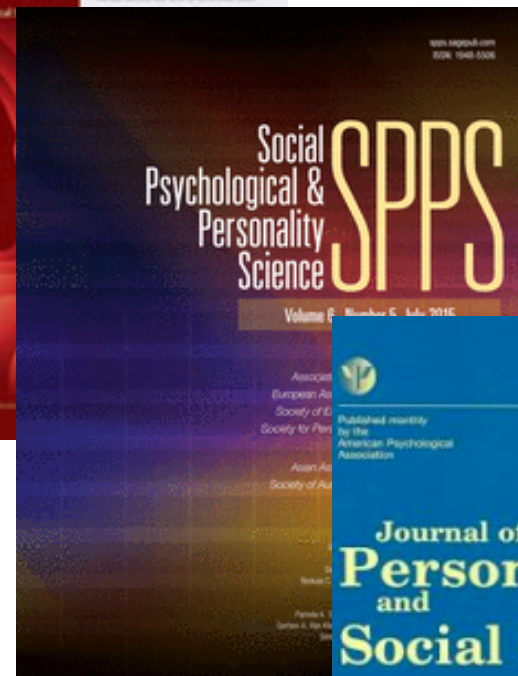
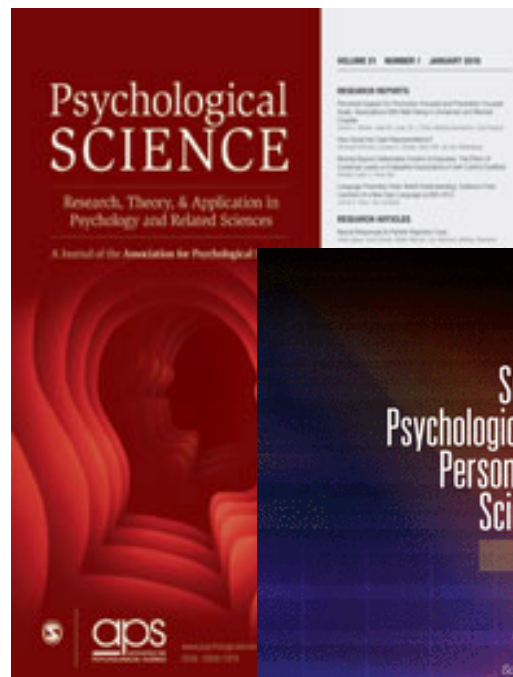
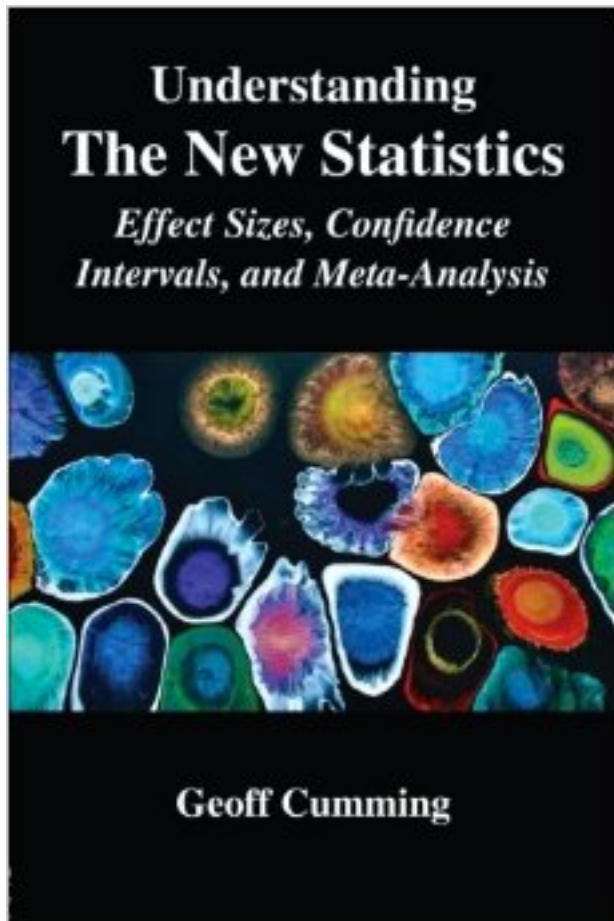


New Thinking for the New Statistics: Getting the Most from Estimation

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What statistics should you report?

