
UNIT 4 THE BIG FIVE FACTORS: THE BASIC DIMENSIONS OF PERSONALITY

Structure

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4.0 INTRODUCTION

Research conducted during the last few decades has converged on the conclusion that in fact, there may be only five key or central dimensions of personality instead of many personality dimensions. The trait and type theorists put forward many dimensions of personality and delineated the characteristic features of the traits. Using factor analysis from amongst a large number of dimensions, the researchers identified clusters of dimensions and these formed the personality factors. Thus the Big 5 personality dimensions are identified clusters of personality traits and these can be delineated by a measurement tool (questionnaire). These are being discussed in detail in this unit.

4.1 OBJECTIVES

After completing this unit, you will be able to:

- Define the Big 5 factor dimensions of personality;
- Explain the Big 5 factors;
- Analyse the methods by which the five factors were extracted; and
- Describe the methods by which these factors could be measured.

4.2 DEFINITION OF THE BIG FIVE FACTORS

Personality has been conceptualised from many theoretical perspectives. Each has contributed to understanding of individual differences in behaviour and experience. However so many personality scales to measure personality came about as a result of continuing research and one had not overall rationale to use a particular scale.

Thus personality psychology needed a descriptive model, a taxonomy of its subject matter. One of the goals of taxonomie is to bring a number of specific instances within a domain so as to understand it in a simple way. Thus in personality the taxonomy will help to study specified domains of personality characteristics, instead of examining separately thousands of particular attributes that make individuals unique.

The Big Five personality dimension is the result of finding a general taxonomy and these dimensions do not represent a particular theoretical perspective but derived from people's description of themselves and others in their natural language. The Big Five instead of replacing the earlier systems, serves as an integrative mechanism and represents the various and diverse systems of personality description in a common framework.

Allport and Odbert's classifications provided some initial structure for the personality lexicon. Since taxonomy has to provide a systematic framework for distinguishing, ordering and naming individual differences in people's behaviour and experience, they took a list of a large number of personality traits used in common parlance. The size of that list was so huge that Cattell (1943) began with a subset of 4500 trait items. Using semantic and empirical clustering procedures Cattell reduced the 4500 items to a mere 35 variables. He used these small set of variables to identify 12 personality factors which eventually became a part of his 16 PF questionnaire.

4.2.1 Discovery of the Big Five in Cattell's Variable List

Cattell's work gave impetus to many research investigations and many were involved in the discovery and clarification of the Big Five dimensions. First, Fiske (1949) constructed simplified description from 22 variables of Cattell. The factor structure were obtained from self ratings etc. They worked out a correlational matrix from different samples and found clusters which they called the Big five.

This five factor structure has been replicated by many in lists derived from Cattell's 35 variables. These factors were initially labeled as (i) Extraversion or Surgency (ii) Agreeableness (iii) Conscientiousness (iv) Emotional stability versus neuroticism and (v) Culture. These factors came to be known as the Big Five . These five dimension s represent personality at the broadest level of abstraction, and each dimension summarises a large number of distinct, more specific personality characteristics.

Following Fiske's research, there were attempts by other researchers including Norman (1967), Smith (1967), Goldberg (1981), and McCrae & Costa (1987).

The “big five” are broad categories of personality traits. While there is a significant body of literature supporting this five-factor model of personality, researchers do not always agree on the exact labels for each dimension. However, these five categories are usually described as follows:

Extraversion: This is also called as Surgency. The broad dimension of Extraversion encompasses specific traits as talkative, energetic, and assertive. More specifically these include characteristics such as excitability, sociability, talkativeness, assertiveness, and high amounts of emotional expressiveness.

Agreeableness: This factor includes traits like sympathetic, kind, and affectionate. It also includes attributes such as trust, altruism, kindness, affection, and other prosocial behaviours.

Conscientiousness: This includes traits like organised, thorough, and planful tendencies. Common features of this dimension include high levels of thoughtfulness, with good impulse control and goal-directed behaviours. Those high in conscientiousness tend to be organised and mindful of details.

