

Personality Assessment-The Big 5 Personality Test Traits

Why do people respond differently to the same situations? In contemporary psychology, the *Big Five traits of personality* are five broad domains which define human personality and account for individual differences. This article tells you more about the Big Five personality theory. After reading it, take our free personality test to determine your own Big Five personality type.

History of Big Five personality theory

Several independent sets of researchers discovered and defined the five broad traits based on empirical, data-driven research. Ernest Tupes and Raymond Christal advanced the initial model, based on work done at the U.S. Air Force Personnel Laboratory in the late 1950s.¹ J.M. Digman proposed his five factor model of personality in 1990², and Goldberg extended it to the highest level of organizations in 1993.³ In a **personality test**, the Five Factor Model or FFM⁴ and the Global Factors of personality⁵ may also be used to reference the Big Five traits.

Big Five personality traits

Human resources professionals often use the Big Five personality dimensions to help place employees. That is because these dimensions are considered to be the underlying traits that make up an individual's overall personality.

The Big Five personality traits are:

- **Openness**
- **Conscientiousness**
- **Extraversion**
- **Agreeableness**
- **Neuroticism**

or

CANOE / OCEAN

- **Openness** - People who like to learn new things and enjoy new experiences usually score high in openness. Openness includes traits like being insightful and imaginative and having a wide variety of interests.
- **Conscientiousness** - People that have a high degree of conscientiousness are reliable and prompt. Traits include being organized, methodic, and thorough.
- **Extraversion** - Extraverts get their energy from interacting with others, while introverts get their energy from within themselves. Extraversion includes the traits of energetic, talkative, and assertive.
- **Agreeableness** - These individuals are friendly, cooperative, and compassionate. People with low agreeableness may be more distant. Traits include being kind, affectionate, and sympathetic.
- **Neuroticism** - Neuroticism is also sometimes called Emotional Stability. This dimension relates to one's emotional stability and degree of negative emotions. People that score high on neuroticism often experience emotional instability and negative emotions. Traits include being moody and tense.

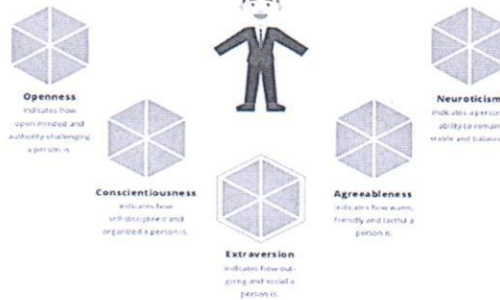
Big Five traits visually explained >>

Why do I react differently than others to similar situations?
People differ. Here's personality explained.



Every human being is unique, but this uniqueness originates from the combination of 5 personality traits we all share.

Big Five personality traits

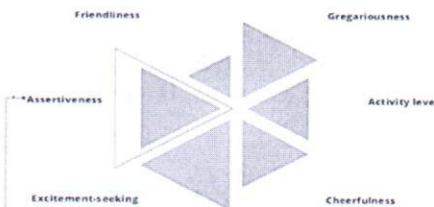


Several independent sets of researchers discovered and defined five traits that have an empirical, data-driven research. The Big Five traits of personality (Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism) commonly referred to as **OCEAN**, are the broad domains which define human personality and account for individual differences. A low or high score on each trait gives you more insight in the way you behave the way you do.

References:
* Albert, G. W., Bateman, H. S. (1991). Personality: Approaches to study. Allyn, An. Norton.
* Goldberg, L. R. (1992). The structure of common personality traits. *Journal of Personality and Social Psychology*, 63(3), 12-24.

Each main trait breaks down into six facets on which you score low-high compared to others. Here's an example of how this relates to extraversion.

Extraversion



Extraversion indicates how outgoing and social a person is. A person who scores high in extraversion see a personality test is the life of the party. They enjoy being with people, participating in social gatherings, and are full of energy. A person low in extraversion is less outgoing and is more comfortable working alone.

