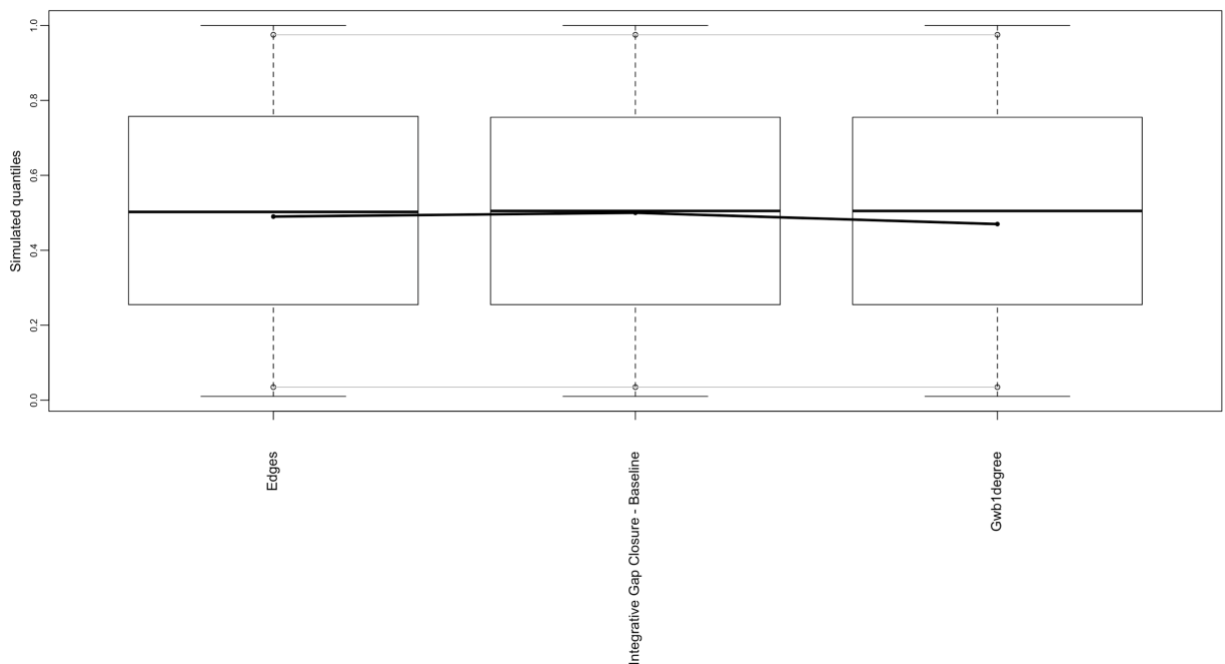Appendix 3

Model diagnostics

We measure goodness-of-fit for the parameters included in the models. The plots show good fit for the parameters that were included in the models (Figure A3.1). Additionally, we considered several parameters that were not included in the models – *dyad-wise shared partners* and *minimum geodesic distance* – which we compared to estimates from 100 simulated networks based on model specification, for each of the four models (Figure A3.2). The thick lines in each plot indicate empirical statistics and are displayed against corresponding boxplots that display the simulated distribution of the network statistic. The models slightly underestimated minimum geodesic distance in the simulated networks (Figure A3.2).
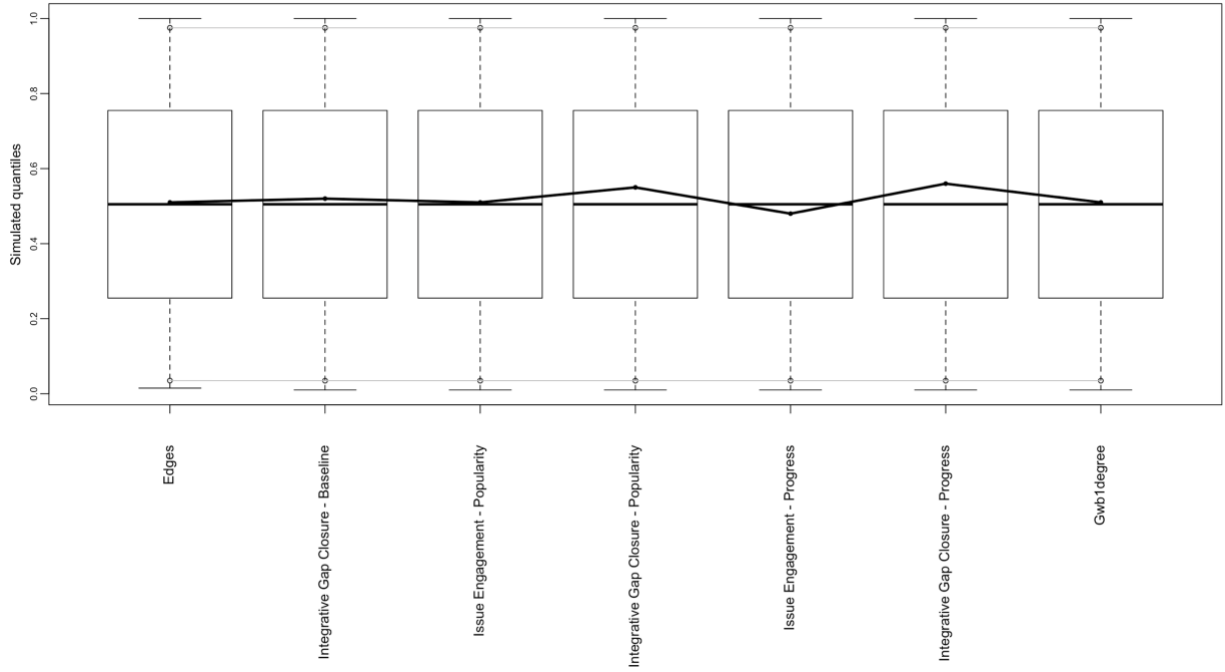
Model 1 (Baseline Model)

