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# Perspective Taking as a Means to Overcome Motivational Barriers in Negotiations: When Putting Oneself Into the Opponent's Shoes Helps to Walk Toward Agreements

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Previous negotiation research predominantly focused on psychological factors that lead to suboptimal compromises as opposed to integrative agreements. Few studies systematically analyzed factors that impact the emergence of hurtful partial impasses (i.e., nonagreements on part of the issues). The present research investigates negotiators' egoistic motivation as a determinant for the emergence of partial impasses. In addition, the authors seek to demonstrate that perspective taking serves as a powerful tool to avoid impasses and to overcome egoistic impediments. Specifically, it was predicted that within an integrative context perspective-takers succeed to exchange concessions on low- versus high-preference issues (i.e., logroll), thereby increasing their individual profits without inflicting hurtful losses upon their counterparts. Three studies were conducted to test these predictions. Study 1 reveals that whereas negotiators' egoistic motivation increases the risk of partial impasses, perspective taking alleviates this risk. Study 2 demonstrates that this beneficial effect of a perspective-taking mindset is limited to integrative negotiations and does not emerge in a distributive context, in which negotiators are constrained to achieve selfish goals by inflicting hurtful losses on their counterparts. Study 3 confirms the assumption that in an integrative context egoistic perspective-takers overcome the risk of impasses by means of logrolling. The findings of the present studies are discussed with respect to their contribution to research on negotiations, social motivation, and perspective taking.

*Keywords:* negotiation, perspective taking, social motivation, partial impasses, logrolling

By 1990, it was clear that East and West Germany both had strong intentions to reunify as a common German federal republic. The four allies who had been monitoring Germany during the Cold War had to complete an agreement with the West and East German governments

on the future military status of a united Germany. Whereas the Soviet Union worried that if East Germany was allowed to join the North Atlantic Treaty Organization (NATO) other East European nations would also want to join NATO, the United States felt strongly that East Germany's membership in NATO was indispensable. The following "two-plus-four negotiations" on the military status of a united Germany began in May 1990 and concluded in September 1990, with a final agreement that took into account the interests of the two most conflicting parties, the United States and the Soviet Union.

Robert B. Zoellick, the U.S. representative, described the strategy of the United States during the negotiations with the Soviet Union (Zoellick, 2000):

For U.S. policy toward the Soviet Union, the strategic objective was to limit the rise of future irredentism while building a new political and security structure in Europe based on the North Atlantic alliance. To that end, the United States sought to treat the Soviet Union with respect. . . . I hasten to add, however, that this willingness to work with the Soviets did not slip into over-empathizing, short-changing U.S. interests, or creating false expectations. Secretary Baker . . . was a master at displaying resolve and firmness, *while listening carefully* to reasoned arguments that he would seek to address—as long as the

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response *did not counter U.S. interests*. (Zoellick, 2000, p. 3; emphases added)

This example illustrates a crucial aspect of many negotiations: Although the U.S. representatives followed self-serving goals, they listened carefully to their counterparts or, in other words, made an effort to take the other party's perspective in order to understand the underlying interests behind their counterparts' positions (Fisher & Ury, 1981). This cognitive process of perspective taking in turn helped the U.S. representatives to successfully conclude the negotiations without unresolved issues.

In most negotiations, disputants pursue self-serving goals. However, this selfish motivation of negotiators can turn out to be a crucial motivation barrier on the way toward mutually satisfying outcomes (De Dreu, Weingart, & Kwon, 2000). Previous research indicates that negotiation outcomes may be deteriorated for two reasons: First, disputants may fail to detect integrative win-win solutions and settle instead on suboptimal compromises (e.g., Bazerman, Moore, & Gillespie, 1999; Pruitt & Carnevale, 1993; Thompson & Hastie, 1990). Second, disputants may end up with hurtful nonagreements on (part of) the issues, leaving valuable resources on the bargaining table (Loschelder & Trötschel, 2010; Trötschel, Hüffmeier, & Loschelder, 2010). Whereas the majority of research has examined how negotiators fail to detect integrative solutions (e.g., De Dreu, Koole, & Steinel, 2000; Giebels, De Dreu, & Van de Vliert, 2000), studies have yet to systematically examine psychological processes that lead to the emergence of nonagreements on part of the negotiated issues. Note that in the majority of previous studies, authors either excluded cases with impasses from further analyses (e.g., De Dreu, Giebels, & Van de Vliert, 1998) or substituted impasses with corrected scores (e.g., compromise solution, Carnevale & Lawler, 1986; lowest negotiation outcome possible, Kimmel, Pruitt, Magenau, Konar-Goldband, & Carnevale, 1980). Although this approach may be effective to reduce the heterogeneity of variance arising from cases with impasses (e.g., Lewis & Fry, 1977; Ten Velden, Beersma, & De Dreu, 2007), valuable information on detrimental effects in negotiations is largely ignored. As has been stated by Tripp and Sondak (1992), "impasse rates across conditions may be one of the most significant findings in negotiation research," and "what leads to impasse is an important question in its own right" (p. 279).

