

The Personality of a Nonperson: Gauging the Inner Skinner

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Abstract

B. F. Skinner is consistently rated as one of the most important figures in the history of psychology. Much has been said about his character, some of it strongly negative. Yet little is known about what kind of man he really was. Drawing on information from published sources, archival material, and people who knew him, we used “blind” raters to assess Skinner’s score on the Big Five personality factors. We found that Skinner was a highly conscientious man and highly open to experience. He was also somewhat neurotic and somewhat extraverted but neither agreeable nor disagreeable. The resulting personality profile was compared with meta-analytic results concerning scientists versus nonscientists, creative scientists versus noncreative scientists, and artists versus nonartists. In general, Skinner’s personality profile was consistent with findings regarding those of other notable scientists.

Keywords

B. F. Skinner, personality, history of psychology, creativity

“If you take nice people, educated people, and say the words ‘B. F. Skinner,’ they go, ‘Oh my God, he was evil and freaky,’” says the author Melissa Pierson (see Brake, 2008). And Pierson may well be right. Skinner was repeatedly called a fascist (see L. D. Smith, 1996). Ayn Rand (1982, p. 159) thought he harbored a “profound . . . hatred of mankind,” and then vice president Spiro Agnew (1972) publicly warned Americans against Skinner. No wonder, perhaps, that he was thoroughly investigated by the FBI (Wyatt, 2000).

Skinner was also the man, however, to whom President Lyndon Johnson awarded the National Medal of Science and who received a plethora of other honors, among them membership in the National Academy of Sciences and 18 honorary degrees (see N. G. Smith & Morris, 2004). Skinner is found at, or very close to, the top of every list of eminent psychologists (e.g., Haggbloom et al., 2002; Hofer, Warnick, & Knapp, 2003). For his “significant contribution to the improvement of the human condition,” he was named Humanist of the Year in 1972 (American Humanist Association, 2002). On presenting Skinner with its Distinguished Scientific Contribution Award, the American Psychological Association (1958, p. 735) not only lauded his scientific achievements but also noted his “warmth and enthusiasm in personal matters.”

Skinner, then, has been depicted in many, and very different, ways. Yet even in biographical and autobiographical works, surprisingly little is said about what kind of man he really was—what was his nature or his character (e.g., Bjork, 1993; Skinner, 1976, 1979, 1983). Wiener (1996) discussed interesting traits in Skinner, but there has been no attempt at a

systematic, quantitative analysis, and no author has depicted Skinner’s personality in anything approaching its entirety. We do not, in other words, know very much about what B. F. Skinner was like. Should this bother psychologists?

Perhaps it should—for several reasons. First, there is evidence that personality may be more important than intelligence in explaining scientific achievement (Feist & Barron, 2003; Simonton, 2002), so knowing the personality of an exceptionally high achiever could help us understand what is behind exceptional success in psychology.

Sigmund Freud is Skinner’s only serious rival for the top spot as the most eminent psychologist of all time (Haggbloom et al., 2002; Hofer et al., 2003), and analyzing Freud’s personality is an old and still thriving tradition (e.g., Rudnytsky, 2008; Sterba, 1961; Wittels, 1924). Like Freud’s, Skinner’s character is of historical interest in itself. What kind of a person could trigger such strong reactions in so different directions—among psychologists as well as the public?

Understanding Skinner’s personality could also help us see how he came to wield the considerable influence that he did on contemporary colleagues and, through them, on the history of psychology. In the view of Boring (1950), personality has been important in experimental psychology because individuals have

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been influential “quite independently of the weight of experimental evidence supporting their positions” (p. x).

Also relevant is the fact that how one feels about an individual can affect one’s judgment of that person’s opinions and arguments (see Westen, 2007). It does not seem unthinkable that seeing Skinner as evil, freaky, or fascist could hinder an unbiased view of his ideas, which are still frequently misunderstood (Arntzen, Lokke, Lokke, & Eilertsen, 2010).

Last but not least, pertinent findings and theories indicate, as we shall see, that certain personality traits are much more common in highly creative scientists than in other people. If we do not find such traits in Skinner, these theories may be weakened.

Who He Was

Burrhus Frederic Skinner was born in 1904, in Susquehanna, Pennsylvania, to William Skinner, a lawyer, and his wife Grace, née Burrhus. He died in 1990 in Cambridge, Massachusetts.

After receiving a bachelor of arts in English from Hamilton College in New York, Skinner spent a year trying to write fiction. This period, which he later called his “dark year,” ended when he found he had nothing to write about and decided instead to continue his education. In the fall of 1928, he arrived at Harvard University for graduate study in psychology.

At Harvard, it seems Skinner never had a formal dissertation advisor. “Each department, Psychology, and Physiology, assumed the other was supervising the young student,” says Vargas (2005). “[B]ut the fact was,” said Skinner (1979), “I was doing exactly as I pleased” (p. 35). He had a mentor, however, in William Crozier, head of the Department of General Physiology, and Skinner discussed most of his early research with Crozier (Skinner, 1979).

