Appendix 1

Reporting quality of animal research in journals that published the ARRIVE 1.0 or ARRIVE 2.0 guidelines: a cross-sectional analysis of 943 studies

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Confidence Intervals for Intraclass Correlation

Numeric Results for Two-Sided Confidence Interval for Intraclass Correlation in a Two-Way Design

Confidence Level	Number of Subjects	Observations Per Subject	Width	Sample Intraclass Correlation	Lower Confidence Limit	Upper Confidence Limit
Data	N	K	UCL-LCL	r	LCL	UCL
0.950	6	3	0.455	0.850	0.520	0.975

Report Definitions
Confidence Level is the proportion of confidence intervals (constructed with this same confidence level,
    sample size, etc.) that would contain the true correlation.
Number of Subjects N is the size of the random sample of subjects drawn from the population.
Observations per Subject K is the number of measurements that are made on each subject.
Width (UCL-LCL) is the width of the confidence interval. It is the distance from the lower limit to the upper
    limit.
Sample Intraclass Correlation r is the estimate of intraclass correlation.
Lower and Upper Confidence Limits are the actual limits that would result from a dataset with these
    statistics.

References
Bonett, D. G. 2002. 'Sample size requirements for estimating intraclass correlations with desired precision.'
    Statistics in Medicine, Vol 21, 1331-1335.
Shrout, P. E. and Fleiss, J. L. 1979. 'Intraclass Correlations: Uses in Assessing Rater Reliability.'
    Psychological Bulletin, Vol 86, No. 2, 420-428.
Bartko, John J. 1966. 'The intraclass correlation coefficient as a measure of reliability.' Psychological
    Reports, Vol 19, 3-11.
Mathews, Paul. 2010. Sample Size Calculations: Practical Methods for Engineers and Scientists. Mathews Malnar
    and Bailey, Inc. www.mmbstatistical.com.

Summary Statements
A random sample of 6 subjects who are each measured 3 times produces a two-sided 95% confidence
interval with a width of 0.455 when the estimated intraclass correlation is 0.850. The data
will be analyzed using a two-way mixed-effects ANOVA model.

Dropout-Inflated Sample Size

Dropout Rate	Dropout-Sample Size	Inflated Enrollment Sample Size	Expected Number of Dropouts
Rate	N	N'	D
10%	6	7	1

Definitions
Dropout Rate (DR) is the percentage of subjects (or items) that are expected to be lost at random during the
    course of the study and for whom no response data will be collected (i.e. will be treated as "missing").
N is the evaluable sample size at which the confidence interval is computed. If N subjects are evaluated out
    of the N' subjects that are enrolled in the study, the design will achieve the stated confidence interval.
N' is the total number of subjects that should be enrolled in the study in order to end up with N evaluable
    subjects, based on the assumed dropout rate. After solving for N, N' is calculated by inflating N using the
    formula N' = N / (1 - DR), with N' always rounded up. (See Julious, S.A. (2010) pages 52-53, or Chow, S.C.,

Shao, J., and Wang, H. (2008) pages 39-40.)
D is the expected number of dropouts. $D = N' - N$.

Confidence Intervals for Intraclass Correlation

Procedure Input Settings

Autosaved Template File
C:\Users\华为\Documents\PASS 15\Procedure Templates\Autosave\Confidence Intervals for Intraclass Correlation - Autosaved 2023_8_3-14_50_40.t319

Design Tab
Solve For:	Sample Size
ANOVA Model Type:	Two-Way Mixed Effects
Interval Type:	Two-Sided
Confidence Level (1 - Alpha):	0.95
K (Observations per Subject):	3
Width of Confidence Interval:	0.5
r (Sample Intraclass Correlation):	0.85