The present research intends to demonstrate that social motivation affects the emergence of partial impasses in that negotiators with egoistic motives are particularly exposed to the threat of impasses. Moreover, we suggest that perspective taking serves as a powerful cognitive tool to overcome this threat arising from an egoistic motivation. In the following, we highlight the role of impasses in negotiations and summarize research on social motivation. Subsequently, we refer to previous research on the effects of perspective taking and explain how perspective taking may help negotiators to overcome the risk of impasses. Finally, three studies are reported that investigate the interactive effect of social motivation and perspective taking with respect to the emergence and alleviation of partial impasses in integrative and distributive negotiations.

### The Role of Impasses: Multi-Issue Negotiations With Interlinked and Nonlinked Issues

From a rational perspective, negotiators should not end up with impasses as long as the negotiation allows for an agreement that is

of higher value to both parties than a nonagreement (Nash, 1950; Raiffa, 1982). However, as negotiators usually aim to maximize their individual profits and do not have perfect information on the underlying interests of their counterparts, they may fail to find agreements on part of the issues, even if the negotiation would have allowed for better outcomes in the case of an agreement on all issues. Tripp and Sondak (1992) suggested that researchers should consider impasse rates as an important dependent variable for two reasons: First, uniformly high impasse rates in all conditions would be diagnostic of problems in the experimental procedure. Second, and more relevant for the present research, differences in impasse rates across conditions should be considered an important finding, and psychological processes that lead to these differences should be systematically explored.

Note that impasses may occur with respect to either the entire negotiation (*total impasse*; e.g., Ben-Yoav & Pruitt, 1984; De Dreu et al., 1998) or to part of the negotiation issues (*partial impasse*; Neale & Bazerman, 1985; Trötschel & Gollwitzer, 2007). On the basis of the distinction between total and partial impasses one may further differentiate two types of negotiations: negotiations in which parties have to find agreements on all negotiation issues (e.g., a job candidate and an employer can finalize a contract only if they agree on all issues, for instance, salary, vacation days, and health insurance) and negotiations in which parties may agree on part of the issues while failing to find solutions for other issues (e.g., a buyer and a seller in a furniture store may agree on the price of a couch and a bed while failing to agree on the price of a dining table and a cupboard). Whereas in the former negotiation issues are *interlinked* (i.e., the agreement on one issue depends on agreements on all other issues), issues in the latter negotiation are *nonlinked* (i.e., the agreement on one issue does not depend on the agreement on other issues). An illustrative example for a real-world negotiation with nonlinked issues allowing for partial impasses can be found in the European Union (EU) negotiations that led to the Treaty of Lisbon in 2009. Among several other points, the EU member states agreed on more qualified majority voting in the Council of Ministers and decided to create a long-term President of the European Council. However, the 27 member states failed to agree on a direct election of the European Commission by the European Parliament and did not agree to grant the European Parliament legislative initiative.<sup>1</sup>

Interlinked and nonlinked issues can also be implemented in experimental negotiation paradigms. In the classical paradigm (cf. Pruitt & Lewis, 1975), disputants engage in a multi-issue negotiation (iron, sulfur, coal) in which parties are told that they have to come to an agreement on all issues. In this way, Pruitt and Lewis (1975) proposed a negotiation task with interlinked issues. The same task, however, can be set up in a way that explicitly allows participants to agree on a part of the issues while disagreeing on others. In this case, negotiation issues are nonlinked. In the present study we used a negotiation paradigm with nonlinked issues that

<sup>1</sup> Other examples for negotiations with nonlinked issues allowing for partial impasses can be found in the Copenhagen Climate Conference in 2009 or the negotiation on the Anti-Counterfeiting Trade Agreement (ACTA) in 2008 to develop a new standard of intellectual property enforcement to combat the high levels of trade in counterfeit and pirated goods worldwide.

explicitly allows for partial impasses. This task allows us to explore whether egoistic negotiators are particularly endangered to end up with partial impasses and whether perspective taking serves as a means to overcome this detrimental effect—that is, to alleviate the risk of partial impasses.

### Motivational Processes in Negotiations

Although a variety of social motives can be distinguished—such as altruistic, competitive, individualistic, or cooperative—most negotiation studies have relied on the more global distinction between egoistic and prosocial motivation (i.e., the desire to maximize one's own outcomes vs. both one's own and others' outcomes; e.g., De Dreu & Van Lange, 1995; Pruitt, 1998; Weingart, Bennett, & Brett, 1993). These studies reveal that prosocial negotiators engage in cooperative strategies (e.g., compromising, information exchange), whereas egoistic negotiators tend to use competitive strategies (e.g., positional commitment, haggling). In a meta-analytic review on the effects of social motivation, De Dreu, Weingart, and Kwon (2000) concluded that egoistic negotiators are less likely to craft integrative win-win solutions. Differences in joint outcomes between prosocial and egoistic negotiators are eliminated only at the expense of a suboptimal level of outcomes (compromise) when negotiators reveal a low resistance to concession making (Pruitt & Carnevale, 1993; Pruitt & Rubin, 1986).

