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## **Five-Factor Model of Personality**

### **Abstract**

The five-factor model of personality (FFM) is a set of five personality trait dimensions, often referred to as the Big Five: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Originally derived from research examining the structure of personality-descriptive language and personality inventories, the FFM is now the most widely used model of personality structure. Research using the FFM has found that each Big Five dimension develops across the life span in response to biological and environmental influences. Measures of the Big Five have shown considerable reliability and inter-rater agreement, and can be used to predict a variety of important social, occupational, psychological, and health outcomes.

### **Main Text**

A personality trait is a characteristic aspect of an individual's cognition, affect, or behavior that tends to be stable over time and consistent across relevant situations. The five-factor model of personality (FFM) is a set of five broad, bipolar trait dimensions, often referred to as the Big Five: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. These five dimensions efficiently capture a wide range of individual differences in personality, and consequently the FFM is the most widely used structural model in personality measurement and research.

### *Defining the Big Five*

Each Big Five dimension is defined by a number of more-specific facet traits, and is manifested through a variety of behaviors (see John, Naumann, & Soto, 2008; Leary & Hoyle, 2009). Extraversion can be generally defined as the extent to which an individual is talkative and outgoing in social situations. Its core facets include sociability (vs. shyness), assertiveness (vs. submissiveness), and activity (vs. lack of energy). Behaviorally, extraverts tend to talk a lot, take charge in group situations, and express positive emotions, whereas introverts tend to feel uncomfortable in social situations, and keep their thoughts and feelings to themselves.

Like Extraversion, Agreeableness is an important aspect of social behavior. It concerns the extent to which someone behaves prosocially toward others and maintains pleasant, harmonious interpersonal relations. Key facets of Agreeableness include compassion (vs. lack of concern for others), politeness (vs. antagonism), and trust (vs. suspicion of others). Those high in Agreeableness are more willing to help and forgive others, and treat others with respect; those low in Agreeableness tend to look down on others, start arguments, and hold grudges.

Conscientiousness describes an individual's capacity to organize things, complete tasks, and work toward long-term goals. Its key facets include orderliness (vs. disorganization), self-discipline (vs. inefficiency), and reliability (vs. inconsistency). Highly conscientious individuals prefer order and structure, are productive workers, tend to follow rules and norms, and are better able to delay gratification, whereas those low in Conscientiousness have difficulty controlling their impulses and are easily distracted from tasks.

Neuroticism (sometimes referred to by its socially desirable pole, Emotional Stability) concerns the extent to which someone is prone to experiencing negative emotions and moods. Its core facets include anxiety (vs. calmness), depression (vs. contentment), and emotional volatility (vs. stability). Highly neurotic individuals experience more frequent and intense negative emotions, such as fear, sadness, and frustration, and have frequent mood swings. Those low in Neuroticism remain calm and optimistic, even in difficult situations, and find it easier to regulate their emotions.

Openness to Experience refers to the overall depth and breadth of an individual's intellectual, artistic, and experiential life. Important facets of Openness include aesthetic sensitivity (vs. insensitivity), imagination (vs. lack of creativity), and intellect (vs. lack of intellectual curiosity). Highly open individuals tend to have a broad range of interests, and enjoy learning and trying new things; those low in Openness tend to have narrower interests, and prefer familiarity and routine over novelty and variety. However, there is less consensus about the definition of Openness than about the other Big Five dimensions. Some researchers prefer the alternative label Intellect, and propose that intelligence should be included as an aspect of this dimension alongside intellectual curiosity and interests.

### *Evidence for the Five-Factor Model*

Scientific consensus around the FFM has emerged from two lines of research (see Goldberg, 1993). The first is rooted in the lexical hypothesis, which proposes that, because people need to communicate about personality traits, the most universally important traits have become encoded as individual words in almost all languages. This hypothesis has been investigated by research conducted in many languages and cultures. A typical lexical study begins by extracting a representative set (numbering in the dozens, hundreds, or even thousands) of commonly used personality-descriptive adjectives from a dictionary. Next, a sample of participants is asked to rate their own personality, or a peer's personality, in terms of these adjectives. Finally, the statistical technique of factor analysis is used to identify sets of adjectives that cluster together along broad personality dimensions. Lexical studies conducted in more than a dozen languages, including Croatian, Czech, Dutch, English, French, German, Greek, Hebrew, Hungarian, Italian, Korean, Polish, Spanish, Tagalog, and Turkish, have independently recovered most or all of the Big Five.

