# Integrative and Distributive Negotiation in Small Groups: Effects of Task Structure, Decision Rule, and Social Motive

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This study examined the interactive effects of task structure, decision rule, and social motive on small-group negotiation processes and outcomes. Three-person groups negotiated either within an asymmetrical task structure (in which a majority of group members have compatible interests) or within a symmetrical task structure (in which no such majority exists). Groups negotiated either under unanimity rule or under majority rule, and group members were either egoistically or prosocially motivated. Results revealed cumulative main effects and the predicted three-way interaction: Groups in an asymmetrical task structure engaged in more distributive and less integrative behavior, reached lower joint outcomes, and experienced a less positive group climate especially when they had an egoistic rather than prosocial motivation and unanimity rather than majority rule applied. Theoretical implications and avenues for future research are discussed. © 2002 Elsevier Science (USA)

*Key Words:* group negotiation; social motive; task structure; decision rule.

Group work involves negotiation, in which group members try to reach agreement about perceived divergences of interests, ideas, or opinions (McGrath, 1984). Group members seek good outcomes for themselves through *distributive*

behaviors including competitive claiming, the use of threats and punitive capabilities, and the communication of persuasive arguments and positional commitments. However, group negotiations often have integrative potential in that one individual's gains do not equal others' losses. Group members seek to maximize joint outcomes through *integrative* behaviors including the exchange of information about preferences and priorities, logrolling, and the cooperative creation of value (Lax & Sebenius, 1986; Lewicki, Saunders, & Minton, 1999; Neale & Bazerman, 1991; Pruitt & Carnevale, 1993).

Integrative agreements, in which all group members' interests are realized to the maximum extent, have several advantages: They produce satisfaction and strengthen relationships between group members, decrease the possibility that future conflicts will arise, and benefit the larger community of which the negotiating group is a part, such as the overall organization (De Dreu, Weingart, & Kwon, 2000; Mannix, 1993; Rubin, Pruitt, & Kim, 1994). The current study therefore focused on how structural, procedural, and motivational variables interactively determine integrative and distributive negotiation behavior and outcomes in groups.

## Determinants of Negotiation Behavior and Outcomes in Groups

Although a considerable number of studies have addressed dyadic negotiations, the study of group negotiations has received comparatively little attention. This is unfortunate, because group negotiations pose special problems for negotiators. Specifically, reaching an integrative agreement in a group is cognitively and strategically more complex because it requires that group members reveal their preferences to, and understand the preferences of, multiple parties (see, e.g., Kramer, 1991; Mannix, 1993; Mannix, Thompson, & Bazerman, 1989; Neale & Bazerman, 1991; Thompson, Mannix, & Bazerman, 1988).

Research that has focused on group negotiations (e.g., Beersma & De Dreu, 1999; Mannix et al., 1989; Polzer, Mannix, & Neale, 1998; Thompson et al., 1988; Weingart, Bennett, & Brett, 1993; Weingart & Brett, 1998) has concentrated on three types of variables that influence negotiation behavior and outcomes, namely, (a) *structural variables*, (b) *procedural variables*, and (c) *motivational variables*. Structural variables refer to the configuration of the negotiation task; they involve the objective arrangement of values and preferences of the negotiators. An example is the interest-compatibility manipulation used by Polzer et al. (1998). Procedural variables refer to the rules that determine the course of action that is to be taken in the negotiation; they involve the methods for conducting the negotiation, the "decisions about how to decide" (Mannix, 1993). An example is the decision rule a group uses to reach a settlement (Mannix et al., 1989; Thompson et al., 1988), or the issue-consideration (also referred to as "agenda-setting") manipulation used by Weingart et al. (1993). Finally, motivational variables refer to emotions, incentives, or other impulses that induce the negotiators to follow a certain course of action. An example is the manipulation of group members' motivational goals by Beersma and De Dreu (1999) and Weingart et al. (1993).

Although prior research has shown that structural, procedural, and motivational variables predict whether groups engage in integrative behavior and achieve high joint outcomes, these predictors have mainly been studied in isolation. Thorough understanding of human behavior in social settings, however, has gained tremendously when, in addition to main effects, the interactions between several predictors are taken into consideration (McClintock & Liebrand, 1988). Leading theoretical accounts of mixed-motive decision making and negotiation such as Interdependence Theory (Kelley & Thibaut, 1978; Rusbult & Van Lange, 1996), Goal-Expectation Theory (Pruitt & Kimmel, 1977), and the Combinations of Contributions Model (Hinsz, Tindale, & Vollrath, 1997) all explicitly view small group behavior as the interactive product of structural, procedural, and motivational variables. Accordingly, the current study was designed to improve our understanding of group negotiation by examining the main and interaction effects of (a) the structure of the negotiation task, (b) the group's decision rule, and (c) group members' social motives on negotiation behavior and outcomes.

In addition, whereas prior negotiation research focused primarily on monetary outcomes and ignored effects of independent variables on "soft" performance parameters including group climate (Hackman, 1998; West, Borrill, & Unsworth, 1998), the current study does take these "soft" performance parameters into account. Accordingly, apart from examining negotiation behavior and outcomes, this study also considers group climate as a key dependent variable.

## Task Structure and Coalition Formation

The study of the structure of the situation and its influence on social interaction has a long tradition in research on interpersonal decision making and negotiation (e.g., Deutsch, 1973; Kelley & Thibaut, 1978; Steiner, 1974). Research has, for instance, considered the amount of conflict inherent in the negotiation task (e.g., Thompson & Hrebec, 1996), the amount of threat capacity parties have (e.g., Rubin & Brown, 1975), and the presence or absence of exit options (e.g., Giebels, De Dreu, & Van de Vliert, 2000).

Although these structural variables apply to small-group negotiations as well, group negotiations have a particular feature not present in interpersonal negotiations. That is, in small group negotiation, group members confront multiple others with opposed as well as compatible preferences and priorities. Thus, regarding a certain negotiation issue, a group member may oppose the preferences of some group members while sharing those of others. For negotiators facing such a situation, forming a coalition, e.g., "any subset of a group that pools its resources or unites as a single voice to determine a decision for the entire group" (Murnighan & Brass, 1991, p. 285), can be a lucrative option.

As noted in the literature on coalition formation (Gamson, 1964; Komorita, 1974; Murnighan, 1978) a group negotiation task may be symmetrical or asymmetrical and this structural variable is likely to affect group processes and outcomes. Take, as an example, a three-person management team that has to negotiate a joint decision about the allocation of the company's slack resources,

an advertisement campaign, and a new office location. Their situation is symmetrical when each individual meets with the same number of group members that oppose as well as support his or her preferences. For example, managers R and S may agree on the resource allocation issue while manager T disagrees, managers S and T may agree on the campaign issue while R disagrees, and managers R and T may agree on the location issue while S disagrees. In this situation, a stable majority does not exist, and all group members have equal negotiation options. Their situation is *asymmetrical*, however, when a majority of negotiating group members have compatible preferences which are incompatible with those of the minority. That is, managers R and S may agree on the allocation issue, the campaign issue, and the location issue while manager T disagrees on all three issues. Managers R and S then have better negotiation options because they have compatible interests, allowing them to join forces to achieve high negotiation outcomes at the expense of the minority (manager T).