	<i>Frequentist</i>	<i>Bayesian</i>
<i>Estimate parameters</i>	Effect size & confidence interval	Effect size & credible interval
<i>Test or compare hypotheses</i>	p -values	Bayes factors

1. Beyond binary thinking

Statistics are answers to questions.

p -values are answers* to yes/no questions:

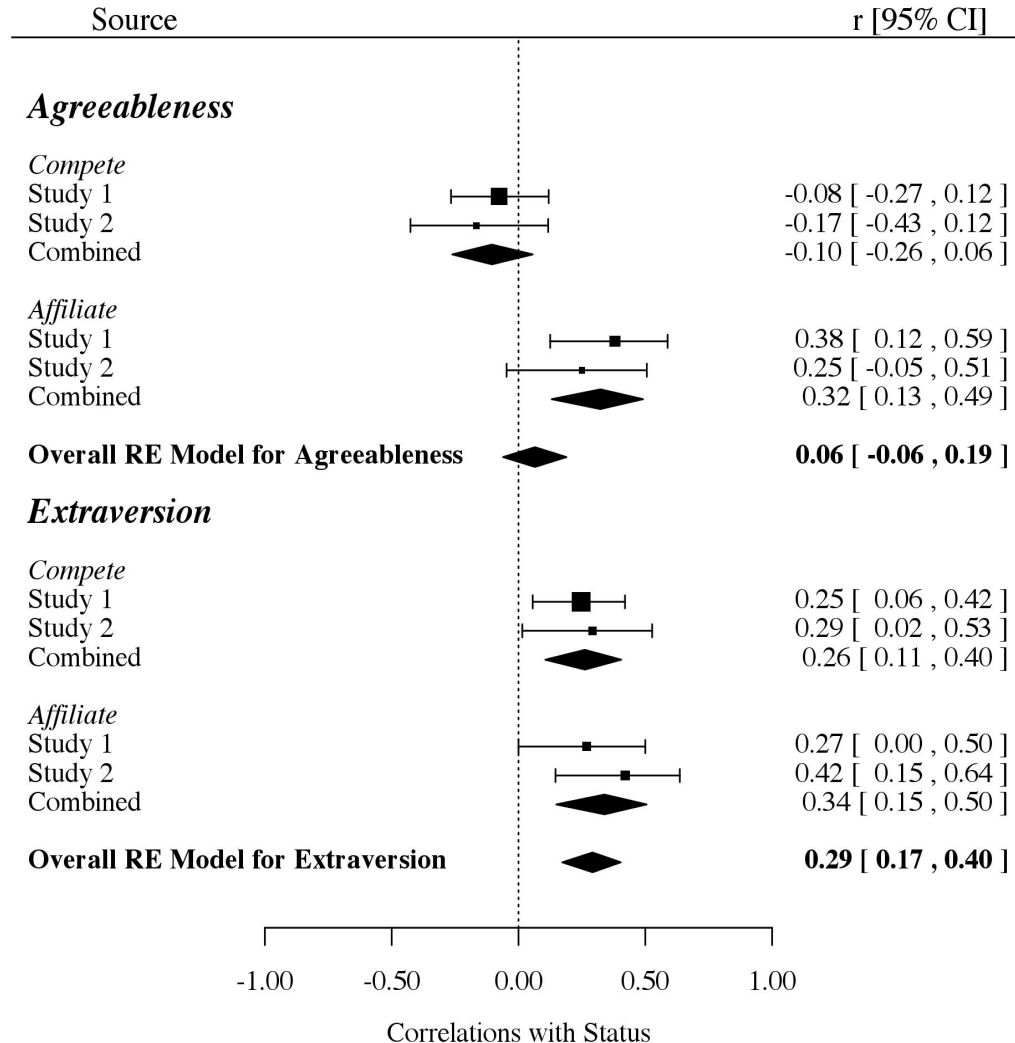
Does X affect Y ?