Furthermore, before submitting their dissertations, doctoral students in psychology received quite detailed critiques from E. G. Boring, director of Harvard’s Psychological Laboratory. Skinner did so twice but refused to take any of Boring’s advice (see Coleman, 1985; Skinner, 1979). In 1931, Skinner nonetheless received his doctorate, after his dissertation was signed off by Crozier and two faculty in the Psychology Department, Leonard T. Troland and Carroll C. Pratt.¹

Skinner then remained at Harvard for five years as a research fellow. He went on to teach at other universities before returning in 1948. From 1958 until he retired in 1974, Skinner was the Edgar Pierce Professor of Psychology at Harvard University.

At 32, Skinner married Yvonne Blue, who was seven years younger. The couple had two daughters. Further details can be found in Skinner’s (1976, 1979, 1983) autobiography and in the biographies of Bjork (1993) and Wiener (1996).

What He Did

Skinner wrote *The Behavior of Organisms*, *Contingencies of Reinforcement*, and *Beyond Freedom and Dignity*—and much

more, of course, than these three books. However, *The Behavior of Organisms* (Skinner, 1938) summed up his many creative early contributions. It established the study of operant behavior and his reputation. Skinner was not the first to study the effect of consequences on behavior, but he designed clever experiments, invented research technology, and saw the importance of consequences in shaping and maintaining all voluntary behavior (see Hergenhahn, 1982; Hilgard, 1987).

Though Skinner never called himself a cognitive psychologist, in *Contingencies of Reinforcement: A Theoretical Analysis* (Skinner, 1969), he treated important aspects of cognition—like problem solving, private rules, and knowledge—in highly original ways. For instance, discussing the concept of “purpose,” he showed how a purpose may serve as a “contemporary surrogate of future consequences” (p. 125)—such contemporary surrogates being central to the way present-day cognitive neuroscientists understand important aspects of human behavior (e.g., Bechara & Damasio, 2005).

Beyond Freedom and Dignity (Skinner, 1971) was less original. But it landed Skinner on the cover of *Time*, occasioned a row of television appearances, and made him famous—or maybe infamous (Bjork, 1993; Skinner, 1983). On the basis of his determinist views, Skinner treated concepts fundamental to how most Americans saw themselves and declared them null and void. Ideas of individual freedom and dignity were unhelpful, said Skinner, if we were to solve the pressing problems we face—but the science of operant conditioning can help. Skinner lacked facts, said Noam Chomsky (1971), his old antagonist. Others condemned him on moral grounds (see Bjork, 1993).

But this is what Skinner did. First he experimented. When older, he speculated. And then in his last decade, he began experimenting again, publishing papers in *Science* and other journals, collecting more facts, demonstrating that behavior often attributed to complex mental processes could be explained by operant conditioning (e.g., Epstein, Lanza, & Skinner, 1980, 1981).

Personality and Scientific Eminence

It has long been clear that scientific eminence is about much more than cognitive abilities. Pioneering neuroscientist Santiago Ramón y Cajal (1897/1999) thought that “two emotions must be unusually strong in the great scientific scholar: A devotion to truth and a passion for reputation” (p. 40). G. H. Hardy (1940/1992), the mathematician, said almost the same. He claimed that three important motives may lead men to pursue research: “Desire to know the truth,” “professional pride,” and “ambition, desire for reputation” (p. 79).

There is probably some truth in the intuitions of Ramón y Cajal (1897/1999) and Hardy (1940/1992). It seems that scientists think and behave in ways that sometimes differ from those of nonscientists. Also, creative or outstanding scientists tend to diverge in certain ways from less eminent colleagues.

For instance, as a group, scientists differ from others by being more conscientious. They are also more dominant, achievement oriented, and driven. Outstanding scientists, however, tend to be even more dominant, achievement oriented, and driven than other scientists. Those seen as outstanding are also more arrogant, self-confident, and hostile than their less outstanding colleagues. Other personality traits that correlate with scientific eminence are high openness to experience (though scientists as a group are lower in openness), tolerance, and cognitive flexibility (see Feist, 1998, 2006; Thagard, 2005).

There is little disagreement that to be deemed creative, scientific work should be original but also influential or valuable (see Runco, 2004), and there is much evidence to indicate that, though always controversial, Skinner's research was regarded as highly original as well as valuable (see, e.g., Bjork, 1993; N. G. Smith & Morris, 2004; Wiener, 1996). E. G. Boring, who was a noted historian of psychology, called Skinner a "genius" (see Bjork, 1993, p. 119), and a recent analysis based on journal citations, introductory textbook citations, responses to a survey, as well as honors and awards received, concluded that Skinner was indeed the most eminent psychologist in the 20th century (Haggbloom et al., 2002). On this basis, Skinner should, as we saw above, be expected to have certain personality traits. Did he have those traits?