Polzer et al. (1998) were the first to explicitly investigate negotiation in an asymmetrical task structure. They used a negotiation task in which three parties negotiated about the allocation of money to computer equipment and staff support. The negotiation task was asymmetrical in that two parties (the majority) had identical preferences while the remaining party (the minority) had opposite preferences. Results showed that an asymmetrical task structure led majority parties to join forces through coalition formation, thus excluding the minority. This resulted in relatively good outcomes for the parties included in the coalition compared to those that were excluded.

Although the study by Polzer et al. (1998) contributed to our knowledge of asymmetrical negotiations, it did not directly compare an asymmetrical to a symmetrical task structure. Consequently, the question whether asymmetry of the task structure influences the likelihood of the group reaching high joint outcomes remains unanswered. In the current study, we therefore directly compared symmetrical with asymmetrical task structures. The findings of Polzer et al. (1998) showed that the interest compatibility between majority members in an asymmetrical task structure led to coalition formation. Because leading game-theoretical and social-psychological theories predict that coalitions are formed when they serve group members' self-interests (Murnighan, 1978; Neale & Bazerman, 1991), coalition formation can be viewed as defection at the group level; it is aimed at claiming a large part of the negotiation "pie" for oneself, without regard for the group members not included in the coalition (Mannix, 1993). Thus, coalition formation can be seen as an instance of distributive behavior.

We propose that group members will engage in more distributive behavior, including coalition formation, in asymmetrical than in symmetrical negotiation tasks, and that the key mechanism that explains this effect is group members' narrowed focus in asymmetrical negotiation tasks. Mannix (1993) and Giebels et al. (2000) found that in a group decision-making task, imbalances in the power positions of group members led them to focus on their individual outcomes instead of on group outcomes. Asymmetry of the negotiation task might

have the same effect. An asymmetrical task, in which there is interest compatibility between the majority members, makes the possibility that a coalition will be formed between these members extremely salient. The salience of the majority coalition might affect group members' entitlement beliefs by signaling to majority members that they have to make sure they will profit from their favorable position and to minority members that they have to defend their position in the group. We therefore predict that when the task structure is asymmetrical, group members will tend to focus on distributive aspects of the task, which will lead them to engage in less integrative behavior (H1a) and in more distributive behavior (H1b) compared to a symmetrical task structure. Since integrative behavior is a prerequisite for high joint outcomes, we also predict, as a corollary, that the negotiation will result in lower joint outcomes when the task is asymmetrical rather than symmetrical (H1c).

We also expect task structure to affect the social climate in negotiating groups. Various scholars have pointed to the importance of social climate as an indicator of team effectiveness and viability (see, e.g., Hackman, 1990; West, Borril, & Unsworth, 1998). In the negotiation literature, it has been hypothesized that integrative negotiation results in more positive interpersonal relations and greater satisfaction (Rubin et al., 1994). Hence, we predict that an asymmetrical task structure will lead to a less positive group climate compared to a symmetrical task structure (H1d).

### Decision Rule and Social Motives

While in dyadic negotiation acceptance by both parties is necessary to reach a binding agreement, in group negotiation a variety of decision rules may be employed (Neale & Bazerman, 1991; Stasser, Kerr, & Davis, 1989). Two commonly used group decision rules are *unanimity rule* and *majority rule* (Hare, 1976; Neale & Bazerman, 1991; Mannix et al., 1989; Thompson et al., 1988). Unanimity rule implies that all group members have to support an agreement for it to be implemented and each group member has the ability to veto, for instance to prevent decisions that result in low personal outcomes. Majority rule implies that a majority of group members is enough for an agreement to be implemented, and that it is possible that the majority forces the group into an agreement that yields high outcomes for the majority, but not for the minority.

Lay wisdom seems to support unanimity rule as a positive way of reaching agreements and majority rule as a "lazy" way. Moreover, unanimity rule is often thought to be more "fair," since it gives each group member an equal say in the decision-making process. However, we propose that when the task structure is asymmetrical, the use of unanimity rule might be detrimental for negotiation processes and outcomes. The reason for this is that while under majority rule minority members who see their personal outcomes threatened by a coalition can do nothing to prevent this, under unanimity rule they may resort to their veto power to block proposed agreements that would result in low personal outcomes. When the minority uses its decision-rule-based power,

this can have different results. Majority members may respond with distributive behavior, which is likely to result in an impasse or in capitulation by either the majority or the minority. Alternatively, majority members may react to the minority with integrative behavior, so as to find agreements that yield equally favorable or better outcomes for the majority and serve the minority as well.

The literature on group decision making suggests that how group members value different distributions of resources determines which strategies they will use (Neale & Bazerman, 1991; Shaw, 1981). If group members value including all group members in an agreement, this would provide the minority member who is pleading for an agreement that includes him or her with more leverage, and therefore would increase the chance of finding an agreement that yields high joint outcomes. Whether group members value including everyone in the agreement depends on their social motives—preferences for distributions of outcomes between oneself and interdependent others (McClintock, 1972, 1976; Messick & McClintock, 1968). Although a variety of social motives may be distinguished, negotiation research typically distinguishes between a *prosocial* motive, aimed at seeking good outcomes for oneself as well as for other group members, and an *egoistic* motive, aimed at seeking good outcomes for oneself only (De Dreu et al., 2000; McClintock, 1976). In a negotiation, both types of motives necessarily exist (Pruitt & Carnevale, 1993), but they vary in salience due to individual differences, situational variations, or both (Carnevale & Probst, 1998; De Dreu & Van Lange, 1995; McClintock, 1976). An extensive body of research has investigated the situational mechanisms that bring about prosocial or egoistic motives (for an overview see Chen, Chen, & Meindl, 1998). In a meta-analysis, De Dreu et al. (2000) compared a variety of ways to manipulate social motives, including instructions and incentives from third parties, mood manipulations, and social relationships. Results revealed that these different ways to manipulate social motives were functionally equivalent. In this study, we manipulated social motives using instructions combined with incentives, so as to stay close to prior research (e.g., Beersma & De Dreu, 1999).

Prior research on the effects of social motives on negotiation behavior and outcomes has shown that prosocially motivated group members tend to value inclusiveness as well as equality in outcome distribution (Van Lange, 1999) and transform a negotiation into a collaborative game in which fairness and joint welfare are important (Giebels et al., 2000; Kelley & Thibaut, 1978). Moreover, they will engage in integrative behavior and refrain from distributive behavior including the formation of majority coalitions that exclude some group members (Beersma & De Dreu, 1999; De Dreu et al., 2000; Weingart et al., 1993). Thus, when group members are prosocially motivated, they value including all group members in the agreement, refrain from distributive behavior, and engage in integrative behavior. In contrast, egoistically motivated group members tend to ignore others' interests, are reluctant to sacrifice personal outcomes to benefit others and the collective (Van Lange, 1999), and transform the negotiation into a competitive game in which power and personal success are important (Giebels et al., 2000; Kelley & Thibaut, 1978). Consistent with this prior research, we expected prosocially motivated group members to engage

in more integrative and in less distributive behavior, to achieve higher joint outcomes, and to perceive the group climate as more positive than egoistically motivated group members.

