency across the 17 personality scales. They found numerous moderate to strong points of convergence between the five broad styles and the Big Five personality traits as measured by the NEO PI-R. The HPI Productivity style scales (i.e., Confident, Organized, Detail-Oriented, Goal-Directed) related to the NEO-PI Conscientiousness scale; the HPI Interpersonal style scales (i.e., Outgoing, Energetic, Adventurous, Assertive) related to the NEO PI-R Extraversion scale; and the HPI Interpersonal style scales (i.e., Relaxed, Happy, Decisive, Analytical) showed negative relationships with the NEO PI-R Neuroticism scale. However, only the Creativity scale of the HPI Thinking style related moderately to the NEO PI-R Openness scale; and the HPI Cooperative style scales did not show clear correspondences with the NEO PI-R scales. Overall, these results suggest that the HPI can be linked to research on the NEO PI-R. Betz and Borgen (2010b) offer insights on using personality measures that incorporate positively oriented terms.

### **The Personal Style Scales of the Strong Interest Inventory (Donnay et al., 2005)**

These include Work Style, Learning Environment, Leadership Style, Risk Taking, and Team Orientation. The PSSs assess tendencies for how individuals approach learning, work, and leisure. The Work Style scale distinguishes individuals who prefer to work with people versus ideas/data/things. The Learning Environment scale identifies those who prefer hands-on, practical, or applied learning settings versus academic settings that emphasize conceptual ideas, including cultural and scientific content. The Leadership Style scale measures the

degree to which people prefer leading by directing others versus leading by example. The Risk Taking scale distinguishes people who are comfortable taking chances in physical, financial, or general settings versus those who would rather play it safe. Introduced in 2005, the Team Orientation scale distinguishes those who prefer engaging in team-based versus individual activities. The PSSs collectively predict college major and occupational choices above and beyond the Holland themes (Donnay and Borgen, 1999; Lindley and Borgen, 2000). The Learning Environment scale predicts educational aspiration level among undergraduate students (Rottinghaus, Lindley, Green, and Borgen, 2002). Hees (2010) found that different PSS scales added significant unique variance in the prediction of work satisfaction beyond Holland RIASEC scales for different occupations.

### CHARACTERISTIC ADAPTATIONS

Characteristic adaptations address patterns of how clients adjust to changing social environments and life circumstances over time (Costa and McCrae, 1994). As concrete manifestations of traits, these qualities serve as mechanisms through which individuals create their own unique career stories. McAdams and Pals (2006) summarized the multiple components of this level of personality, including “motives, goals, plans, strivings, strategies, values, virtues, schemas, self-images, mental representations of significant others, developmental tasks, and many other aspects of human individuality that speak to motivational, social-cognitive, and developmental concerns” (p. 208). These aspects contribute important details that comprise clients’ conception of self as they approach career choice and adjustment decisions.

Residing at the intersection of traits and environmental influences within a cultural context, characteristic adaptations encompass the strategies and processes through which individuals operate “details of psychological individuality as contextualized in time, situations, and social roles” (McAdams and Pals, 2006, p. 213). This level addresses aspects of career-related change and development that have been examined primarily by vocational psychologists from developmental and social cognitive perspectives. Motivational aspects that complement dispositional traits within the personality system are emphasized, especially given research addressing the content and process of establishing career goals (Roberts and Robins, 2000). Characteristic adaptations may include a broad array of psychological features, including career maturity, career adaptability, self-efficacy, outcome expectations, and goals that formulate patterns of *how* people “fit into the ever-changing social environment” (McCrae and Costa, 2008, p. 164). Values and interests are characteristic adaptations that are crucial to career behaviors. The self-concept, including vocational identity, encompasses a key feature of characteristic adaptations (McCrae and Costa, 1996, 2008), and is examined separately because it plays a significant role in establishing coherence and direction in one’s career life.

As shown in our model, characteristic adaptations represent a dynamic interaction between subjective interpretations of one’s career, driven by more enduring traits, and occurring within an ecological and cultural context. Through the process of self and environmental exploration, clients gain self-knowledge that enables them to establish and modify their identities and career plans. This crucial level of personality can be facilitated by career assessment activities that enhance clients’ understanding of their work lives across the life span.

Among the most pertinent of all career-related characteristic adaptations, career maturity

and career adaptability generally incorporate the developmental tasks and strategies involved in exploring, committing to, and executing career plans. *Career maturity* involves readiness for planning one's career and focuses on how well adolescents meet developmental tasks involved in educational and vocational decisions (Super, 1955). Vocational psychologists have advanced the concept of career maturity due to connotations with maturation focused on youth and replaced it with a more useful term addressing people of all ages—career adaptability (Savickas, 1997).