Neuroticism: This is sometimes reversed and called Emotional Stability. This dimension includes traits like tense, moody, and anxious. Individuals high in this trait tend to experience emotional instability, anxiety, moodiness, irritability, and sadness.

Openness to Experience: This is also called as Intellect or Intellect/Imagination. This dimension includes traits like having wide interests, and being imaginative and insightful. Those high in this trait also tend to have a broad range of interests.

These dimensions represent broad areas of personality. Research has demonstrated that these groupings of characteristics tend to occur together in many people. For example, individuals who are sociable tend to be talkative. However, these traits do not always occur together. Personality is complex and varied and each person may display behaviours across several of these dimensions.

Each of the Big Five factors is quite broad and consists of a range of more specific traits. The Big Five structure was derived from statistical analyses of which traits tend to co-occur in people’s descriptions of themselves or other people. The underlying correlations are probabilistic, and exceptions are possible. For example, talkativeness and assertiveness are both traits associated with Extraversion, but they do not go together by logical necessity. One could imagine somebody who is assertive but not talkative (the “strong, silent type”). However, many studies indicate that people who are talkative are usually also assertive (and vice versa), which is why they go together under the broader Extraversion factor.

For this reason, one should be clear about the research goals when choosing the measures. If it expected that one has to to make finer distinctions (such as between talkativeness and assertiveness), a broad-level Big Five instrument will not be enough. One may have to use one of the longer inventories that make facet-level distinctions (like the NEO PI-R or the IPIP scales. or one could supplement a shorter inventory (like the Big Five Inventory) with additional scales that measure the specific dimensions that you are interested in.

It is also worth noting that there are many aspects of personality that are not subsumed within the Big Five. The term *personality trait* has a special meaning in personality psychology that is narrower than the everyday usage of the term. Motivations, emotions, attitudes, abilities, self-concepts, social roles, autobiographical memories, and life stories are just a few of the other “units” that personality psychologists study.

Some of these other units may have theoretical or empirical relationships with the Big Five traits, but they are conceptually distinct. For this reason, even a very comprehensive profile of somebody’s *personality traits* can only be considered a partial description of their *personality*.

4.3 THE BIG FIVE THEORY

Let us see the difference between the terms *Big Five*, *Five-Factor Model*, and *Five-Factor Theory*.

The **Big Five** are, collectively, a taxonomy of personality trait. It is a coordinate system that maps which traits go together in people’s descriptions or ratings of one another.

The Big Five are an empirically based phenomenon, not a theory of personality. The Big Five factors were discovered through a statistical procedure called factor analysis, which was used to analyse how ratings of various personality traits are correlated in humans.

The original derivations relied heavily on American and Western European samples, and researchers are still examining the extent to which the Big Five structure generalises across cultures.

4.3.1 Five Factor Model

The Five-Factor Model is a term used often instead of the “Big Five.” In scientific usage, the word “model” can refer either to a descriptive framework of what has been observed, or to a theoretical explanation of causes and consequences.

The Five-Factor Model (i.e., Big Five) is a model in the descriptive sense only. The term “Big Five” was coined by Lew Goldberg and was originally associated with studies of personality traits used in natural language.

The term “Five-Factor Model” has been more commonly associated with studies of traits using personality questionnaires. The two research traditions yielded largely consonant models and in current practice the terms are often used interchangeably. A subtle but sometimes important area of disagreement between the lexical and questionnaire approaches is over the definition and interpretation of the fifth factor, called Intellect/Imagination by many lexical researchers and Openness to Experience by many questionnaire researchers.

4.3.2 Theoretical Perspectives on the Big Five: Description and Explanation

Over the years many perspectives on the concept of the Big Five dimensions have been presented. As is known the Big Five were first discovered in lexical research to provide taxonomy of trait items and thus the factors were initially

interpreted as dimensions of trait or attribution. Further research showed that the dimensions have external /predictive validity and all five of them show equal heritability. Since the Big Five dimensions refer to real individual differences, one must find out as to how these differences are conceptualised.