The difficulties involved in rating someone else's personality are not trivial. Even close friends and relations see only a certain part of a person's behavioral repertoire. Situational factors may strongly affect behavior (E. R. Smith & Mackie, 2009), resulting in far from perfect correlations between self-rated and other-rated personality (e.g., Ball et al., 1997; Barbaranelli, Fida, Paciello, Di Giunta, & Caprara, 2008)—and this applies to people who are still alive.

It is not surprising, then, to hear that Skinner "could be seen as feeling or unfeeling, controlled or spontaneous, autocratic or democratic, arrogant or humble. He was all of these" (Wiener, 1996, p. 1). Wiener (1996) added that Skinner's personality "remains complex, somewhat uncertain, and often modified in its presentation as new information appeared" (p. xi).

Nevertheless, there is wide agreement that personality is a meaningful concept, which refers to patterns of feeling, thinking, and behavior that tend to be consistent across situations and are relatively stable over time, especially in adults (see Corr & Matthews, 2009). We hoped to identify such patterns in Skinner.

Method

Sources

Our first goal was to find descriptions of Skinner by himself or by people who had known him well. We searched the literature via the databases BIBSYS, Google Books, Google Scholar, ISI Web of Knowledge, PsycINFO, and PubMed. We also inspected references in relevant books and articles. Furthermore, we wrote to people and institutions we assumed had information regarding Skinner, among them family members

and former coworkers. Also, a search was performed on our behalf in the Harvard University Archives, which holds most of Skinner's papers. In addition, we corresponded with the chair of the B. F. Skinner Foundation's archival committee. On this basis, we identified five books (Bjork, 1993; Skinner, 1976, 1979, 1983; Wiener, 1996), three book chapters (Ferster, 1970; Keller, 1970; Skinner, 1967), six articles (Epstein, 1997; Keller, 1990, 1991; Vargas, 1990, 2004; Wiener, 1992), and one audio-tape recording (Tape recording, n.d.) that contained firsthand descriptions of the type we were after.

To supplement these sources, we also received brief sketches of Skinner, written for us by his biographer Daniel W. Bjork; his student and collaborator Robert Epstein; his daughter, Julie S. Vargas; and Ernest A. Vargas, his son-in-law.

Descriptors

The first author read the books, chapters, articles, and sketches and listened to the recording. In doing so, he followed a simple procedure, noting words and phrases describing ways in which Skinner would typically *feel*, *think*, and *behave*.

Though the exact same word or expression was never included more than once on our list of descriptors, we were eager to capture the nuances in the various portrayals of Skinner. For instance, we included the very similar words "creativity" and "creative" on our list of descriptors, because they occurred in two different contexts—the first from a passage specifically referring to his creativity as a thinker (Wiener, 1996, p. 142), the other from an article describing Skinner as creative in general (Wiener, 1992, p. 1023). We did not include Skinner's (1967) description of himself as someone who tries "not to let any day 'slip useless away'" (p. 407), since in our judgment, this did not add to the information contained in descriptors already included on our list, such as "hardworking," "working indefatigably," "could not abstain from work while on vacation," and "maintained regular work schedule even when terminally ill."

Following this policy of including aspects that were similar but not the same, we collected 118 unique descriptors, including "a fanatic," "a many-sided genius," "afraid of the police," "always close to depression," and "always positive attitude," to mention the five first entries from our alphabetically ordered list.

Raters

To see what such descriptors could tell us about Skinner's personality, we gave our list to five persons, two men and three women, all of whom were blind to the identity of the individual described. These five persons served as raters.²

Experts do not always agree on what a given behavior can say about someone's personality, and there is evidence that with regard to such questions, experts may be biased by local traditions, different theories, and idiosyncratic views, resulting in considerable disagreement (e.g., Elliott, Tyrer, Horwood, &

Fergusson, 2011). Hence, our raters were not only “blind” but also had no more than basic knowledge of personality psychology. The purpose of this approach was to increase the likelihood that ratings were standardized, based only on our instructions. Two raters were psychology majors, one a sociology student, one a high school teacher, and one a graduate student of psychology.

Procedure

We asked the raters to assign each descriptor to one of the Big Five personality factors. There is now wide agreement that the Big Five factors—five broad dimensions that have been identified through factor analysis—can describe most aspects of personality (e.g., Corr & Matthews, 2009; McCrae & Costa, 2003).

Using sources such as John (1990) and McCrae and Costa (2003), we made short descriptions of each factor. One example follows:

Conscientiousness: organized, thorough, planful, efficient, responsible, reliable, dependable, conscientious, self-disciplined, precise, practical, deliberate, painstaking, ambitious, and productive, *but not* careless, disorderly, frivolous, irresponsible, slipshod, undependable, or forgetful.

