

# Family Matters: Measuring Impact Through One's Academic Descendants

**Elizabeth J. Marsh**

Department of Psychology and Neuroscience, Duke University

## Abstract

Scientific contributions take many forms, not all of which result in fame or are captured in traditional metrics of success (e.g., *b* factor). My focus is on one of the most lasting and important contributions a scientist can make: training scientists who go on to train scientists, who in turn train more scientists, etc. Academic genealogies provide many examples of scientists whose names might not be recognizable today but who trained psychologists that went on to publish very influential work. Of course success results from a combination of many factors (including but not limited to the student's abilities and motivation, luck, institutional resources, mentoring, etc.), but the field should find more ways to acknowledge the role that mentoring does play.

## Keywords

biography, history, scholarly impact, academic genealogies

I am the family face; flesh perishes, I live on.  
—Thomas Hardy, “Hereditry”

I enjoyed reading the earlier discussions of ways to quantify scientific merit: introductory psychology citations (Sternberg, 2016), *b* factor to capture both quantity and quality of publications (e.g., Ruscio, 2016), and altmetrics (Feist, 2016), among others. I would like to focus on a different contribution to science, albeit one that it is hard to quantify: mentoring and training of scientists. In doing so, I admit to sidestepping the question of fame—being famous is not a prerequisite for great mentoring (in fact, one might envision fame interfering with mentoring, to the extent that a famous mentor is particularly busy or unavailable). Fame can be negative (as in cases of data forgery) and fame can be driven by factors other than one's actual accomplishments (see Jacoby, Kelley, Brown, & Jasechko, 1989). In science, there are many ways to measure success beyond name recognition—and my focus is on one of the most lasting contributions a scientist can make: training scientists who go on to train scientists, who themselves train scientists, and so forth.

Academic genealogies have long been of interest to folks; it is a fun exercise to trace one's lineage back to giants like Wundt, James, Titchener, and Galton. The advent of web programs such as PsychTree ([\[academicstree.org/psych/\]\(https://academicstree.org/psych/\)\) and NeuroTree \(<https://neurotree.org>\) make it easier to trace one's lineage \(and to find common “ancestors” across scientists\). I encourage you to try these programs, if you have not—keeping in mind that these records are incomplete and crowd-sourced rather than peer-reviewed \(the positive spin is that you have the power to fix any inaccuracies you find!\). Type the name of a famous psychologist, and then ask yourself if you recognize all of the antecedent names. I am fairly confident that your answer will be “no.” And yet an argument can be made that the unrecognized antecedents are having an impact beyond their own papers and time, given their famous academic descendants, however far removed. Having a famous descendent does not make the mentor famous, of course, but it is one form of a lasting contribution to the field.](https://</a></p></div><div data-bbox=)

For example, consider Harry Harlow, whose work on infant monkeys' preference for comfort over food is covered in most introductory psychology courses. Harlow's advisor was Calvin Stone—a name that I confess I do not recognize (but there is a whole chapter about

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## Corresponding Author:

Elizabeth J. Marsh, Department of Psychology and Neuroscience, 417 Chapel Dr., Duke University, Durham, NC 27708-0086  
E-mail: [emarsh@psych.duke.edu](mailto:emarsh@psych.duke.edu)

him in the *Portraits of Pioneers in Psychology* series). Calvin Stone's advisor was Karl Lashley—one of the names on the list of Howard Crosby Warren Medal winners that Roediger (2016) challenged us to recognize. Roediger's quiz was difficult, illustrating his point that fame is fleeting—but a lack of name recognition does not negate other scientific contributions, including (but not limited to) mentoring of students. Graduate students at Yale may fail to identify the portrait of Clark Hull in the reception room, and yet my guess is that they would be able to identify at least some of his academic descendants (their names or ideas), which include his students Eleanor Gibson (whose students include Elizabeth Spelke and Karen Adolph) and Stanley Schacter (whose students include Lee Ross and Richard Nisbett). Other Hull students mentored Gordon Bower, Leo Festinger, Roger Shepard, Phil Zimbardo, and Benton Underwood, among many others. Of course, many successful students are not “famous”—success is defined by the individual student's goals, which may not be name recognition. Great mentoring includes guiding and helping students who find careers outside of the ivory tower and outside of science (but such students are not my focus in this short piece, because those data are less readily available and because my focus is on long-term impact on basic science).

To show how a great mentor can have a large impact on the field, I looked up the academic descendants of a vetted list of accomplished psychology mentors—the winners of the APS Mentor Award, which began in 2013.<sup>1</sup> Ten awards have been made; for simplicity, I limited my analyses to the nine people who are at Ph.D.-granting institutions. Keeping in mind the problems with PsychTree and NeuroTree listed earlier, I think it is safe to say that these mentors have mentored a lot of people—by these records, the average was more than a dozen academic “children” and several dozen academic “grandchildren.” I used Google scholar to look up the *h* factors of the mentors' “children,” when available, and found *h* factors ranging from 3 to 110, with a median of 18. Of course, the “children” with *h* factors of 0 are unlikely to be on PsychTree and NeuroTree—and there are many people who do not have Google scholar profiles—but I think it is fair to say that these mentors have academic descendants who are contributing to the field, even though many of them are still early in their careers.

Of course a student plays a major role in his or her own successes—we all know people who have succeeded despite their advisors! And mentoring is in turn influenced by institutional characteristics and resources—some programs admit more students or provide better support to students, increasing the chance

of having a famous descendant. It is impossible to know what role the school, the advisor, and countless other factors may have played beyond what the student would have accomplished regardless of mentor. Attempts to quantify the effects of mentoring suggest at least some benefits to student productivity (e.g., Malmgren, Ottino, & Amaral, 2010; Paglis, Green, & Bauert, 2006), but it remains difficult to separate the many factors that contribute to student success.

Are there any dark sides to great mentorship? This question may strike the reader as an odd one, but it is worth asking. One concern is that excellent students working with less well-known mentors may be disadvantaged when on the job market, even if they have similar publications. That is, people may prefer to hire the academic descendants of people they know and like, especially those who are known to be great mentors. To the extent that the same labs do most of the training, it increases the similarity in perspectives across the field, even if the field would benefit from outsiders and new ideas. I believe the benefits of good mentoring outweigh this downside, but it is something to keep in mind when hiring and evaluating people—it can be very hard to separate the mentor and the student (which is one of the reasons many departments require demonstrated independence from the mentor for tenure).

What does it take to be a good mentor? If you ask different people you will likely get different answers (for suggestions, see Detsky & Baerlocher, 2007; Lee, Dennis, & Campbell, 2007). But I think everyone will agree that it takes a lot of thought and effort to be a good mentor. Given this, it is unfortunate that mentoring is relatively unappreciated, especially at the institutional level (probably in part because it is hard to evaluate). When I went looking for mentoring awards, I only found a few besides the APS award: the Society for Personality and Social Psychology's Legacy Award, the Nature Mentor Awards, and the Women in Cognitive Science Mentoring award. There are probably more, but not a ton. More informal recognition comes through festschrifts, where former students honor an advisor or mentor with scientific talks, sometimes culminating in a book. But such recognitions honor only a few of many mentors and miss the mentors who carefully mentor fewer students or those whose students leave academia. Hopefully this essay will stimulate some ideas about how to recognize stellar mentoring in a way that better captures the many ways mentors can have influence on the field.

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### Declaration of Conflicting Interests

The author declared no conflicts of interest with respect to the authorship or the publication of this article.

### Note

1. I have no interest in personally labeling colleagues as good or bad mentors! For that reason, I do not have a control group of less stellar mentors to compare with the APS winners.

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