

Significance

Business & Management

What a p-value means, and the four things it does not.

What $p < 0.05$ means

- If there were no real effect...
- ...data this extreme would occur under 5% of the time
- It is a statement about the data
- Given the null hypothesis

What it does not mean

- Not: 95% chance the effect is real
- Not: the effect is large
- Not: the result will replicate
- Not: $p > 0.05$ proves no effect

THE DIFFERENCE THAT MATTERS

Statistical significance is not practical significance. With a large enough sample, trivial differences become significant.

Always report the effect size and a confidence interval alongside the p-value. The interval says far more than the threshold.