Savickas (2005) defined career adaptability as “a psychosocial construct that denotes an individual's readiness and resources for coping with current and imminent vocational development tasks, occupational transitions, and personal traumas” (p. 51). Building on significant conceptual writings and earlier empirical work on career maturity (Super and Kidd, 1979; Super and Knasel, 1979), Savickas and colleagues have developed the *Career Adapt-Abilities Scale* (CAAS; Savickas and Porfeli, 2012), a 24-item measure, comprised of six items assessing perceptions of competence across four dimensions of career adaptability—concern, control, curiosity, and confidence. *Concern* is “the extent to which an individual is oriented to and involved in preparing for the future”; *Control* is “the extent of self-discipline as shown by being conscientious and responsible in making decisions”; *Curiosity* is “the extent to which an individual explores circumstances and seeks information about opportunities”; and *Confidence* is “the extent of certitude that one has the ability to solve problems and do what needs to be done to overcome obstacles” (Savickas and Porfeli, 2012, p. 664). Likewise, Rottinghaus, Day and Borgen (2005) developed the *Career Futures Inventory*, which examined components of career adaptability for clients experiencing career transitions. The *Career Futures Inventory-Revised* (Rottinghaus et al., 2012) incorporates content addressing various components of self-knowledge and emphasizes social-cognitive insights (Bandura, 1986), comprising the following scales: Career Agency, Occupational Awareness, Support, Work–Life Balance, and Negative Career Outlook. These measures can allow researchers and practitioners to study how people adjust to changing environments as they develop their own identities. Career adaptability fits with the overall concept of characteristic adaptations by emphasizing how people cope with change and are motivated to pursue career goals related to their emerging sense of self.

Winter, John, Stewart, Klohnen, and Duncan (1998) considered traits and motives as the two dominant traditions in personality research. Consistent with common definitions of personality, the trait perspective emphasizes who people are as defined by their personal characteristics related to their social reputation (Roberts and Robins, 2000), whereas motives focus on goals (or intentions) in pursuit of desired outcomes. Relevant to vocational behavior, goals may relate to educational or career aspirations, and performance levels in courses or specific work-related objectives. A substantial literature addressing self-regulatory mechanisms involved in pursuing goals and disengaging from unattainable goals (see Wrosch, Scheier, Miller, Schulz, and Carver, 2003) is important to many career development situations, such as a pessimistic student failing to disengage from a pre-medical major when his or her performance suggests that this career path is not likely attainable.

Research from a social cognitive career theory (SCCT; Lent, Brown, and Hackett, 1994) perspective incorporates numerous motivational variables (e.g., self-efficacy, outcome expectations, interests, and goals) that fall within the domain of characteristic adaptations. Goals represent an important aspect of SCCT and include both choice content goals and performance goals (Lent and Brown, 2006). Lent and Brown and colleagues have conducted

numerous studies that underscore the importance of goals within the SCCT model, and emphasize connections between personality, affective states, and goal pursuit progress as precursors to job satisfaction.

Vocational psychologists have examined connections between self-efficacy and interests (Rottinghaus, Larson, and Borgen, 2003), and their theoretical roles as precursors to goals (Lent and Brown, 2006). Although not emphasized, the concept of personality is included in SCCT (i.e., as a person input variable), and has been included in numerous investigations (e.g., Brown, Lent, Telander, and Tramayne, 2011). The inclusion of personality traits allow for analysis of connections between the levels of the personality system. For example, Larson et al (2010) tested the contribution of sets of individual differences related to educational major choice goals, including personality traits, as measured by the *Multidimensional Personality Questionnaire* (Tellegen and Waller, 2008), and vocational interests and self-efficacy for content related to Holland's RIASEC themes using the *Strong Interest Inventory* (Donnay et al., 2005) and the *Skills Confidence Inventory* (Betz, Borgen, and Harmon, 2005), respectively. They concluded that personality traits distinguished educational major groups; for example, students majoring in elementary education and social sciences scored higher on sociability, agreeableness, and social closeness. Moreover, personality, self-efficacy, and interests each accounted for unique variance in distinguishing groups. In a related study from the socioanalytic perspective, Roberts and Robins (2000) examined relationships between the Big Five traits and major life goals. They reported that individuals scoring high on Extraversion and low on Agreeableness desired goals that reflected high economic status and political status, but low in prosocial goals. Neuroticism was not related to ascribing importance to major life goals, suggesting avoidance rather than approach behaviors found for Extraversion. These studies provide examples of how examining components from different levels of personality can offer useful insights applicable to vocational behavior.