- Persons who score *high* are always prepared, are exacting in their work, follow a schedule, get chores done right away, like order, and pay attention to details.
- Persons who score *low* leave their belongings around, make a mess of things, often forget to put things back in their proper place, and shirk their duties.

Using the description above and similar descriptions of the other four factors (see Appendix), raters indicated which factor they thought each descriptor was relevant to. All raters agreed, for instance, that a statement such as “I have met deadlines” (Skinner, 1967, p. 407) exemplified conscientiousness. Table 1 gives other examples of descriptors the raters saw as relevant to each factor.

On assigning descriptors to a factor, our raters also added to each descriptor one of the following numbers: -2 , -1 , $+1$, or $+2$. The numbers showed the degree to which a rater felt that the descriptor represented the positive or negative end of the appropriate scale. For example, $E + 2$ would indicate the highest degree of extraversion, while $E - 1$ would indicate a moderate degree of introversion. If raters saw a descriptor as irrelevant to all Big Five factors, an “I,” for irrelevant, was placed next to it.

Ratings

As noted above, there is often some amount of disagreement among personality raters. The descriptors used in the present study fared relatively well, however, as four or five of our five raters agreed on where to assign 81 of the 118 descriptors (see the online supplement at <http://pps.sagepub.com/supplemental-data>).

When three or fewer raters agreed on the Big Five factor to which a descriptor was relevant, that descriptor could not be said to convey much meaningful information. Hence, our analysis is based on the 81 descriptors that four or five of the five raters assigned to the same personality factor.³ We calculated a Randolph’s free-marginal multirater kappa value of .83 for the 81 descriptors, which indicates a relatively high degree of interrater agreement (see Brennan & Prediger, 1981; Warrens, 2010).

Table 1. “Big Five” Personality Characteristics Described by Prototypical Adjectives and B. F. Skinner Descriptors

| Factor | High scorers | Low scorers | BFS descriptors |
|-------------------|----------------|------------------|---|
| Openness | Wide interests | Commonplace | Creative |
| | Imaginative | Narrow interests | Curious |
| | Original | Simple | Very original |
| Conscientiousness | Organized | Careless | Dutifulness |
| | Thorough | Disorderly | Hard-working |
| | Planful | Frivolous | Self-starting |
| Extraversion | Talkative | Quiet | Energetic |
| | Assertive | Reserved | Natural inclination toward solitary activities |
| | Active | Shy | Unfocused and shallow promiscuity |
| Agreeableness | Sympathetic | Fault-finding | Compassionate |
| | Kind | Cold | Cool detachment |
| | Appreciative | Unfriendly | Easily moved |
| Neuroticism | Tense | Stable | Feeling of shame |
| | Anxious | Calm | Happiest person I have ever known |
| | Moody | Contented | Regret, even guilt . . . gnawed at him throughout his life. |

Note. The middle two columns describe people who score high and low on each factor, using prototypical adjectives from John (1990). The right column gives examples of B. F. Skinner (BFS) descriptors that our raters saw as relevant to each factor.

Raters who agreed on which factor a descriptor was relevant to also agreed quite consistently as to whether that descriptor should be given a positive or negative score. Only with regard to 4 of the 81 descriptors was there disagreement on whether the descriptor belonged on the positive or the negative side of the scale. When raters agreed on the factor, they were, in other words, in agreement 95% of the time as regards this issue.⁴

Skinner's Personality

Skinner was clearly a very conscientious man with a high degree of openness to experience. He also seems to have been somewhat neurotic as well as somewhat extraverted. However, descriptors deemed relevant to these factors were rated much more variably than descriptors seen as relevant to openness and conscientiousness. Finally, Skinner does not seem to have been either very disagreeable or especially agreeable as a person. The results are shown in Table 2.

Conscientiousness and Openness

Skinner's Openness score was 1.8 out of the maximum 2, and on Conscientiousness he scored the same, also 1.8. Indeed, among the personality descriptors we collected, our raters did not find a single indication of low Conscientiousness or low Openness. Many of our descriptors seem to indicate high Openness: Skinner was said, for instance, to be "extremely creative" (R. Epstein, personal communication, December 28, 2007); fond of art, music, and literature (e.g., Bjork, 1993; Keller, 1991); "curious" (Bjork, 1993, p. 76); and even "a many-sided genius" (Keller, 1991, p. 5).

Skinner saw himself as self-disciplined and dutiful (e.g., Skinner, 1983). He was hardworking (Wiener, 1992), with a "boundless desire for perfection" (Wiener, 1996, p. 142). He seemed ambitious, and in two of his autobiographical volumes, he mentions youthful plans of making over the "entire field of psychology," the purpose of which was "to suit myself"

(Skinner, 1979, p. 38; 1983, p. 387). Still Skinner did try to achieve "unguilty relaxation" (Wiener, 1996, p. 152), though "the temptation to relax and enjoy" was a "danger" (Wiener, 1996, p. 154).