However, the quality of outcomes is not only deteriorated by suboptimal compromises but also affected by the number of partial impasses. Early research suggests that impasses may play a crucial role in negotiations between parties with a selfish orientation. Unfortunately, these studies (Lewis & Fry, 1977; Pruitt & Lewis, 1975) treated the observed impasses as a statistical problem (i.e., heterogeneity of variance) rather than as a relevant finding. Consequently, these studies substituted impasses with corrected scores. In a more recent study, De Dreu et al. (1998) showed that egoistic negotiators use more competitive strategies, which are assumed to be associated with the emergence of impasses (Pruitt & Carnevale, 1993). In line with this finding, De Dreu and Van Lange (1995) examined two negotiation behaviors (conceding and logrolling) and found that egoistic negotiators were less willing to concede than prosocial negotiators. At the same time, negotiators did not differ in terms of their logrolling behavior. Unfortunately, the authors did not explore the effects of the observed behaviors on joint outcomes or the number of impasses. On the basis of these findings, one may predict that egoistic negotiators are threatened by an increased risk to end up with partial impasses.

### Perspective Taking

Within the field of social psychology, research on perspective taking and social motivation has a long-standing tradition (e.g., Batson, Chang, Orr, & Rowland, 2002; Batson et al., 1997; Davis, 1983; Dovidio et al., 2004; Galinsky & Mussweiler, 2001). In particular, research on the empathy-altruism hypothesis (Batson, 1991; Batson, Ahmad, & Lishner, 2009) seems to suggest a direct link between perspective taking and social motivation. However, as has been pointed out by Batson et al. (1995), the effect of perspective taking on altruistic motivation is mediated by *empathic emotion*. Empathy is defined as “other-oriented feelings congruent with the perceived welfare of another individual” (Batson et al.,

1995, p. 621). Specifically, empathy is considered to be the consequence of an emotional perspective taking when witnessing another person's suffering (Batson & Moran, 1999). In accordance, Batson and colleagues (e.g., Batson & Ahmad, 2001; Batson et al., 1995; Batson & Moran, 1999) commonly induced feelings of empathy by asking participants to take another individual's perspective and to turn their attention to the other's feelings. For instance, in a series of studies on the impact of empathy in social and prisoner's dilemma games, Batson et al. (1995; Batson & Moran, 1999) asked participants to imagine how another student—who had previously described his or her suffering in a different context—feels about what had happened to him or her. The authors found that this type of perspective taking leads to empathy, which in turn increases prosocial behavior.

However, perspective taking does not inevitably result in empathic feelings but can also be used in egoistic terms: A chess player, for instance, may take an opponent's perspective for egoistic reasons—thus focusing on the opponent's thoughts, motives, and/or strategy. Generally speaking, perspective taking is a cognitive capacity to consider the world from another individual's viewpoint that “allows an individual to anticipate the behavior and reactions of others” (Davis, 1983, p. 115). With respect to the social context of negotiations, Bazerman and Neale (1983) pointed out that “taking the perspective of an opponent is not done for purely philanthropic reasons; rather, in achieving any set of objectives, there is valuable information to be gleaned from taking the perspective of the other negotiating party” (p. 317). Following these considerations, we suggest that perspective taking can be seen as a specific type of *cognitive mindset* (Gollwitzer, 1990), which activates a set of cognitive procedures (Gollwitzer & Bayer, 1999) that are directed toward the psychological states of other individuals. Note that in line with Bazerman and Neale a cognitive mindset can stand in the service of different types of motives or intentions (cf. Gollwitzer & Bayer, 1999)—such as the goal to maximize one's own or others' outcomes.

Several practical guidebooks regard perspective taking as an effective strategy that helps negotiators to achieve satisfying agreements (e.g., Fisher & Ury, 1981). Corroborating these assumptions, experimental studies show that perspective taking can be a powerful tool to overcome cognitive barriers in negotiations, such as anchor effects (Galinsky & Mussweiler, 2001), the self-serving fairness bias (Drolet, Larrick, & Morris, 1998), or the fixed-pie perception (Galinsky, Maddux, Gilin, & White, 2008; Moran & Ritov, 2007; Thompson, 1995). Furthermore, as suggested by a study of Bazerman and Neale (1983), perspective-takers achieve higher individual outcomes than do negotiators who tend to focus on their own perspective. In a recent study, Galinsky et al. (2008) demonstrated that perspective taking as a trait variable (Study 1) or as an induced mindset (Study 2) helped negotiators to solve a seemingly intractable conflict via the integrative strategy of “expanding the pie” (i.e., create win-win solutions by means of adding resources to the negotiation; Pruitt & Carnevale, 1993). A third experiment demonstrated that negotiators who took their counterpart's perspective both increased their individual outcomes (cf. Bazerman & Neale, 1983) and succeeded to create more value for the counterpart in an integrative negotiation task.

