The Surprising Resurgence of Research Using Signature Size

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In the late 1960s, and into the 1970s, as an undergraduate, a graduate student, and an assistant professor, I performed a series of studies on signature size. The first series of studies led me to conclude that signature size was "a key to status awareness," and subsequent studies showed that it was related not only to status, but to self-esteem.

I then moved on to other topics and wrote articles and books that focused on diversity in what C. Wright Mills called "the power elite" (the corporate, political, and military elites). In this work, among other topics, I studied the ethnicity, and the career trajectories of the CEOs of *Fortune* 500 companies. It never crossed my mind to look at the signatures of these CEOs.

However, it did cross the minds of some researchers, 40 years later. In May, 2013, I received a call from the editor of the *Harvard Business Review* because they had interviewed Nick Seybert, an Associate Professor of Accounting at the University of Maryland, for an article they were soon to run titled "Size Does Matter (in Signatures)." He and a colleague had used signature size to study narcissism in CEOs.

Others soon began to use signature size to assess narcissism in CEOs. By 2020, there was enough interest in CEO narcissism for the *Journal of Management* to run an article titled "Making CEO Narcissism Research Great: A Review and Meta-Analysis of CEO Narcissism." It included signature size as one of five ways to measure narcissism in

CEOs. Now, five years later, researchers have used signature size to explore narcissism in CEOs not only in the USA but in many other countries, including the United Kingdom, Germany, Uruguay, Iran, South Africa and China.

This surprising resurgence of research using signature size to assess narcissism leads me to three conclusions. First, signature size as a way to assess aspects of personality, and perceptions about the person doing the signing, has turned out to be much more robust than I imagined as an observant undergraduate working in my college library back in 1967. Second, signature size is not only an indicator of status and self-esteem, as I once concluded, but, as recent studies suggest, of narcissistic tendencies. And, third, you never know where your research will be taken by others.

(There's more to this story. Send me an email, rzweigen@guilford.edu, and I'll be glad to send you a longer version of this brief article, complete with references).

The longer version (with references)

In the late 1960s, and into the 1970s, as an undergraduate, a graduate student, and an assistant professor, I performed a series of studies on signature size. In the first of these, using unlined cards that allowed students and faculty to sign books out of a college library, I compared multiple signatures from each faculty member with multiple student signatures (matched for the number of letters in their names) and found that the faculty signatures were significantly larger than the student signatures. In a second study, I included the signatures of maintenance workers at the college – similar in age to the faculty, but of less status – and found that their signatures were larger than those of the students, but not as larger as those of the faculty. And in a third study, a case study, I looked at the signatures that one faculty member had written in his books

over an 11-year period, first as an undergraduate, then while he was a graduate student, and, finally, after he became an assistant professor. As he earned higher degrees, his signature got larger and larger (especially after he got his Ph.D.). The books were no bigger, but his signature was. I concluded that signature size was "a key to status awareness" (Zweigenhaft, 1970).

In a subsequent study, I found that signature size correlated significantly with scores on the Tennessee Self Concept Scale, and in yet another study I showed that being told that one had done well on a task led to an increase in the size of one's signature, even over the course of just an hour or so. I concluded that signature size was related not only to status, but to self-esteem (Zweigenhaft and Marlowe, 1973).

I wrote an article on signature size in 1977, extending this work a bit (Zweigenhaft, 1977), and another in 1978, in which a colleague and I were able to show that the same patterns held for both men and women in Iran, where people wrote from right to left (Aiken and Zweigenhaft, 1978).

I then moved on to other topics, including articles, and some books, that focused on diversity in the corporate world, the political world, and the military – what C. Wright Mills called "the power elite" (Zweigenhaft and Domhoff, 2018). In this work, among other topics, I studied the ethnicity, and the career trajectories of the CEOs of *Fortune* 500 companies (Zweigenhaft and Domhoff, 2014). It never crossed my mind to look at the signatures of these CEOs.

