

Supporting information for  
“A network centrality method for the rating problem”

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## Boxplots from the simulations

For the five sets of simulations discussed in Section 3 of the Main Text, we report the boxplots of all the 200 outcomes on each set of variables, for the NC method with  $\beta = 2/(\lambda^+ + N)$ , the SD method, and the simple average. On the  $y$ -axis we report all the cases, and on the  $x$ -axis we report the measures: Kendall’s tau for the simulations discussed in Section 3.1 (Figures A to D) and the difference between Kendall’s tau measures, that we call *robustness*, for the simulation discussed in Section 3.2 (Figure E). It is clear that there is a large variance and many realizations overlap, and this is why we show in the figures of the main text also the outcome of Student’s  $t$ -tests to check when these outcomes are statistically different.

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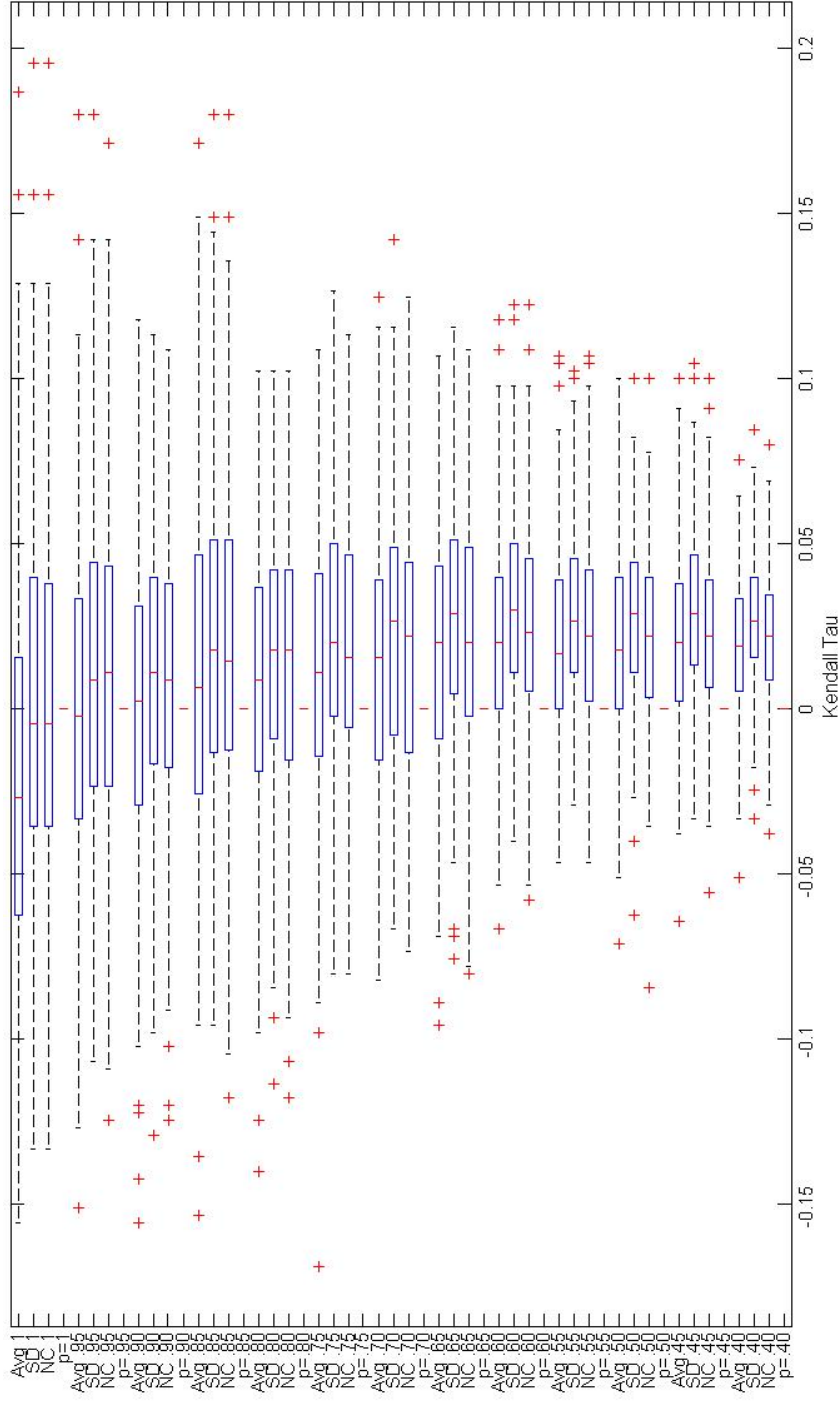


