

**Small Group Dynamics and Foreign Policymaking: Experimental Evidence from
Repeated Prisoners Dilemma Games**

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Abstract

Because important foreign policy decisions are usually crafted by small groups of policymakers, it is important to examine the effects of group dynamics and features of groups on the choices those groups make. The effects of two group features, the extent to which groups experience internal conflict or controversy about what choices to make and the decision rules adopted by a group to reach a group decision, on the decisions those groups make are examined in the context of Repeated Prisoner's Dilemma games.

Results suggests that groups of experimental subjects that experience conflict or controversy within the group about what decision to make are significantly more likely to make competitive (non-cooperative) choices in the Prisoners Dilemma context, though the effects are conditional based upon the prior decision outcome. The analysis also suggests that there is no systematic relationship between the decision rules that groups use to resolve within group conflict and the choices those groups make.

Introduction

Many, and arguably perhaps almost all, important foreign policy decisions are crafted by small groups of policymakers. This observation is at the core of some approaches to studying the foreign policy process, notably bureaucratic politics and its variants (Halperin, 1974; Allison, 1971), and a focus on small group decision-making has been at the heart of a significant part of the foreign policy crisis literature (Janis, 1972, 1982; Paige 1968; Holsti, 1972; Hermann and Hermann, 1982; 't Hart et al, 1997), recent work on military intervention (Sylvan and Majeski, 1998, 1999; Vertzberger, 1998), and more general arguments regarding political decisions Tetlock et al, (1992), and Burke and Greenstein (1989).

While the examination of small group decision-making and group dynamics in the analysis of foreign policy decision-making owes much to the work of Irving Janis (1972, 1982) and his concept of groupthink and the pathologies of concurrence seeking behavior,¹ there has been a resurgence of interest in a variety of aspects of group dynamics on foreign policymaking.² As 't Hart et al (1997) note, the list of group features that have been shown to effect group decisions is quite extensive. Those group features receiving considerable attention in the foreign policymaking literature include group size and composition (Hermann and Hermann, 1982), leadership (M. Hermann, et

¹ See Herek, Janis and Huth (1987) and Schafer and Crichlow (1996) for empirical tests of groupthink propositions in the foreign policy context.

² See for example the special issue of *International Studies Review* (2001) on "Leaders, Groups, and Coalitions: Understanding the People and Processes in Foreign Policymaking."

al 2001), group dynamics and political manipulation (Maoz, 1990; 't Hart, 1990), group conflict and rivalry (Vertzberger, 1990; 't Hart 1990; C.F. Hermann et al 2001), and coalition building and group decision rules (Kaplan and Miller, 1987; Hermann, 1993; George 1980; Hagan et al, 2001; and C.F. Hermann et al 2001).

In this analysis, the relationship between two features of groups and the decisions those groups make are examined; 1) the extent to which groups experience internal conflict or controversy about what choices to make and, 2) the decision rules adopted by a group to reach a group decision. Put more specifically, are groups that experience intra-group conflict or controversy and/or employ particular decision rules to resolve those controversies more likely to make decisions that lead to more conflict with other groups than those that experience no intra-group conflict or controversy and/or employ different types of group decision rules?

Group Features and Inter-group Conflict

Intra-group Conflict and Inter-group Conflict

A focus on intra-group conflict to explain variations in levels of inter-group conflict is hardly novel. Indeed there is a large and long-standing literature on the relationship between internal and external group conflict, much of it resting on the classic works of Simmel (1898) and Coser (1956) on group dynamics and conflict, and a full summary is beyond the scope of this analysis.³ Most arguments suggest that there is a

³ Recent work by Richards et al. (1993), Downs and Rocke (1995), and Smith (1996) have used game-theoretic, principle-agent models to connect the sociological arguments about group dynamics and external conflict with the behavior of state leaders. For more general work about the diversionary theory of war see Gelpi (1997) and Levy (1989).

positive relationship between internal and external group conflict. Among those, the following three “hypotheses” are prominent. First, the “group repair” hypothesis suggests that people in groups may create hostile relations with out-groups as a mechanism to alleviate internal conflict and increase group cohesion (Simmel, 1899; Coser, 1956). Second, it is argued that intra-group conflict generates inter-group conflict because it develops negative attitudes and perceptions of others, deindividuation of others, and the development of a zero sum win-lose mentality; a relative gains or maximize relative to the opposition perspective (Pruitt and Rubin, 1986). Third, it is suggested that internal group conflict leads to more conflict with external groups due to what is called the “carryover effect.” Internal group conflict spills over into conflict with other groups (Keenan and Carnevale, 1989, and Lindsfold and Han, 1988).