## Social Motivation and Perspective Taking: Emergence and Alleviation of Partial Impasses

On the basis of research on social motivation, one may predict that pairs of egoistic negotiators—with their tendencies toward competitive negotiation strategies—encounter an increased risk to end up with partial impasses. Specifically, egoistic negotiators who strive to maximize their own outcomes with no regard for the other party's outcomes should be less willing to concede (cf. De Dreu & Van Lange, 1995) as long as one's own loss of profit is not compensated by additional gains received through the opponent's counterconcessions. However, this specific type of compensation may occur only when two preconditions are met: First, the negotiation context needs to imply integrative potential that allows negotiators to exchange concessions on low- versus high-preference issues. Second, parties need to uncover the integrative potential.

Following the previously reported research, a perspective-taking mindset is an effective means to explore differences in own versus other's preferences. In turn this allows each party to increase his or her individual profit without doing so at the expense of the counterpart. We predict that egoistic parties with a perspective-taking mindset increase their individual profits without inflicting hurtful losses on their counterparts, thus rendering the emergence of partial impasses less likely. In other words, egoistic perspective-takers should uncover differences in parties' preferences and consequently use the integrative potential to increase their individual outcomes.

In contrast to egoistic negotiators, prosocial pairs who strive to maximize their own and the other party's outcomes should be less threatened by the risk of partial impasses. Specifically, prosocial negotiators are more willing to concede (cf. De Dreu & Van Lange, 1995), even if these concessions are not compensated by additional gains received through the other party's counterconcessions. With their motivation to increase their own and the other party's profits, prosocial negotiators are predicted to make concessions as soon as they realize that they run the risk of getting stuck in impasses. Hence, prosocial negotiators should be less likely to get stuck in impasses irrespective of whether (a) they hold a perspective-taking mindset and (b) the negotiation context implies integrative potential.

### Present Research

The present research investigates the effects of social motivation, perspective taking, and their interplay on the emergence of partial impasses in integrative and distributive negotiations. Hereby, the studies contribute to existing research in different ways: (a) From a theoretical standpoint, we seek to clarify the differences between social motivation and perspective taking in the context of negotiations. Social motivation determines the outcomes negotiators aim to maximize (high individual vs. joint profits; De Dreu, Weingart, & Kwon, 2000) and biases the type of information that parties look for, generate, and process (De Dreu & Carnevale, 2003). In contrast, a perspective-taking mindset does not define specific *ends* but rather functions as a cognitive *means* that can be applied to achieve various desired end-states (Bazerman & Neale, 1983). Importantly, perspective taking is more than a nondirectional augmentation of information processing (cf. epis-

temic motivation; De Dreu, Nijstad, & Van Knippenberg, 2008) in that it functions as a cognitive mindset that activates a directional cognitive orientation (Gollwitzer, 1990). (b) From a methodological standpoint, the present research addresses the call by Tripp and Sondak (1992) by introducing a negotiation paradigm with nonlinked issues, which allows us to systematically explore conditions that lead to partial impasses. Specifically, we propose that in addition to many real-world negotiations with interlinked issues, negotiations on nonlinked issues allowing for partial impasses should be taken into account by empirical negotiation research. (c) From an applied standpoint, the present research demonstrates that perspective taking is associated with the integrative strategy of logrolling (i.e., each egoistic party makes concessions on issues with low individual profits and in exchange receives concessions on issues with high individual profits; Froman & Cohen, 1970). Whereas previous research revealed that logrolling leads to Pareto efficient agreements (Tripp & Sondak, 1992), we seek to demonstrate that logrolling is also a powerful tool to avoid partial impasses when parties face an increased risk of getting stuck in nonagreements.

Three experiments were conducted to test our predictions on the effects of social motivation, perspective taking, and their interaction: Study 1 investigated whether pairs of egoistic negotiators encounter an increased risk of partial impasses and whether this risk can be alleviated by perspective taking. Study 2 aimed to demonstrate that the beneficial effect of a perspective-taking mindset is not a panacea to overcome motivational barriers. It was predicted that perspective taking fails to unfold a beneficial effect in the zero-sum context of a distributive negotiation. As distributive negotiations do not allow egoistic negotiators to exploit an integrative potential to increase their individual profits, inflicting hurtful losses upon their counterparts is indispensable. Consequently, the risk of partial impasses should be increased, irrespective of negotiators' perspective mindset. Study 3 was conducted to illustrate that the beneficial effect of perspective taking in an integrative context is mediated by the strategy of logrolling. Conceding on low-preference issues while receiving counterconcessions on high-preference issues enables egoistic negotiators to increase their individual outcomes without inflicting hurtful losses upon their egoistic counterparts.