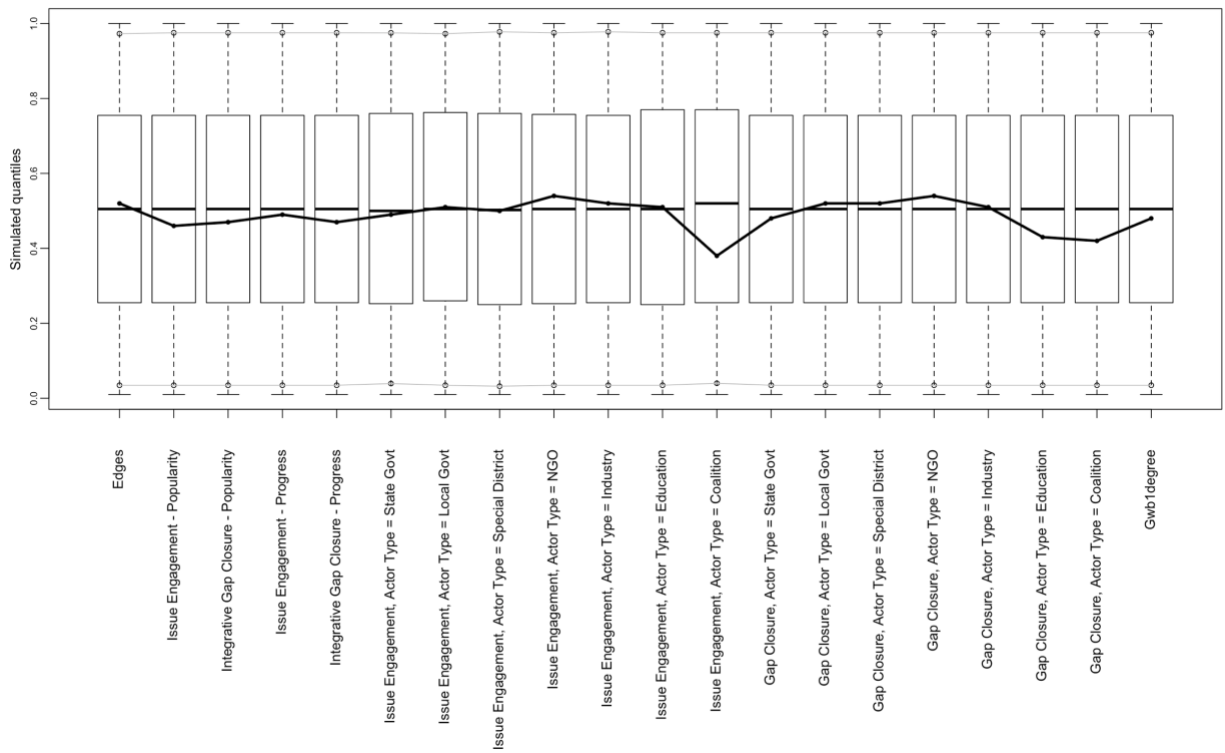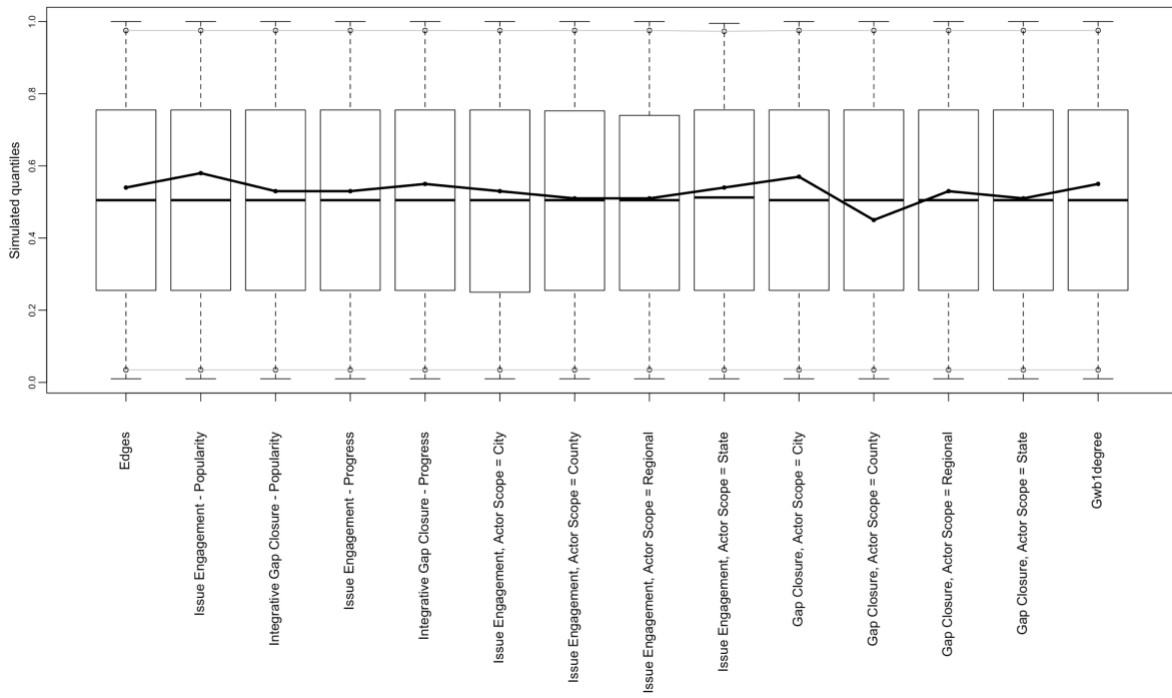Model 2 (Integrative Gap Closure Hypotheses)

The x-axis labels (from left to right) are: Edges, Integrative Gap Closure - Baseline, Issue Engagement - Popularity, Integrative Gap Closure - Popularity, Issue Engagement - Progress, Integrative Gap Closure - Progress, Gwb1degree. The y-axis is labeled "Simulated quantiles".

Model 3 (Actor Type Effects)