Figure A: Full boxplot of the simulation summarized in Figure 3 in the Main Text, for the average, the SD method, and the NC method with  $\beta = 2/(\lambda^+ + N)$ .

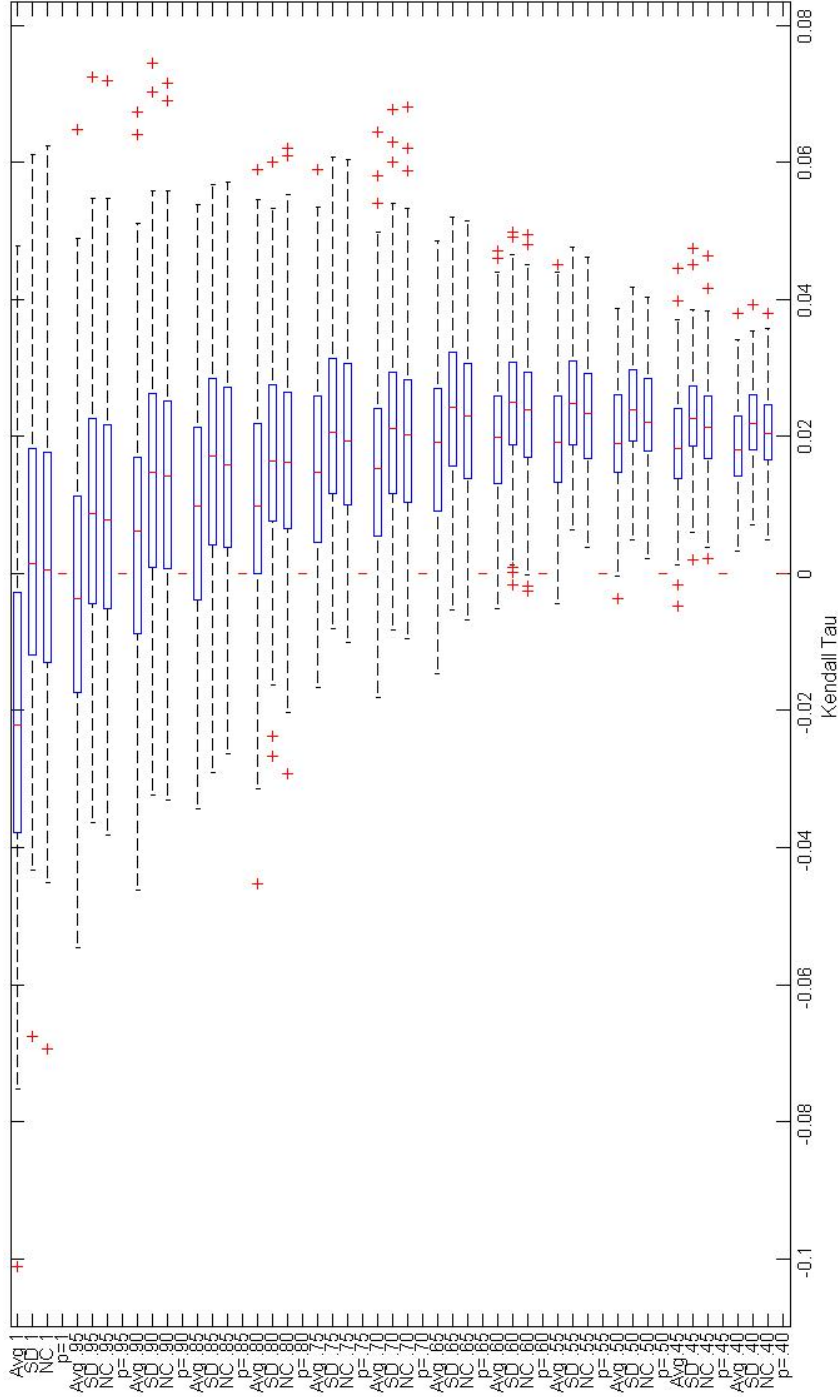


Figure B: Full boxplot of the simulation summarized in Figure 4 in the Main Text, for