

Yoav Benjamini

Tel Aviv University

The two statistical cornerstones of replicability: addressing selective inference and irrelevant variability

Tukey's last published work in 2020 was an obscure entry on multiple comparisons in the Encyclopedia of Behavioral Sciences, addressing the two topics in the title. Replicability was not mentioned at all, nor was any other connection made between the two topics. I shall demonstrate how these two topics critically affect replicability using recently completed studies. I shall review how these have been addressed in the past. I shall review in more detail the available ways to address selective inference. My conclusion is that conducting many small replicability studies without strict standardization is the way to assure replicability of results in science, and we should introduce policies to make this happen.