

First we need to select the Test Family, Type of Test and Type of Power Analysis.

The screenshot shows the G*Power 3 software interface. At the top, there are two tabs: "Central and noncentral distributions" and "Protocol of power analyses". Below the tabs, there are three main sections: "Test family", "Statistical test", and "Type of power analysis". Each of these sections has a dropdown menu. The "Test family" dropdown is set to "t tests". The "Statistical test" dropdown is set to "Correlation: Point biserial model". The "Type of power analysis" dropdown is set to "A priori: Compute required sample size - given α , power, and effect size". Below these sections, there are two columns: "Input parameters" and "Output parameters". The "Input parameters" column has a "Determine" button and four input fields: "Tail(s)" (set to "One"), "Effect size |r|" (set to 0.3), " α err prob" (set to 0.05), and "Power (1- β err prob)" (set to 0.95). The "Output parameters" column has five rows, each with a question mark: "Noncentrality parameter δ ", "Critical t", "Df", "Total sample size", and "Actual power". At the bottom right, there are two buttons: "X-Y plot for a range of values" and "Calculate".

Central and noncentral distributions Protocol of power analyses

Test family Statistical test

t tests Correlation: Point biserial model

Type of power analysis

A priori: Compute required sample size - given α , power, and effect size

Input parameters Output parameters

Determine Tail(s) One Effect size |r| 0.3 α err prob 0.05 Power (1- β err prob) 0.95

Noncentrality parameter δ ? Critical t ? Df ? Total sample size ? Actual power ?

X-Y plot for a range of values Calculate

Select one
sample t-test

G*Power 3

Central and noncentral distributions Protocol of power analyses

Test family: t tests

Statistical test: Means: Difference from constant (one sample case)

Type of power analysis: A priori: Compute required sample size – given α , power, and effect size

Input parameters

Determine

Tail(s): One

Effect size d: 0.5

α err prob: 0.05

Power ($1-\beta$ err prob): 0.8

Output parameters

Noncentrality parameter δ : ?

Critical t: ?

Df: ?

Total sample size: ?

Actual power: ?

X-Y plot for a range of values Calculate