### Study 1: Emergence and Alleviation of Partial Impasses

Study 1 was conducted to show an interactive effect of social motivation and perspective taking on the number of partial impasses in an integrative negotiation. First, it was predicted that pairs of egoistic negotiators without a perspective-taking mindset would be more likely to end up with partial impasses than prosocial negotiators. Second, it was hypothesized that egoistic negotiators would successfully overcome this risk of impasses when placed into a perspective-taking mindset.

### Method and Procedure

**Participants and design.** One hundred and sixty students (80 women) from the University of Kiel (Germany) with different academic majors (e.g., law, education, business; mean age 23.1 years) participated in a face-to-face negotiation task. Participants received €5

for remuneration and were recruited through flyers. The experiment followed a 2 (social motivation: prosocial vs. egoistic)  $\times$  2 (perspective mindset: perspective taking vs. own perspective)  $\times$  2 (negotiator role: Party A vs. Party B) design accounting for nonindependence of data within pairs of negotiators.<sup>2</sup> In each session, two participants were randomly assigned to a negotiator role, and negotiators nested within pairs of negotiators were randomly assigned to the experimental conditions. Thus, the independent variables were manipulated between pairs of negotiators.

**Procedure and experimental manipulations.** Upon arrival at the laboratory, participants received booklets containing all instructions on the upcoming negotiation. First, participants were given the information designed to manipulate the independent variables (cf. Beersma & De Dreu, 2002; Ten Velden et al., 2007): Participants' social motivation was varied using the prospect that they could win a cash prize of €5 in addition to the €5 they received for remuneration. Participants in the egoistic motivation condition were informed that they could increase their chance to win the cash prize by maximizing their individual outcomes. In the prosocial motivation condition participants were informed that their chance to win the cash prize would increase by maximizing both their own and the counterpart's outcomes (i.e., joint outcomes).

Subsequently, the perspective-taking mindset was manipulated. Participants in the perspective-taking condition were told that a promising strategy to increase their individual (egoistic condition) or joint (prosocial condition) outcomes is to consider their counterpart's perspective:

Previous research on negotiations has demonstrated that an effective strategy to maximize individual/joint outcomes is to take the other party's perspective. Try to focus on the other party's perspective such as the other party's intentions and interests in the negotiation. Only if you take the other party's perspective into consideration will you successfully achieve your goals.

Participants in the own-perspective condition were told that a promising strategy to increase their individual (egoistic condition) or joint outcomes (prosocial condition) is not to get distracted by the other negotiator and to focus their attention on their own perspective:

Previous research on negotiations has demonstrated that an effective strategy to maximize individual/joint outcomes is to concentrate on one's own perspective and to avoid getting distracted by the other party's perspective. Try to focus on your own perspective, such as your intentions and interests in the negotiation. Only if you focus on your own perspective without getting distracted by the other party's perspective will you successfully achieve your goals.

**Negotiation task.** Participants were asked to assume the role of a spouse in the process of divorcing their partner (the other negotiator). They were told that in the recent past, their relationship toward the other party was neither particularly positive nor particularly negative. Participants were then told that their task in the upcoming negotiation would be to find a solution for the distribution of nine negotiation items (e.g., television, sofa, photo equipment). In the newly developed negotiation paradigm with nonlinked items it is possible to vary negotiators' underlying interests, the quality of negotiation items with respect to these interests, and the resulting preferences toward the items (see Ta-

bles 1 and 2 for Parties A and B, respectively). They were informed that the nine items differed with respect to three types of underlying interests: financial security, leisure time activities, and retaining personal memorabilia. Participants were informed that their underlying interests would vary in importance, indicated by values ranging from 1 (*low importance*) to 3 (*high importance*). Unknown to the participants, importance of the underlying interests was varied between Party A and Party B. Moreover, the negotiation items differed in the extent to which they served participants' underlying interests, indicated by values ranging from 1 (*low*) to 3 (*high*). Finally, participants were told that their preferences toward the items would be a joint function of the importance of their underlying interest and the quality of the specific items on the respective interest dimensions (i.e.,  $P_i = \sum I_i * Q_{ID}$ ; with  $P_i$  = preference toward item,  $I_i$  = importance of interest indicated by a value of 1 to 3, and  $Q_{ID}$  = item's quality on the respective interest dimension indicated by a value of 1 to 3; for an adapted version of this paradigm, see Giacomantonio, De Dreu, & Mannetti, 2010).

Participants were informed that the negotiation was limited to 15 min—pretests had proven this period of time to be sufficient for finding an agreement on all items without experiencing time pressure. A beep 2 min prior to the end warned participants that the negotiation was about to end. Participants were told that for each of the nine items they could come to an agreement or not (i.e., nonlinked negotiation issues) and that in the case of a nonagreement neither party would receive points for the respective item(s). Thus, the paradigm allowed for partial impasses.