We propose that in asymmetrical task structures, distributive power-play between egoistically motivated majority and minority members will especially occur when unanimity is required, because under those circumstances coalition formation is salient, and those excluded from the coalition are likely to use distributive tactics including their veto power to prevent agreements that are personally disadvantageous. Such distributive power-play has been associated with low joint outcomes (De Dreu, Giebels, & Van de Vliert, 1998; Giebels et al., 2000) and a suboptimal group climate (Rubin et al., 1994). Hence, we predict that an asymmetrical task structure will lead to less integrative behavior (H2a), more distributive behavior (H2b), lower joint outcomes (H2c), and a less positive group climate (H2d) than a symmetrical structure, especially when group members have an egoistic instead of prosocial motive and unanimity rather than majority rule applies.

### Summary and Overview of the Study

Various theoretical accounts assume group decision making and negotiation to be a function of the combined effects of structural, procedural, and motivational variables (Hinsz et al., 1997; Kelley & Thibaut, 1978; Pruitt & Kimmel, 1977). Past research on small group negotiation, however, examined these predictors in isolation from one another. We argue that an asymmetrical task structure focuses group members on their individual outcomes, and therefore coalition formation and related forms of distributive behavior are likely, especially when group members have an egoistic rather than prosocial motivation. When unanimity rather than majority rule applies, egoistically motivated groups in asymmetrical task structures are most likely to become locked in a competitive spiral of distributive exchanges, resulting in low joint outcomes and a deteriorated group climate. We tested our hypotheses in a laboratory experiment with three-person groups.

### METHOD

### Design and Participants

The design was a 2 (task structure: symmetrical versus asymmetrical) by 2 (decision rule: unanimity versus majority) by 2 (social motive: prosocial versus egoistic) factorial design. Dependent variables were integrative and distributive behavior, joint negotiation outcomes, and group climate.

Participants were 273 male and female psychology undergraduates, who participated to fulfill course requirements. They were randomly assigned to groups of three, which were randomly assigned to experimental conditions. Groups differed in gender composition, but because this had no effect on the dependent variables it is not discussed any further.

*Procedure*

A total of 12 sessions were run with six to eight groups per session. There were three experimenters (e.g., one female who ran 6 sessions, one female who ran 1 session, and one male who ran 5 sessions). The task was introduced to participants as a group-decision-making study. Exploratory analyses revealed no experimenter effects.

All participants received a folder containing general instructions, information about their role in the negotiation (either bakery's representative, flower store's representative, or grocery's representative), and their own profit schedule (see also Negotiation Task and Manipulation of Task Structure). After the participants read the instructions, the experimenter repeated that groups would negotiate for maximally 20 min and that failure to reach agreement would result in zero points. Also, it was emphasized that group members were allowed to talk about anything they wanted, but that they were not allowed to show each other their profit schedules. Groups negotiated until they reached an agreement or until allotted time ran out. When they reached an agreement, group members each had to write down the amount of points they had achieved. On the page where this had to be written were the instructions *Write down your points here, but do not tell the others how many points you achieved! The experimenter will return to this later*. After the negotiation task, participants filled in a questionnaire. The experimenter ensured that participants did not talk about their outcomes until everyone had handed in the questionnaire. Finally, participants were debriefed and thanked.

*Negotiation Task and Manipulation of Task Structure*

The experimental task consisted of a three-person, three-issue, negotiation task (Beersma & De Dreu, 1999; based on Weingart et al., 1993). In this task, participants within a group (randomly) received different role instructions for the roles of representatives of a bakery, a flower shop, and a grocery. They were given a case in which the three shops planned to rent a single market together. Group members had to try to reach agreement on three issues: The design of the market, the temperature in the market, and the distribution of rental costs. For each issue there were five possible levels on which the group members could agree. Each group member received a profit schedule that gave information about his or her individual profits, but not about the other group members' profits (see Table 1). The group members' preferences for each level of the three issues were expressed in the number of points ("profits") their store would achieve when they reached an agreement on a particular level.

The task provided an opportunity for group members to integrate their interests. By logrolling (giving up on less valuable issues to maximize outcomes on the most valuable issue), group members could optimize their joint outcomes. Group members were not allowed to exchange profit schedules, and thus had to discover the integrative potential by negotiating and exchanging information about their preferences and priorities.

Task structure was manipulated by using different profit schedules in the

**TABLE 1**

**Profit Schedules in the Symmetrical (Upper Three Panels) and Asymetrical
(Lower Three Panels) Conditions**

| Design | Temperature | Distribution of rental costs |
|---|---|---|
| Bakery's representative (minority member) | | |
| Design B (200) | 20°C (50) | distribution 2 (100) |
| Design A (150) | 18°C (37.5) | distribution 1 (75) |
| Design C (100) | 16°C (25) | distribution 4 (50) |
| Design E (50) | 14°C (12.5) | distribution 5 (25) |
| Design D (0) | 12°C (0) | distribution 3 (0) |
| Grocery's representative (majority member I) | | |
| Design D (50) | 20°C (100) | distribution 3 (200) |
| Design E (37.5) | 18°C (75) | distribution 5 (150) |
| Design C (25) | 16°C (50) | distribution 4 (100) |
| Design A (12.5) | 14°C (25) | distribution 1 (50) |
| Design B (0) | 12°C (0) | distribution 2 (0) |
| Florist's representative (majority member II) | | |
| Design D (100) | 12°C (200) | distribution 2 (50) |
| Design E (75) | 14°C (150) | distribution 1 (37.5) |
| Design C (50) | 16°C (100) | distribution 4 (25) |
| Design A (25) | 18°C (50) | distribution 5 (12.5) |
| Design B (0) | 20°C (0) | distribution 3 (0) |
| Bakery's representative (minority member) | | |
| Design B (200) | 20°C (50) | distribution 2 (100) |
| Design A (150) | 18°C (37.5) | distribution 1 (75) |
| Design C (100) | 16°C (25) | distribution 4 (50) |
| Design E (50) | 14°C (12.5) | distribution 5 (25) |
| Design D (0) | 12°C (0) | distribution 3 (0) |
| Grocery's representative (majority member I) | | |
| Design D (50) | 12°C (100) | distribution 3 (200) |
| Design E (37.5) | 14°C (75) | distribution 5 (150) |
| Design C (25) | 16°C (50) | distribution 4 (100) |
| Design A (12.5) | 18°C (25) | distribution 1 (50) |
| Design B (0) | 20°C (0) | distribution 2 (0) |
| Florist's representative (majority member II) | | |
| Design D (100) | 12°C (200) | distribution 3 (50) |
| Design E (75) | 14°C (150) | distribution 5 (37.5) |
| Design C (50) | 16°C (100) | distribution 4 (25) |
| Design A (25) | 18°C (50) | distribution 1 (12.5) |
| Design B (0) | 20°C (0) | distribution 2 (0) |

symmetrical task and the asymmetrical task conditions. The upper three panels
of Table 1 show that in the *symmetrical task structure condition*, for each issue,
two negotiators had the same preferences while the remaining negotiator had
opposite preferences, but the two negotiators who agreed were different for
every issue. This yields a completely balanced and symmetrical situation. How-
ever, in the *asymmetrical task structure condition* (see the lower three panels
in Table 1), the grocery representative's and the florist representative's prefer-
ences were compatible for all three issues. Thus, these group members would
be likely to form a stable majority coalition. In the following, we refer to

these group members as majority members I and II, respectively. The bakery representative held a minority position in that his/her interests were incompatible with those of the other group members on all issues. In the following, we will refer to this group member as the minority member. It is important to note that "majority" and "minority" are meaningful constructs in the asymmetrical task structure only. Therefore, any differences in behavior or outcomes between "majority" and "minority" members in the symmetrical task structure should be attributed to role-specific characteristics (for instance, "being a bakery's representative provides one with better arguments"). As such, observing reliable differences between majority and minority in the asymmetrical task structure but not in the symmetrical task structure would render an alternative explanation in terms of specific role characteristics unlikely.