the average, the SD method, and the NC method with  $\beta = 2/(\lambda^+ + N)$ .

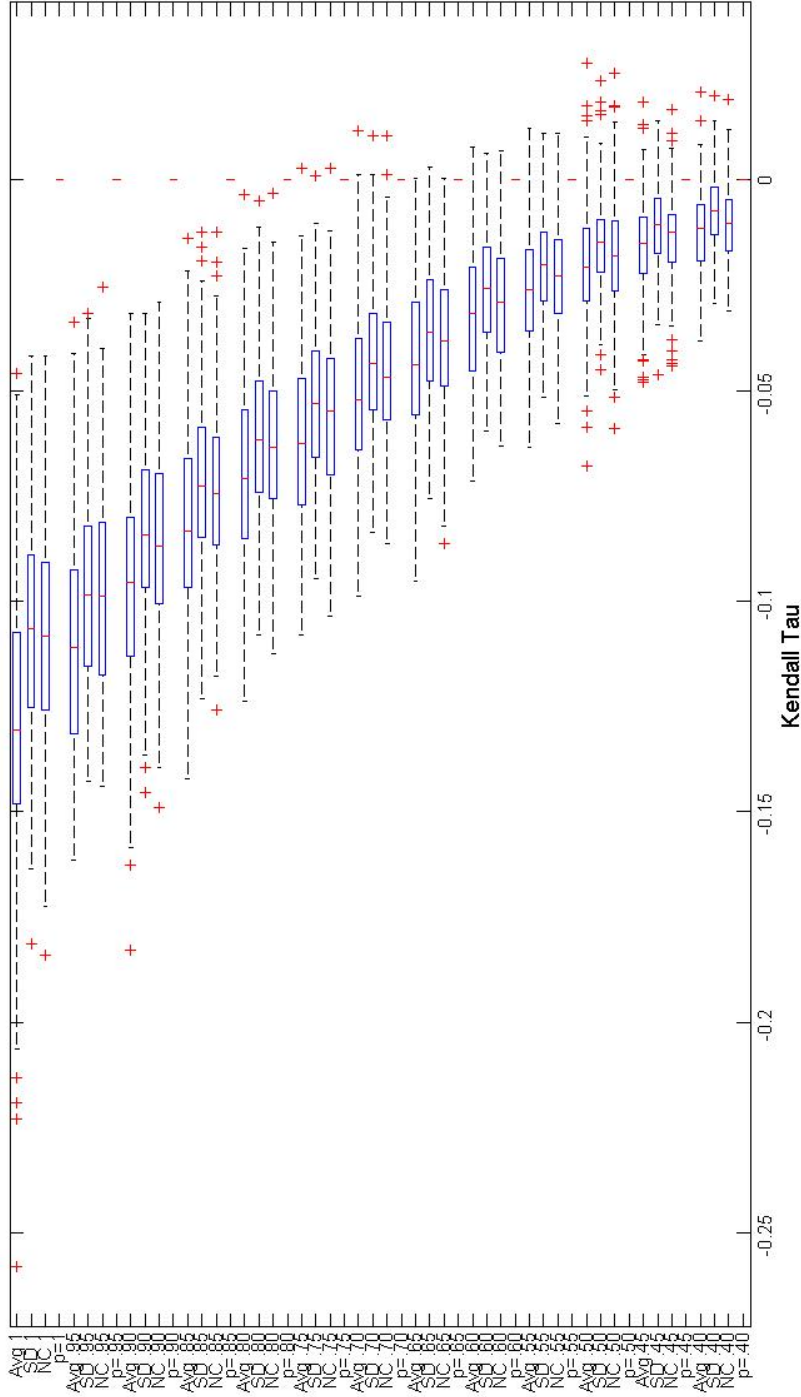


Figure C: Full boxplot of the simulation summarized in Figure 5 in the Main Text, for the average, the SD method, and the NC method with  $\beta = 2/(\lambda^+ + N)$ .