Here's an example of how this relates to the sub-trait 'assertiveness'.

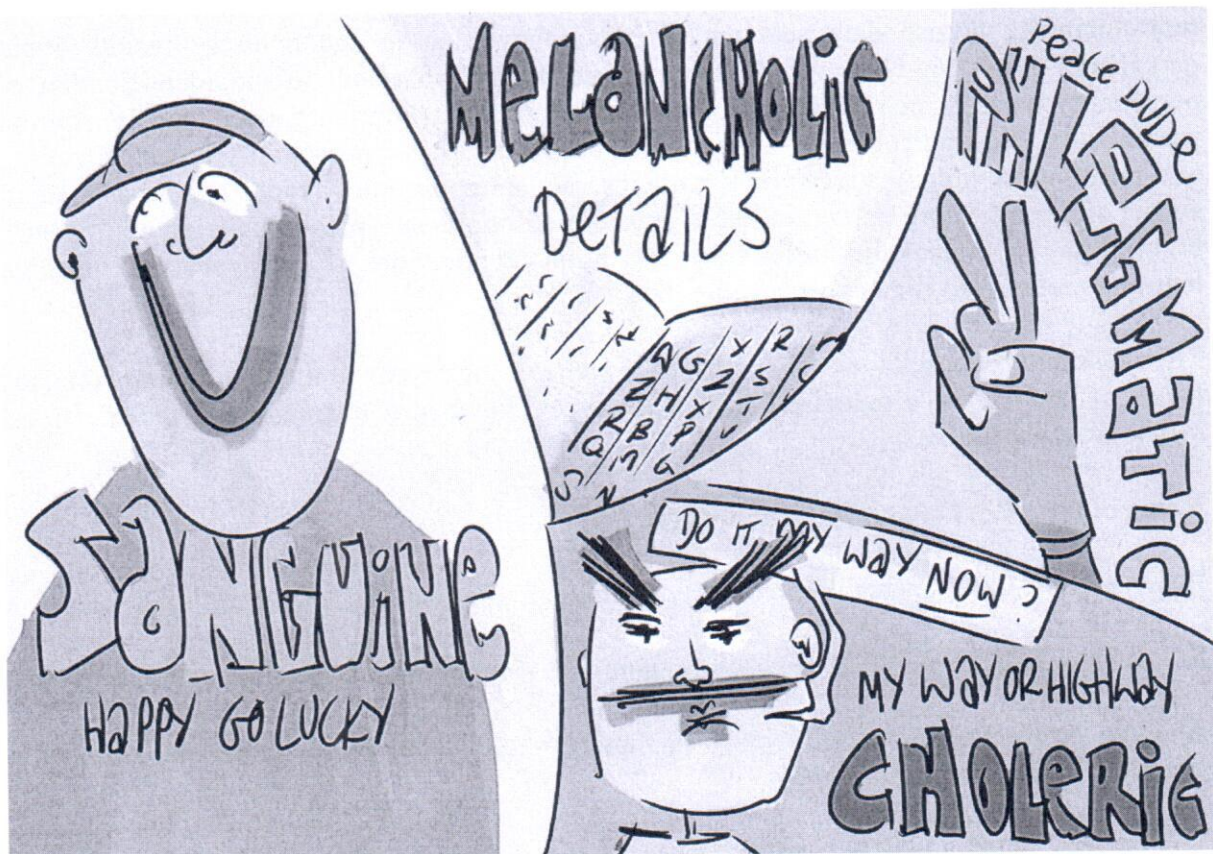
Assertiveness



High score:
Energetic, assertive, cheerful, outgoing, sociable.