In both the symmetrical and the asymmetrical task structure, the maximum individual outcome per group member was 350 points. Also, the value of a fifty–fifty compromise was kept constant across conditions: When a group decided on a compromise (e.g., design alternative C, a temperature of 16°C, and distribution 4), this would yield the same individual and joint outcomes in both conditions (e.g., 175 and 525 points, respectively). However, and by definition, the value of an integrative agreement differed across conditions. An integrative agreement (that is, an agreement that maximizes joint outcomes, e.g., design B, 12°C, and distribution 3) yields 600 points (200 points for each group member) in the symmetrical negotiation. In the asymmetrical condition, this integrative agreement yields 750 points (300 points for majority member I, 250 points for majority member II, and 200 points for the minority member). This again reflects the disadvantageous minority position of the minority member.

### Manipulation of Decision Rule

The manipulation of decision rule followed the procedure used in prior research (e.g., Mannix et al., 1989; Thompson et al., 1988). In the unanimity-rule condition, participants were informed by written instructions that *all three group members had to agree* on a decision in order for it to take effect. In the majority-rule condition, written instructions informed participants that a decision could be implemented when a *majority* (that is, two out of three group members) favored this decision. In order to ensure that the decision rule was applied correctly, group members kept their instructions with them throughout the negotiation and were allowed to look back at these instructions at any time.

### Manipulation of Social Motive

Social motive was manipulated by using instructions combined with incentives (cf. Beersma & De Dreu, 1999). Participants in the *prosocial-motive condition* received written instructions informing them that it was important that the *market as a whole* would make large profits. This was accompanied by an incentive; participants were informed that *the members of the group* with the

largest total amount of points (the summed points of all three group members) would each receive a "prize" (the nature of the prize remained unspecified). Participants in the *egoistic-motive condition* received written instructions informing them that it was important that their *own store* would make large profits, and that the *three individuals* with the largest amount of points would receive a prize.

### Dependent Variables

*Manipulation checks.*   We used a five-item questionnaire to check the adequacy of the manipulation of social motive. Two items measured participants' prosocial motivation: "I was supposed to try to achieve many points for my group" and "I was trying to achieve many points for my group." Three items measured egoistic motivation: "I was supposed to try to achieve many points for myself regardless of the amount of points the others would receive," "I was particularly trying to achieve many points for myself," and "I was particularly trying to win from the others." Answers could be given on five-point scales (1 = disagree and 5 = agree). Scores were averaged over the two and three items, respectively, to construct a scale for prosocial motivation (Cronbach's alpha = 0.94) and egoistic motivation (Cronbach's alpha = 0.92).

The manipulation of task structure and decision rule was checked indirectly by analyzing the number of coalitions. Negotiated agreements were coded as *coalition agreements* when two of the three negotiators gained points at the remaining party's expense. In this case, they obtained either their first or second preferred outcome on at least one issue, while on the other issues at least the "middle ground" option, or otherwise an option that favored the members in the coalition, was chosen (cf., Polzer et al., 1998). Thus, the party that was not in the coalition was left with minimal points. An example of a coalition agreement is design D, 12°C, and distribution 3. In this agreement, both the florist's representative and the grocery's representative receive 350 points, while the bakery's representative is left with no points at all. A less "extreme" example is design E, 12°C, and distribution 5, where the florist's representative receives 312.5 points, the grocery's representative receives 287.5 points, and the bakery's representative receives only 75 points.

*Negotiation behavior.*   Past research has assessed negotiation behavior either by coding verbal transcripts into distributive and integrative behavior categories (De Dreu et al., 1998; Pruitt & Lewis, 1975; Weingart et al., 1993) or by using self or peer reports of these behaviors (Beersma & De Dreu, 1999; De Dreu, Evers, Beersma, Kluwer, & Nauta, 2001). We took the latter approach and asked group members to rate each other's distributive and integrative behavior. We used two four-item scales to measure integrative and distributive negotiation behavior by asking the minority member to rate the behavior of the two majority members and by asking the two majority members to rate the behavior of the minority member on eight items. Four items measured integrative behavior (e.g., "Did this person try to find a solution that

would be in everybody's interest?"), and four items measured distributive be-
havior (e.g., "Did this person try to impose his/her own will upon you?"). Answers
could be given on five-point scales, with 1 = not at all and 5 = very much.
Both subscales proved reliable (Cronbach's alpha, respectively, 0.95 and 0.85).
The two scales were derived from the Dutch Test for Conflict Handling and
have considerable convergent and discriminant validity (De Dreu et al.,
2001; Van de Vliert, 1997).

Especially in groups negotiating under an asymmetrical structure, different
types of behavior in majority and minority parties may be expected. Therefore,
we analyzed the behavior of the majority (as rated by the minority) and the
behavior of the minority (as rated by the majority) separately. We computed
intraclass correlations (ICC) (Kenny & LaVoie, 1985; Shrout & Fleiss, 1979) to
assess convergence in the minority's ratings of the two majority members, and
in the majority members' ratings of the minority member, across all subjects.
ICC's were: integrative behavior by the majority, .56; distributive behavior by
the majority, .49; integrative behavior by the minority, .58; and distributive
behavior by the minority, .51. All ICC values were significant at $p < .0001$. In
addition, we computed eta-square values as another indicator of convergence.
Eta-square was 0.78, 0.75, 0.79, and 0.75, respectively. These values exceed the
minimum criterion of 0.20 suggested by Georgopoulos (1986). Both ICC and eta-
square values justify averaging behavior scores for the majority and the minority.

*Joint outcomes.*    Joint outcomes were calculated by summing the individual
outcomes within one group. A simple compromise (e.g., design C, 16°C, and
distribution 4) yielded 525 points in both task structures. The lowest possible
joint outcome was zero points (when a group failed to reach agreement) and
the highest outcomes were 600 points in the symmetrical condition and 750
in the asymmetrical condition. We divided the outcomes by the highest possible
joint outcomes in the respective conditions to make them comparable across
conditions. Thus, reported "standardized joint outcome" scores reflect the per-
centage of maximum achievable outcomes. Using raw scores or $Z$-transforma-
tions based on sample means and standard deviations or on scale means and
standard deviations yielded similar results and identical conclusions.