This appears to describe a man prone to strenuous work and creative thinking—which would seem a good basis for success in science. Not surprisingly, the relevant literature indicates that Skinner had such traits in common with other successful scientists, who tend to be more ambitious and more driven than most people but also more open to experience relative to less successful scientists (e.g., Feist, 2006).

Even Skinner's specific avocations resembled those of other high-impact scientists (see Root-Bernstein, Bernstein, & Garnier, 1995; Root-Bernstein et al., 2008). Much of his spare time was devoted to the arts, such as literature (not just reading—Skinner was also a published author of fiction) and music; he played the piano and the saxophone and also listened a lot to various kinds of music (see Skinner, 1948, 1967, 1976). Early in his career, he even published empirical research on poetry (Skinner, 1939, 1942). All told, Skinner exhibited the creative versatility that often distinguishes great minds (Cassandro & Simonton, 2010; White, 1931).

Based on findings by Feist (1998), Figure 1 shows typical differences between the personalities of creative scientists and that of less creative scientists and also between scientists and nonscientists as well as between artists and nonartists.

Neuroticism

Is it surprising that Skinner also appears to have had neurotic traits? Not necessarily. Skinner, as we saw above, was said to have a boundless desire for perfection and may have had trouble relaxing—to the point of not being able to stay away from work during his holidays (Wiener, 1996). In 1963, Skinner had been plunged into a "sustained depression," he wrote. "Feelings I can vaguely describe as guilt and anxiety overwhelm me" (Skinner, 1983, p. 265). Yet it was the years from 1938 to 1953 he remembered as "the most troubled period of my life"

Table 2. Skinner's Big Five Scores Based on 81 Descriptors Judged by Five Raters

| Factor | No. of descriptors | M | Minimum | Maximum | SE |
|-------------------|--------------------|-----|---------|---------|------|
| Openness | 17 | 1.8 | 1.6 | 2.0 | 0.03 |
| Conscientiousness | 18 | 1.8 | 1.0 | 2.0 | 0.07 |
| Extraversion | 9 | 0.9 | -1.8 | 1.8 | 0.48 |
| Agreeableness | 17 | 0.2 | -2.0 | 2.0 | 0.38 |
| Neuroticism | 20 | 1.3 | -2.0 | 2.0 | 0.25 |

Note. The second column gives the number of descriptors that was the basis for our conclusions regarding Skinner's score on each factor. Raters gave each descriptor one of five possible designations: -2, -1, 1, 2, or "I," for irrelevant. The numbers show the degree to which raters felt that descriptors represented the positive or negative end of the appropriate scale. For example, an Extraversion score of 2 indicates the highest degree of extraversion, whereas an Extraversion score of -1 indicates a moderate degree of introversion. "Minimum" and "Maximum" refer to minimum and maximum mean rater scores for any descriptor deemed relevant to each factor.

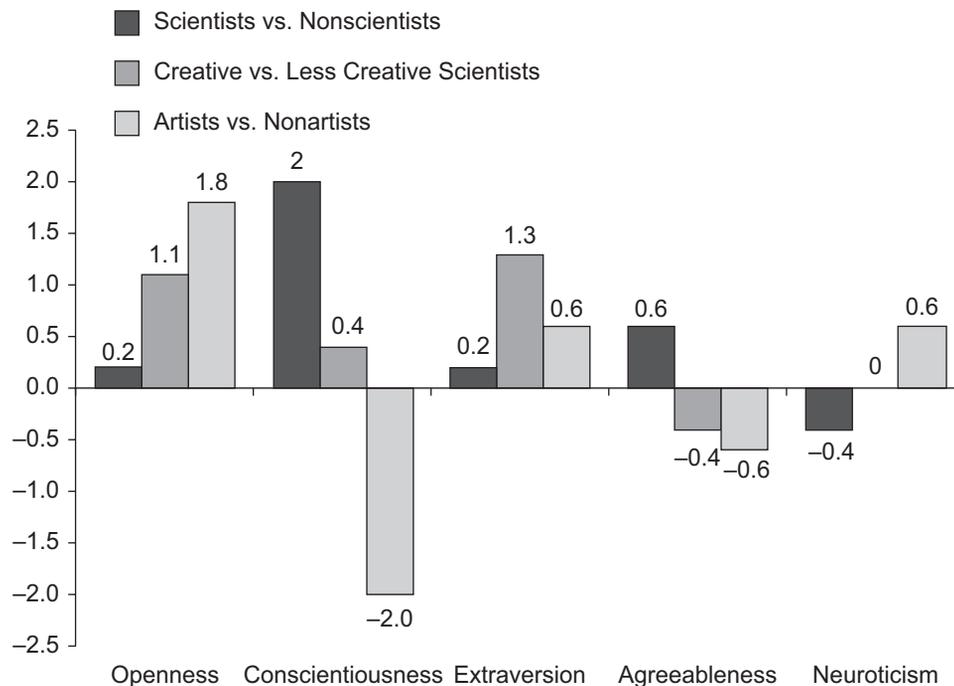


Fig. 1. Based on data from Feist (1998), the figure shows how mean scores of selected groups differ on the Big Five personality factors, on a scale ranging from -2 to 2 . Note, for instance, that on Conscientiousness, artists score much lower than nonartists, whereas scientists score much higher than nonscientists.