This new negotiation paradigm parallels classical tasks (e.g., Pruitt & Lewis, 1975; Thompson & Hastie, 1990) in that issues, options, and divergence of preferences are altered (see Pruitt & Carnevale, 1993; Thompson, 2006). In addition, the paradigm allows for the variation not only of negotiators' preferences toward the issues but also of their underlying interests (cf. Fisher & Ury, 1981). Hence, the paradigm increases ecological validity by adding negotiators' underlying interests to the existing structure of previous paradigms.

**Dependent variables.** The major dependent variable was the number of partial impasses (ranging from zero to nine impasses; partial impasses occur only on the pair level). In addition, we also assessed the quality of outcomes (ranging from 0 to 114 points for the Pareto optimal solution).<sup>3</sup>

In a postnegotiation questionnaire, participants' social motivation and perspective taking were assessed. With respect to social motivation, we measured participants' intention to maximize their own outcomes ("In the previous negotiation, it was important for me to maximize my own outcomes") and the counterpart's out-

<sup>2</sup> Individual outcomes within each pair of negotiators were also analyzed by including negotiators' gender (female vs. male) in the analyses. The respective analyses on negotiators' gender did not reveal any main or interaction effects (all  $F_s < 1.5$ ).

<sup>3</sup> We also computed Pareto efficiency scores along the lines suggested by Tripp and Sondak (1992). As these scores were strongly correlated with the number of partial impasses and joint outcomes in all three studies ( $r = -.94$  and  $r = .93$ , for impasses and joint outcomes in Study 1;  $r = -.98$  and  $r = .97$ , in Study 2; and  $r = -.93$  and  $r = .89$ , in Study 3), these findings are not reported separately.

Table 1

*Negotiation Items, Quality of Items on Interest Dimensions, Importance of Interest Dimension, and Preferences for Party A*

Interest		Negotiation item								
Type	Importance	Scooter	Book collection	Piano	Record collection	Television	Photo equipment	Sofa	Old trunk	Tent
Leisure time interest	1 (low importance)	3	2	3	2	2	2	1	1	2
Financial interest	2 (moderate importance)	3	3	3	1	3	2	1	1	1
Personal interest	3 (high importance)	3	3	2	3	1	2	1	2	1
Preference		18	17	15	13	11	12	6	9	7

comes (“In the previous negotiation, it was important for me to maximize my counterpart’s outcomes”). To check for the manipulation of the perspective mindset factor, participants were asked how successful they were in taking their counterpart’s perspective (“In the previous negotiation, I was successful in putting myself into the shoes of my counterpart”). All items were accompanied by 5-point scales ranging from 1 (*not at all*) to 5 (*very much*). Finally, disputants were asked to rank their counterpart’s underlying interests with respect to the three interest dimensions (i.e., financial security, leisure time activities, and retaining personal memorabilia). On the basis of these interest estimations we calculated an inaccuracy score by summing the absolute difference between the estimated rankings and the counterpart’s actual interest order (e.g., if a participant incorrectly ranked the counterpart’s highest interest as the lowest interest, he or she was assigned an inaccuracy value of  $-2$ ). The interest estimation score ranged from 0 (*all interests were estimated accurately*) to  $-4$  (*all interests were estimated with maximum inaccuracy*). At the end of the experiment, participants were thoroughly debriefed, thanked, and paid for participation.

## Results

In negotiation research, a party’s individual data are hierarchically nested within pairs of negotiators. As suggested by Kenny, Kashy, and Cook (2006), an appropriate way to deal with nested dyadic data is to analyze the individual-level data of each participant while controlling for the nesting of data within dyads. This can be done by adapting multilevel analysis to the dyadic data. We analyzed all individual data using the mixed model procedure (MIXED) in SPSS 18. The Satterthwaite option for calculating degrees of freedom (*dfs*) was used to account for heterogeneity of variance.

**Manipulation check.** The social motivation manipulation check was assessed with two items. The multilevel analysis on the

egoistic item revealed that parties in the egoistic motivation condition tended to be more concerned about maximizing their own outcomes ( $M = 4.32$ ,  $SE = 0.064$ ) than parties in the prosocial motivation condition ( $M = 4.22$ ,  $SE = 0.064$ ); however, this effect did not reach significance,  $F(1, 149.5) = 2.07$ ,  $p = .15$  (all other  $F_s < 1.0$ ). Note that the successful manipulation of prosocial motivation is characterized by an increased level of concern for the counterpart’s outcomes (De Dreu & Carnevale, 2003). Accordingly, the analysis on the prosocial item revealed that negotiators in the prosocial condition were more concerned about maximizing their counterpart’s outcomes ( $M = 3.78$ ,  $SE = 0.096$ ) than negotiators in the egoistic motivation condition ( $M = 3.26$ ,  $SE = 0.096$ ),  $F(1, 153.9) = 14.48$ ,  $p < .001$  (all other  $F_s < 0.70$ ).

