## Appendix B: Supplementary model results

Table B1: Tabular results for models used to test H1, H2, and H2A

| | **Model 1** | **Model 2** | **Model 2A** |
|---|---|---|---|
| Edges | -11.046* | -11.203* | -11.126* |
| | [-11.804; -10.229] | [-12.066; -10.370] | [-11.943; -10.194] |
| Mutual | -1.409* | -1.448* | -1.446* |
| | [-1.772; -1.135] | [-1.846; -1.165] | [-1.810; -1.174] |
| Isolates | 5.140* | 5.409* | 5.411* |
| | [4.197; 6.472] | [4.441; 6.560] | [4.516; 6.613] |
| Meetings attended | 0.010 | 0.036* | 0.036* |
| | [-0.001; 0.025] | [0.024; 0.057] | [0.023; 0.055] |
| GWID (a = 2) | 4.039* | 4.665* | 4.664* |
| | [3.616; 4.563] | [4.266; 5.144] | [4.271; 5.109] |
| GWESP (a = 2) | 1.298* | 1.322* | 1.322* |
| | [1.207; 1.395] | [1.226; 1.427] | [1.218; 1.423] |
| Mandatory (sender) | 0.092 | | |
| | [-0.001; 0.199] | | |
| Utility (sender) | 0.204* | | |
| | [0.109; 0.298] | | |
| Time | 0.015* | 0.025* | 0.025* |
| | [0.004; 0.027] | [0.015; 0.039] | [0.014; 0.037] |
| High resource [HR] | | 0.172* | 0.047 |
| | | [0.088; 0.257] | [-0.160; 0.236] |
| Prior centrality | | -2.303* | -2.661* |
| | | [-2.825; -1.927] | [-3.406; -2.129] |
| HR * Prior centrality | | | 0.522 |
| | | | [-0.123; 1.305] |

Table B2: Tabular results for models used to test H3, H4, and H5

| | **Model 3** | **Model 4** | **Model 5** |
|---|---|---|---|
| Edges | -10.498* | -11.057* | -11.047* |
| | [-11.310; -9.663] | [-11.938; -10.187] | [-11.874; -10.231] |
| Mutual | -1.426* | -1.425* | -1.409* |
| | [-1.778; -1.142] | [-1.802; -1.152] | [-1.813; -1.139] |
| Isolates | 5.222* | 5.215* | 5.140* |
| | [4.315; 6.488] | [4.288; 6.596] | [4.149; 6.397] |
| Meetings attended | 0.006 | 0.005 | 0.010 |
| | [-0.004; 0.024] | [-0.005; 0.022] | [-0.001; 0.026] |
| GWID (a = 2) | 4.070* | 4.073* | 4.038* |
| | [3.617; 4.519] | [3.676; 4.497] | [3.642; 4.514] |
| GWESP (a = 2) | 1.278* | 1.279* | 1.298* |
| | [1.182; 1.379] | [1.183; 1.380] | [1.208; 1.402] |
| Mandatory (sender) | 0.070 | 0.070 | 0.092 |
| | [-0.032; 0.201] | [-0.023; 0.193] | [-0.004; 0.213] |
| Utility (sender) | 0.149* | 0.154* | 0.208* |
| | [0.047; 0.250] | [0.059; 0.250] | [0.078; 0.395] |
| Time | -0.001 | 0.028* | 0.015* |
| | [-0.047; 0.021] | [0.003; 0.073] | [0.003; 0.029] |
| Post-planning | 0.222 | | |
| | [-0.080; 1.066] | | |
| Dyad stability | 0.457* | | |
| | [0.256; 0.531] | | |
| Stability * post-planning | -0.094 | | |
| | [-0.196; 0.112] | | |
| Implementation | | -0.298 | |
| | | [-1.086; 0.105] | |
| Tie stability | | 0.871* | |
| | | [0.696; 0.990] | |
| Stability * implementation | | -0.197 | |
| | | [-0.413; 0.076] | |
| Utility * time | | | -0.000 |
| | | | [-0.012; 0.009] |