On the basis of the above arguments, groups that experience intra-group conflict are expected to experience inter-group conflict. In this analysis intra-group conflict is indicated by explicit lack of agreement among members of the group about what course of action the group should take. This is a much more restricted notion of intra-group conflict than typically understood in the literature. However, it is consistent with the type of conflicts that foreign policymaking groups experience (See Sylvan and Majeski, 1998, and Majeski and Sylvan, 1999) and it quite similar to what Stern and Sundelius (1997) mean by group conflict and what Johnson and Johnson (1987) refer to as group controversy.

Group Decisional Rules and Inter-group Conflict

Groups can exhibit a large variety of decisional styles; decision by authority without group discussion, by expert, by authority after group discussion, by averaging individuals' opinions, by minority rule, by majority vote, and by consensus (Johnson and Johnson, 1987). The first three are grouped as autocratic decision rules and the last three as egalitarian decision rules. Authoritarian rules tend to be seen by group members as more convenient and efficient but egalitarian rules are more likely to induce a positive group climate (Nielsen and Miller, 1992). That decision rules have an impact on group deliberations is clear and evidence suggests that it affects foreign policymaking (Stern and Sundelius, 1997).

What is less clear is whether and in what ways various group decision rules affect the choices that groups make. Hermann et al (2001) provide a useful framework and some case study evidence concerning the relationships between how groups manage conflict, whether that conflict is resolved, and the type of decision the groups reach. They suggest that groups have a tendency to either avoid group conflict, resolve group conflict, or accept group conflict and that these approaches in turn lead to different types of decisions.⁴

⁴ Hermann et al (2001) label the three ways groups manage or deal with internal conflict as Concurrence (avoid group conflict), Unanimity (resolve group conflict), and Plurality (accept group conflict). They suggest that concurrence leads to a dominant solution, unanimity leads either to deadlock or integrative solutions, and plurality leads to what they refer to as a subset solution.

The question motivating this analysis is whether there is a relationship between the different types of rules that groups employ to manage intra-group conflict or controversy and the extent to which groups employing these rules make cooperative or competitive choices toward other groups. The analysis of the relationship between group decision rules and inter-group relations is exploratory in nature. In the experiment that follows, groups had no designated experts or leaders and they were not given instructions as to how to resolve disagreements. They were simply told that they needed to reach a “group decision.” The types of decision rules that groups employed in the experiment are discussed shortly.

An Experimental Approach

The relationships between intra-group and inter-group conflict, and group decision rules and inter-group conflict are tested experimentally employing the strategic game setting known as the Prisoners’ Dilemma (PD) or more precisely its repeated version; the Repeated Prisoners’ Dilemma (RPD). While a number of non-cooperative game structures (e.g., Chicken, Deadlock, Stag) have been used to model relations among nation-states, repeated Prisoners’ Dilemma has been the most commonly employed by scholars studying the relations among nation-states for several reasons. First, Prisoners’ Dilemma is representative of an important class of structural situations of conflict and cooperation among nation-states. Two parties (foreign policy groups acting on behalf of nation-states) find themselves in a situation where each has two options; cooperate and defect (e.g., enter into a trade agreement or not, increase or control arms, begin an armed conflict or not) and where they cannot form binding agreements and can only engage in “cheap” talk. Second, it is a game structure based upon fear, greed, and a lack of trust;

motives commonly attributed to groups acting on behalf of nation-states. Third, many of the most relevant and most studied relations among nation-states (e.g., arms race processes, trade relations) are a series of interactions and have been represented by repeated game structures.