Estimation answers “how much” questions:

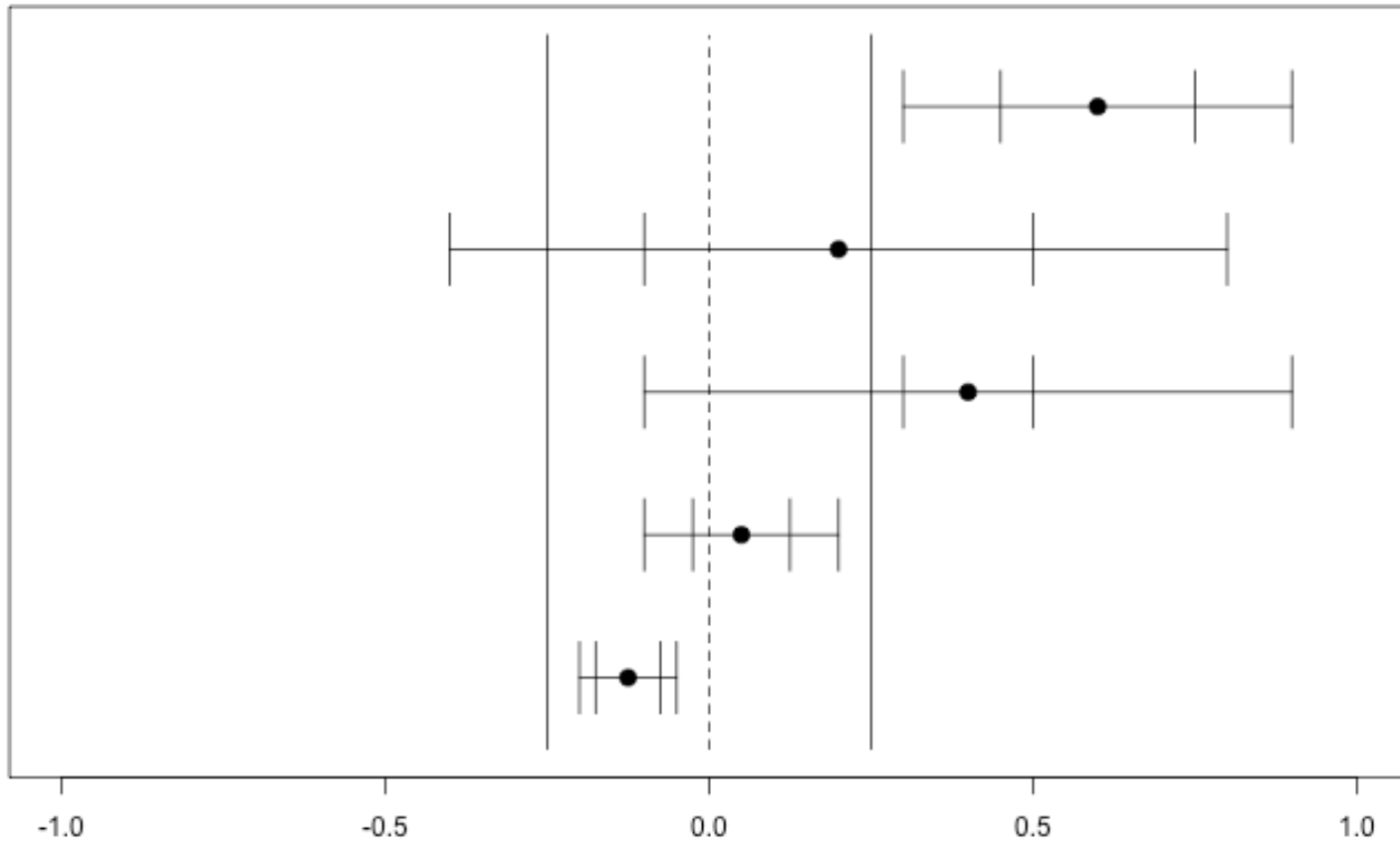
What is the effect of X on Y ?

* (Bad ones, many would argue)

2. Mini meta-analyses to summarize evidence



3. Practical equivalence instead of the nil null



4. Interpretive benchmarks

- Cohen's small/medium/large
- Field-specific benchmarks, e.g. in personality:
 - .7-.9 for reliability
 - .5-.6 for same-method convergent validity
 - .1-.2 for one-off behaviors
- Question-specific benchmarks, e.g.:
 - Twitter consensus vs. consensus among:
close others, strangers, viewers of websites,
visitors to offices/bedrooms, etc.

5. Estimation as theory-building

“Informed curiosity” (Rozin, 2001)

Accumulate interesting facts about a phenomenon that new theories must be created to account for



Questions

- Should we *only* do estimation?
Estimation *and* hypothesis testing?
Sometimes one, sometimes the other?
- What can we get from estimation with measurements in arbitrary units?
- What can we get from estimation without mathematically formalized theories?

Let's discuss!

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