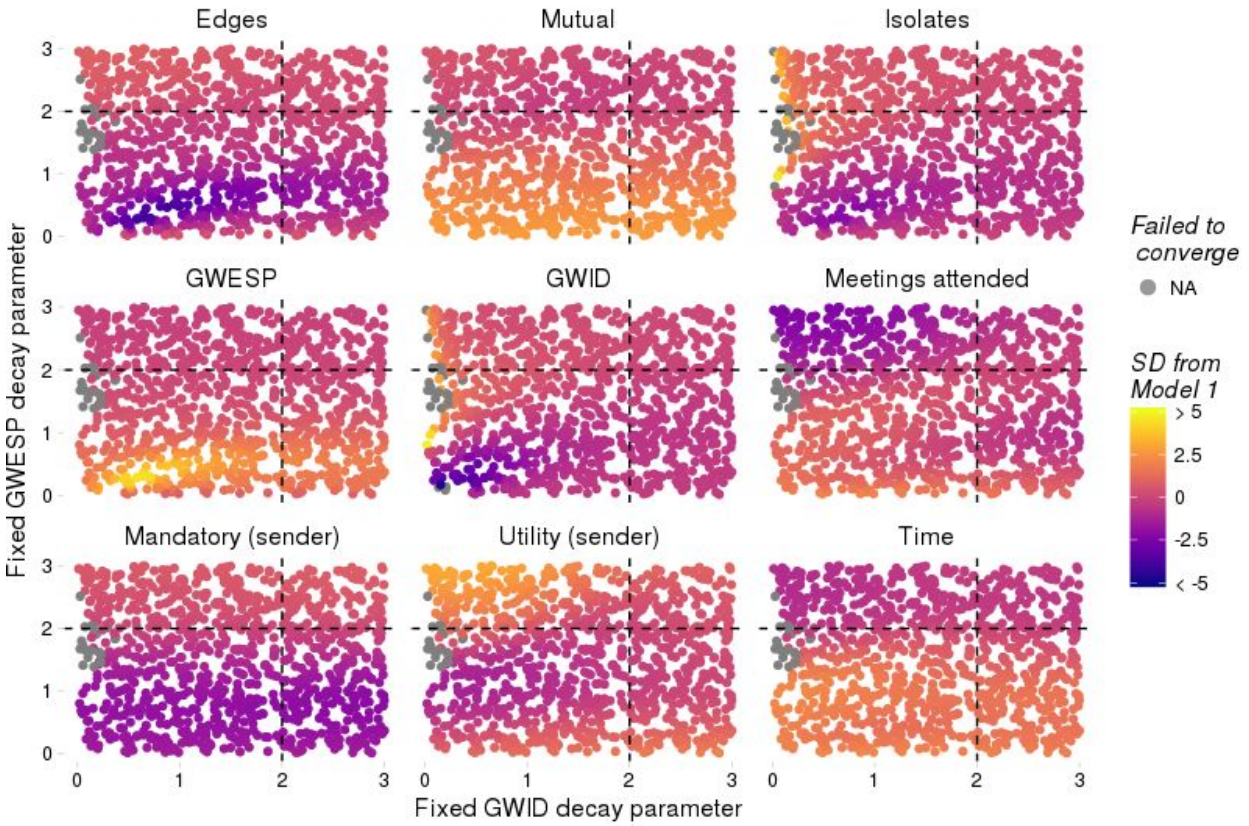


*Figure B1: Standardized coefficient estimates for 1000 simulations varying fixed decay parameters for GWID and GWESP terms.*

As discussed in the main body of the paper, the choice of decay parameters used to fit the GWID and GWESP terms can influence resultant model estimates (Levy et al. 2016). In order to gauge how fixing each decay parameter at $\alpha_{GWESP} = \alpha_{GWID} = 2$ might unduly influence our results, we conducted 1000 iterations of randomly selecting decay parameters between 0.01 and 3 (as noted by Levy et al. (2016), a 0 value is undesirable) for the GWID and GWESP terms (independently for each term) and refitting the model. We then calculate the difference between each parameter estimate and the estimate shown in table B1 for model 1, and then divide this difference by the standard deviation of the 1000 estimations generated for each parameter. Figure B1 plots the distribution of parameter

estimates by GWID and GWESP shape parameter, where the shading for an estimate at a given $\alpha_{GWESP}$ and $\alpha_{GWID}$ value reflects the difference, in standardized units, between that the coefficient estimate at that decay parameter combination and the estimated coefficient at $\alpha_{GWESP} = \alpha_{GWID} = 2$. As shown in figure B1, estimates are generally consistent at values close to the $\alpha_{GWESP} = 2$ and $\alpha_{GWID} = 2$ values used for our primary results.