The structure of the familiar PD game is presented in Figure 1. This game is designed to illuminate the conditions under which groups are able to forge cooperative behavior in the absence of any Leviathan-like enforcement mechanism. Groups are given the opportunity to either display cooperative or non-cooperative behavior with their playing partners and their payoffs are contingent on the decisions made by both groups. Groups have an opportunity to interact with others groups repeatedly where there is the possibility of mutual gain through cooperation and the possibility of exploitation via defection. The question is whether groups can overcome the individual rational choice to defect to achieve the socially optimal outcome of mutual cooperation. In the RPD, the dilemma is between short-term and long-term payoffs. In the short term, non-cooperative behavior is rewarded (the temptation payoff (T) rather than the mutual cooperation payoff (R) or the sucker payoff (S)) but over the long haul, repeated cooperative behavior is rewarded (long strings of mutual cooperation payoffs (R) rather than long strings of mutual defection payoffs (P)). Thus, the RPD stylizes the paradox of forgoing short-term and selfish gains for long-term and cooperative payoffs.

Long-term cooperation among groups is additionally complicated by the contingent nature of the rewards. Unless *both* players choose to cooperate, unilateral cooperation is punished by receiving the sucker's payoff (S); the worst possible outcome. Thus, in the RPD, a cooperating group must overcome the temptation (greed) for short-

term exploitation and the fear of non-cooperation by the other group (sucker outcome) in order to act on the desire to cooperate for long-term benefits. This second barrier can be understood as trust where one must trust (or hope) that cooperation will be reciprocated in order to cooperate initially. Only when cooperation is reciprocated can a group obtain long-term benefits. Mutual cooperation creates long-term benefits but also creates mutual vulnerabilities to short-term temptations.

By simplifying the real-world conditions under which groups make repeated decisions to cooperate or not with other groups, this experiment provides an opportunity to assess in a controlled setting the relationship between group features (intra-group conflict or controversy and group decision rules) and group decisions to cooperate or defect over a series of interactions with another group. Experiments generate evidence in an artificial rather than a natural setting and there is no doubt that groups of college students playing RPD games for money is quite a different setting than groups of foreign policymakers making difficult policy decisions.⁵ However, what matters is not the difference in settings but the relevance of variables that are isolated and manipulated in

⁵ It is interesting to note that groups of subjects that participated in the RPD experiment chose to cooperate with the other group following a mutual cooperation (R,R) reward outcome 83% of the time, 28% following the (S,T) sucker outcome, 28% following the (T,S) temptation outcome, and 34% following the mutual defection (P,P) punishment outcome. These data suggest that groups on average “play” a strategy similar to the Grim-trigger strategy. Collectively the groups of subjects appear to be tough and act in a fashion consistent with what we would expect of “realists.”

the experimental setting. To the extent that we assume that foreign policymaking groups experience intra-group conflict and disagreement about appropriate courses of action to take and employ various decision mechanisms to resolve group differences to produce one policy choice, then the experimental results provide useful evidence about how these group features are related to group choices.

Analysis

Experimental Design⁶

To investigate the relationships posed earlier, subjects were recruited from lower-division social science classes at a large public university. Prior to the experiment, subjects were taught to read the PD game matrix and tested to ensure that they understood the matrix and the strategic nature of the game. The actual payoffs used in the experiment were \$5.00 for the temptation payoff (T), \$4.00 for the mutual cooperation reward payoff (R), \$2.00 for the mutual defection punishment payoff (P), and \$1.00 for the sucker (S) payoff for each iteration of the game. At no time were they told that they were playing a “game,” that they were in competition with an “opponent,” or that the game was the PD. Subjects were not told how many times they would be asked to reach a decision. They were told only that they needed to make a decision, that they would have a limited time to discuss it, and that their discussions would be audiotaped by an experimenter who observed the group discussions. They were also asked to limit their conversations about the decision to specific and limited time periods (1.5 minutes for the first iteration of the game and 1.0 minutes for all remaining iterations).

⁶ The procedures employed are very similar to those developed by Insko et al (1987).