(see Bjork, 1993, p. 119). It was during this period that Skinner applied to be psychoanalyzed (see Rutherford, 2003; Skinner, 1983, p. 18).

Skinner also referred to depression in his youth (Skinner, 1983, p. 407) as well as to psychosomatic symptoms (Skinner, 1979, p. 140) and a phobia (Skinner, 1967, pp. 390–391; Skinner, 1979, p. 141). He was said to have had a “fragile ego” (Bjork, 1993, p. 118), and after Skinner’s tenure at the University of Minnesota (1936–1945) had ended, the chair of the Psychology Department felt he should “get control of his emotions” (see Wiener, 1996, p. 91).

If he followed a normal trajectory, Skinner would have become less neurotic as he aged (e.g., Roberts, Walton, & Viechtbauer, 2006). His late-career friend and collaborator, Robert Epstein, is among those reporting no signs of neuroticism in Skinner. Epstein felt that Skinner always had a positive attitude. As a matter of fact, Skinner was “the happiest . . . person I have ever known” (Robert Epstein, personal communication, December 28, 2007). Furthermore, in the words of Wiener (1996), Skinner “never admitted nor appeared to be seriously depressed” (p. 127). Indeed, as Table 2 shows, our descriptors were seen as indicating everything from very high to very low Neuroticism in Skinner.

Still, it would probably have been more surprising if Skinner had been completely without neurotic tendencies. Ludwig (1995) found creators recognized as the most important in their fields to have more health problems, physically as well as mentally, than those he termed the “lower elite.”

Post (1994) studied the biographies of 291 men world famous for creative exploits or political leadership. Among the 291, no group had fewer psychological abnormalities than the scientists. Nonetheless, just one third of the world-famous researchers did not suffer from any psychological disturbances or had only trivial problems. In Post’s judgment, 45% of the scientists in his sample suffered from “marked” or “severe” psychopathology. Moreover, recent research suggests that scientific revolutionaries are even more likely to exhibit some psychopathological traits (Ko & Kim, 2008)—and Skinner’s “radical behaviorism” certainly may be considered as revolutionary a development as the history of psychology displays.

Some findings (e.g., Wolfenstein & Trull, 1997) indicate a correlation between high Openness, as we found in Skinner, and depression. Piedmont (1998) pointed out that the combination of high Neuroticism and high Conscientiousness indicates an ambitious and competitive style, and Nettle (2006) pointed to the relation that seems to exist between Neuroticism and competitiveness. “Academic success,” Nettle (2006) concluded, “is strongly positively correlated with neuroticism among those who are resilient enough to cope with its effects” (p. 626; see also Rushton, 1990).

Extraversion

It seems creative scientists often aren’t very social—and when they do interact with others, their self-confidence may border on arrogance, even outright hostility (see, e.g., Feist, 2006,

p. 175). Feist (1998) concluded, however, that the most creative scientists score higher on Extraversion than their less creative peers. However, all of the relative increase in Extraversion in Feist's sample came from traits related to self-confidence, not from higher sociability. It does not seem Skinner lacked self-confidence. "Fred told me he was a genius when we were first seeing each other," said his wife. "But I told him that he couldn't be a genius if he wanted to marry me" (see Horowitz, 1975).

Though we assume that Skinner belonged among the most creative scientists, Feist's words about low sociability do not seem to fit him perfectly. According to our raters, Skinner was moderately extraverted (see Table 2). And though he was called a "solitary worker" (Keller, 1970, p. 34), who could be easily bored on social occasions (Wiener, 1996), Skinner has also been described as "charming" and "funny" (R. Epstein, personal communication, December 28, 2007)—a man who enjoyed chatting and interpersonal interaction, to the point of being easily distracted by such events (Tape recording, n.d.). Indeed, he had a reputation as a womanizer (Bjork, 1993), which may have been deserved (see Grandin & Johnson, 2005, p. 10).

