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# 5 diseases ailing research – and how to cure them



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## Quick Poll

1. Does the average “Joe” and “Jane” on the street distrust science?

- Yes
- No
- I don't know

2. Does “power posing” make individuals more risk tolerant and increase their testosterone levels?

- Yes
- No
- I don't know

3. Is the “publication bias” problem (publishing only significant findings) overblown?

- Yes
- No
- I don't know

## Results of the polls

## As currently done, 5 diseases threaten the usefulness of research (Antonakis, 2017)

- A disease: A disorder having some symptoms and causing some debilitating outcomes on a body—in this case the body of knowledge.
- Why do these diseases exist?
  - collective practice of how science is done
  - conditions under which is it done
  - incentives are given to researchers by journals, research sponsors, or universities

## The five diseases include

- *Significosis*: the incessant focus on producing statistically significant results
- *Neophilia*: excessive appreciation for novelty and for snazzy results
- *Theorrhea*: mania for new theory
- *Arigorium*: deficiency of rigor in theoretical and empirical work
- *Disjunctivitis*: collective proclivity to produce large quantities of redundant, trivial, and incoherent works

## Symptoms of the diseases

- p-hacking
- QRP's
- HARKing
- Suppression of replication studies
- Suppression of null results
- Basic research not well regarded

We see publication of spectacular, but later discovered to be flawed findings like Cuddy's "power posing" (Carney, Cuddy, Yap, 2010).

Lack of quality research (especially of the endogeneity-prone kind) engenders crises and distrust in science; and of course, bad science cannot inform practice (Antonakis, 2017).

## Even experimental manipulations have validity problems: e.g., studying power

Typical instructions given to participants:

- Treatment: “Please recall a particular incident in which you had power over another individual or individuals. . . . Please describe this situation in which you had power – what happened, how you felt, etc.” (Galinsky, Gruenfeld, & Magee, 2003).
- Control: write about what they did yesterday!

Then subjects do an inconsequential task. How can the above help science in presence of asymmetrical demand effects?

Such set-ups are inexpensive but also “cheap” manipulations (Sturm & Antonakis, 2015); particularly given the hypothetical situations and hypothetical decisions.

## The problems are huge: Some reviews on robustness of empirical work

- We found that leadership researchers fail to correctly address up to 90% of design and estimation conditions that make causal claims invalid (Antonakis, Lalive, Bendahan, Jacquart, 2010).
- In a more recent review we found that 79.73% of articles had one or more endogeneity threats (Antonakis, Bastardo, Liu, & Schriesheim, 2014).
- In the latest review, we found that out of 189 articles testing a “process model” (i.e.,  $x \rightarrow m \rightarrow y$ ) only 26% of articles used an exogenous predictor, and only 2% used an instrumental-variable estimator (Fischer, Dietz, & Antonakis, 2016).



## Improving the status quo at The Leadership Quarterly

- Exploratory empirical work (with little or no theory)
- Registered reports (intro and design are first reviewed; data then gathered and paper should be accepted regardless of findings)
- Results masked reviews (results not included in first review; if design is good, paper should be accepted regardless of findings)
- Short communications:
  - Basic research
  - Null results studies
  - Replications
- Exemplary contributions (essays or thought pieces from senior scholars)
- Commentaries and debates

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Thank you