The individuals in these groups were told that they were expected, as a group, to make decisions, that they would be paid based on the outcome of their collective decision and that of the other group, and that group members would share group earnings equally among group members. No instructions were given as to how to organize as a group or how to reach a decision. After receiving these instructions, the subjects were randomly divided into two groups. They were labeled the "green" and "blue" groups and then sent to two separate rooms. The groups were then allowed to play the RPD. They were not allowed to communicate with their opponents although they were aware of the existence of the other group from the pre-experiment orientation. Groups were told to write their choice on a provided form. A member of the experiment team collected the choice forms and then announced to both groups (one at a time) the choices of both groups and the dollar outcome received by both groups for each iteration. Finally, after the experiment was completed all subjects were given an exit questionnaire, debriefed, given their share of the money earned by the group, and dismissed.

The experiment consisted of nineteen 10-iteration PD games played among groups of subjects. Ninety-one subjects participated in this experiment.⁷

⁷ Most of the actual trials were run with three subjects per group. However, although subject scheduling was overbooked, subjects did fail to make their appointments. When this occurred, some trials were run with two subjects in one of the groups. Usually, this meant one group had three subjects and the other had two. No experiments were run with fewer than two subjects per group (obviously, a minimum to maintain group status). Unfortunately, one group's decisions failed to be recorded due to operator error leaving only 18 viable ten-iteration trials for this analysis.

Measurement

Inter-group conflict and cooperation

Inter-group cooperation is measured as the number of times the group chooses to cooperate with the opposing group in the RPD game. Inter-group conflict is measured by the number of times groups choose to defect in the RPD game. In this context, inter-group conflict and cooperation concerns monetary rewards. Groups typically were trying to maximize gains though some groups acted as if they were seeking to maximize relative gains. While there is no doubt that groups sometimes became quite upset with and frustrated by the actions of the opposing group, the conflict or competition between groups was economic in nature.

Intra-group conflict and cooperation

Measures of intra-group conflict are based upon an analysis of the audio recording of intra-group discussions.⁸ Groups were coded as having intra-group conflict if it was clear from the discussion that members of the group disagreed or had different views about whether to cooperate or defect with the opposing group. Groups were categorized as having no intra-group conflict if there was **consensus** (either no dissent or disagreement) about what choice to make, or in some instances simply no discussion at

⁸ The following information was extracted from the audio tapes for each group for each round or iteration of the PD game; the presence or absence of conflict within the group, the key phrases or words that seemed to affect the final decision, which members of the group participated in the discussion, and how they were received by other group members.

all.⁹ Intra-group conflict is indicative of some overt (verbal) level of disagreement in the group about what choice the group should make. Disagreement can but need not be associated with or accompanied by anger, dislike, frustration, or hostility among group members. Thus intra-group conflict is narrowly construed here. It certainly does not imply violent conflict among group members nor does it imply interpersonal conflict or animosity (though in fact this might well be present and was in some instances in the experiments). This is a “mild” form of intra-group conflict; more in the form of controversy and disagreement. Yet, it is precisely the kind of conflict that typifies struggles in foreign policymaking groups. Policymakers disagree on what course of action to take and engage in attempts to convince, persuade, outmaneuver, or coerce other members of the group.

Group decision rules

The data generated from the analysis of the audio recording used to determine the presence or absence of intra-group conflict was also analyzed to determine which decision-making rules best described the decision process exhibited by a group in each round of the RPD game.¹⁰ Two types of decision-making rules emerged from this analysis: majoritarian decision rules and accommodation decision rules.

⁹ There were not many instances where there was no discussion within groups. These instances typically occurred when both groups had settled into a string of mutual cooperative outcomes or a string of mutual defection outcomes.