On additional way to assess the impact of $\alpha_{GWESP}$ and $\alpha_{GWID}$ is to examine how the sign and statistical significance of each parameter changes as these decay parameters are permuted. Figure B2 shows that the choice of $\alpha_{GWESP}$ does play a role in the interpretation of estimated coefficients. There is a stark change in overall model results at approximately $\alpha_{GWESP} = 1.5$, such that the coefficients for the mutual and isolates statistics, as well as the the sender effect of mandatory signatory actors, change in sign. More importantly, however, the two terms that figure prominently in testing subsequent hypotheses (the sender effect for utility affiliated actors and time effect) exhibit a consistent sign across all permutations of $\alpha_{GWESP}$ and $\alpha_{GWID}$, indicating that the choice of these decay parameters is not unduly driving these results.

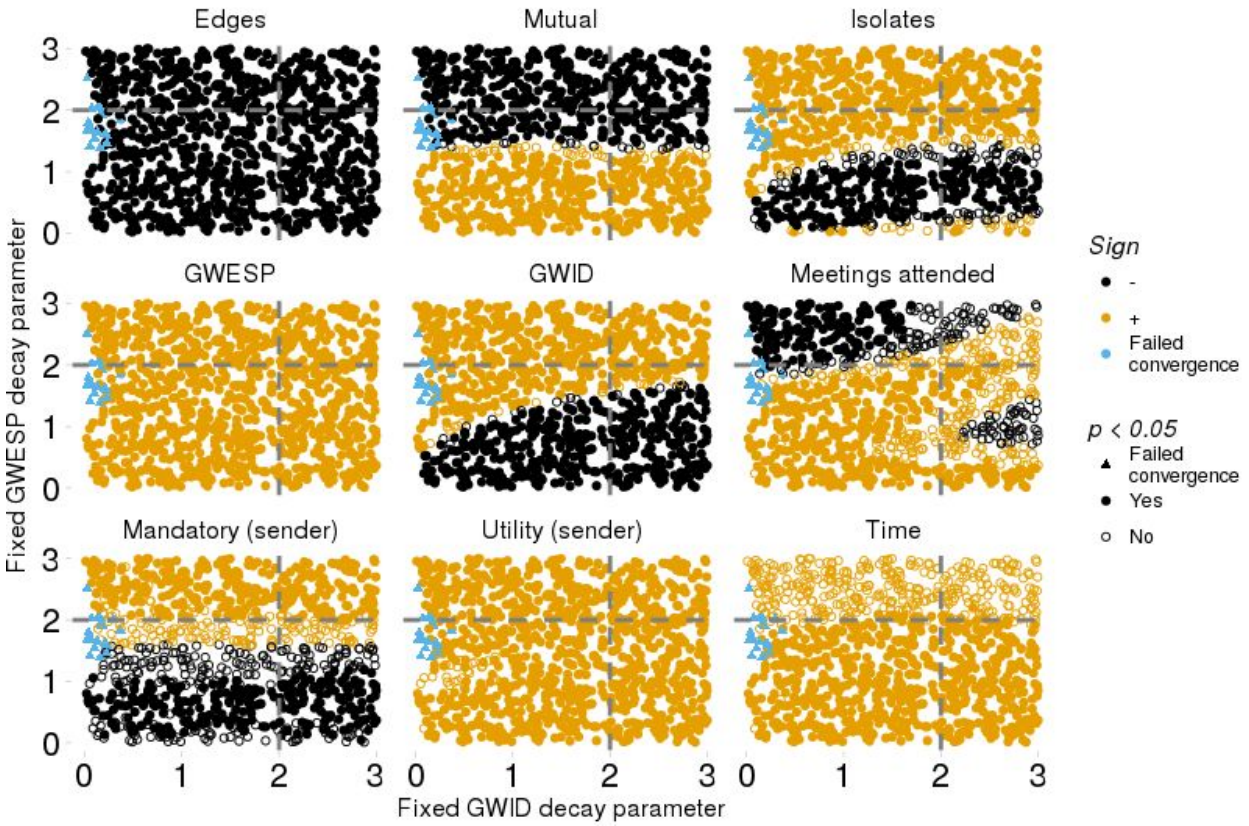


*Figure B2: Sign and significance of model 1 parameters for 1000 simulations varying fixed decay parameters for GWID and GWESP terms.*