Several theories conceptualise the Big Five as relational constructs. In Interpersonal theory the theoretical emphasis is on the individual in relationships. According to Sullivan (1953) the Big Five describe the enduring patterns of recurrent interpersonal situations that characterise human life. However, Wiggins and Trapnell (1996) are of the view that interpersonal motives are important and thus they interpret all the Big Five dimensions in terms of their interpersonal implications.

Socioanalytic theory by Hogan (1996) focuses on the social functions of self and other perceptions and he points out that traits are socially constructed to serve interpersonal functions. As trait terms are about reputation that is the individual considers how others view them , the possibility of the person distorting the self reports and questionnaires is high. Thus self deceptive bias enters and one does not get the true picture of the individual's personality.

The evolutionary theory on the Big Five states that humans have evolved "difference detecting mechanisms" to perceive individual differences that are important for survival and reproduction(D.M. Buss & Shackelford, 1997). Buss views personality as one where the Big Five traits represent the most salient and important dimensions of the individual's survival needs. This theory emphasises both person perception and individual differences and point out that the Big Five summarises the centrally important individual differences.

McCrae and Costa (1996) view Big Five as causal personality dispositions. Their five factor theory (FFT) explains the Big Five taxonomy. According to FFT, the Big Five dimensions have a substantial genetic base and hence derive from biological structures and processes. According to this theory, personality traits are basic tendencies that refer to the underlying potentials of the individual. On the other hand attitudes, roles, relationships and goals are characteristic adaptations that reflect the interaction between the basic tendencies and environmental demands. While basic tendencies remain stable across life, the adaptations undergo considerable changes.

Another theory is the comparative approach to personality that studies individual differences in both human and non humans. Thus there are a diverse theories regarding the Big Five dimensions from purely descriptive to biologically based causal concepts. These perspectives however are not mutually exclusive. Research in areas like behaviour genetics, molecular genetics, personality stability and change, and accuracy and bias in interpersonal perception will help in building and refining a comprehensive theory of Big Five.

4.3.3 Advantages of the Big Five Structure

The Big Five structure has the advantage of everyone being able to understand definitions and meanings used in describing this concept. Several of the dimensions of the Big Five especially Extraversion and Neuroticism have been explained both from physiological and mechanistic perspectives. In one sense, the Big Five differentiate domains of individual differences that have similar

surface manifestations. The Big Five structure is a major step ahead in that it captures the commonalities amongs most of the existing systems of personality description, and provides an integrative descriptive model.

Five-Factor Theory includes a number of propositions about the nature, origins, and developmental course of personality traits, and about the relation of traits to many of the other personality variables mentioned earlier. Five-Factor Theory presents a biological account of personality traits, in which learning and experience play little if any part in influencing the Big Five.

Five-Factor Theory is not the only theoretical account of the Big Five. Other personality psychologists have proposed that environmental influences, such as social roles, combine and interact with biological influences in shaping personality traits. For example, Brent Roberts has recently advanced an interactionist approach under the name **Social Investment Theory**.

Finally, it is important to note that the Big Five are used in many areas of psychological research in ways that do not depend on the specific propositions of any one theory. For example, in **interpersonal perception** research the Big Five are a useful model for organising people's perceptions of one another's personalities. I have argued that the Big Five are best understood as a model of reality-based person perception. In other words, it is a model of what people want to know about one another (Srivastava, 2010).

Regardless of whether you endorse any particular theory of personality traits, it is still quite possible that you will benefit from measuring and thinking about the Big Five in your research.

4.4 MEASUREMENT OF THE BIG FIVE INVENTORY (BFI)

Big Five Inventory (BFI) is a self-report inventory designed to measure the Big Five dimensions. It is quite brief for a multidimensional personality inventory (44 items total), and consists of short phrases with relatively accessible vocabulary. A copy of the BFI, with scoring instructions, is reprinted in the chapter as an appendix (the last 2 pages). It is also available through Oliver John's lab website. No permission is needed to use the BFI for noncommercial research purposes (see below).

What are other ways of measuring the Big Five?

The BFI is not your only option for measuring the Big Five...

The International Personality Item Pool, developed and maintained by Lew Goldberg, has scales constructed to work as analogs to the commercial NEO PI-R and NEO-FFI scales (see below). IPIP scales are 100% public domain - no permission required, ever.