Analysis on the perspective-taking item revealed that parties in the perspective-taking condition felt more successful in having taken their counterpart’s perspective ( $M = 4.21$  and  $M = 4.27$  for prosocial and egoistic parties, respectively) than in the own-perspective condition ( $M = 4.16$  and  $M = 4.08$  for prosocial and egoistic parties). However this effect did not reach significance,  $F(1, 150.1) = 1.48$ ,  $p = .22$  (all other  $F_s < 0.40$ ). A simple explanation for this unexpected finding could be found in the phrasing of the item: Although participants in the perspective-taking condition engaged in perspective taking, they may have felt that they simply were not particularly successful in doing so. Note that a respective adjustment of the item phrasing in Study 2 solved this issue.

In addition, we tested whether the perspective mindset manipulation affected negotiators’ interest estimation scores (i.e., accuracy of estimations of the counterpart’s underlying interests). A 2 (social motivation)  $\times$  2 (perspective mindset) multilevel analysis on the interest estimation scores revealed that the perspective mindset factor did not quite reach significance,  $F(1, 155.3) = 2.11$ ,  $p = .15$ , and the social motivation main effect and the interaction

Table 2

*Negotiation Items, Quality of Items on Interest Dimensions, Importance of Interest Dimension, and Preferences for Party B*

Interest		Negotiation item								
Type	Importance	Scooter	Book collection	Piano	Record collection	Television	Photo equipment	Sofa	Old trunk	Tent
Leisure time interest	3 (high importance)	3	2	3	2	2	2	1	1	2
Financial interest	2 (moderate importance)	3	3	3	1	3	2	1	1	1
Personal interest	1 (low importance)	3	3	2	3	1	2	1	2	1
Preference		18	15	17	11	13	12	6	7	9

effect did not even approach significance,  $F(1, 155.3) = 0.04$ , *ns*, and  $F(1, 155.3) = 0.02$ , *ns*, respectively. Mean scores suggested that participants in the perspective-taking conditions ( $M = -2.69$  and  $M = -2.68$  for prosocial and egoistic negotiators) tended to make more accurate estimations (i.e., fewer deviations from the counterpart's real interests) than participants in the own-perspective conditions ( $M = -3.07$  and  $M = -3.18$  for prosocial and egoistic negotiators). It is important to note that in Study 1 parties negotiated on only six integrative items. Consequently, this first study implied a rather low integrative potential, which made it difficult for participants to fully explore the counterpart's underlying interests. We increased the number of integrative issues in the subsequent studies to test the prediction that the perspective mindset manipulation affects parties' understanding of their counterpart's underlying interests.

**Partial impasses and negotiation outcomes.** An analysis on the number of partial impasses (see Figure 1) revealed that there was one condition in which no partial impasses emerged (i.e., pairs of prosocial negotiators with a perspective-taking mindset). Due to the absence of partial impasses in this condition (i.e., mean and standard deviation for partial impasses equals zero), parametric statistical approaches could not be applied. Consequently, we did not analyze partial impasses as count data (cf. Studies 2 and 3) but instead recoded the dependent variable into a dichotomous variable by comparing frequencies of negotiation pairs that produced at least one impasse (i.e., pairs with partial impasses = 1, pairs without partial impasses = 0). These frequencies of partial impasses were analyzed with a log-linear approach for multiway frequencies (Sokal & Rohlf, 1995; Tabachnick & Fidell, 2000; Zar, 1999). This analysis is a version of chi-square analysis with the advantage that it can be conducted in the case of a complex three-way contingency table (i.e., Social Motivation  $\times$  Perspective Mindset  $\times$  Partial Impasse: yes vs. no). When a chi-square value is calculated with the log-linear method, it is typically designated as  $G^2$ .

The respective analyses revealed a significant third-order effect (Social Motivation  $\times$  Perspective Mindset  $\times$  Partial Impasse,  $G^2 = 29.34$ ,  $p < .01$ ), as well as two significant second-order effects (Social Motivation  $\times$  Partial Impasse,  $G^2 = 10.88$ ,  $p < .01$ , and Perspective Mindset  $\times$  Partial Impasse,  $G^2 = 16.06$ ,  $p < .01$ ; see Figure 1). To further decompose the third-order effect, we reanalyzed the frequencies of partial impasses with two separate chi-square tests—for egoistic and prosocial negotiators, respectively. In line with our predictions, egoistic negotiators in the own-perspective condition more frequently ended up with an impasse than did pairs of egoistic perspective-takers ( $\chi^2 = 10.98$ ,  $p < .01$ ; cf. Figure 1). In contrast, no differences were found between prosocial pairs in the own-perspective versus perspective-taking condition ( $\chi^2 = 1.02$ , *ns*). Analyses with Fisher's exact tests (Fisher, 1922), which account for small cell frequencies, revealed the same results as found with Pearson's chi-square tests.

