**Appendix B: Group Voting and Time Series of Transgression and Resistance**

1. Time Series of Transgression and Resistance Rates

Figures B-1 through B-4 present the transgression and resistance rates for each of the 36 periods for the four treatments. With the exception of Periods 1-12, transgression rates (Figure B-1) tend to decline across the 12-period blocks, with discrete changes sometimes indicated when switching treatment conditions. (These treatment changes are designated by the straight vertical lines after periods 12 and 24.) Note the large treatment effect due to responder communication in the treated periods 13-24, already documented in Figure 2 of the paper.

Responder resistance rates (Figures B-2 through B-4) also tend to decline within each 12-period supergame, except for the group treatments in periods 13-24 when group decisions were implemented. The time series detail also reveals large increases in resistance when switching treatments after periods 12 and 24 (“Restart” effects).

**Figure B-1:**

**Figure B-2:**

**Figure B-3:**

**Figure B-4:**

2. Voting Rounds Required to Reach Unanimity

Recall that groups reached their decisions by a unanimous voting rule. Voting occurred immediately at the conclusion of each period’s chat communication. If they failed to reach an agreement on their first or subsequent votes, groups had up to 5 additional rounds of voting to reach unanimity but with no additional communication opportunities in these extra rounds. At the conclusion of each voting round, subjects received feedback about each group member’s vote so they could observe whether they were in the majority or minority. In the rare event that groups never reached a unanimous agreement, one of the group members’ preferred choices (as indicated by their votes) was selected at random for implementation.

Figures B-5 and B-6 indicate that it was very uncommon for groups to need to vote in multiple rounds, and they rarely failed to reach a unanimous decision eventually. In three of the four cases unanimous group votes occurred in the first voting round over 90 percent of the time. In the one case where this did not occur (when leaders face between-responder communication), groups reached unanimous agreement after two voting rounds over 90 percent of the time.

**Figure B-5:**

**Figure B-6:**

3. “Return to Baseline” Comparison of Periods 25-36 to Periods 1-12

For each treatment our design includes two, 12-period baseline supergames with individual decisions and no between responder communication during periods 1-12 and 25-36. This allows us to determine if any of the treatment interventions in periods 13-24 had a lasting impact on behavior in the later supergame, and which conditions led to a “return to baseline” with outcomes not significantly different from the first supergame.

Table B-1 reports *p*-values for pairwise, two-tailed nonparametric Wilcoxon signed-rank tests comparing transgression and resistance rates in the first and last supergames. Transgression rates tend to be lower in the final supergame than the first supergame, except for the individual-no communication treatment in which treatment conditions were left unchanged during the middle supergame. None of the three types of resistance rates are statistically significantly different between the first and last supergame, consistent with the visual impression seen in Figures B-2 through B-4. The only exception is a marginally significant decline in successful joint resistance for the individual-no communication treatment.

**Table B-1: Wilcoxon Signed-Rank Test *p*-values Comparing First and Last Supergames**

 Divide-and-Conquer Transgressions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Transgression | Victim Resistance | Beneficiary Resistance | Successful Joint Resistance |
| Group – No Communication | 0.052 | 0.605 | 0.148 | 0.115 |
| Individual – No Communication | 0.674 | 0.401 | 0.263 | 0.069 |
| Group – With Communication | 0.083 | 0.209 | 0.272 | 0.146 |
| Individual – With Communication | 0.010 | 0.221 | 0.730 | 0.246 |

Note: All *p*-values are two-sided.