The x-axis labels (from left to right) are: Edges, Issue Engagement - Popularity, Integrative Gap Closure - Popularity, Issue Engagement - Progress, Integrative Gap Closure - Progress, Issue Engagement, Actor Type = State Govt, Issue Engagement, Actor Type = Local Govt, Issue Engagement, Actor Type = Special District, Issue Engagement, Actor Type = NGO, Issue Engagement, Actor Type = Industry, Issue Engagement, Actor Type = Education, Issue Engagement, Actor Type = Coalition, Gap Closure, Actor Type = State Govt, Gap Closure, Actor Type = Local Govt, Gap Closure, Actor Type = Special District, Gap Closure, Actor Type = NGO, Gap Closure, Actor Type = Industry, Gap Closure, Actor Type = Education, Gap Closure, Actor Type = Coalition, Gwb1degree. The y-axis is labeled "Simulated quantiles".
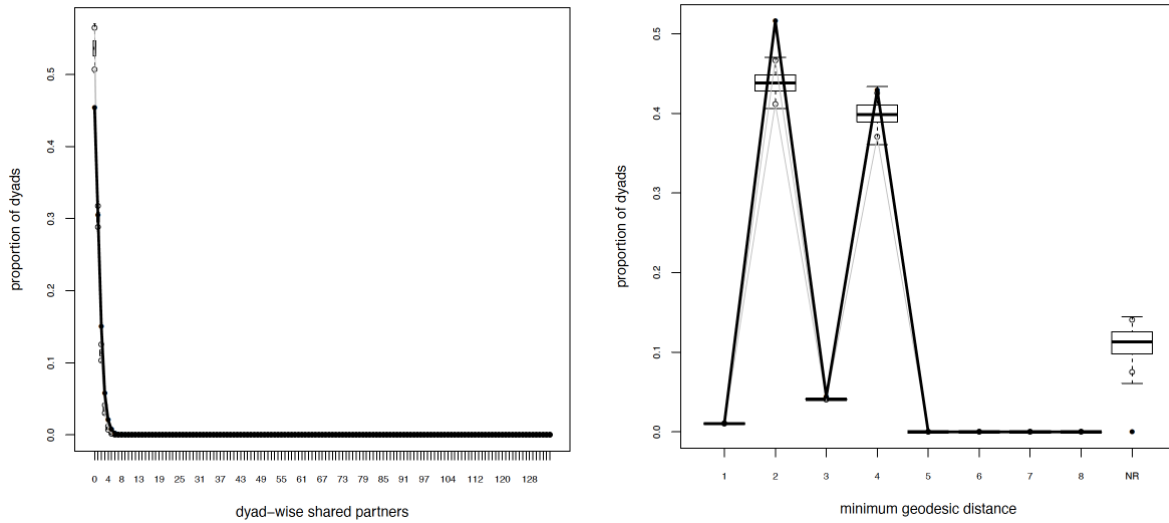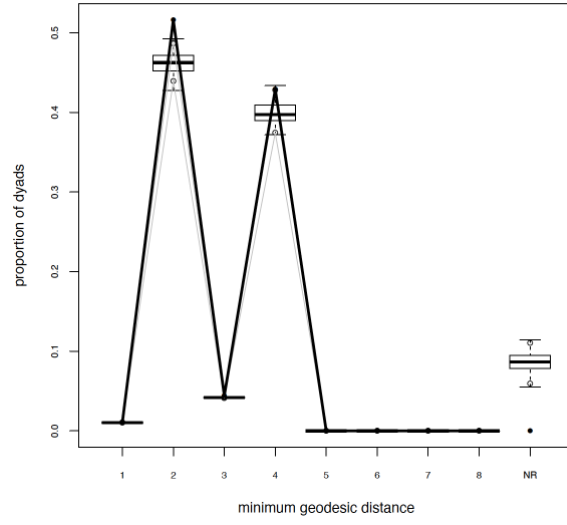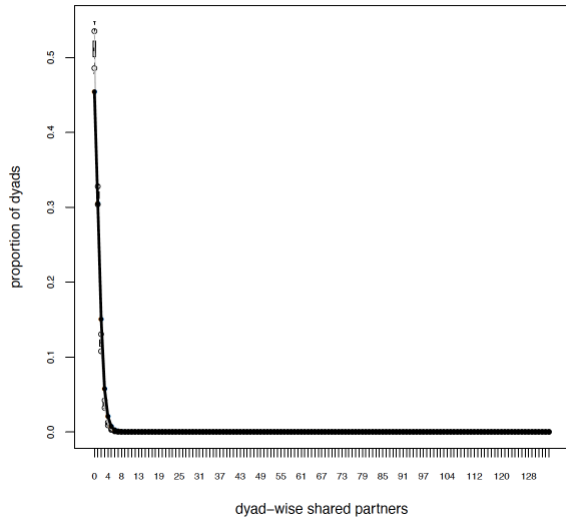
Model 4 (Actor Scope Effects)