However, in May, 2013, I received a call from the editor of the *Harvard Business Review* because they had interviewed Nick Seybert, an Associate Professor of Accounting at the University of Maryland, for an article they were soon to run titled "Size Does Matter (in Signatures)." He and his colleagues had measured the signatures of 605 CEOs in annual reports

over a decade and, claiming that signature size was "an indicator of narcissism," they found a relationship between signature size and "overspending, lower returns on assets, and…higher CEO pay relative to that of industry peers" (Seybert, 2013). When she asked me what I thought, I told her that my findings only indicated a relationship between signature size and self-esteem, not narcissism.

Intrigued by the shift from my findings on self-esteem to his findings on what he claimed was narcissism, I contacted Nick Seybert. It turned out that he had no direct evidence for the relationship between signature size and narcissism, but simply had made a leap of faith that it was the case. I decided to test this using a sample of my students. I asked them to sign a blank 3 by 5 card as if they were writing a check, and then I gave them a 16-item Narcissism scale (the Narcissistic Personality Inventory, or NPI-16). Lo and behold, he was right: there was a significant positive correlation between signature size and narcissism. He subsequently tested a sample of his students, and found the same significant positive correlation (Seybert, 2013; Ham, Seybert, and Wang, 2018; see, also, Wang, Li, and Mu, 2022).

Others soon began to use signature size to assess narcissism in CEOs. By 2020, there was enough interest in CEO narcissism for the *Journal of Management* to run an article titled "Making CEO Narcissism Research Great: A Review and Meta-Analysis of CEO Narcissism." It included signature size as one of five ways to measure narcissism in CEOs (Cragun, Olsen, and Wright, 2020). Now, five years later, researchers have used signature size to explore narcissism in CEOs not only in the USA but in other countries, such as the United Kingdom (Aabo, Thomsen, and Wulff, 2021), Germany (Kind, Zeppenfeld, and Lueg, 2023), Uruguay (Mailhos, Buunk, and Cabana, 2016), Iran (Mashayekh, Habibzade, & Hasanzade Kucho, 2020; Abed, Kolaee, Kebria, and Azizi, 2024), South Africa (Effah, Wang, and Su, 2024), and China

(Li, Zhou, and Qu, 2025).

Signature size also has been used to study other corporate executives, such as the members of the boards of directors who write audit reports (for a study of this in the United Kingdom, see Guan, Zalata, and Li, 2025; for a study in Taiwan, see Chou, T-K, Pittman, J. A., Zhuang, Z. (2021).

In addition, some researchers have studied the effect of larger versus smaller signatures on the viewers. For example, in a recent article in *The Journal of Philanthropy*, Canadian researchers reported on three studies that systematically varied the signature size of someone soliciting funds in order to see if it affected the size of donations. It did. In one of their studies, they found that increasing the size of the sender's signature generated more than twice as much revenue (Kettle, Penner, and Main, 2025).

Sometimes, however, especially when articles are translated into other languages, and when they appear in journals that may not require careful peer editing, one's findings not only can be reinterpreted (self-esteem becomes narcissism) but they can be stated incorrectly. The following passage, from a 2025 study that looked at the tax behavior of narcissistic CEOs in Iran, not only managed to misspell my name in two different ways (in the same sentence) but it makes inaccurate claims about my findings: "Zwaigenhoeft and Marlow, (1973), Zweighenhaft (1977), Jorgenson (1977) showed that signature size could be used to measure self-consciousness and dominance over others and that individuals with larger signatures seek to control and dominate others (Dadaneh , Haghighat , Rezazadeh, and Shourabsofla, 2025, p. 41).

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imagined as an observant undergraduate working in the college library back in 1967. Second, signature size is not only an indicator of status and self-esteem, as I once concluded, but, as recent studies suggest, of narcissistic tendencies. And, third, you never know where your research will be taken by others.

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