¹⁰ The analysis of tapes was broken into two separate phases in an effort to limit the interaction of expectations and findings. Because the coders could not hear the voices

The majoritarian decision rule category encompasses the use of rules based on some variant of majority rule. In this category, groups debate and argue over possible decisions. Conflict is channeled into debate prior to the decision. The limit on conflict is the *prima facie* legitimacy of the majoritarian system. Thus conflict is a natural part of the decision-making process and debate is seen as a mechanism to affect the majority opinion. If a minority position wishes to be expressed in the decision, it must first convince a majority of the group to go along. There is no expectation that minority opinions should be reflected in the final decision and legitimacy is a function of being allowed to speak, not being listened to or having an impact on the final outcome. Coding cues for this decision rule include actual votes or polls of opinion, phrases like “that's the majority” or calls for a “democratic” solution. Coders also listened for the possibility of minority opinions being expressed and under what conditions the group decision changed across iterations. Groups were considered to be using a majoritarian decision rule when they changed their decision only as the make-up of the majority shifted.

The accommodation decision rule category includes rules based upon accommodation and influence of minority held positions where the emphasis is on concurrence seeking and managing if not alleviating internal controversy. In this category, groups focus on avoiding the negative intra-group impacts of conflict and seek to create or maintain good will within the group rather than acting on majority opinion. Individuals in groups are careful not to squelch any individual's opinion or to create an environment permeated by conflict and ill will. Individuals in these groups allow

on the tapes during the second phase (when the decision rule was coded), it helped to limit the impact of expectations about behavior on coding.

themselves to be “influenced” by the opinions of others in the quest to create group harmony. There is little argument or debate about the merits of any decision in terms of outcome. While conflict exists within the group, it is not resolved by any kind of voting scheme. Rather, conflict is resolved by group members deferring to the decision preference held most forcefully (or sometimes just previously) by a group member.

Coding cues for the accommodation decision rule category included groups who chose the decision first put forward, the willingness of subjects to immediately back down when faced with another opinion, and groups choosing the minority decision for no other reason than that it was expressed forcefully; even to the extreme of clear majorities going along with minority decision preferences without also changing their own preferences. Thus, groups displaying a high degree of accommodation tend to allow a minority opinion to dictate the decision, even as others in the group rejected the logic of the decision: the majority would not agree *with* the decision but would agree *to* it.

The majoritarian decision rule category fits straightforwardly with Johnson and Johnson’s (1987) majority rule category and is similar to the plurality model that Hermann et al (2001) propose. Groups accept conflict and the solution or choice of the group is the preference of a subset of the group – here the majority. The accommodation category does not fit so nicely. It has components of Johnson and Johnson’s minority rule category and what Janis (1972, 1982) referred to as concurrence seeking behavior. It also has components of Hermann et al’s (2001) concurrence model where groups seek to avoid conflict by selecting the primary (often first) option considered by the group. To the extent that accommodation decision rules are designed to manage intra-group conflict and gain consensus, we might expect that groups employing this rule might be less likely

to make conflictual choices with the opposing group than groups employing the more confrontational majoritarian decision rule style. On the other hand, to the extent that accommodation decision rules are designed to create intra-group cohesion and thus “groupness,” we might expect groups employing these rules to be more conflict prone in their interactions with other groups. Recall that groups were categorized as having no intra-group conflict if there was **consensus** (either no dissent or disagreement) about what choice to make. Thus this category in some sense can be seen as a situation where groups make decision by consensus or unanimity.

Results

Does intra-group conflict generate inter-group conflict? That is, are groups that have controversy about what choices to make more likely to make competitive choices than those not experiencing within group conflict? First, to get a sense of the relationship over the entire ten iteration sequence, the number of defection choices made by both groups were summed (a possible range of 0 to 20), and the number of iterations where groups experienced intra-group conflict was summed (a possible range of 0 to 20) for each of the 18 ten iteration trials.¹¹ A Pearson correlation coefficient of .489 (.039) $n=18$ suggests a significant and positive association between intra-group conflict and inter-group conflict.

Second, the number of defection choices made by each group individually was summed (a possible range of 0 to 10), and the number of iterations where each group

¹¹ Recall that 19 ten-iteration experiments were run, but one experimental run had to be eliminated because one group’s discussions were not recorded thus providing no means to know if intra-group conflict was present or not.

individually experienced intra-group conflict was summed (a possible range of 0 to 10) for each of the 37 ten iteration trials (again one group trial was missing). A correlation of .419 (.01) $n=37$ again provides support for the relationship between intra-group and inter-group conflict.