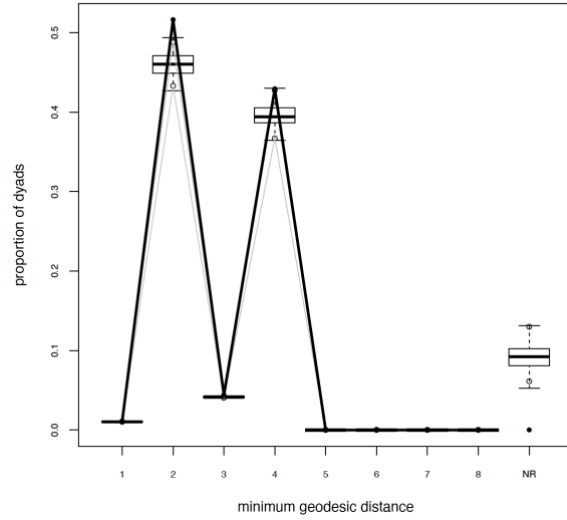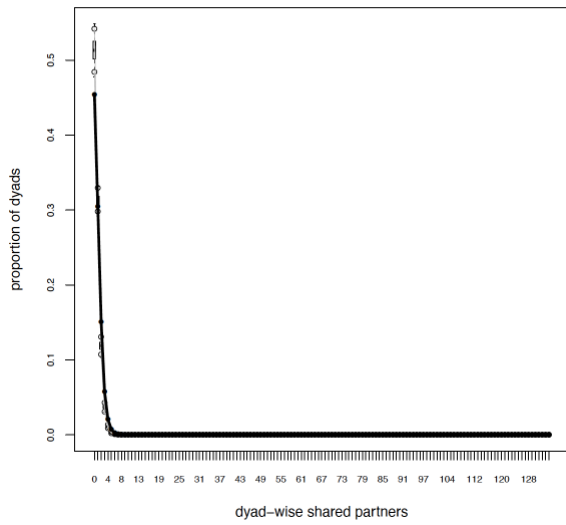**Figure A3.1**: Goodness of fit for model parameters.

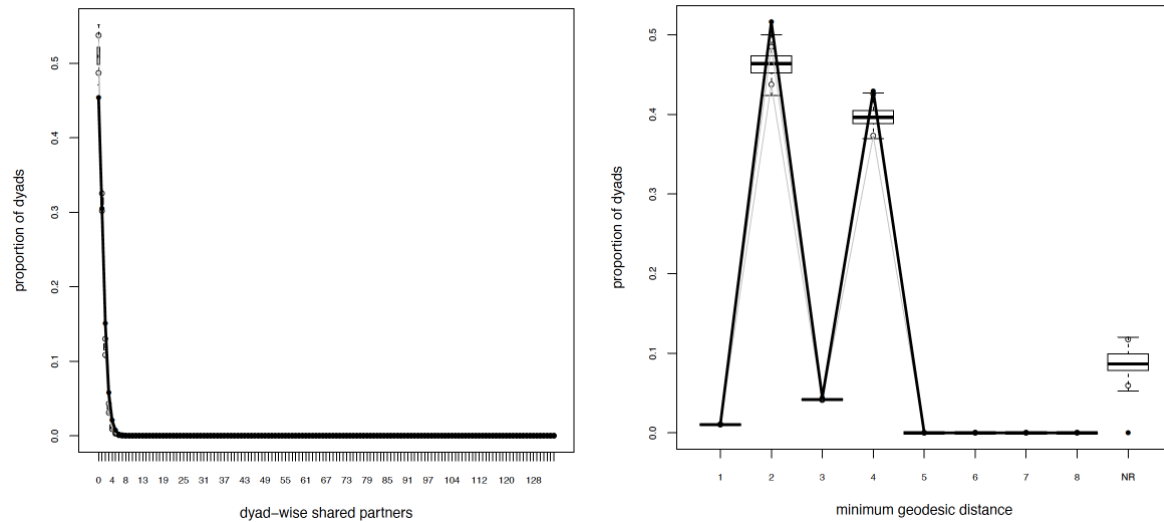Model 1 (Baseline Model)

Model 2 (Integrative Gap Closure Hypotheses)

Model 3 (Actor Type Effects)

Model 4 (Actor Scope Effects)

Figure A3.2: Fit for parameters not included in the models, including dyad-wise shared partners and minimum geodesic distance.

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