In addition to examining influences on career choice behaviors, vocational psychologists also attend to work adjustment concerns that fall within the characteristic adaptations level. During times of economic recession, maintaining employment is a primary goal for many. The multidimensional concept of employability includes the dimensions of career identity, personal adaptability, and social and human capital (Fugate, Kinicki, and Ashforth, 2004). Employability relates to many concepts examined at the level of career characteristic adaptations within our personality framework, due to a shared emphasis on proactive career management and adjustment to organizational and other environmental demands. A reflective consideration of these employability dimensions is especially critical during times of economic instability when many people struggle to cope with job loss, which inherently affects their sense of self.

### **INTERACTION BETWEEN COMPONENTS AND LIFE EVENTS, SITUATIONS, AND ROLE DEMANDS**

McAdams and Pals' (2006) NBF framework acknowledges how intrapsychic components (e.g., traits), and especially characteristic adaptations, interact with the environment, including daily events, situations, and the "social ecology of everyday life." (p. 213). This environmental influence within the NBF system may be overlooked since it is not included as one of the five major components. However, this aspect connects with the above



definitions of personality by acknowledging interactions with environmental factors as well as states. Specifically, our model accounts for economic and sociopolitical influences (e.g., racism, sexism), which in turn affect other components of the personality system. Various social role demands and situations also affect personality and how people construe their evolving life story. The mention of social roles relates to Super's (1983) work on life roles within his developmental career theory. Moreover, the interface between the social ecology of everyday life and characteristic adaptations within the NBF model can be seen as central to the Person–Environment (P-E) interface, including the P-E fit literature, which has been a mainstay of scholarship within vocational psychology (Walsh, Craik, and Price, 2000).

### LINKING THE SELF-CONCEPT TO CAREER NARRATIVES

Next we examine the role of the self-concept, comprising a multifaceted identity and perceptions of the self, as a special sub-dimension of characteristic adaptations. McCrae and Costa (1996, 2008) conceptualized the self-concept in their FFT as selectively incorporated information and self-schema accessible to one's consciousness, and placed it at the crossroads of numerous influences, including direct paths from basic tendencies and objective biography, in addition to dynamic processes among other characteristic adaptations. Upon considering a complex array of personal characteristics, including goals and actions, individuals begin to view themselves more coherently, which may serve as a foundation for constructing their careers. Therefore, we placed this important characteristic adaptation within a special box leading towards the career narratives domain. Super (1955) featured the implementation of the self-concept in his developmental theory, and vocational scholars have researched numerous related constructs involved in the career decision-making process, which we propose as lying at the interface between characteristic adaptations and integrative career narratives (see [Figure 5.1](#)).

The term *vocational identity* is most germane to this discussion, defined as “the possession of a clear and stable picture of one's goals, interests, and talents” (Holland, 1997, p. 5). Vocational identity is closely related to the ego development that occurs during the adolescent years (Erikson, 1968). During these years an individual formulates a sense of how he or she will fit in the world of work. The process of vocational identity development follows the same process as ego development—the stages include exploration, observation, reflection, and commitment. Vocational identity instills a sense of agency into the career development trajectory. If successfully navigated, the individual is able to crystallize the goals, interests and abilities into an integrated vocational identity. These aspects fall within the characteristic adaptations section for both the NBF and FFT models. We propose that one's vocational identity is crystallized through transactions involved in developing characteristic adaptations and career narratives.

The vocational identity subscale of Holland, Daiger, and Power's (1980) *My Vocational Situation* (MVS) is a sound measure of career commitment, which is an important aspect of vocational identity. The MVS Vocational Identity scale includes 18 true–false items addressing how well clients have established a clear sense of various aspects of their career plans, and two additional items assessing need for occupational information and potential barriers. Porfeli, Lee, Vondracek and Weigold (2011) have noted that the MVS does not address an important component of identity—career exploration.