Third, is there an association between intra-group and inter-group conflict at the individual iteration level and not simply over the course of a ten-iteration trial? At the individual iteration level, both variables become dichotomous and nominal; groups have intra-group conflict or they do not and groups either cooperate or defect. At the individual level there are 370 “cases.” The Pearson chi square test of independence for the 2X2 table (Table 1) relating intra-group conflict and choice generated a value of 3.33 (.06) indicating that we cannot reject independence at the .05 significance level.

However, while the relationship between the two variables is not quite statistically significant, the pattern between the two variables supports the proposed relationship and is consistent with the two statistical tests of the relationship at a more summary level.¹²

When groups of subjects experience intra-group conflict, the analysis of their discussions suggests that employ two distinct types of decision rules, majoritarian and accommodation, to “resolve” the conflict. The question is do groups employing these rules differ in the choices they make? Is the application of one decision rule more likely to generate conflictual choices by a group than another? Two statistical tests were run to

¹² It is not surprising that the relationship is more diluted at the individual iteration level.

Intra-group conflict may not spill over instantly into inter-group conflict and one or two instances of intra-group conflict may create a whole sequence of inter-group conflict choices.

determine if there are any discernable differences in choices made by groups employing these two decision rules.

First, simple correlations were calculated between group choice (here defection) and the two decision rules at the individual group summed level.¹³ The number of defection choices made by each group individually (a possible range of 0 to 10) were summed, the number of iterations where each group individually displayed either majoritarian or accommodation decision rules were summed (a possible range of 0 to 10 for each) for each of the 25 ten iteration trials and correlations were calculated for the two relationships.¹⁴ Neither correlation (choice and majoritarian, .316 (.12); choice and accommodation, .159 (.44)) is statistically significant.

Second, at the individual iteration level, there are 250 “cases” and the Pearson chi square test of independence for the 2X3 table (Table 2) relating choice and decision rule (the no conflict “consensus” decision rules is included here) generated a value of 0.88 (.64) and is not statistically significant. Of the 33 instances when a majoritarian decision rule was used, groups cooperated 15 (45%) times and defected 18 (55%) times whereas in the 47 instances when the accommodation decision rule was used, groups cooperated 23 (49%) times and defected 24 (51%) of the time. The evidence suggests that the use of different decision rules to resolve intra-group controversy does not appear to be linked in

¹³ Since a decision rule is presumed to characterize individual groups, it does not make sense to assess the relationship between decision rule and choice at the group-summed level.

¹⁴ This analysis requires that groups have three members so twelve trials are dropped from the prior analysis because those groups contained only two members.

any systematic way to variations in decisions to cooperate or defect with the opposing group.

Discussion

The analysis indicates that groups of experimental subjects that experienced intra-group conflict were significantly more likely to experience inter-group conflict. Groups that experience consensus or at least a lack of overt dissent or disagreement on what course of action to take are more likely to act cooperatively with the opposing group than those groups that experience internal dissent and disagreement. The strength of this result is perhaps a bit surprising since the stakes for the groups were strictly monetary and intra-group conflict was verbal take.

However, we know (particularly in the context of RPD games) there is a very strong relationship between prior outcomes of the game and group choice. Both individual and group decisions are strongly influenced by prior outcomes and how the individual or group evaluates those outcomes. Groups usually decide to cooperate following a mutual cooperative outcome (C,C) and typically defect for the other three joint outcomes: the sucker outcome (C,D), the exploitation outcome (D,C), and following mutual defection (D,D). So the question is does intra-group conflict/cooperation really matter in determining group choice if prior outcome of the game is taken into account?

