ภาคผนวก ก

สูตรการคำนวณกลุ่มตัวอย่าง

Multiple regression: deviation of R^2 from zero	F tests	$R^2_{Y \cdot A} = 0$	$f^2 = \frac{R^2_{Y \cdot A}}{1 - R^2_{Y \cdot A}}$	Number of predictors p (#A)	$\lambda = f^2 N$ $df_1 = p$ $df_2 = N - p - 1$

Symbols and Their Meanings As Used in the Tables

Symbols	Meaning
μ (μ_i)	population mean (in group i)
$\vec{\mu}$ ($\vec{\mu}_i$)	vector of population means (in group i)
μ_{x-y}	population mean of the difference
N	total sample size
n_i	sample size in group i
σ	standard deviation in the population
σ_μ	standard deviation of the effect
σ_{x-y}	standard deviation of the difference
λ	noncentrality parameter of the noncentral F and χ^2 distribution
δ	noncentrality parameter of the noncentral t distribution
df	degrees of freedom
df_1, df_2	numerator and denominator degrees of freedom, respectively
ρ (ρ_i)	population correlation (in group i)
$R^2_{Y \cdot A}$, $R^2_{Y \cdot A,B}$	squared multiple correlation coefficients, corresponding to the proportion of Y variance that can be accounted for by multiple regression on the set of predictor variables A and $A \cup B$, respectively
Σ	population variance–covariance matrix
M	matrix of regression parameters (population means)
C	contrast matrix (contrasts between rows of M)
A	contrast matrix (contrasts between columns of M)
π (π_i)	probability of success (in group i)

คัดลอกจาก

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191

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F tests - Multiple Regression: Omnibus (R^2 deviation from zero)

Analysis:	A priori: Compute required sample size	
Input:	Effect size f^2	= 0.15
	α err prob	= 0.05
	Power (1-β err prob)	= 0.80
	Number of predictors	= 11
Output:	Noncentrality parameter λ	= 18.450000
	Critical F	= 1.875927
	Numerator df	= 11
	Denominator df	= 111
	Total sample size	= 123
	Actual power	= 0.803632