Porfeli and his colleagues developed the *Vocational Identity Status Assessment* (VISA;

Porfeli et al., 2011) based on a review of various conceptual identity models, grounded in Marcia's (1966) two-dimensional model featuring exploration and commitment. Much early work on identity was informed by Marcia's four identity statuses, which are defined by high or low levels of commitment X exploration: Diffused (low on both), Moratorium (low commitment, high exploration), Foreclosed (high commitment, low exploration), and Achieved (high on both). Porfeli et al. noted that recent empirical studies on global identity status suggested the need for subscale measures as well as attention to reconsideration processes, resulting in three broad scales of the VISA, each comprising two five-item measures: Career Exploration (In-Depth and In-Breadth), Career Commitment (i.e., Career Commitment Making and Identification with Career Commitment), and Career Reconsideration (Career Self-Doubt and Career Flexibility). In-Depth exploration focuses on a specific career option, whereas In-Breadth involves exploration of various possibilities. Career Commitment Making measures how much a client commits to a particular career occupation, whereas Identification with Career Commitment measures perceptions of how well this career option fits one's identity. Career Self-Doubt measures the career choice uncertainty and Career Flexibility measures openness to changes in one's self and career choice. Cluster analysis of these measures yielded six identity statuses: (1) Achieved (i.e., committed to thoroughly explored work roles), (2) Moratorium (i.e., a transitory status that typically leads to increased commitment to a work role), (3) Searching Moratorium (i.e., express similar levels of exploration and commitment to those in the achieved status, but differ in that they express the highest levels of career self-doubt and flexibility), (4) Foreclosed (i.e., commitment to a work role, but the commitment without exploration), (5) Diffusion (i.e., disengaged from the career decision process and drifting from choice to choice), and (6) Undifferentiated.

The processes involved in personality development, including constructing a clear vocational identity, are crucial precursors to implementing appropriate career plans necessary for constructing one's career narrative (Savickas, 2011). Related to all of the aforementioned characteristic adaptations, individuals must thoughtfully engage in career exploration tasks and overcome barriers, including external (e.g., racism, poor economy) and internal factors.

### CULTURAL AND CONTEXTUAL FACTORS

According to McAdams and Pals' (2006) NBF framework, culture offers a context for the expression of traits and characteristic adaptations, as well as the meaning-making process involved in constructing a narrative identity. From their related FFT perspective, McCrae and Costa (1996, 2008) suggest that personality may operate differently in a case where external influences constitute the situation or context. In other words, individuals will attend to their environment in ways that are consistent with their personality traits and will selectively influence the environment to which they respond. Vocational psychologists have examined cultural and contextual aspects related to career behavior (Bingham and Ward, 1994; Fouad and Kantamneni, 2008; Lent et al., 2000). Similar to McAdams and Pals' (2006) conceptualization of characteristic adaptations, we believe that the career adaptations discussed previously in this chapter are clearly contoured by the culture and the social ecology of everyday life (i.e., one's situations, role demands, developmental tasks and challenges). Therefore, cultural influences (e.g., racial identity, acculturation, religious

beliefs) and events in the environment (e.g., economy, educational opportunities, racism) may interact with individuals' personality traits, affecting that person's career goals, life roles, and very conception of self.

Historically, the method of attending to culture in personality psychology was to "transport and test" (Berry, Poortinga, Segall, and Dasen, 2002, p. 3). Western models of personality were independently developed and subsequently tested in non-Western contexts. In doing so, many of the Western constructs were imposed onto other cultural settings (Cheung, van de Vijver, and Leong, 2011). Vocational psychology initially addressed culture in a similar fashion. Early career theories have adopted the worldview of White middle-class heterosexual men (Fitzgerald and Betz, 1994). Initial attempts at cross-cultural research examined mean level differences of traditional theories among cultural groups. More recently, vocational psychology has embraced contextual models of career variables (Fouad and Kantamneni, 2008).

An integrative personality framework incorporates complex reciprocal influences of contextual factors on how clients make career decisions. Fouad and Kantamneni (2008) defined context as the "interrelated, reciprocal, and dynamic environment in which career decisions are made" (p. 408). Their model consists of two layers of contextual influences for understanding the influence of context, including group level factors (e.g., gender, race and ethnicity, social class, family, religion, sexual orientation, and relationships) and societal factors (acculturation, influences from majority culture). These different factors intersect with each other and with a third dimension, individual difference factors (e.g., interests, abilities, values) to help shape career decisions. Thus, counselors must go beyond the traditional focus on individual factors and consider clients' culture of origin (e.g., cultural values), their culture's difference from the majority culture (e.g., discrimination and cultural barriers), and influences directly from the societal mainstream culture (e.g., schooling, the labor market, and opportunity structure). Culturally sensitive counselors consider detailed connections between nuanced cultural features of the client's personality, including relationships with family and community, and work.

