**a**

Under H$_1$

Density

1/10  1/3  1  3  10  30

Under H$_0$

Density

1/10  1/3  1  3  10  30

**b**

Under H$_1$

Density

1/10  1/3  1  3  10  30

Under H$_0$

Density

1/10  1/3  1  3  10  30

**c**

Under H$_1$

Density

1/10  1/3  1  3  10  30

Under H$_0$

Density

1/10  1/3  1  3  10  30

**Figure S1.** *Simulated distribution of Bayes Factors (BFs) under H1 and H0 for the maximal sample size (N = 16).* *a* small (*d* = 0.2), *b* medium (*d* = 0.5), *c* large (*d* = 0.8) effect size. The

green areas indicate the percentage of simulated BFs (10.000 iterations) showing 'strong enough evidence' (i.e., BF $\geq$ 10 or BF $\leq$ 1/10) in the right direction. Red areas indicate the percentage of BFs in the wrong direction, inconclusive evidence is represented in yellow. Please note that we argue that, if an effect does not yield conclusive evidence even after 16 participants, such an effect is probably not physiologically meaningful.