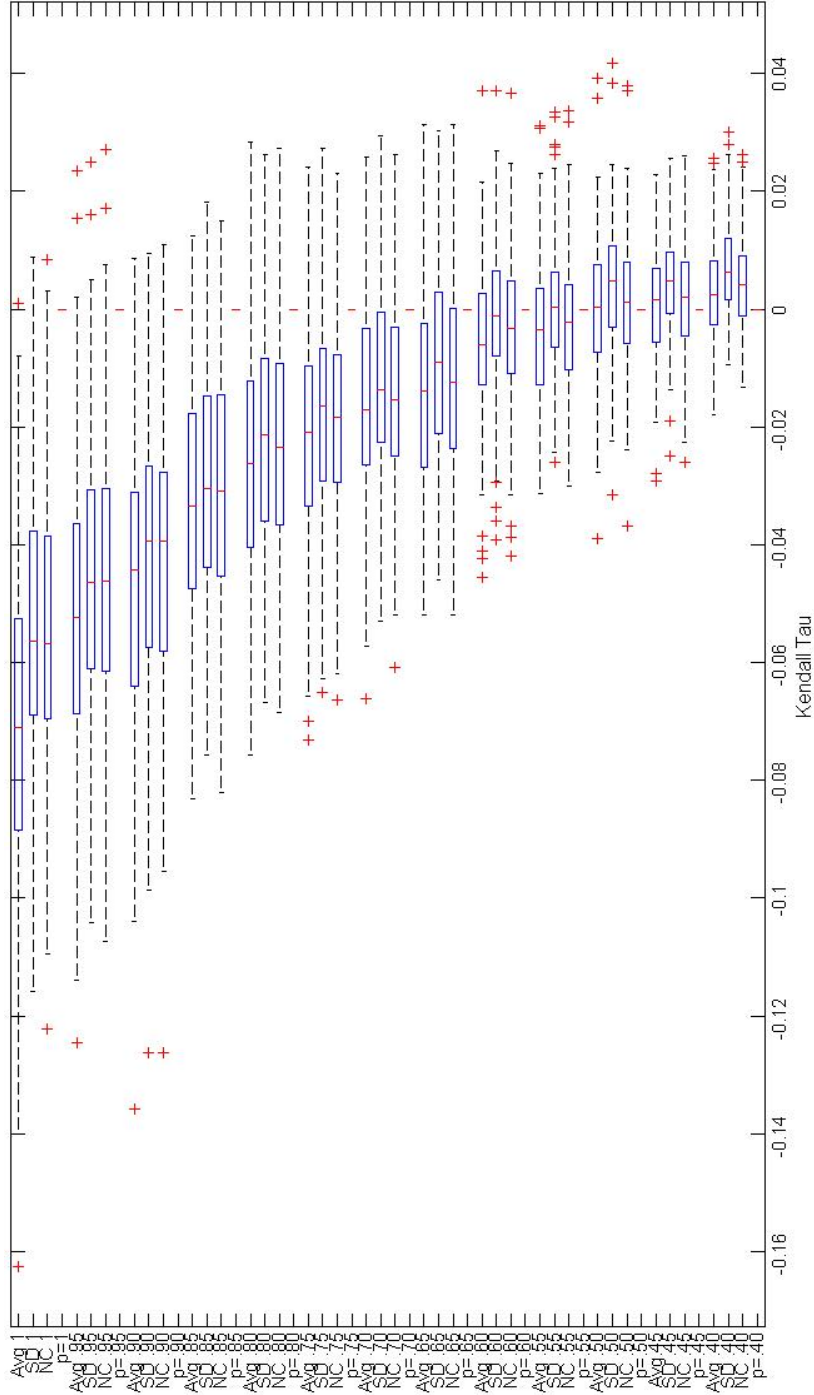


Figure D: Full boxplot of the simulation summarized in Figure 6 in the Main Text, for the average, the SD method, and the NC method with  $\beta = 2/(\lambda^+ + N)$ .