Overall, cultural and contextual factors, in conjunction with situational environmental factors, work together to interact with the personality system to influence how people construe their personality and make career plans accordingly. We agree with McAdams and Pals' (2006) assertion that the "complex interplay between culture and human individuality may be most evident at the level of narrative identity" (p. 211). They note that the content of individual life stories convey significant information about the culture. Moreover, people construct personal identities from a set of available narratives that are embedded within a culture.

### CRAFTING INTEGRATIVE CAREER STORIES

Ultimately, career assessment across these levels of analysis can offer new insights as clients contemplate how to construe their ongoing career narrative. Savickas (2011) has offered numerous advances in conceptualizing and assessing career as a story through narrative methods. He has developed a structured interview technique, the Life Story Interview. Counselors facilitate clients in telling their story so that patterns of meaning emerge within the narrative, and then formulate a clearer sense of identity and possible selves. Counselors can facilitate a process that combines aspects of the Life Story Interview method while

helping clients incorporate insights across all levels of our personality model. By blending quantitative assessments of individual differences with their ongoing unique stories, clients can be well equipped with the self-knowledge to establish appropriate career goals and navigate their careers.

Using a narrative approach to career counseling is helpful in addressing the changing demands of career clients over time. The instability in the workforce and increased contract employment that mark the twenty-first century call for a postmodern approach to vocational psychology (Savickas, 2012). An integrative framework of personality legitimizes both traditional and postmodern approaches to vocational concerns. By broadening the conception of personality, narrative and life story approaches to career variables become infused with traditional methods and assessments. Narrative approaches can therefore supplement the assessment of personality traits.

Effectively blending clients' objective data, assessment results, with the rich qualitative information gathered from counseling interviews requires a merging of science and art. This process is eminently unique for each client and requires a knowledgeable, skilled, and ethical professional. Fortunately, ongoing theory and research can inform this process of combining multiple constructs. Career assessment experts have offered integrative career assessment models that can support this effort, including the Career Development Assessment and Counseling approach (Super, 1983; Super, Osborne, Walsh, Brown, and Niles, 1992); Leong and Hartung's (1997) integrative-sequential conceptual framework for cross-cultural career counseling; Lowman's (1991) Inter-Domain Model featuring connections between interests, abilities, and personality; and Borgen's (1999) expanded matrix linking individual differences across important venues of life. Ackerman and Heggestad's (1996) research also highlights various trait complexes featuring combinations of interests, abilities, and personality. Readers are encouraged to review Hartung's (2005) sage advice addressing strategies for integrating assessment into counseling from various theoretical perspectives, and Larson's (2012) summary of research examining connections between individual differences within vocational psychology.

From a narrative perspective, life stories primarily function to aid individuals in meaning making (Cochran, 1997). These stories give purpose and significance to life events. Savickas (2003) noted the importance of meaning in conceptualizing career issues. Recently, there has been a burgeoning amount of vocational research involving meaning and other higher order constructs. Narrow definitions of personality that focused only on global traits had difficulty accounting for many of these constructs. The integrative framework proposed herein includes a narrative component in order to account for how vocational personality can address ideas such as meaning, subjective well-being, and calling, to name a few.

Reports of higher levels of meaning have been associated with increased work satisfaction (Bonebright, Clay, and Ankenmann, 2000). It seems that increasingly individuals are searching for careers that will inform an individual's overall sense of meaning. It is no longer enough for a person to find a job that provides financial security—many individuals look for work that will inform their overall sense of meaning-in-life. This work has been extended to include the presence of a calling in career development. In fact, meaning in life is a central component to the experience of calling in a career (Dik and Duffy, 2009). Duffy and Sedlacek (2010) found that 44% of college freshman reported experiencing a calling. The NBF model places meaning-making in the midst of cultural influences and life story development, although our model suggests that this also occurs though reflection on how characteristic adaptation processes affect the life story. The meaning-making process occurs

through understanding an individual's career narrative, which supersedes the career development process, and can be connected to an individualized definition of personality.