*Group climate.*    This construct was measured using six items: "*During the
decision-making task* . . . the atmosphere was agreeable," ". . . I felt comfort-
able," ". . . the others were honest with me," ". . . the others trusted me," ". . .
the others listened to me," and ". . . our interaction was sociable." Participants
could indicate the degree to which they agreed to these items on five-point
scales, 1 meaning "disagree" and 5 meaning "agree." Items were constructed
especially for the current study. Principal Component Analysis on the six items
revealed the expected unidimensionality; the analysis yielded one factor, which
had an eigenvalue of 4.28, explaining 71.31% of the variance in scores on the
individual items. The group climate scale was also shown to be internally
consistent (Cronbach's alpha = 0.92). We again used the group as the unit of
analysis, ICC = .48, $F(90,182) = 3.79$, $p < .001$; eta-square = 0.65.

## RESULTS

*Treatment of the Data and Descriptive Statistics*

Data concerning negotiation behavior by the majority and the minority were analyzed using two 2 (task structure: symmetrical vs asymmetrical) × 2 (decision rule: unanimity vs majority) × 2 (social motive: prosocial vs egoistic) Multivariate Analysis of Variance (MANOVA) designs, one with integrative behavior by the majority and the minority as dependent variables and one with distributive behavior by the majority and the minority as dependent variables. Significant multivariate effects were disentangled using univariate ANOVA's. Standardized joint outcomes were analyzed using 2 (task structure: symmetrical vs asymmetrical) × 2 (decision rule: unanimity vs majority) × 2 (social motive: prosocial vs egoistic) Analysis of Variance (ANOVA). Significant interaction effects on joint outcomes between task structure, decision rule, and social motive were decomposed using simple effects analyses (testing for main effects and two-way interactions within each level of task structure), using the overall error term (cf. Winer, 1981). We used logistic regression to test for effects of the predictors on coalition formation (a nominal variable with two levels, i.e., coalition versus no coalition).

Table 2 provides the descriptive statistics and correlations for all dependent variables. Consistent with past research, distributive behavior was negatively correlated with joint outcomes and group climate, while integrative behavior was positively correlated with these outcome measures.

*Manipulation Checks*

A 2 × 2 × 2 ANOVA revealed that prosocially motivated group members reported a stronger prosocial motivation ($M = 4.52$) than egoistically motivated group members ($M = 2.62$), $F(1,83) = 149.86$, $p < .001$, and egoistically motivated group members reported a stronger egoistic motivation ($M = 3.16$) than prosocially motivated group members ($M = 1.71$), $F(1,83) = 97.28$, $p < .001$. No other effects were significant.

As a check on the manipulation of task structure we examined the number

### TABLE 2
**Means, Standard Deviations, and Intercorrelations between Variables in the Study**

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1. Integrative behavior by the minority | 3.72 | 0.98 | | | | | |
| 2. Integrative behavior by the majority | 3.73 | 0.87 | 0.59 | | | | |
| 3. Distributive behavior by the minority | 2.80 | 0.75 | −0.39 | −0.33 | | | |
| 4. Distributive behavior by the majority | 2.86 | 0.70 | −0.34 | −0.53 | 0.37 | | |
| 5. Standardized joint outcomes | 0.87 | 0.16 | 0.51 | 0.51 | −0.45 | −0.41 | |
| 6. Group climate | 4.23 | 0.56 | 0.69 | 0.68 | −0.52 | −0.49 | 0.54 |

*Note.* All correlations were significant; for $r < .33$: $p < .01$, and for $r > .33$: $p < .001$.

of stable majority coalitions through logistic regression. This revealed a significant main effect for task structure, $\beta = -1.74$, $p < .0001$, $R^2 = 0.15$. While in the symmetrical condition a majority coalition was formed in only 2 out of 47 groups (4%), in the asymmetrical condition a majority coalition was formed in 23 out of 44 groups (49%). The latter result is consistent with the findings of Polzer et al. (1998).

As a check on the manipulation of decision rule, we examined all possible coalitions (not necessarily majority coalitions). If the manipulation was effective, there should have been more coalitions in the majority-rule condition than in the unanimity-rule condition. This indeed was the case. Logistic regression revealed a significant main effect of decision rule on the number of coalitions, $\beta = -0.75$, $p < .05$, $R^2 = 0.04$. Consistent with earlier findings by Thompson et al. (1988), while under unanimity rule a coalition was formed in 8 out of 46 groups (17%), under majority rule a coalition was formed in 17 out of 45 groups (38%).[1]

### Integrative Behavior

Consistent with Hypothesis 1a, MANOVA revealed that both majority members and minority members engaged in less integrative behavior in the asymmetrical condition ($M_{MAJ} = 3.44$, $M_{MIN} = 3.42$) than in the symmetrical condition ($M_{MAJ} = 4.01$, $M_{MIN} = 4.00$), Multivariate $F(2,82) = 8.39$, $p < .001$, Univariate $F$s for integrative behavior by the majority $F(1,83) = 13.26$, $p < .001$, and for integrative behavior by the minority $F(1,83) = 10.80$, $p < .001$.

Consistent with prior research, MANOVA revealed that prosocially motivated majority and minority members engaged in more integrative behavior ($M_{MAJ} = 4.10$, $M_{MIN} = 4.15$) than egoistically motivated majority and minority members ($M_{MAJ} = 3.39$, $M_{MIN} = 3.27$), Multivariate $F(2,82) = 16.86$, $p < .001$, Univariate $F$s for integrative behavior by the majority $F(1,83) = 24.02$, $p < .001$, and for integrative behavior by the minority $F(1,83) = 24.50$, $p < .001$.

In Hypothesis 2a we predicted that an asymmetrical task structure would lead group members to engage in less integrative behavior than a symmetrical structure, especially when group members were egoistically rather than prosocially motivated and unanimity rather than majority rule applied. Because the multivariate three-way interaction was not significant, the hypothesis did not receive support. However, Table 3 shows that the patterns of means for both majority and minority members were in the predicted direction: Both majority

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[1] In the current study, the only type of coalition that was formed was the coalition between the two majority members, the grocery and the florist representatives. Although in the symmetrical conditions one should expect coalitions among majority and minority members to occur just as often as coalitions among majority members, our data show that the first type of coalition was never formed. We think that it is a coincidence that the two coalitions that were formed in the symmetrical condition were coalitions between the "majority" parties. A prior study using this negotiation task showed that coalitions (although they are not often formed in the symmetrical task structure) do not necessarily have to be between the grocery and florist representatives (Beersma & De Dreu, 1999).

**TABLE 3**

**Means for Minority's and Majority's Integrative Behavior as a Function of Task Structure, Decision Rule, and Social Motive**

| | Symmetrical | | | | Asymmetrical | | | |
|---|---|---|---|---|---|---|---|---|
| | Prosocial motive | | Egoistic motive | | Prosocial motive | | Egoistic motive | |
| Group member | Unanimity rule | Majority rule | Unanimity rule | Majority rule | Unanimity rule | Majority rule | Unanimity rule | Majority rule |
| Minority | $4.22_{be}$ | $4.58_{bc}$ | $3.36_{ae}$ | $3.84_{abe}$ | $3.71_{abe}$ | $4.09_{bde}$ | $2.88_a$ | $3.01_{ad}$ |
| Majority | $4.34_a$ | $4.44_a$ | $3.55_{ab}$ | $3.70_{ab}$ | $3.89_{ac}$ | $3.75_{ab}$ | $2.89_b$ | $3.23_{bc}$ |

*Note.* Means in the same row that do not share a common letter in the subscript differ at $p < .05$ in Tukey's Honestly Significant Difference tests. Minority behavior is rated by majority members; majority behavior is rated by the minority member (note that "Minority" and "Majority" are meaningful constructs only in the asymmetrical task structure conditions, and only in these conditions were effects expected).

and minority members reported the lowest amount of integrative behavior in the asymmetrical condition when they were egoistically motivated and negotiated under unanimity rule.