Skinner seems, then, to have had some of the social characteristics that people who score high on Extraversion tend to have. Is he therefore quite untypical of highly creative researchers? Maybe not. Clinical psychologist Anne Roe (1952) studied 64 eminent scientists in some detail (Skinner among them; see Skinner, 1983). She wrote:

Whereas the characteristic pattern among the biologists and physicists is that of the shy, lonely, over-intellectualized boy, among the social scientists [anthropologists and psychologists], the characteristic picture is very different. They got into social activity and intensive and extensive dating at an early age. They were often presidents of their classes, editors of yearbooks and literary magazines, frequently big shots in college. (Roe, 1952, p. 25; see also Cattell, 1963; Terman, 1954)

Roe's description doesn't quite fit Skinner either. For instance, he seems to have been something of a loner in college (Skinner, 1976, p. 211). But then it doesn't sound so wrong to place Skinner somewhere in between the hard natural scientists and the softer, more typical social scientists. He was, after all, a man who strove from the very beginning to model psychology on his positivistic ideals, though he did not always live up to them (see Overskeid, 2007)—and the degree of disciplinary consensus seen in Skinner's radical behaviorism, as gauged by articles published in the *Journal of the Experimental Analysis of Behavior*, is comparable to research in the hard sciences (Cole, 1983).

Agreeableness

Aspects of Skinner's personality were seen by our raters as representing everything from very high to very low Agree-

ableness (the same variation we saw in Neuroticism; see Table 2). As shown in Table 2, Skinner's mean score ended up close to the middle on a scale from high to low Agreeableness.

Darwin (1879) and others (e.g., Dunbar, 1996) have argued that in social animals such as humans, selection pressure should exist for traits typically associated with agreeableness. Other authors, however, have pointed to the disadvantages of strong agreeableness. It does not always pay to place unconditional trust in others or to be unfailingly friendly (see Nettle, 2006). Indeed, a negative correlation seems to exist between success as a leader or creator on the one hand and agreeableness on the other (Boudreau, Boswell, & Judge, 2001; King, Walker, & Broyles, 1996; see also Feist, 1993; Winter, 1987).

Methodological Issues

Assessing the personality of someone who is dead is risky and notoriously difficult (Song & Simonton, 2007). We have one possible advantage compared with those trying to reconstruct the traits of many other deceased persons (e.g., McCrae, 1996): There are still people alive who knew the subject of our investigation, and we have gathered information from several of them. Yet the extent to which this has helped is unclear.

In Western culture, widely shared values exist that are relevant to all Big Five factors. For instance, it is often seen as better to be organized and thorough than to be careless and disorderly—all qualities that are relevant to one Big Five factor, Conscientiousness.

Given the existence of values relevant to other traits as well, we suppose most Americans would prefer themselves and people they like to be low on Neuroticism and relatively high on Conscientiousness, Agreeableness, Extraversion, and Openness. To what extent should we assume that our sources painted a biased picture of Skinner, to make him look better (or worse) than he was?

Our most important source is of course Skinner himself, who wrote three volumes of autobiography as well as one autobiographical book chapter. It would be unreasonable not to suspect the author of wanting to look good. We should also remember, however, the many authors who have been harsh on themselves in autobiographical writings—from Saint Augustine (398/1961) discussing his sinful life in some detail; to M. K. Gandhi, the Indian leader, who described his "evil passions" and asked, "Where is there a wretch so wicked and loathsome as I?" (Gandhi, 1927–1929, p. x); to E. G. Boring (e.g., 1940), Skinner's Harvard colleague, who wrote openly of his emotional crises, neuroticism, and psychoanalytic treatment.

The degree to which Skinner's description of himself is biased is, of course, impossible to establish. We should note, however, that Skinner (1976, 1979, 1983) was open about having few friends, having psychosomatic symptoms, feeling guilty, feeling depressed, and feeling anxious, and he talks quite a bit about his being conceited. He does not discuss any

rumors of infidelity, but then there are others who do that (e.g., Wiener, 1996). And near the end of his autobiography, Skinner (1983) sums up his self-assessment with the following remark: “I do not admire myself as a person” (p. 410).

Two additional authors have written Skinner biographies that we have used. One, Daniel W. Bjork, is a historian, who, one would assume, could risk damaging his professional reputation if his book were deemed a hagiography. The other biographer, Daniel N. Wiener, was a clinical psychologist who studied under Skinner at the University of Minnesota and later “remained in touch” (Wiener, 1996, dust jacket, back flap). Despite this personal connection, Wiener (1996) is the one author who goes into some detail regarding Skinner’s relations with women who were not his wife and who states that among his sources were people who did not like Skinner.

In addition to these books, the present study is based on articles, chapters, and short sketches that were mostly written by friends and family, and though it seems possible that familiarity may breed contempt (Norton, Frost, & Ariely, 2007), we assume that many, maybe all, of these authors liked B. F. Skinner. But then again, to the extent that liking a person increases the probability of seeing him or her through rose-tinted glasses, it is important to note that “specific acts that are . . . incongruent with reference to a person’s general impression [of somebody] are well remembered compared to acts that are unsurprising or congruent” (Hastie & Kumar, 1979, p. 31; see also Heider et al., 2007).

