PERSONALITY AND SOCIAL DYNAMICS LAB (HTTPS://PSDLAB.UOREGON.EDU

Measuring the Big Five Personality Domains

I have created this page to address a few of the more common nuts-and-bolts questions people have about measuring the Big Five. I have written this page in a fairly informal style, and I have not attempted to be comprehensive. For a fuller treatment of measurement and theoretical issues, I recommend that you look at the 2008 *Handbook of Personality* chapter (http://www.ocf.berkeley.edu/~johnlab/bigfive.htm) by Oliver John, Laura Naumann, and Chris Soto (which is a revision of a 1999 *Handbook* (http://psdlab.uoregon.edu/pubs/bigfive.pdf)chapter (http://psdlab.uoregon.edu/pubs/bigfive.pdf) that Oliver and I wrote, which in turn is a revision of a 1990 chapter by Oliver).

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(Note: This page was written to help researchers who want to measure the Big Five as part of their research programs. If you came across this page out of curiosity about your own personality, you can fill out a free questionnaire and get instant, personalized feedback at [www.outofservice.com (http://www.outofservice.com/)](http://www.outofservice.com/). Two longer versions, offering more detailed feedback, are available from [John Johnson's webpage (http://www.personal.psu.edu/j5j/IPIP/)](http://www.personal.psu.edu/j5j/IPIP/).)

Contents:

()What are the Big Five?

The Big Five are five broad factors (dimensions) of personality traits. They are:

- **Extraversion** (sometimes called Surgency). The broad dimension of Extraversion encompasses such more specific traits as talkative, energetic, and assertive.

- **Agreeableness.** Includes traits like sympathetic, kind, and affectionate.

- **Conscientiousness.** Includes traits like organized, thorough, and planful.

- **Neuroticism** (sometimes reversed and called Emotional Stability). Includes traits like tense, moody, and anxious.

- **Openness to Experience** (sometimes called Intellect or Intellect/Imagination). Includes traits like having wide interests, and being imaginative and insightful.

As you can see, 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: you could imagine somebody that 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, you should be clear about your research goals when choosing your measures. If you expect that you might need to make finer distinctions (such as between talkativeness and assertiveness), a broad-level Big Five instrument will not be enough. You could use one of the longer inventories that make facet-level distinctions (like the NEO PI-R or the IPIP scales – see below), or you 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*.

()Is the Big Five a theory? What is the difference between the terms *Big Five,*

Five-Factor Model, and *Five-Factor Theory*?

The **Big Five** are, collectively, a taxonomy of personality trait: 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 analyze 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 generalizes across cultures.

Some researchers use the label **Five-Factor Model** instead of "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 (http://www.ori.org/Research/scientists/goldbergL.html) 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 (in fact, this is one of the strengths of the Big Five/Five-Factor Model as a common taxonomy of personality traits), 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. This issue is discussed in the aforementioned chapter (http://psdlab.uoregon.edu/pubs/bigfive.pdf).

Five-Factor Theory, formulated by Robert (Jeff) McCrae (http://www.grc.nia.nih.gov/branches/lpc/rrm.htm) and Paul Costa (http://www.grc.nia.nih.gov/branches/lpc/costa.htm) (see, for example, their 2008*Handbook of Personality* chapter), is an explanatory account of the role of the Big Five factors in personality. 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 (http://www.psych.uiuc.edu/~broberts/Brent%20W%20Roberts%20Research%20Interests.htm) has recently advanced an interactionist approach under the name **Social Investment Theory** (http://dl.dropbox.com/u/46388790/my%20pubs/Roberts%2C%20Wood%2C%20%26%20Smith%2C%202005.pdf).

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 organizing 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 (http://www.uoregon.edu/~sanjay/pubs/ffmisperception.pdf)).

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.

()Where can I learn more about the Big Five?

For an introduction to the conceptual and measurement issues surrounding the Big Five personality factors, a good place to start is the Handbook of Personality chapter (http://www.ocf.berkeley.edu/~johnlab/bigfive.htm) by Oliver John, Laura Naumann, and Chris Soto. The chapter covers a number of important issues:

- The scientific origins and history of the Big Five

- Theoretical accounts of the Big Five

- Comparisons of different measurement instruments

The chapter includes a conceptual and empirical comparison of three measurement instruments: Oliver John's Big Five Inventory (BFI), Paul Costa and Jeff McCrae's NEO Five Factor Inventory (NEO-FFI), and Lew

Goldberg's set of 100 trait-descriptive adjectives. There is no one-size-fits-all measure, but the chapter includes our recommendations on which instrument(s) you should use for different applications.

()Where do I get the Big Five Inventory (BFI)?