### RECENT PERSONALITY STUDIES IN VOCATIONAL PSYCHOLOGY

In order to understand how personality has been addressed in the vocational literature, we conducted a literature review of *Journal of Vocational Behavior*, *Journal of Career Assessment*, *Career Development Quarterly*, *Journal of Career Development*, and *Journal of Counseling Psychology* since the publication of the last edition of the *Handbook of Vocational Psychology* in 2005. We focused on the articles that listed *personality* as a keyword. These studies investigated personality in regard to a broad spectrum of vocational behaviors such as vocational interests, Person–Environment (P-E) fit, medical specialty choice, and career self-efficacy. However, although these studies covered a wide array of vocational concerns, they all addressed personality from a trait theory paradigm—particularly operationalized by measures of the Big Five (Costa and McCrae, 1992; Digman, 1990). Although critical to the revitalization of personality research in general, including the incorporation of personality within vocational psychology research, the dominance of the Big Five has often led to fragmented and truncated views of how person factors relate to vocational behavior. Many of the researchers called for a more integrative approach to addressing the role of personality related to career variables (Armstrong and Anthoney, 2009; Borgen and Betz, 2011; Hartman and Betz, 2007; Taber, Hartung, and Borges, 2011). For example, Hartman and Betz (2007) concluded that “a truly unifying theory of vocational behavior will account for these dialectics of human behavior: generality and specificity, variation and consistency, stability and change, and—of course—nature and nurture” (pp. 158–159). Vocational psychologists are aware of the benefits of examining career-related behaviors from a more holistic perspective and models from personality psychology can aid this endeavor by providing an integrative framework.

In 2007, the *Journal of Career Assessment* published a special issue focusing on self-efficacy, interests, and personality. This issue was published in response to the call for more integrated paradigms of vocational theory, research, and assessment. Hartman and Betz (2007) studied how the FFM of personality could have both generalized and domain-specific effects on self-efficacy. They found that Extraversion and Conscientiousness are the primary traits that predict self-efficacy beliefs. Nauta (2007) presented results on a longitudinal study exploring how vocational interests, self-efficacy, and Big Five personality traits relate to career exploration. Results indicated that self-efficacy and personality each accounted for significant independent variance in career explorations, underscoring the importance of both constructs to this important behavior. Nota, Ferrari, Solberg, and Soresi (2007) focused on career search self-efficacy as a potential mediator in the relationships between family support and indecision. Lastly, Chaney, Hammond, Betz, and Multon (2007) tested the psychometrics and clinical utility for the Career Decision Self-Efficacy Scale for an African American sample. In each of these articles, a push towards more sophisticated understanding of personality and vocational variables was noticeable.

Historically, vocational psychologists have investigated simple relationships between personality as a criterion variable and career-related variables as the outcome variable. Noting this trend, Taber, Hartung, and Borges (2011) conducted a study to better understand the joint effects of personality traits and work values on the choice of a specialization for

medical students. First-year medical students completed the *16-PF* (Cattell et al., 1993) and the *Physician Values in Practice Scale* (Hartung, Taber, and Richard, 2005), and their scores were compared with their eventual medical speciality choice after graduation. Discriminant analyses determined that personality accounted for 22% of the variance in separating technique- from person-oriented specialities. In contrast, physician work values did not discriminate between the specialities. Therefore in working with first-year medical students it may be more prudent to assess personality traits in addition to other traditional vocational assessments. The integrative framework of personality suggests that in this case the choice of medical speciality may be indicative of a characteristic adaptation that was influenced by traits. An individual's choice of a specialty influences their conception of self through an identity choice (e.g., I am a pediatrician who enjoys interpersonal contact), and lends itself to a particular lifestyle, with affiliated daily situations and role demands, that will influence their subsequent development. This is an example of how the components of personality can influence important career decisions.

Research has also begun to account for how the relationship between personality and career variables occurs in a developmental context. Influenced by the work of Roberts, Caspi, and Moffitt (2003) within the sociogenic model of personality development, Hirschi (2010) adopted a dynamic perspective on personality to investigate reciprocal relationships between interests, career goals, and Big Five traits. Using a large sample of Swiss adolescents, Hirschi (2010) tested the influences of personality on the development of Things/People (T/P) and Data/Ideas (D/I), vocational interests and career goals over a one-year period. The primary objective of the research was to determine whether the interrelation between interests and goals could be explained by their relation to personality. Vocational interests were measured by the Revised General Interest Structure Test (Bergmann and Eder, 2005); career goals were coded into D/I and T/P dimensions; and personality traits were measured by the German language version of the NEO-FFI (Borkenau and Ostendorf, 1993). Results indicated that vocational interests and goals showed a significant relationship, but also had a significant interaction with time. Secondly, Big Five traits related equally to vocational interests and accounted for their development during the period of a year—with the exception of T/P career goals. To support the primary investigation, it was determined that goals and interests related to one another above the effect of personality traits. Hirschi (2010) concluded that the bidirectional influence of goals and interests cannot be explained by the common relationship to personality. The interplay of goals, interests, and traits represent various domains in the integrated framework presented earlier in the chapter. In many ways, the study of these constructs anticipates the need for more dynamic and global paradigms.

