

Resource Summary Report

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Exploratory Software for Confidence Intervals

RRID:SCR_006024

Type: Tool

Proper Citation

Exploratory Software for Confidence Intervals (RRID:SCR_006024)

Resource Information

URL: <http://www.latrobe.edu.au/psy/research/projects/esci>

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Description: ESCI (pronounced "esky") is a set of interactive simulations that run under Microsoft Excel. The set of Excel files lets students explore some key concepts in statistical and quantitative reasoning, including effect sizes, confidence intervals, and meta analysis. These are key concepts in the neuroscience toolkit, but can be particularly difficult to foster in undergraduate and graduate students. With ESCI you can: * explore many Confidence Interval (CI) concepts * calculate and display CIs for your own data, for some simple designs * calculate CIs for Cohen's standardized effect size d * explore noncentral t distributions and their role in statistical power * use CIs for simple meta-analysis, using original or standardized units * explore all these concepts via vivid interactive graphical simulations. The simulations are free, excellent, and come with detailed supporting materials. Cumming also has a printed textbook companion which is quite good. Cumming, G. (2012). Understanding The New Statistics: Effect Sizes, Confidence Intervals, and Meta-Analysis. New York: Routledge * Explains estimation, with many examples. * Designed for any discipline that uses statistical significance testing. * For advanced undergraduate and graduate students, and researchers. * Comes with free ESCI software. * May be the first evidence-based statistics textbook. * Assumes only prior completion of any intro statistics course. * See the dance of the confidence intervals, and many other intriguing things. The Excel files truly stand on their own, though, with good feedback from their use in a basic stats class for psych and neuroscience majors. Finally, if you are like me and learned the "old school" statistics of null-hypothesis testing, here's a great article by Gerd Gigerenzer to kick you into the "new school" of confidence intervals and effect sizes. Learn the dirty secrets of null hypothesis testing: Gigerenzer G, Kraus S & Vitouch O. (2004). The null ritual: What you always wanted to know about significance testing but were afraid to ask. The Sage Handbook of Quantitative Methodology for the Social Sciences, p. 391-408: http://library.mpib-berlin.mpg.de/ft/gg/GG_Null_2004.pdf

Abbreviations: ESCI

Resource Type: software resource, data or information resource, narrative resource, book

Keywords: statistics, simulation, confidence interval

Resource Name: Exploratory Software for Confidence Intervals

Resource ID: SCR_006024

Alternate IDs: nlx_144311

Record Creation Time: 20220129T080233+0000

Record Last Update: 20260808T190229+0000

Ratings and Alerts

No rating or validation information has been found for Exploratory Software for Confidence Intervals.

No alerts have been found for Exploratory Software for Confidence Intervals.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 7 mentions in open access literature.

Listed below are recent publications. The full list is available at [SPARC SAWG](#) .

Andrews RM, et al. (2021) Adaptive variation in the development of extraembryonic membranes of gekkotan embryos: A meta-analytical approach. Journal of morphology, 282(7), 1054.

Clarkson MD, et al. (2016) Representation of anatomy in online atlases and databases: a survey and collection of patterns for interface design. BMC developmental biology, 16(1), 18.

Chun CA, et al. (2016) Are synesthetes exceptional beyond their synesthetic associations? A systematic comparison of creativity, personality, cognition, and mental imagery in synesthetes and controls. British journal of psychology (London, England : 1953), 107(3), 397.

Ochaba J, et al. (2016) PIAS1 Regulates Mutant Huntingtin Accumulation and Huntington's Disease-Associated Phenotypes In Vivo. Neuron, 90(3), 507.

Rejeski JJ, et al. (2016) Characteristic endoscopic ultrasound findings of ampullary lesions that predict the need for surgical excision or endoscopic ampullectomy. Endoscopic

ultrasound, 5(3), 184.

Wayment HA, et al. (2015) Brief quiet ego contemplation reduces oxidative stress and mind-wandering. *Frontiers in psychology*, 6, 1481.

Lakens D, et al. (2013) Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in psychology*, 4, 863.