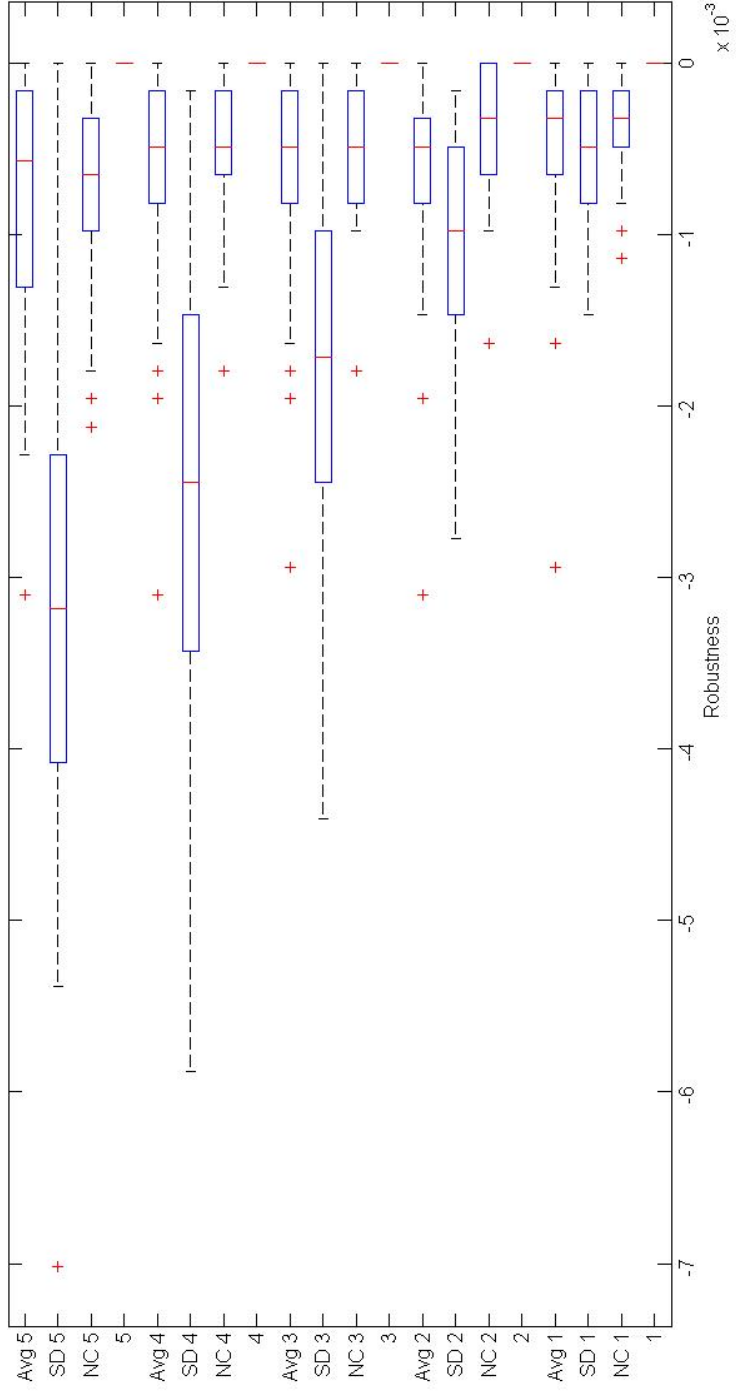


Figure E: Full boxplot of the simulation summarized in Figure 7 in the Main Text, for the average, the SD method, and the NC method with  $\beta = 2/(\lambda^+ + N)$ .