First, consider the relationship between specific prior outcomes of the RPD game and intra-group conflict. When a group makes a choice and the policy outcome of that choice is judged by the group to succeed or produce a desirable outcome, several things usually happen. There is a strong tendency to continue with the policy should circumstances warrant it. Parties advocating the successful policy take credit for it and

parties that had advocated other courses of action either jump on the success bandwagon or at a minimum withdraw their criticism of the policy choice that generated success and withdraw open advocacy of alternatives. When the policy is judged to be a failure, the dynamics tend to be different. Parties that had openly advocated alternatives use the failure to be more vocal and aggressive in pushing their alternative. Parties that had demurred or had reluctantly signed on to the prior decision jump off the bandwagon and take up the cause of some other approach.¹⁵ Thus, we would expect that policy success tends to reduce or eliminate intra-group conflict or controversy and policy failure tends to introduce or increase intra-group conflict and controversy. This suggests that we ought to expect higher rates of intra-group conflict following failure (obtaining the sucker (C,D) or mutual defection (D,D) outcomes) than following success (obtaining the temptation (D,C) or mutual cooperation (C,C) outcomes).¹⁶

We also expect more intra-group conflict or controversy to occur in decision contexts that are complex and uncertain. While an argument can be made that groups face a complex and uncertain decision following all four outcomes since there is always uncertainty about what the opposing group will do next, the decision seems to be less

¹⁵ See Sylvan and Majeski (1998) and Majeski and Sylvan (1999) for a discussion of the importance of policy failure and arguments about failed or failing policies in the U.S. foreign policymaking process.

¹⁶ The division of the payoffs from the four joint outcomes into success and failure is based on the fact that (D,C) and (C,C) payoffs are always greater than the (D,D) and (C,D) payoffs and because most subjects view the outcomes in these terms.

complex when groups are “locked” into either the mutual cooperation (C,C) or mutual defection (D,D) outcomes than for the remaining two joint outcomes (D,C) and (C,D) because there is both less incentive to change one’s own choice in these two cases and a stronger expectation that the opposing group will not change its choice either. The mutual cooperation and mutual defection outcomes are more “stable” in a game theoretic sense than the sucker or exploitation outcomes. Therefore, we would expect intra-group conflict to occur more following outcomes that are deemed failures and/or outcomes that make for complex and unstable decision situations than following outcomes that are deemed to be successes and/or not complex. Following this line of reasoning, we expect the highest level of intra-group conflict following the (C,D) outcome [failure and complex], a lower level of intra-group conflict following the (D,D) and (D,C) outcomes [failure/not complex and success/complex respectively], and the lowest level for the (C,C) outcome [success and not complex].

Groups experience intra-group conflict or disagreement only 20% of the time following the mutual cooperation outcome whereas intra-group conflict or disagreement is significantly higher for remaining three joint outcomes; 35% for the exploitation outcome (D,C), 35% the for mutual defection outcome (D,D), and 38% for the sucker outcome (C,D). The relationship between specific prior outcomes and intra-group conflict is in the appropriate direction and is very close to being statistically significant.¹⁷ When prior joint outcome (with two categories (C,C) and the other three outcomes lumped together) is crossed with intra-group conflict, a Pearson Chi-Square value of 6.95

¹⁷ When prior joint outcomes (with four categories) are crossed with group conflict, a Pearson Chi-Square value of 7.21 (.06) is produced signifying a strong relationship.

(.00) is produced signifying a strong and highly significant relationship. Groups appear to be satisfied with the mutual cooperation outcome and experience little internal division about what to do next whereas all other outcomes generate consistently higher levels of intra-group conflict. In addition, groups choose to cooperate with the other group following a mutual cooperation outcome at a much higher rate (83%) than for each of the other three outcomes; 28% following (C,D), 28% following (D,C), and 34% following (D,D). This should come as no surprise. Once groups achieve mutual cooperation, they usually maintain it.

Second, consider the relationship between intra-group conflict and group choice. The experimental results show that groups that experience intra-group conflict choose to cooperate less (38%) than those without intra-group conflict (49%). But if we consider the relationship between intra-group conflict and group choice **given** the specific prior joint outcome an interesting pattern emerges. Intra-group conflict was crossed with group choice for each of the four separate joint outcomes generating four Pearson Chi-Square values; 5.32(.02) for the mutual cooperation (C,C) cases, 3.4 (.06) for the sucker (C,D) cases, .028 (.86) for the exploitation (D,C) cases, and .80 (.37) for the mutual defection (D,D) cases. Intra-group conflict significantly effects group choice **only** following the mutual cooperation outcomes. For the mutual cooperation cases, groups with no conflict choose to cooperate with the opposing group 88% of the time and cooperate 65% of the time when they have group conflict; a 23% gap. For the (C,D) sucker cases, groups with no conflict cooperate 21% of the time and with group conflict cooperate 41% of the time, a 20% gap; almost statistically significant at the .05 level. For the (D,C) exploitation cases, groups with no conflict cooperate 28% of the time and

