The New Statistics

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 Statistics has been called “the grammar of science.” Few understand this idea better than Geoff Cumming, whose research explores statistical cognition, or how we use and interpret statistical methods. He is particularly interested in replication, and much of his work has examined the difference between using *p* values and confidence intervals, two statistical methods for evaluating differences between experimental groups (like a drug vs. a placebo), to assess statistical uncertainty and study repeatability. Though reporting statistical significance with *p* values is more common in most scientific disciplines, Cumming has found these values to be unreliable, varying greatly between repetitions of an experiment, while confidence intervals often provide better insight into a study’s results and their replicability. He has used these findings to urge psychological researchers in fields ranging from giftedness to clinical psychology to report confidence intervals and effect sizes, and also to use meta-analysis, in order to improve the reliability of their statistical analyses. He refers to these better techniques as ‘the new statistics’: www.thenewstatistics.com. He is author of *Understanding The New Statistics*.