Colin DeYoung and colleagues have published a 100-item measure, called the Big Five Aspect Scales (BFAS), which scores not only the Big Five factors, but also two "aspects" of each. The BFAS is in the public domain as well.

If you want items that are single adjectives, rather than full sentences (like the NEO) or short phrases (like the BFI and IPIP), you have several options. For

starters, there is Lew Goldberg's set of 100 trait-descriptive adjectives (published in *Psychological Assessment*, 1992). Gerard Saucier reduced this set to 40 Big Five mini-markers that have excellent reliability and validity (*Journal of Personality Assessment*, 1994). More recently, Saucier has developed new trait marker sets that maximize the orthogonality of the factors (*Journal of Research in Personality*, 2002). Saucier's mini-markers are in the public domain.

The NEO PI-R is a 240-item inventory developed by Paul Costa and Jeff McCrae. It measures not only the Big Five, but also six "facets" (subordinate dimensions) of each of the Big Five. The NEO PI-R is a commercial product, controlled by a for-profit corporation that expects people to get permission and, in many cases, pay to use it. Costa and McCrae have also created the NEO-FFI, a 60-item truncated version of the NEO PI-R that only measures the five factors. The NEO-FFI is also commercially controlled.

If you need a super-duper-short measure of the Big Five, you can use the Ten Item Personality Inventory, recently developed by Sam Gosling, Jason Rentfrow, and Bill Swann. But read their journal article first (it is on Sam Gosling's web page). There are substantial measurement tradeoffs associated with using such a short instrument, which the article discusses.

As mentioned earlier, the **IPIP scales**, Saucier's **mini-markers**, and the **Big Five Aspect Scales** are all in the public domain and may be used for any purpose with no restrictions.

Additionally, the **BFI** (which is copyrighted by Oliver P. John) is freely available to researchers who wish to use it for research (not commercial) purposes. More details are available on Oliver John's lab website. If you cannot find your questions answered there, you can contact Laura Naumann (naumann@berkeley.edu) for further information.

4.4.1 Big Five Personality Traits in Psychology

The "Big Five" Personality Dimensions

Extroversion : activity and energy level traits, sociability and emotional expressiveness.

Agreeableness: altruism, trust, modesty, prosocial attitudes.

Conscientiousness : Impulse control, goal directed behaviour.

Neuroticism : emotional stability, anxiety, sadness, and irritability

Openness: Breadth, Complexity, and depth of an individuals life.

These five dimensions have been used to account for variance in: i) Academic Achievement (ii) Work Performance (iii) Well Being Juvenile Delinquency (iv) The Big Five Personality Traits in Psychology (v) The person's Personal Dimensions Affect All Aspects of Life

One does not need a Myers Briggs Personality Test to know if your personality type is working for or against you! Here are the Big Five Personality Traits and how they work.

The Big Five Personality Traits affect the person's health, relationships, goals, achievements, professional success, and even the spiritual life. The person's whole

life is affected both positively and negatively by the Big Five Personality Traits!

The fundamental five personality characteristics - called the “Big Five Personality Traits” among psychologists - were once thought to remain the same since childhood. Now, experts believe the Big Five Personality Traits change over time.

The five-factor model is comprised of five personality dimensions (OCEAN): Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The five dimensions are held to be a complete description of personality.

A competing model with three dimensions based on psychophysiology is the **PEN Model**. Extraversion and Agreeableness are only rotations of the dimensions in **Interpersonal Theory**.

A trait is a temporally stable, cross-situational individual difference. Currently the most popular approach among psychologists for studying personality traits is the five-factor model or Big Five dimensions of personality. The five factors were derived from factor analyses of a large number of self- and peer reports on personality-relevant adjectives and questionnaire items.

