

An Opportunity to Reflect on the Relationship between Elite Education, Inferred Cognitive Ability, and the Development of Eminent Creative Expertise

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Abstract

Robert Sternberg (2019) provides a critique of our work that is more of a commentary or reflection, because he is not in disagreement with us but simply has a different point of view. We appreciate that Sternberg, a scholar who has contributed prolifically to the literatures on intelligence, creativity, and expertise, is thinking deeply about our work. In this response, we discuss three main points. First, our study is correlational, not causal. Contrary to Sternberg's assertion in his title, we made reasonable correlational interpretations and conclusions about our data, especially when linking our findings to the broader literature, which is robust. Second, we leveraged a unique sample and "ingenious methodology" (Sternberg, p. 140) to add to the large body of work linking elite colleges—and by proxy inferred general intelligence—to later eminent creative expertise. Third, we had multiple *comparison* groups.

Keywords

Interpretation of findings, cognitive ability, creativity, eminent creative expertise

Introduction

We thank Sternberg (2019) for taking the time to comment on our article. He makes some constructive points about our study, and we welcome his interpretation of our work and its connection to the discussion surrounding elite education, general cognitive ability, and creative expertise. Largely, he is not in disagreement with us. Thus, we view his response to our article more as a commentary rather than a criticism and appreciate the opportunity to discuss this important topic with a scholar who has contributed so much to the study of creativity and cognitive ability.

We also appreciate Sternberg's praise of our work, when he writes (2019, p. 140) "they have used an ingenious methodology to look at relations between admission to elite universities and later creative achievement. The authors truly deserve to be congratulated for an innovative and useful assessment of how general cognitive ability and elite university education are associated." Sternberg makes three major points, which we summarize and respond to in turn.

(1) Our study is correlational, not causal. We make reasonable conclusions from our data.

Sternberg (2019, abstract, p. 140) argues that "Wai and his colleagues (2019) argue for a

causal relationship between general cognitive ability and creativity that goes beyond their data.” We did our best to avoid drawing causal conclusions from our data. We cannot tease apart the various possible explanations for the descriptive and correlational findings uncovered in our study, and we make no claim to do so. In our original article (2019, p. 86), this is the most concise interpretation of our data: “Given that we examined eminent creative expertise across multiple domains within the TIME 100, it appears that elite education and inferred general cognitive ability matter more or less depending upon the domain of creative expertise and in what context.”

Perhaps we could have been clearer by writing instead that “there appears to be an *association* between elite education and inferred general cognitive ability depending more or less upon the domain of creative expertise and the context.”

However, we disagree with Sternberg when he notes in his title that we “reach conclusions that do not necessarily follow from their data.” Moreover, we point out that Sternberg provides no specific examples from our manuscript to support this assertion.

(2) We leverage a unique sample and methodology to add to the large body of work linking elite colleges—and by proxy inferred general intelligence—to later eminent creative expertise.

As Sternberg (2019, p. 141) notes, we recognized that “students in prestigious institutions, at least in the United States, are, on average, higher in various cognitive abilities than are people in institutions of little or no prestige.” We agree that not all who attend prestigious universities are in the top 1% of the distribution of cognitive ability, and we never implied otherwise. Despite acknowledging that such students are “on average, higher...” Sternberg asserts that admission to elite schools is not a good proxy. The specific examples he provides are clear examples of when that is not the case. But mean/median test scores of admitted students to elite institutions clearly demonstrate that those cases are outliers and not normative.

(3) We had multiple comparison groups, but not a control group.

A lack of a comparison group is not a disagreement with us, but it is a criticism. Additionally, as is often used in observational research that report base rates, the implied comparison group is the general population. If we wanted to assert that NBA and WNBA players are tall, would we really have to collect data from a comparison group, or could we instead use existing general population estimates of typical heights? Moreover, the different categories from the TIME 100 (Wai, Makel, & Gambrell, 2019, Figure 3) serve as comparison groups to one another, and the many other highly influential groups we reported (2019) in Table 2 serve as additional comparison groups. Given the constraints of our samples, methodology, and approach to studying this topic, we believe that we appropriately placed our findings among multiple comparison groups.

Additional points made by Sternberg.

When criticizing our study for “Lack of a Comparison Group,” Sternberg (2019) writes that individuals from elite colleges are disproportionately represented in what he considers a dysfunctional congress, and he further argues that some of them may be ineffective business leaders or U.S. Presidents. As one example, he states:

“But do we know that spectacular failures are not also over-represented among those who got top educations and then proceeded to mess up in spectacular fashion? Among U.S. Presidents, William Howard Taft, Gerald Ford, George H. W. Bush, George W. Bush, and Bill Clinton (law school) all were graduated from Yale, and Donald Trump from the University of Pennsylvania (Wharton School). Make your own decision about their intellectual, creative, or other merits” (p. 142).

First, we did not argue that everyone who graduates from an elite university is going to be creative, effective, or successful. Obviously, that is not the case. Thus, these sections of Sternberg’s article feel more like a red herring or a non sequitur; they discuss data, outcomes, and conclusions that we did not mention in our

paper. Our study simply showed that people with elite education (and by inference a high IQ) are greatly over-represented (by a relative risk of about 42, which is an enormous effect size) in the TIME 100, a survey of accomplished and eminent individuals. If Sternberg wants to argue that elite education and/or high IQ also makes dysfunction, ineffectiveness, and spectacular failure more likely, that is a separate question that we encourage him to pursue. Although we acknowledge the existence of low-performing graduates from Harvard, Yale, and other selective schools, we do not know of any evidence that these institutions produce such outcomes at a higher rate than any other. In fact, we would hypothesize that the “failure rate” would be lower than that from a typical state school (but that is only a prediction since that type of conclusion, unlike the ones that we made, is definitely beyond our data). A contrasting study looking at failure rather than success would be interesting, but we disagree that it is necessary to examine both ends of the spectrum in a single study or paper. Most studies focus on one end or the other because the data sources required are very different.

Conclusion

Sternberg (2019, p. 144) concluded, “There may be many other individuals who could have succeeded, creatively, or otherwise, but who never got the chance because of the circumstances of their upbringing.” We agree and have never argued that others given opportunity to develop talent wouldn't also achieve great things. Broadly, we appreciate the opportunity to engage with a scholar who has contributed much to the study of intelligence and creativity and hope that Sternberg's perspective as well as other perspectives different from our own will be expressed as scholars seek to better understand what factors go into the development of eminent creative expertise.

Authors' Declarations

The authors declare that there are no personal or financial conflicts of interest regarding the research in this article.

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