The second type of evidence for the FFM is research linking the Big Five with traits assessed by a wide variety of previously developed personality inventories. This research has shown that almost all such traits can be conceptualized in terms of the Big Five. For example, versions of Extraversion have been measured by a number of non-FFM inventories under labels such as Activity, Agency, Dominance, Externality, Exvia, Histrionics, Initiative, Outgoingness, Positive Emotionality, Power, Sociability, Social Activity, Social Leadership, and Undercontrol (see John et al., 2008).

Taken together, these two lines of research indicate that the Big Five efficiently summarize the personality content represented in both everyday language and formal personality inventories. However, both theoretical and empirical objections have been raised to the FFM. Theoretically, the model has been criticized for emerging from everyday language and personality judgments, rather than theoretical accounts of personality processes. Empirically, some researchers have proposed that alternative structures (e.g., three-dimensional and six-dimensional structures) are more cross-culturally consistent, better differentiated, or both,

compared with the FFM. Despite these objections, use of the FFM in psychological research and applied settings has grown steadily since the early 1990s.

### *Measuring the Big Five*

The Big Five are typically measured using self-report or peer-report questionnaires. Three of the most popular FFM measures are the Big Five Inventory (BFI; see John et al., 2008), the Mini-Markers (Saucier, 1994), and the NEO Personality Inventory–Revised (NEO PI-R; Costa & McCrae, 1992). These measures differ in their item format (individual adjectives, short phrases, or longer statements), length (ranging from 40 to 240 items), and structure (e.g., whether they measure facet traits within each Big Five dimension). Despite these differences, ratings of the Big Five typically show high reliability and strong convergence across instruments.

Measures of the Big Five also show moderate-to-strong agreement between self-ratings and peer-ratings, and between ratings made by different peers (see Connelly & Ones, 2010; Vazire & Carlson, 2010). Both self-ratings and peer-ratings of the Big Five have demonstrated substantial concurrent and predictive validity. Self-ratings tend to have greater validity than peer-ratings for traits and outcomes that are low in visibility (e.g., Neuroticism, emotional states), whereas peer-ratings tend to provide more accurate predictions for traits and outcomes that are highly evaluative (e.g., Intellect, job performance). However, across traits and outcomes, predictions made using a combination of self-ratings and peer-ratings are generally more accurate than those made using either type of rating alone.

### *Lifespan Development of the Big Five*

Much research has investigated the biological and environmental bases of the Big Five, as well as the questions of whether, how, and why the Big Five change across the life span (see Caspi, Roberts, & Shiner, 2005). Behavioral genetics studies have established that all of the Big Five are substantially influenced by both genetic and environmental factors; moreover, all of the Big Five are about equally heritable, suggesting a similar degree of genetic influence on each trait dimension. Molecular genetics research has attempted to identify specific gene polymorphisms that influence each of the Big Five. However, these studies have had only limited success, suggesting that individual genes do not have large, additive effects on personality traits. Recent research in personality neuroscience has also begun to investigate patterns of brain structure and reactivity associated with the Big Five. For example, Extraversion may be associated with brain regions involved in processing information about rewards, whereas Neuroticism may be associated with regions involved in processing threats and punishments (DeYoung, 2010).

Other research has examined stability and change in the Big Five across the life span. Most such studies have focused on early adulthood and middle age, but several have also extended into late adulthood. The rank-order stability of the Big Five—whether the ordering of individuals from highest to lowest on a trait remains consistent over time—tends to increase from childhood through middle age, where it reaches a plateau but still allows some room for additional change (Roberts & DelVecchio, 2000). As for mean-level change—whether the average score on a trait increases or decreases with age—Agreeableness and Conscientiousness tend to increase across adulthood, whereas Neuroticism tends to decrease. Mean levels of Openness to Experience remain relatively consistent across early and middle adulthood, then decline in late adulthood. As for Extraversion, the age trend may differ by facet: some evidence indicates that assertiveness increases with age, whereas sociability decreases (Roberts, Walton,

& Viechtbauer, 2006). However, for all of the Big Five, some individuals show atypical patterns of change that differ from the mean-level trends.

