

Correcting Corrupt Research

Recommendations for the Profession to
Stop Misuse of p -values
or
Ending the GASSSPP

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Corrupt Research

- The case against Null Hypothesis Significance Testing (NHST) has been made and will not be repeated here
- NHST + self-reinforcing system practices = Generally Accepted Soft Social Science Publishing Process (GASSSPP)
 - Neither “science” nor “scientific”
 - Dominant model in business and social science

What Can Individual Scientists Do?

- Push (back):
 - Prepare papers using confidence intervals and effect sizes, not p values
 - Support above with standardized bibliography of references demonstrating failures of GASSSPP
 - Attempt: *Management Junk Science*
 - Improvement: ASA can provide important buttressing by creating such a bibliography under its name

What Can Individual Scientists Do?

- Challenge:
 - As authors, challenge reviewers and editors who adhere to GASSSPP practices
 - Support with standard bibliography
 - As reviewers, challenge authors and editors who adhere to GASSSPP
 - Use positive arguments—author and journal reputation, science and knowledge, will all benefit

What Can Individual Scientists Do?

- Use the internet and social media fully:
 - Use as doctoral training tool—have students replicate existing studies and publish findings online
 - Support existing and nascent free-access and dataset repositories (e.g., *SSRN*, *Figshare*, *Dryad*, *Open Science*)
 - These can finally open “Rosenthal’s file drawer”

What Can Individual Scientists Do?

- Sponsor and participate in real-science conferences
 - This conference, for an excellent example
 - Follow example of *Basic and Applied Social Psyc.* in creating “procedure and style guide” which makes GASSSPP ineligible for conference
 - Follow technical suggestions of Edwards (2008)
- Be prepared for a long grind upwards!!

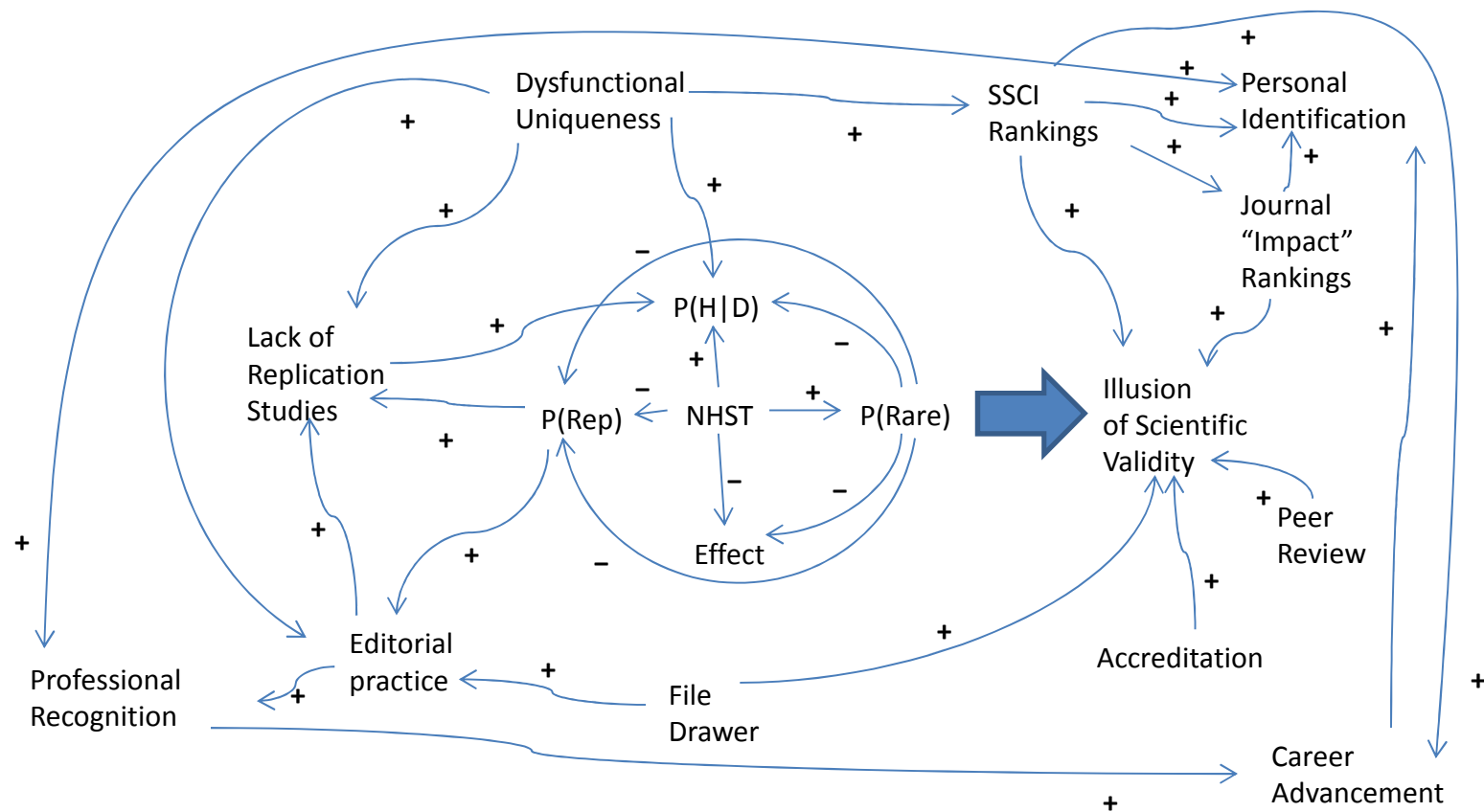
Institutional Leverage

- Individual scientists' efforts are limited by the institutional forces which are part of the GASSSPP :
 - Community of Misinterpretation
 - “Groupthink”
 - Quality Delusion
 - Academic Reward System

The Self-Reinforcing Components of the GASSSPP

- Community of Misinterpretation
 - $p(H|D)$; rarity; p = effect; replication likelihood
- “Groupthink” properties
 - Dysfunctional uniqueness; lack of replication; editorial practices; the “file drawer”
- The Quality Delusion
 - SSCI rankings; journal “impact” rankings; peer review; accreditation; illusion of scientific validity
- The Academic Reward System
 - Personal identification; professional recognition; career advancement

The Self-Reinforcing Structure of the GASSSPP



Institutional Leverage Points

- Peer Review (“serial editorship”?)
- Ineffective at detecting or correcting GASSSPP practices
- Some leverage:
 - Use web site to praise researchers who do not follow GASSSPP (True Scientific Hypothesis Network, or TSHN?)
 - Editing prestigious but often thankless
 - Editors pressured to continue “business as usual”

Institutional Leverage Points

- Replication studies:
 - Needed but largely undone (and problem worsening)
 - Research group (Reproducibility Project, perhaps?) needed to organize, publish, and serve as repository
 - Replicate frequently cited studies
 - Recognize authors and editors who reject GASSSPP

Institutional Leverage Points

- Practitioner community and accreditation standards
 - Now separate worlds
 - AACSB research impact part of accreditation standards
 - Non-GASSSPP studies can work with professional organizations to sponsor and evaluate research
 - Example: McKinsey study of international adoption of manufacturing practices

Conclusion

- Statistical tools necessary to understand complex systems
- GASSSPP corrupts statistical research, but is embedded
- Need to address both personal and institutional forces
- We can be the initiators of a “butterfly effect”

THANK YOU for your attention!

Questions?