- I take control of situations
- I try to be in charge - to lead others
- I wait for others to take the lead

© 2016 BY THE UNIVERSITY OF TEXAS AT AUSTIN



Typing--One More Time

- Published on September 26, 2018

Pierce Howard

I addressed the practice of using combinations of traits to create personality types. Type theorists propose that everyone falls into one type out of a set of two or more—as in you're either a morning person or a night person. The Myers Briggs Type Indicator famously has 16 such types. That model has been sufficiently discredited. In my earlier post, I pointed out that the 16 MBTI types leave out 80% of the population! What do the rest of us do? Wander the desert without an identify? Of course not! Eschew such “typing.”

But, alas, researchers persist. In recent articles in *Scientific American* and *The Washington Post*, among others, journalists have reported on new research that yielded four water-tight personality types based on an impressive sample of 1,500,000+ subjects. These articles for the general public were based on the scholarly article published by a research team from Northwestern University: Gerlach, M., Farb, B. Revelle, W., & Amaral, L. A. N. (2018).

A robust data-driven approach identifies four personality types across four large data sets. (*Nature Human Behavior*. <https://doi.org/10.1038/s41562-018-0419-z>) Understanding human personality has been a focus for philosophers and scientists for millennia. It is now widely accepted that there are about five major personality domains that describe the personality profile of an individual^{2,3}. In contrast to personality traits, the existence of personality types remains extremely controversial⁴. Despite the various purported personality types described in the literature, small sample sizes and the lack of

reproducibility across data sets and methods have led to inconclusive results about personality types^{5,6}. Here we develop an alternative approach to the identification of personality types, which we apply to four large data sets comprising more than 1.5 million participants. We find robust evidence for at least four distinct personality types, extending and refining previously suggested typologies. We show that these types appear as a small subset of a much more numerous set of spurious solutions in typical clustering approaches, highlighting principal limitations in the blind application of unsupervised machine learning methods to the analysis of big data.

Their research proposes four types. I give the name of their types in the first column, then the levels of the Big Five associated with each type, and then a translation of the trait level symbols into adjectives:

Name of type Big Five traits Descriptors:

Reserved N-E-O-A+C+ resilient, solitary, traditional, adaptive, disciplined

Role Model N-E+O=/+A+C+ resilient, outgoing, moderate/progressive, adaptive, disciplined

Average N=E=O=A=C= situationally resilient/reactive, ambiverted, moderate, negotiator, situationally disciplined/casual

Self-centered N=E+O-A-C- situationally resilient/reactive, outgoing, traditional, aggressive, spontaneous

The researchers claim age and gender effects—that the Role Model is more common among females over 40, and that it increases with age; that males are underrepresented in the Average type; and that the Self-centered type is more common in teen boys, decreasing with age. However, because of the overrepresentation of females and 20-somethings in the sample (see below, Critique #4), I am doubtful of these findings.

The study used four web-based data sets of 100,000-500,000 each. Each sample was factor analyzed with the hope of similar results:

1. IPIP; 145,388 respondents to 300 items (a version of the NEO-PI-R)
2. Johnson-120; n=410,376
3. myPersonality-100; n=575,380
4. BBC-44; n=386,375

All four studies converged on the same solution (except O is borderline mid to high for Role Model)—an impressive, even convincing, achievement. However, my critique that follows suggests cautions for interpreting and using their results.

My Critique:

1. **Applicability.** While the clusters are real, they cover a small portion of the population. It is as though we used four regions—say, Scandinavia, Southeast Asia, the Middle East, and New England—to cover the entire globe. In addition, the number in each sample who fit the cut points are not included, so we do not know if the four types represent 90-100% of the total, or only a smaller percent. I went to my norm group of July 16, 2008, a group of 7,459 U.S. adults who had taken our WorkPlace Big Five Profile in English as a part of programs conducted by members of our Big Five consultants' network. I counted the number of individuals who exhibit all five trait levels for the four types. For example, I counted the number of "Reserved" by looking for the number of individuals who scored $N < 45$ AND $E > 45 < 55$ AND $O < 45$ AND $A > 45 < 55$ AND $C > 45 < 55$. The results:

- Reserved = 22
- Role Model = 48
- Average = 0
- Self-Centered = 2

That's 72 individuals out of 7,459, or .9%—just a hair under 1%—who exhibit the four types found by this research[1]. What about the rest of us 99%. I question the utility of such a model!