with group conflict cooperate 29% of the time. For the (D,D) mutual defection cases, groups with no conflict cooperate 37% of the time and with group conflict cooperate 29% of the time.

Following mutual cooperation outcomes, groups that experience intra-group conflict are much more likely to defect than those that do not have group conflict. Group conflict appears to erode the mutual cooperation outcome. The relationship between intra-group conflict and group choice is reversed when groups experience conflict following the sucker (C,D) outcome. Groups having conflict are much more likely to choose to cooperate than groups experiencing no conflict. When groups have no conflict and have been “suckered,” they have a high rate of defection (79%); what one would expect given the RPD game dynamics. However, those groups who have disagreements in the wake of the “sucker” outcome cooperate at a relatively high rate (41%).

Taken together, the prior results help to account for the “near” statistical significance (at the individual interaction level) of the relationship between intra-group conflict and group choice discussed earlier. Groups experiencing conflict following mutual cooperation (C,C) are more likely to defect (also true for the (D,D) outcome) while the reverse is true for the sucker (C,D) cases. Groups experiencing conflict in these instances are more likely to cooperate than when they have no conflict.

Conclusion

In this analysis the relationship between two group features, the extent to which groups experience internal conflict or controversy about what choices to make and the decision rules adopted by a group to reach a group decision, and the decisions those groups make are examined in the context of Repeated Prisoner’s Dilemma games. The

analysis indicates that groups of experimental subjects that experienced intra-group conflict are significantly more likely to experience inter-group conflict. Groups that experience consensus or at least a lack of overt dissent or disagreement on what course of action to take are more likely to act cooperatively with the opposing group than those groups that experience internal dissent and disagreement. Overall, intra-group conflict tends to reduce inter-group cooperation but the magnitude and direction of the effect varies depending upon the prior joint outcome of the RPD game.

There is no evidence to indicate that groups that appear to use different decision rules to manage disagreements about what choice to make leads in any systematic way to differences in the choices these groups made. Groups employing either majoritarian or accommodation rules to resolve disagreements within the group generated similar levels of conflictual and cooperative choices.

What are the implications of these experimental results for the study of foreign policymaking? First, the results reported here add additional evidence to suggest that group features and group dynamics can make a difference in the kinds of decisions groups make and ignoring them is likely to lead to incomplete understandings of the decisions foreign policy groups make. Second, the finding that group conflict or disagreement leads to more competitive decisions is troubling from a substantive perspective and more analysis as to why this appears to be the case is needed. For instance, does group conflict or disagreement engender more of a zero sum relative gains group perspective and thus more competitive group choices? Third, the finding that the relationship between intra-group conflict and group choice is dependent upon prior decision outcomes suggests more analysis of this interaction effect is required. Fourth,

while the exploratory analysis of the relationship between group decision rules and group choice revealed no significant relationships, how groups manage group disagreements on what course of action to take warrants further investigation.

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Figure 1. The Prisoners' Dilemma

		Player 2	
		Cooperate	Defect
Player 1	Cooperate	R,R	S,T
	Defect	T,S	P,P

Where $T > R > P > S$

Table 1. Intra-Group Conflict and Group Choice

(Intra- Group Conflict) X (group choice)

Group Conflict		Group choice		Total
		cooperation	defection	
	no conflict	123	130	253
	conflict	45	72	117
Total		168	202	370

Table 2. Decision Rule and Group Choice

(Group Choice) X (decision rule)

		Decision Rule			Total
		Consensus	Majoritarian	Accommodation	
Group choice	cooperate	91	15	23	129
	defect	79	18	24	121
Total		170	33	47	250