In short, though we must always expect to find bias in people’s descriptions of others, it is impossible to gauge the extent to which this is the case in our source material. We must admit, however, that this would have worried us more had our findings led us to conclude that Skinner differed in important ways from comparable scientists. As we have seen, this was not our conclusion.

One final point: Our descriptors assess aspects of Skinner’s personality at various points in his long life. Though personality in adulthood is assumed to be relatively stable, it still seems clear that change does occur. With age, people often become more agreeable and conscientious but less neurotic (see Roberts et al., 2006). However, we had too few descriptors to be able to chart changes that may have taken place in Skinner’s personality.

Coda

“We stand in awe of the inexplicable, and it is therefore not surprising that we are likely to admire behavior more as we understand it less,” said Skinner (1971, p. 53). To the extent that describing someone’s personality can explain his actions, the present article may have subtracted from the reader’s admiration of Skinner.

Conversely, our results give little ammunition to those who would label Skinner a fascist or worse. The picture painted by our raters does not look much like that of a right-wing authoritarian (cf. Akrami & Ekehammar, 2006). Instead, Skinner was,

as far as we can tell, the kind of man one would have expected, based on other studies of eminent scientists.

And in the end, to a determinist like Skinner, traits should not be admired or abhorred. Skinner saw himself simply as a locus in which genes and environment had met to create behavior. “If I am right . . . I have written the autobiography of a nonperson” were his words on finishing the story of his life (Skinner, 1983, p. 412). Yet that nonperson had a personality.

Appendix

Big Five Factor Descriptions

Using the descriptions below, raters indicated which factor they thought each description of Skinner was relevant to. The description of Conscientiousness can be found in the text.

1. **Openness to experience (O):** wide interests, imaginative, intelligent, original, insightful, curious, sophisticated, artistic, clever, inventive, sharp-witted, ingenious, creative, wise, anti-authoritarian, interests in science, *but not* commonplace, narrow interests, simple, shallow, or unintelligent.
 - Persons who score *high* are full of ideas, are quick to understand things, have a rich vocabulary, have a vivid imagination, have excellent ideas, spend time reflecting on things, and use difficult words.
 - Persons who score *low* are not interested in abstract ideas, do not have a good imagination, and have difficulty understanding abstract ideas.
2. **Extraversion (E):** talkative, assertive, active, energetic, outgoing, outspoken, dominant, forceful, enthusiastic, show-off, sociable, spunky, adventurous, promiscuous, noisy, and bossy, *but not* quiet, reserved, shy, silent, withdrawn, or retiring.
 - Persons who score *high* are the life of the party, don’t mind being the center of attention, feel comfortable around people, start conversations, and talk to a lot of different people at parties.
 - Persons who score *low* are quiet around strangers, don’t like to draw attention to themselves, don’t talk a lot, and have little to say.
3. **Agreeableness (A):** sympathetic, kind, appreciative, affectionate, soft-hearted, warm, generous, trusting, helpful, forgiving, pleasant, good-natured, friendly, cooperative, gentle, unselfish, praising, and sensitive *but not* fault-finding, cold, unfriendly, quarrelsome, hard-hearted, unkind, cruel, thankless, or arrogant.
 - Persons who score *high* are interested in people, feel others’ emotions, have a soft heart, make

people feel at ease, sympathize with others' feelings, and take time out for others.

- Persons who score *low* are not interested in other people's problems, are not really interested in others, feel little concern for others, and insult people.

4. **Neuroticism (N):** tense, anxious, nervous, moody, worrying, touchy, fearful, high-strung, self-pitying, temperamental, unstable, self-punishing, despondent, emotional, feelings of guilt, and feelings of shame.

- Persons who score *high* are easily disturbed, change their mood a lot, get irritated easily, get stressed out easily, get upset easily, have frequent mood swings, often feel blue, and worry about things.
- Persons who score *low* are relaxed most of the time and seldom feel blue.

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Notes

1. We thank Edward K. Morris and Todd McKerchar for providing a copy of the "acceptance certificate" for Skinner's doctoral dissertation.
2. We also asked five other persons to rate Skinner's personality based on the 30 "facets" commonly said to make up the Big Five personality traits. This did not yield clear results, however. The raw data probably do not permit fine discriminations.
3. A popular personality test, the Neuroticism–Extroversion–Openness Five-Factor Inventory, consists of 60 items (McCrae & Costa, 2004); the Newcastle Personality Assessor (Nettle, 2007) has only 12 items—but these have, of course, been carefully chosen, whereas we had to use the descriptors we could find in our source material.
4. Each of the four times disagreement arose, one rater was alone in disagreeing with the others, and on three of the four occasions, the dissenting rater was the same person.

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