1. **Comparison to MBTI.** In my earlier blog, the 16 MBTI types comprised closer to 20% of the sample. Why was it larger? Because a) the MBTI types used only four elements (E/I, S/N, T/F, and J/P) for each of the 16 formulas, and b) the MBTI used 16 types while this study used only four. If we were to adjust for these differences, the percentage of the sample accounted for by the types in each model would be close.
2. **Unclear cut points.** They do not mention how they set cut points in determining whether to assign someone to a type or not. I suspect they use the midpoint, whereas we recommend using .5 SD above/below the mean.
3. **Biased sample.** They report gender and age frequencies as fractions and age brackets, not real numbers. That said, it appears that 18-25 year olds are vastly overrepresented, with those over 40 disappointingly low, such that age inferences are unreliable. Females appear to outnumber males by about two-to-one. This could have been remedied by balancing their samples. I would not trust either their gender- or age-effect conclusions. I wonder how the factor analysis might have been different with a sample balanced by age and gender. Females and 20-somethings are determining the outcome, and we know that significant changes occur during that first decade of adulthood. At Paradigm, we balance our norm groups based on the current U.S. Census.

4. **No theory.** While the Big Five are not based on a theory of personality, but rather simply describe the structure of personality, type theories are generally based on a theory. The MBTI is based on Jungian theory. The ARC-type model is based on Karen Horney's theory of moving against/toward/away from others. This set of four types has no such theoretical underpinning. They put far more emphasis on their statistical procedures than on explaining their results. Perhaps this should be expected from a research team comprised of three engineering "types" and only one psychologist. They do compare their findings to those of the ARC-type model, which comprises three types: Resilient (N=E=O=A=C+), Overcontrolled (N=E-O-A=C=), Undercontrolled (N=E=O=A-C-). While there is an affinity of their four types to the three ARC-types (Role Model is similar to Resilient, Reserved is similar to Overcontrolled, and Self-centered is similar to Undercontrolled), they do not explain the departures, nor where future research should lead/explore.
5. **Linear bias.** Personality researchers are finding that many traits have curvilinear relationships to other variables. For example, the A/Accommodation/Agreeableness trait has a curvilinear relationship to leadership effectiveness, which is a similar construct to this study's "Role Model" construct. That means that while lower scores on A are associated with effective leadership, if they get too low on A, the effectiveness begins to decrease rather than increase linearly. However, the Northwestern model does not allow for such non-linear connections.

Role models are good, depending on what kind of role you wish to model. If you want to model leaders, then perhaps this study's model is noteworthy. However, if you want to model research scientists or long-distance runners, you might look to other role models. Also, knowing that "self-centered" occurs with such infrequency—only 2 out of 7,459—is gratifying! In short, we need many more "types" if we want to address the population at large.

I say abandon such typing—the Big Five already covers everyone! Learn how an individual's levels of the various traits contribute to their uniqueness and suitability for specific kinds of work, play, and relationships.

Recommended books on personality

- **Big Five Assessment:** For students, researchers, and practitioners of psychology and related fields, a detailed guide to the various instruments that are used to evaluate the conventional Big Five personality factors. Authors: Boele De Raad & Marco Perugini
- **Personality in Adulthood, Second Edition: A Five-Factor Theory Perspective:** This influential work examines how enduring dispositions or traits affect the process of aging and shape each individual's life course. Authors: Robert R. McCrae & Paul T. Costa Jr.
- **The Five-Factor Model of Personality Across Cultures: The Five-Factor Model Across Cultures** was designed to further an understanding of the interrelations between personality and culture by examining the dominant paradigm for personality assessment -

the Five-Factor Model or FFM - in a wide variety of cultural contexts. Authors: Robert R. McCrae & Juri Allik.
