

S1 Listing 1

Listing 1: Indices of positive and negative agreement and their confidence intervals

```
1 # Individual localities first sampling round
2 GrahamBull(16,12,47,107)
3 GrahamBull(12,0,50,81)
4 GrahamBull(26,49,56,111)
5 GrahamBull(17,21,54,114)
6 GrahamBull(30,28,64,76)
7 GrahamBull(30,30,32,117)
8 #Total first sampling round
9 GrahamBull(131,140,303,606)
10 # Individual localities second sampling round
11 GrahamBull(16,13,29,94)
12 GrahamBull(19,3,27,120)
13 GrahamBull(50,19,17,123)
14 GrahamBull(24,7,17,59)
15 GrahamBull(63,11,32,97)
16 GrahamBull(40,7,21,96)
17 # Total second sampling round
18 GrahamBull(212,60,143,589)
19 # Grand total
20 GrahamBull(343,200,446,1195)
21 GrahamBull = function(a=1, b=1, c=1, d=1)
22 {
23 #           test 1
24 #           pos   neg
25 #           pos  a   b
26 #   test2
27 #           neg  c   d
28 alpha1 = 0.25
29 alpha2 = 0.25
30 alpha3 = 0.25
31 alpha4 = 0.25
32 K = 500
33 pi = rbeta(K, (a+alpha1), (b+c+d+alpha2+alpha3+alpha4))
34 be = rbeta(K, (d+alpha4), (b+c+alpha2+alpha3))
35 pi4 = (1-pi)*be
36 pos = (2*pi)/(pi+1-pi4)
37 neg = (2*pi4)/(pi4+1-pi)
38 diff = pos-neg
39 quapos = quantile(pos, c(.025, .975))
40 quaneg = quantile(neg, c(.025, .975))
41 quadiff = quantile(diff, c(.025, .975))
42 p1 = a/(a+b+c+d)
43 p2 = b/(a+b+c+d)
44 p3 = c/(a+b+c+d)
45 p4 = d/(a+b+c+d)
46 positivagre = 2*p1/(2*p1+p2+p3)
47 negativagre = 2*p4/(2*p4+p2+p3)
48 #####Results#####
49 print(paste("p(+/+): ", p1), quote=F)
50 print(paste("p(+/-): ", p2), quote=F)
51 print(paste("p(-/+): ", p3), quote=F)
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Listing 1 (Cont.): Indices of positive and negative agreement and their confidence intervals

```
52 print(paste("p(-/-): ",p4),quote=F)
53 print(paste("Positive agreement: ",positivagre),quote=F)
54 print(paste("Negative agreement: ",negativagre),quote=F)
55 print("95% CI positive agreement", quote=F)
56 print(quapos,digits=5)
57 print("95% CI negative agreement", quote=F)
58 print(quaneg,digits=5)
59 print("95% CI positive agreement - negative agreement", quote=F)
60 print(quadiff,digits=5)
61 }
```