The 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 (http://psdlab.uoregon.edu/pubs/bigfive.pdf) as an appendix (the last 2 pages). It is also available through Oliver John's lab website (http://www.ocf.berkeley.edu/~johnlab/bfi.htm). 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 (http://ipip.ori.org/ipip/), 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 (http://www.tc.umn.edu/~cdeyoung/) and colleagues have published a 100-item measure, called the Big Five Aspect Scales (http://www.tc.umn.edu/~cdeyoung/Research.htm) (BFAS), which scores not only the Big Five factors, but also two "aspects" of each (http://www.tc.umn.edu/~cdeyoung/Research2.html). 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 (http://www.uoregon.edu/~gsaucier/) reduced this set to 40 Big Five mini-markers (http://www.uoregon.edu/~gsaucier/gsau41.htm) 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 (http://www3.parinc.com/products/product.aspx?
Productid=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
(http://www3.parinc.com/products/product.aspx?Productid=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
(http://homepage.psy.utexas.edu/HomePage/Faculty/Gosling/scales_we.ht
m#Ten%20Item%20Personality%20Measure%20(TIPI)), recently developed by Sam Gosling
(http://homepage.psy.utexas.edu/homepage/faculty/gosling/), Jason
Rentfrow (http://www.sps.cam.ac.uk/stafflist/jrentfrow.html), and Bill Swann
(http://homepage.psy.utexas.edu/homepage/faculty/Swann/). But there are substantial measurement tradeoffs associated with using such a short instrument, which are discussed in Gosling et al.'s TIPI article and examined in greater depth in an article by Marcus Crede and colleagues
(http://psycnet.apa.org/psycinfo/2012-04359-001/).

()Where can I get norms for the BFI or other measures?

See here: Norms for the Big Five Inventory and other personality measures (http://hardsci.wordpress.com/2012/10/17/norms-for-the-big-
five-inventory-and-other-personality-measures/). Though it is probably a better idea to think in terms of "comparison samples" rather than norms.

()Do I need anybody's permission to use these psychological inventories?

Disclaimer: I do not claim to speak for anyone else, I am not a lawyer, don't trust a word I say, do not taunt Happy Fun Ball (http://snltranscripts.jt.org/90/90mhappyfunball.phtml).

The official answer

Under U.S. copyright law, every written work is automatically copyrighted at the moment of creation. The general rule is that you may not copy and distribute a copyrighted work without permission. However, there are two major exceptions to this rule. The first exception is that if a copyright holder has declared a work to be public domain (http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/chapter8/index.html), then anybody can use it. (This is the case for the International Personality Item Pool (http://ipip.ori.org/ipip/) as well as for Gerard Saucier's mini-markers (http://darkwing.uoregon.edu/~gsaucier/gsau4.htm)). The second exception is the so-called fair use (http://fairuse.stanford.edu/) doctrine. If you are using intellectual property in a way that qualifies as fair use, you do not need to get permission to use it. In fact, fair use means you can use something even if the rights-holder loudly and strenuously objects (http://www.cnn.com/2003/LAW/08/22/fox.franken/).

Unfortunately, fair use doctrine in U.S. law is pretty fuzzy. Several factors (http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/chapter9/9-b.html) contribute to whether a particular usage is considered fair use. My personal belief is that noncommercial academic research merits protection under fair use doctrine and the First Amendment. However, quoting from Stanford Law's excellent site on fair use (http://fairuse.stanford.edu/): "Unfortunately, the only way to get a definitive answer on whether a particular use is a fair use is to have it resolved in federal court." (chapter 9-b (http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/chapter9/9-b.html)) *Caveat scholar.*

In addition to general principles of fair use, the American Psychological Association warns that there may be special legal and ethical considerations (http://www.apa.org/journals/amp/testsecurity.html) that apply to psychological tests. A major concern for the APA is that prior exposure to a test may invalidate future responses. For example, this is a significant concern for IQ tests, which are subject to practice effects. Prior exposure is almost certainly less of a problem for self-report personality inventories like Big Five measures. Nevertheless, it is an issue that you should consider when using any psychological test.

The practical answer

As mentioned earlier, the **IPIP scales,** Saucier's **mini-markers**, Gosling's **Ten-Item Personality Inventory**, and DeYoung's **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

noncommercial research purposes. More details are available on Oliver John's lab website (http://www.ocf.berkeley.edu/~johnlab/bfi.htm). If you cannot find your questions answered there, you can contact Laura Naumann (naumann@berkeley.edu) for further information.

As for other measures, I have heard anecdotally that you may be more likely to face objections if you try to use instruments published by for-profit testing (http://www.parinc.com/) corporations (http://www.cpp.com/) than if you use instruments whose rights are held by individual researchers. An objection may not have any merit, but it will be a hassle to deal with anyway, which is probably the point (http://www.chillingeffects.org/). If you want to use a commercial instrument for academic (noncommercial) purposes, you should either pay for it, get the author's permission, or be prepared to defend your actions as fair use.

However, many individual researchers I have talked to would be delighted to see their measures used (and cited!) by other scientists, even if the researchers have not declared the measures to be in the public domain. If you are conducting academic research, are not making a profit, and you are not conducting a large-scale data collection (such as a national survey or a public Internet study, which might clash with other such efforts), then it is probably safe to go ahead and use a noncommercial measure without formal permission.

()How do I cite this page?

Srivastava, S. ([*this year*]). *Measuring the Big Five Personality Factors.* Retrieved [*today's date*] from http://psdlab.uoregon.edu/bigfive.html.

()Acknowledgments

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