4.4.2 Important Characteristics of the Five Factors

The following are some of the important characteristics of the five factors:

- 1) First, the factors are dimensions, not types, so people vary continuously on them, with most people falling in between the extremes.
- 2) Second, the factors are stable over a 45-year period beginning in young adulthood (Soldz & Vaillant, 1999).
- 3) Third, the factors and their specific facets are heritable (i.e., genetic), at least in part (Jang, McCrae, Angleitner, Riemann, & Livesley, 1998; Loehlin, McCrae, Costa, & John, 1998).
- 4) Fourth, the factors probably had adaptive value in a prehistoric environment (Buss, 1996).
- 5) Fifth, the factors are considered universal, having been recovered in languages as diverse as German and Chinese (McCrae & Costa, 1997).
- 6) Sixth, knowing one’s placement on the factors is useful for insight and improvement through therapy (Costa & McCrae, 1992).

The differences between two empirically related yet conceptually distinct models, the Big Five and the five-factor model, are summarised below.

4.4.3 Major Proponents of the Big Five and the Lexical Basis

Goldberg

FFM: McCrae and Costa

Lexical basis

Lexical hypothesis—those individual differences that are most salient and socially relevant will come to be encoded as terms in the natural language.

Five Factor Model (FFM): Theoretical contexts—traits are situated in a comprehensive model of genetic and environmental causes and contexts.

Position on causation

Big 5: Phenotypic and no stance on causation.

Five Factor Model (FFM). Biosocial, genetic as well as environmental.

Naming of factors

Big 5: Surgency, Agreeableness, Conscientiousness, Emotional Stability, and Intellect.

Five Factor Model (FFM). Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (OCEAN).

Measurement Model

Big 5: Circular measurement, that is, many items have non-zero correlations (loadings) on two factors rather than just one.

Five Factor Model . Hierarchical measurement , that is, lower-level facets combine to form higher-level domains.

Questionnaires

Big 5: Big Five Markers (recently, International Personality Item Pool, or **IPIP**).

FFM. Revised Neuroticism, Extraversion, Openness Personality Inventory (NEO-PI-R).

Type of Questionnaire Items

Big 5. Adjectives (recently, sentence stems).

FFM. Sentences.

Saucier and Goldberg (1998) presented evidence that nearly all clusters of personality-relevant adjectives can be subsumed under the Big Five.

One of the shortcomings of the Big 5 is that though very useful, it must be stated that there are several important personality traits that lie beyond the Big Five.

In addition, theoretical reasons suggest the importance of other personality traits that are poorly captured by terms in the natural language, such as impulsive, sensation-seeking etc.

Furthermore, traits may be only a limited means of studying a “psychology of the stranger”, that is, they may include only the personality relevant information that would be apparent about someone about whom one knew very little else. Thus it leaves other important constructs such as narrative life story etc., uncovered.

4.4.4 Best way to Describe Personality

What are the best ways to describe an individual’s personality? One might list all of the things that individuals do all day every day of their lives, but that would take too long and be far too detailed to be of much use.

Alternatively, one might use more abstract attributes as a way of summarizing the major ways that individuals differ from each other. Every language has

hundreds of words that refer to the ways that individuals differ. The English language includes at least 20,000 words of that sort (for example, talkative, agreeable, hard-working, nervous, intelligent).

Perhaps those terms that make it into a language and then stay there for centuries are those that people have found to be most useful for describing themselves and others. This “lexical hypothesis” is the basis of much modern research on the structure of human personality traits.

The terms that are descriptive of personality can be used by individuals to describe themselves and others.

For example, one could ask a question, “How talkative is Ram?” The answer could be in a continuum, viz., Not at all (1) A little bit (2) Somewhat (3) Moderately (4) and Extremely(5).

In general, one can measure the extent of similarity between pairs of personality terms with a statistic called the “correlation coefficient.” Based on the intercorrelations among all pairs of personality terms, one can then group the terms into categories or clusters using a statistical procedure called “factor analysis.” The result of research using those statistical techniques is a tentative answer to the important scientific question: “How many different relatively independent kinds of terms are there in that specific language?”

In many languages, it has turned out that the magical number is something like five or six. In English and other northern European languages like German and Dutch, there has seemed to be five major dimensions or “factors” to represent the majority of personality-descriptive terms in that language. This “Big-Five” factor structure has become a scientifically useful taxonomy to understand individual differences in personality traits.