### Distributive Behavior

Consistent with Hypothesis 1b, MANOVA revealed a significant multivariate main effect of task structure, indicating that in the asymmetrical condition, both majority members and minority members engaged in more distributive behavior ($M_{MAJ} = 3.04$, $M_{MIN} = 2.95$) than in the symmetrical condition ($M_{MAJ} = 2.68$, $M_{MIN} = 2.67$), Multivariate $F(2,82) = 4.03$, $p < .05$. The Univariate $F$ for distributive behavior by the minority was significant, $F(1,83) = 7.22$, $p < .05$. The Univariate $F$ for distributive behavior by the majority revealed a trend, $F(1,83) = 3.01$, $p < .09$.

We did not find the expected main effect for social motive; Multivariate $F(2,82) = 2.23$, *n.s.*, Univariate $F$s for integrative behavior by the majority $F(1,83) = 2.33$, *n.s.*, and for integrative behavior by the minority $F(1,83) = 3.49$, $p < .07$. However, MANOVA did reveal an unpredicted trend for the main effect of decision rule, indicating that under unanimity rule, majority and minority members tended to engage in more distributive behavior ($M_{MAJ} = 3.01$, $M_{MIN} = 2.92$) than under majority rule ($M_{MAJ} = 2.70$, $M_{MIN} = 2.71$), Multivariate $F(2,82) = 2.80$, $p < .07$. The Univariate $F$ for distributive behavior by the majority was significant, $F(1,83) = 5.09$, $p < .05$. The Univariate $F$ for distributive behavior by the minority was not significant, $F(1,83) = 1.97$, *n.s.*

The reported main effects were qualified by a three-way interaction between task structure, decision rule, and social motive at the multivariate level, as predicted in Hypothesis 2b, $F(2,82) = 3.36$, $p < .05$. The Univariate $F$ for distributive behavior by the majority was significant, $F(1,83) = 4.53$, $p < .05$. The Univariate $F$ for distributive behavior by the minority was not significant, $F(1,83) < 1$, *n.s.* Simple effects analyses on distributive behavior by the majority

## Symmetrical Task Structure



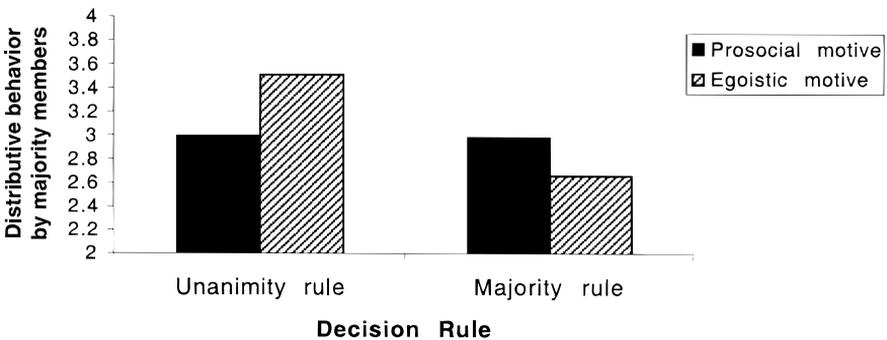## Asymmetrical Task Structure



**FIG. 1.**  Distributive behavior by majority members as a function of task structure, decision rule, and social motive.

showed that in the symmetrical condition, decision rule and social motive did not interact, $F(1,84) < 1$, *n.s.* In the asymmetrical condition, the interaction between decision rule and social motive was significant $F(1,84) = 4.40$, $p < .05$, such that under unanimity rule, majority members engaged in more distributive behavior when they were egoistically motivated ($M = 3.52$) rather than when they were prosocially motivated ($M = 3.00$, $p < .06$). Under majority rule, the amount of distributive behavior for majority members did not differ ($M = 2.66$ for egoistically motivated groups and $M = 2.99$ for prosocially motivated groups; see also Fig. 1). This finding supports Hypothesis 2b for distributive behavior by majority members.

### Standardized Joint Outcomes

Consistent with Hypothesis 1c, ANOVA revealed a significant main effect of task structure on standardized joint outcomes, $F(1,82) = 15.21$, $p < .001$, indicating that in the symmetrical condition, groups achieved higher joint

outcomes ($M = 0.93$) than in the asymmetrical condition ($M = 0.81$).[2] Consistent with prior research, ANOVA revealed a significant main effect of social motive, $F(1,82) = 13.88$, $p < .001$, indicating that prosocially motivated groups achieved higher joint outcomes ($M = 0.93$) than egoistically motivated groups ($M = 0.82$). Moreover, ANOVA revealed an interaction between task structure and social motive, $F(1,82) = 3.96$, $p < .05$. Simple effects analysis showed that social motive did not have a significant effect on joint outcomes in the symmetrical condition, $F(1,82) = 1.31$, *n.s.*, but that prosocially motivated groups achieved higher joint outcomes ($M = 0.90$) than egoistically motivated groups ($M = 0.73$) in the asymmetrical condition, $F(1,83) = 13.65$, $p < .001$.

This two-way interaction between task structure and social motive was specified by the significant three-way interaction between task structure, decision rule, and social motive predicted in Hypothesis 2c, $F(1,82) = 4.87$, $p < .05$. Simple effects analyses showed that in the symmetrical condition, there was no significant interaction between decision rule and social motive, $F(1,83) < 1$, *n.s.*, while in the asymmetrical condition, the interaction between decision rule and social motive was significant, $F(1,83) = 5.90$, $p < .05$. In the asymmetrical condition, egoistically motivated groups achieved significantly lower joint outcomes ($M = 0.66$) than prosocially motivated groups ($M = 0.93$) when unanimity rule applied ($p < .05$, see Fig. 2). Under majority rule, egoistically motivated groups ($M = 0.81$) achieved joint outcomes that did not differ significantly from those of prosocially motivated groups ($M = 0.87$). Figure 2 shows that in an asymmetrical (but not symmetrical) task structure, unanimity rule results in low joint outcomes when groups have an egoist rather than prosocial motive.
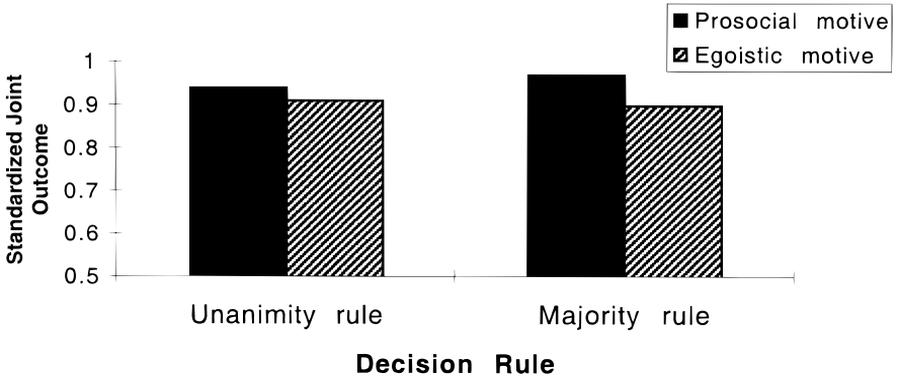
*Group Climate*