Personality change appears to have both biological and environmental causes. For example, individual differences in change on the Big Five are moderately heritable (suggesting genetic influence), but have also been linked with particular life events and experiences (suggesting environmental influence). Moreover, cross-cultural research indicates that, across a variety of cultures, people tend to become more agreeable, conscientious, and emotionally stable with age (suggesting a biological basis for this general pattern); however, the culture-specific timing of these age trends may depend on the normative onset of adult social role responsibilities such as employment, marriage, and parenthood (suggesting an environmental basis for this cross-cultural variability) (Bleidorn et al., in press).

### *Prediction of Life Outcomes*

Each of the Big Five has been shown to predict a number of important life outcomes, (see Ozer & Benet-Martínez, 2006; Soto & Jackson, 2013). For example, Extraversion positively predicts interpersonal outcomes such as peer acceptance and friendship, social status, number of dating partners, and relationship satisfaction. Extraverts tend to prefer and perform better in social and enterprising occupations; they are also more likely than introverts to assume leadership positions in their workplaces and communities. Psychologically, extraverts tend to have higher self-esteem and greater subjective well-being, especially more frequent and intense positive affect; compared with introverts, they also show greater emotional resilience and better coping skills in response to negative events.

Like Extraversion, Agreeableness is an important predictor of social outcomes. Agreeable individuals tend to be accepted and well-liked by their peers, and experience greater dating and relationship satisfaction, whereas those low in Agreeableness are more likely to experience peer rejection and bullying. Agreeable individuals tend to seek out and succeed in social occupations and collaborative work environments. They also tend to be more religious, are more likely to volunteer and assume community leadership positions, and are less likely to engage in criminal behavior. Low Agreeableness is associated with health risks such as heart disease and decreased longevity.

Of the Big Five, Conscientiousness is the strongest predictor of overall academic and occupational success. In general, conscientious students earn higher grades and conscientious employees perform better in a variety of jobs, whereas individuals low in Conscientiousness are more likely to engage in counterproductive work behaviors. Conscientiousness is also an important, positive predictor of physical health, mental health (including self-esteem and subjective well-being), and longevity. The associations of high Conscientiousness with overall health extend to many specific health-related behaviors, including a healthier diet, more frequent exercise, less frequent tobacco, alcohol, and drug use, and less risky sexual behavior. Conscientious individuals are also more likely to be religious and hold conservative political attitudes, and less likely to engage in antisocial and criminal behavior.

Neuroticism is a strong, negative predictor of subjective well-being: highly neurotic individuals tend to experience greater negative affect and less satisfaction with life, as well as lower self-esteem. This general unhappiness extends to more-specific life domains. For example, neurotic individuals tend to feel less secure and satisfied about their family, peer, and romantic relationships, and are at greater risk for relationship conflict, abuse, and divorce. They also tend to be less satisfied with, committed to, and successful in their jobs. Because neurotic individuals

tend to experience frequent and intense negative emotions, and have difficulty coping with negative events, they are at increased risk for mental illness, especially clinical depression and anxiety disorders.

Openness to Experience is an important predictor of intellectual outcomes. Highly open individuals tend to perform better on tests of intelligence and creativity, and complete more years of formal education. They are especially likely to pursue and succeed in artistic, scientific, and technical careers. Compared with their less open peers, they are also more likely to engage in drug use, to describe themselves as spiritual (but not necessarily religious), and to hold liberal political and social attitudes.

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**Author Mini-Biography**

Christopher J. Soto is an Assistant Professor of Psychology at Colby College. Josephine K. Liang and Anna Kronauer are students at Colby College. Their research examines how specific patterns of behavior cohere into personality traits, how personality traits develop across the life span, and how people's personalities influence their life outcomes.