From an organizational perspective, Swider and Zimmerman (2010) conducted a meta-analytic path analysis to analyze job burnout as a potential mediator of the relationship between personality traits and work outcomes—particularly job performance. Participants with higher levels of neuroticism and lower scores on extraversion, conscientiousness, and agreeableness were more likely to experience job burnout. The path analysis found that Big Five traits accounted for 21% of the variance in depersonalization, 27% of the variance in personal accomplishment, and 33% of the variance of emotional exhaustion. Job burnout fully mediated the relationship between personality and absenteeism and partially mediated the relationships between personality and turnover and performance.

### Predictive validity of personality

Research examining personality traits has demonstrated significant relationships with learning experiences (Schaub and Tokar, 2005); educational aspirations (Rottinghaus, Lindley, Green, and Borgen, 2002); vocational interests (Larson, Rottinghaus, and Borgen, 2002); choice of academic major (Larson et al., 2010) and occupations (Ozer and Benet-Martinez, 2006); self-efficacy for performing work-related tasks (Lent and Brown, 2006); subsequent work performance, satisfaction, and tenure (Barrick and Mount, 1991; Barrick, Mount, and Judge, 2001; Judge, Heller, and Mount, 2002); and how clients engage in learning experiences (Schaub and Tokar, 2005), conduct job searches (D. J. Brown et al., 2006), and the career counseling process generally (Tokar, Fischer, and Subich, 1998). Moreover, these processes all occur within dynamic systems that involve other detailed features of the self as people interact with everyday events within complex multicultural societies.

### SUMMARY AND FUTURE DIRECTIONS

The role of personality within vocational psychology has mirrored trends within the broader field of personality psychology over the years. Consistent with recent trends emphasizing integrative approaches, we examined personality from multiple perspectives, and organized vocational psychology research guided primarily by McAdams and Pals' (2006) New Big Five Personality framework, in addition to McCrae and Costa's (2008) FFT and the neo-analytic model of personality development (Roberts and Wood, 2006). Vocational psychologists have worked on theoretical convergence generally since the 1990s and this process can serve to achieve more parsimonious and useful models of personality applied to vocational behavior (Savickas and Lent, 1994). An open-minded blending of epistemologies is occurring and this may serve vocational psychology well. The spirit of this effort is reflected in Savickas' (2001) assertion that "theorists must move beyond the antagonism caused by contrasting stability-oriented and change-oriented approaches to a position from which researchers can study the ontogenesis of both general commonalities in development and unique individual difference, as well as specify their age-related interplay" (p. 303).

In the second edition of the *Handbook of Vocational Psychology*, Borgen (1995) suggested that positivism and postmodern perspectives need not be pitted against each other, but can coexist, "expanding our insights through perspectivism but also building on the empirical strengths of traditional research" (p. 429). Borgen asserted that our field "can thrive with methodological pluralism and even epistemological eclecticism" (p. 429). Nearly two decades later, the merging of perspectives is evident in vocational psychology as seen through prominent theories (e.g., CCT, SCCT) that incorporate ideas from diverse perspectives. Within the domain of personality, we have highlighted how openness to multiple views can help instigate new research questions and offer new insights into work with clients facing a variety of concerns.

Personality traits are the primary level of analysis within any of these personality systems. The acceptance of the Big Five nomenclature has led to a resurgence of research on personality generally. The trait level of personality is so widely used, due to well-validated measures (e.g., NEO PI-3, 16PF) that are useful in predicting a wide array of vocationally-relevant outcomes (e.g., job performance, job satisfaction), that it is considered by many to be synonymous with the term personality. Our informal content analysis of studies from

prominent vocational journals revealed the present dominance of the FFM. Vocational psychologists continue to build a strong literature base examining the relevance of Big Five traits to educational, career choice, and organizational outcomes. Conscientiousness appears to play a crucial role related to these outcomes in part due to tendencies to embrace attention to details and achievement striving. More focused facets are also incorporated into studies to elucidate the nature of these relationships more precisely. We also examined connections between traits and characteristic adaptations herein.