Consistent with Hypothesis 1d, ANOVA revealed a significant main effect of task structure, $F(1,83) = 10.70$, $p < .005$; groups that negotiated in an asymmetrical task reported a less positive group climate ($M = 4.06$) than groups in a symmetrical task ($M = 4.34$). Although not predicted, a significant main effect of decision rule, $F(1,83) = 6.89$, $p < .01$, was also revealed by ANOVA, indicating that groups under unanimity rule reported a less positive group climate ($M = 4.11$) than groups under majority rule ($M = 4.36$). Consistent with prior research, ANOVA revealed a significant main effect of social motive, $F(1,83) = 18.71$, $p < .001$: In egoistic groups the group climate was less positive ($M = 4.02$) than in prosocial groups ($M = 4.45$).

In Hypothesis 2d, we predicted that the group climate would be less positive in an asymmetrical as opposed to a symmetrical task structure, especially when group members had an egoistic rather than prosocial motive and unanimity rather than majority rule applied. This hypothesis could not be supported because the three-way interaction was not significant. However, the pattern of means for group climate was in the predicted direction (see Table 4): Egoistically

[2] We had 82 degrees of freedom for the analyses concerning joint outcomes while we had 83 degrees of freedom for the other analyses. This was due to one group, which had failed to fill in the negotiation outcomes. Omitting this group from the other analyses did not change results.

## Symmetrical Task Structure



## Asymmetrical Task Structure



**FIG. 2.** Joint outcome as a function of task structure, decision rule, and social motive.

motivated groups that negotiated in an asymmetrical task under unanimity rule rated the group climate less positive than did all other groups.

### CONCLUSIONS AND DISCUSSION

In the past three decades our understanding of small group behavior has gained tremendously by taking into account the combined effects of structural, procedural, and motivational variables (Hinsz et al., 1997; Kelley & Thibaut, 1978; Pruitt & Kimmel, 1977). The current research continued this approach by studying negotiation behavior, joint outcomes, and group climate as a function of the interactions between task structure, decision rule, and group members' social motives. Based on past research examining these three variables in isolation (e.g., Beersma & De Dreu, 1999; Mannix et al., 1989; Polzer et al.,

**TABLE 4**

**Group Climate as a Function of Task Structure, Decision Rule, and Social Motive**

| | Task structure | | | |
| --- | --- | --- | --- | --- |
| | Symmetrical | | Asymmetrical | |
| Social motive | Prosocial | Egoistic | Prosocial | Egoistic |
| Unanimity rule | $4.51_{ac}$ | $4.03_{bc}$ | $4.35_{ac}$ | $3.50_{b}$ |
| Majority rule | $4.66_{a}$ | $4.36_{ac}$ | $4.25_{ac}$ | $4.16_{ac}$ |

*Note.* Means in the same row that do not share a common letter in the subscript differ at $p <$ .05 in Tukey's Honestly Significant Difference tests.

1998; Thompson et al., 1988; Weingart et al., 1993; Weingart & Brett, 1998), we predicted that an asymmetrical task structure would lead to more distributive and less integrative behavior and to lower joint outcomes than a symmetrical structure, especially when group members had an egoistic instead of a prosocial motive and unanimity rather than majority rule applied. Results generally supported these predictions.

In addition, and in contrast to past negotiation research with its one-sided focus on (monetary) outcomes, we examined group climate and predicted that an asymmetrical task structure would lead to a less positive group climate than a symmetrical structure, especially when group members had an egoistic instead of a prosocial motive and unanimity rather than majority rule applied. Results for group climate were consistent with this prediction as well. In the sections to follow we discuss our findings and their implications in more detail, identify strengths and weaknesses of the current study, and highlight several questions that await future research.

*Theoretical Implications and Avenues for Future Research*

Until now, only a few studies examined small group negotiation, and these studies tended to focus on main rather than interaction effects. We decided to go beyond testing main effects and to study interaction effects between task structure, decision rule, and social motive. We predicted destructive negotiation processes and low joint outcomes when groups negotiated within an asymmetrical task under unanimity rule and when they were egoistically motivated. We found the predicted three-way interaction for distributive behavior and for joint outcomes. For integrative behavior and group climate, the three-way interaction was not found. However, cumulative main effects led to a distribution of means that showed that scores for integrative behavior and group climate were lowest when groups negotiated within the asymmetrical condition under unanimity rule and when they were egoistically motivated. Our findings imply that a full understanding of negotiation processes in small groups cannot be reached by continuing to study main effects only, and we recommend future research to continue designing studies examining the interactions among predictors.

Our suggestion to view group negotiation in terms of interactions between predictors will not be surprising to readers familiar with research on interpersonal negotiation. In fact, research on dyadic negotiation has a long-lasting tradition of studying interactions between structural, motivational (and more recently, cognitive), factors (for reviews, see Bazerman, Curhan, Moore, & Valley, 2000; Carnevale & Pruitt, 1992; De Dreu et al., 1999). However, two of the three predictors in the current study are present at the group level but not the interpersonal level, social motives being the exception. Interpersonal negotiations are, by definition, characterized by a symmetrical task structure and require unanimity for an agreement to be implemented. As such, the current findings identify a process typical for groups, showing that egoistic groups engage in less integrative and more distributive behavior and reach lower joint outcomes in asymmetrical rather than symmetrical tasks when unanimity instead of majority rule applies. This indicates that conclusions derived from research on dyadic negotiation cannot always be translated directly into hypotheses about group negotiation. Future research on group negotiation will be especially fruitful when it considers those factors that differentiate group from interpersonal negotiations.

The current study provided groups with a specific decision rule. In many cases, however, groups do not have a decision rule forced upon them, and which decision rule to use is part of the negotiation process. Future research could examine the effects of task structure and social motive on the procedures groups opt for. Based on current findings, one might expect egoistically motivated groups to opt for majority rule in the case of an asymmetrical task, while unanimity rule is the more likely candidate in the case of a prosocial motive and symmetrically structured tasks. If this were true, the interesting conclusion would be that egoistically motivated group members in asymmetrical tasks opt for a decision rule that is functional to the group as a whole. Given the current results, egoistically motivated groups in asymmetrical tasks should avoid unanimity rule because it can lead to competitive spirals of distributive behavior and low joint outcomes.

We neither expected nor obtained effects of decision rule in a symmetrical task structure. Based on findings of prior research, however, we did expect that in symmetrical task structures prosocially motivated groups would engage in more integrative behavior and would reach higher joint outcomes than egoistically motivated groups. Although we did not find effects of social motive in the symmetrical task structure conditions when we analyzed the data using simple effects analyses, means were in the predicted direction (see Fig. 2). Moreover, the difference between the means was statistically significant when tested with a simple $t$ test, $t (1,44) = 2.55$, $p < .05$. Thus, current results for social motives appear to represent a weaker instance of the generally robust tendency for prosocially motivated groups to achieve higher joint outcomes than egoistically motivated groups.