The Big Five factors

- 1) The first is Extraversion versus Introversion, which includes traits such as Active, Assertive, Energetic, Gregarious, and Talkative versus their opposites.
- 2) A second factor is called Agreeableness, which includes traits such as Amiable, Helpful, Kind, Sympathetic, and Trusting versus their opposites.
- 3) A third factor has been labeled Conscientiousness, which includes such traits as Dependable, Hard-working, Responsible, Systematic, and Well-organised versus their opposites.
- 4) A fourth factor contrasts traits related to Emotional Stability, such as Calm, Relaxed, and Stable, with opposite traits such as Afraid, Nervous, Moody, and Temperamental.
- 5) And, finally, there is a constellation of traits related to Intellect and Imagination, such as Artistic, Creative, Gifted, Intellectual, and Scholarly versus their opposites.

Most personality-related words in many modern languages can be classified by their locations in the five-dimensional space provided by the Big-Five factors. Terms are scattered throughout this five-dimensional space, with most terms being blends of two or three of the Big-Five factors. As a consequence, this five-

factor model provides a rich framework for classifying personality traits, and measures of those five broad dimensions have proven to be extremely useful for describing individual persons. Indeed, measures of the Big-Five factors have proven to predict educational and occupational attainment, marital success, good health habits and medical outcomes, and even longevity versus mortality.

Many researchers believe that these dimensions are indeed the basic ones. This is indicated, by the fact that these dimensions are ones to which most people in many cultures refer in describing themselves (Funder & Colvin, 1991). If the big five dimensions of personality are really so basic, then it is reasonable to expect that they will be related to important forms of behaviour.

Many studies indicate that this is the case. Where people stand on the big five dimensions is closely linked to important outcomes, such as their success in performing many jobs (e.g., Hogan, Hogan & Roberts, 1996). Many psychologists now view the big five basic dimensions as truly basic, there is *not* total consensus on this point. For example, Eysenck (1994), believes that there are only three basic dimensions—extraversion, neuroticism and psychoticism.

Other psychologists (e.g., Block, 1995) believe that the methods on which the big five dimensions are based (largely the technique of factor analysis) are inadequate. Lastly many psychologists view the big five as providing important insights into the key dimensions of personality.

4.5 LET US SUM UP

The controversy regarding the number of basic personality traits has taken an interesting turn in recent years. Costa & McCrae have examined all possible personality traits. The findings indicate a set of five factors. They are often called Big-Five Factors. These factors include: extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. This model represents an important theoretical development in the field of personality. It has been found useful in understanding the personality profile of people across cultures. While it is consistent with the analysis of personality traits found in different languages, it is also supported by the studies of personality carried out through different methods. Thus, it is now considered to be the most promising empirical approach to the study of personality.

4.6 UNIT END QUESTIONS

- 1) What are the big –five dimensions of personality? Describe each dimension in detail.
- 2) Discuss Eysenck’s three major trait dimensions of personality as largely responsible for a significant portion of human behaviour.
- 3) Discuss the various theoretical perspectives of the Big 5.
- 4) Discuss how individual variations along each trait dimension reflect differences in neurophysiological functioning?
- 5) How was Big 5 discovered?
- 6) Who are the major proponents of Big 5 ? Discuss the lexical basis of Big 5.

4.7 GLOSSARY

- Extraversion** : one of the big-five dimensions of personality; ranges from sociable, talkative and enthusiastic at one end to sober, reserved, and cautious at the other.
- Agreeableness** : one of the big-five dimensions of personality; ranges from good natured, cooperative, trusting at one end to irritable, suspicious, uncooperative at the other.
- Conscientiousness** : one of the big-five dimensions of personality; ranges from well-organised, careful and responsible at one end to disorganised, careless, and unscrupulous at the other.
- Emotional Stability** : one of the big-five dimensions of personality; ranges from poised, calm, and composed at one end to nervous, anxious, and excitable at the other; also called neuroticism.
- Openness to Experience** : one of the big-five dimensions of personality; ranges from imaginative, witty, and intellectual at one end to down-to-earth, simple, and narrow in interests at the other.

4.8 SUGGESTED READINGS AND REFERENCES

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