Navigating the process of career choice and development is complex and multifaceted. Today's clients must routinely take stock of who they are and be ready to deploy adaptability skills and knowledge in response to changing circumstances. Ongoing changes in the occupational landscape require adaptability, stemming from career management skills that feature agency and self-knowledge (Bandura, 2001; Hall, 2004). Each level of our personality framework can be used to interpret the detailed nature in which clients cope with career challenges and effectively manage career transitions. This framework can be applied to enhance career assessment interventions for clients across various populations and presenting concerns by offering a way to incorporate the role of traits, how clients respond to choice and adjustment decisions, and establish a clear identity that fuels an integrative life story within the context of complex cultural and external situations.

This framework allows practitioners to conceptualize client career concerns within the fabric of their family and cultural contexts. In addition, cultural dimensions (e.g., racial identity, gender identification, and personal experiences of discrimination) inform the overall self-conception of personality and therefore impact career-related processes. Ultimately, culturally sensitive career assessment at the levels of traits and characteristic adaptations, combined with qualitative approaches, can assist clients by providing critical self-knowledge as they construct their narrative identities, and infuse meaning and direction to their lives.

Drawing insights on the various connections between levels of this framework should be done collaboratively with clients. In addition to the traditional focus on the Big Five factors, we elaborated on the overall integration of a system of personality that revolves around characteristic adaptations within major integrative perspectives, such as McAdams and Pals' (2006) New Big Five model. Indeed, knowledge of general tendencies affords important insights in vocational development, but it is not sufficient for achieving successful outcomes. Career adaptability begins to fill in the gaps by emphasizing the process of coping with career development tasks (Savickas, 1997, 2005). Attending to this critical aspect of career development brings necessary focus on more fluid constructs that can extend the career development literature to meet contemporary challenges. We agree with van Vianen, De Pater, and Preenan (2009) who noted that "career adaptability rather than decision making should become the focal concept of career theory and practice" (p. 307).

Ongoing theoretical and empirical work addressing career adaptability will aid work with clients attempting to overcome the demands of managing careers. Career-related agency, self-efficacy and other characteristic adaptations are important components of the personality system related to adaptive career decision making. Ultimately, reflection of integrative personality components within a cultural context can aid clients in making adaptive decisions that will increase their employability and support the development of a clear and integrated vocational identity that informs the construction of their meaning through a career story.



One solution to challenges involves prevention through developing the knowledge, skills, and attitudes that are required in today's information-based society. Savickas et al (2009) stressed the need for people to be "lifelong learners who can use sophisticated technologies, embrace flexibility rather than stability, maintain employability, and create their own opportunities" (Savickas et al., 2009, p. 240). Encouraging such proactive career planning activities can support clients, thereby enabling them to embrace their own career agency and achieve a coherent and meaningful career identity that can adjust to inevitable change. In the immortal words of the late Steve Jobs (2005), "If today were the last day of my life, would I want to do what I am about to do today? And whenever the answer has been "no" for too many days in a row, I need to change something."

This quotation speaks volumes about the fluidity of personal goals and how they affect one's professional goals, behaviors, and indeed how one perceives his or her very sense of self. Ultimately, one's personality must be somewhat fluid and adaptive in order to adjust to challenges in the changing world. This also seems to fit with postmodern ideas. However, competing epistemologies need to coexist because they each provide crucial perspectives into how people define themselves (Roberts, 2009). In sum, it is useful to know one's general tendencies (i.e., biologically driven traits), and how they are manifested through concrete goals (e.g., characteristic adaptations), that interact with one's culture, and the social context of one's everyday life, to yield a unique life story that is constructed and continually refined by the individual. This comprehensive system of related variables can be applied to work and career domains in ways that will strengthen vocational psychologists' understanding of the role of personality in relation to vocationally-relevant thoughts, feelings, and behaviors.

Integrative personality theories can help vocational psychologists bridge previously incongruent perspectives to gain a more holistic and accurate view of personality. Vocational theories should also account for the widening scope of personality and its interconnections. Researchers who have worked in seemingly disparate camps can now use an integrative framework to understand how ostensibly unconnected findings can still inform the overall conception of the person and the world of work. It is a sign of a mature discipline that vocational psychology is moving toward the synthesis of traditional research and theory. In a sense, this structure is the foundation of a common language that cuts across multiple sub-disciplines of vocational psychology. While many scholars may choose to emphasize given aspects of the framework, each of the areas must be accounted for. Like any other systems approach, a change at one level of the system has a ripple effect across the other levels as well. Therefore, any comprehensive career theory should address this broadening definition of personality. Vocational theorists and researchers can use this integrative framework to bring the literature on career development up to date with advances in personality psychology.

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