The design of our study allowed us to examine the behavioral patterns of majority and minority members separately. Interestingly, as can be seen in Table 2, integrative behavior by the minority had a much stronger association

with integrative behavior by the majority ($r = .59$) than was the case for distributive behavior by the minority and majority ($r = .37$). Although measurement issues cannot be excluded, this pattern may suggest that integrative behavior tends to evoke reciprocation to a greater extent than distributive behavior. Integrative behavior, once instigated, bears the promise of good outcomes for all and as such is both morally and rationally superior to distributive behavior (cf. Axelrod, 1984; Bazerman et al., 2000). Future research in both interpersonal and group negotiation could investigate this issue in more detail by analyzing sequences of behavioral patterns by respective individuals instead of continuing the current practice of aggregating behavioral data to the dyadic or group level (cf. Weingart, Prietula, Hyder, & Genovese, 1999).

The current study included not only the traditional measure of joint outcome but also a "soft" performance measure of group climate. Rubin et al. (1994) hypothesized that integrative agreements and high joint outcomes relate to satisfaction, feelings of self-efficacy, positive interpersonal relations, and reduced likelihood of future conflict. The current study corroborated this assumption, by showing that integrative behaviors and joint outcomes in small-group negotiation are positively related to group climate. This finding opens up some interesting avenues for future research. Specifically, group climate has been argued to affect group effectiveness and performance. For instance, Edmondson (1999) showed that a "psychologically safe" climate (an interpersonal context in which well-intentioned actions will not lead to punishment or rejection) increased work teams' learning behavior, exemplified by information exchange and coordination. Also, research on cohesiveness and social integration in groups suggests that groups with a positive climate experience higher morale and satisfaction and exhibit more efficient task coordination than groups with a less positive climate (for reviews, see Shaw, 1981; McGrath, 1984; West et al., 1998). Although the "aftermath" of group negotiation has been woefully ignored (Pruitt & Carnevale, 1993; Saunders, 1985), the current results suggest group negotiation affects, through its influence on group climate, long-term group processes, and team performance.

## Limitations

As with most studies, the current research has several limitations. First and foremost, our measures of negotiation behavior were based on peer report and results may have been influenced by self-serving and social desirability biases. However, past research revealed little evidence for social desirability and self-serving biases in self-reports of negotiation behavior (De Dreu et al., 2001; Rahim & Magner, 1995). At a more general level, research demonstrates that most recall of past events is relatively accurate, and it has been argued that recall of behavior and the judgments based on it are as "real" to a person as ongoing behavior (Pearson, Ross, & Dawes, 1991). Moreover, the most important consequences of behavior lie in the future, such that recall of behavior and judgments based on it may provide a better predictor of future group functioning and effectiveness than actual behaviors and outcomes.

The second limitation, related to the first, is that measuring rather than observing negotiation behavior excludes conclusions about causality. Although our past research strongly suggested that high outcomes are due to high levels of integrative behavior and low levels of distributive behavior (De Dreu et al., 1998; Giebels et al., 2000), we cannot test this with the current data.

A third issue is that majority and minority positions were confounded with group members' roles; that is, the minority member always had the role of the bakery representative and the majority members always had the role of the grocery and the florist representatives. As such, we cannot exclude the possibility that behavioral measures were influenced not only by the majority or minority position group members had but also (or only) by their specific roles in the negotiation. Some arguments go against this possibility, however. First, in the symmetrical task, neither main effects of group member's role in the negotiation nor interactions of group member's role with decision rule or social motive were significant. This is consistent with past research using the negotiation task in the symmetrical task structure condition, in which effects of role were not found either (Beersma & De Dreu, 1999). Finally, research using a similar group negotiation task did not report effects for role (Weingart et al., 1993; Weingart & Brett, 1998).

Fourth, in the current study, a majority coalition would lead to unequal point totals for the coalescing majority members. From the literature on decision-making heuristics, we know that equality is an important heuristic that people can use to base their decisions on. However, in the current study, participants were not allowed to show each other their profit schedules, and although they were allowed to talk about points, they were instructed not to tell each other their total outcomes until after they had filled in the questionnaire. Because we have no observational data on the negotiation task, we can not tell with certainty whether outcome equality between the majority members has affected their decision to coalesce or not. This is a limitation of the current study. Future research could compare situations in which majority coalitions yield equal outcomes to the coalescing group members with situations in which these coalitions yield unequal outcomes.

A related issue is that in the current study, we manipulated task structure so that the negotiation task either was completely symmetrical (e.g., no dominant inherent majority existed) or completely asymmetrical (e.g., a stable majority with perfect interest alignment between the majority parties existed). We chose to investigate these "extreme" structures because this study was the first to explicitly address the effects of task structure, and we wanted a strong test of the hypotheses. However, we did not investigate what would happen to negotiation processes and outcomes when the task structure was somewhere "in between" these two extremes. One could conceive of situations in which a majority of group members have identical preferences on two out of three issues, but they disagree about a third. In such a situation, the relative importance of the issues may play a role, in that the majority parties may be expected to coalesce unless the third issue is the most important to the group members or to the embedding organization. Investigating the consequences of different

types of task structures and differing issue importance is an interesting avenue for future research.

Finally, the groups in our study were homogeneous in their social motives: All members within a group were either egoistically or prosocially motivated. However, in real life, social motives in groups are often mixed, in that some members are egoistically motivated while others are prosocially motivated. An important question is therefore how heterogeneity of social motives would affect negotiation processes and outcomes and how different task structures and decision rules would affect groups with different ratios of egoistic and prosocial members. Although we can not answer this question with the current data, we believe that investigating the effects of heterogeneity of social motives is an interesting avenue for future research.

## Conclusion

Group negotiation is a critical aspect of group work and affects individual well-being, group performance, and the quality of group decision making. The current experiment expanded our knowledge about group negotiation by simultaneously studying the effects of task structure, decision rule, and social motive. Consistent with the theoretical position that group processes and outcomes are an interactive function of structural, procedural, and motivational factors, we found that egoistic rather than prosocial groups engage in more distributive and less integrative behavior, reach lower outcomes, and develop a less positive group climate when they face an asymmetrical task and unanimity rather than majority rule applies. An asymmetrical task structure focuses group members on their individual outcomes. This makes coalition formation and related forms of distributive behavior likely, especially when group members have an egoistic rather than prosocial motivation. When unanimity rather than majority rule applies, egoistic groups in asymmetrical tasks are most likely to become locked in a competitive spiral of distributive exchanges, resulting in low outcomes and a deteriorated group climate. Contrary to lay wisdom that depicts majority rule as a "lazy" way of reaching agreements, using majority rule was shown to counteract the negative effects of egoistic motivation on joint outcomes in asymmetrical negotiations. Therefore, based on the current results, we would advise those aiming to achieve collectively functional, integrative agreements in asymmetrical group negotiations to foster prosocial motives and use majority rule.

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