Previous negotiation studies dealt with the emergence of impasses by excluding the respective cases from further analyses or by using substitution scores. To highlight the hurtful impact of partial impasses, we analyzed the quality of negotiation outcomes without excluding the respective cases or using substitution scores. As a consequence, we found larger variance in the condition with a higher number of partial impasses. In fact, this difference in variance, Levene's  $F(3, 76) = 23.59$ ,  $p < .01$ , disappeared when partial impasses were added as a covariate to the subsequent analyses on quality of outcomes, Levene's  $F(3, 76) = 0.07$ , *ns*, suggesting that the heterogeneity of variance was due to the differences in partial impasses.

One approach to the problem of heterogeneity of variance is to use Satterthwaite's approximate method (Snedecor & Cochran, 1989). The Satterthwaite *dfs* are more conservative than the residual *dfs* and hence provide more accurate *F* tests. A multilevel analysis on the party's outcomes with Satterthwaite's *dfs* revealed a significant social motivation main effect,  $F(1, 150.7) = 14.88$ ,  $p < .01$ , and a significant perspective mindset main effect,  $F(1,$

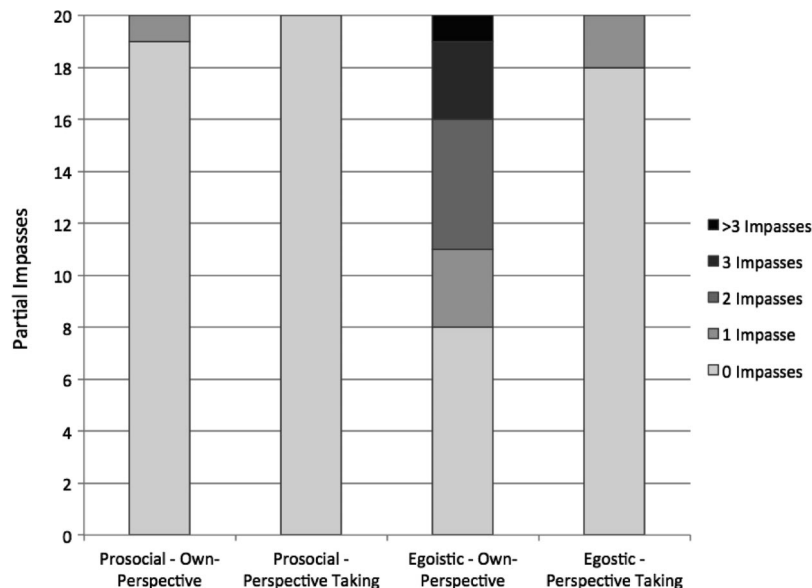


Figure 1. Count data of partial impasses as a function of social motivation and perspective mindset (Study 1). Each experimental cell consisted of 20 pairs of negotiators.



150.7) = 14.89,  $p < .01$ . Both main effects were qualified by the predicted Social Motivation  $\times$  Perspective Mindset interaction,  $F(1, 150.7) = 14.47$ ,  $p < .01$ . All effects involving the factor negotiator role (Party A vs. Party B) did not reach significance (all  $F_s < 1.0$ ). Further analyses on the interaction effect revealed that in the own-perspective condition prosocial negotiators achieved higher outcomes ( $M = 55.95$ ,  $SE = 0.94$ ) than did egoistic negotiators ( $M = 48.77$ ,  $SE = 0.94$ ),  $F(1, 150.7) = 31.12$ ,  $p < .01$ . As predicted, there was no difference between egoistic ( $M = 55.95$ ,  $SE = 0.94$ ) and prosocial parties ( $M = 56.00$ ,  $SE = 0.94$ ) in the perspective-taking condition,  $F(1, 150.7) = 0.05$ ,  $ns$ .<sup>4</sup>

## Discussion

In line with our predictions, we found that pairs of egoistic negotiators without a perspective-taking mindset more frequently ended up with partial impasses than pairs of prosocial negotiators. This risk to end up with partial impasses was substantially reduced when egoistic negotiators were placed into a perspective-taking mindset. Analyses on the quality of negotiation outcomes corroborated this pattern of results. Egoistic negotiators without a perspective-taking mindset ended up with deteriorated outcomes. At the same time, perspective taking helped egoistic negotiators to improve their outcomes by means of avoiding partial impasses.

An important question arising from these findings concerns the causes for the beneficial perspective-taking effect found for egoistic negotiators. On the basis of previous research (Galinsky et al., 2008; Kemp & Smith, 1994; Thompson, 1995), it can be assumed that perspective taking allowed negotiators to explore differences in their underlying interests and preferences toward the issues. If a perspective-taking mindset helps negotiators to detect these differences, egoistic parties may achieve high individual outcomes without doing so at the complete expense of their egoistic counterparts. In other words, when exploiting the integrative potential, each egoistic negotiator has to give up a comparatively small part of their individual outcomes (i.e., make concessions on low-preference issues) in order to achieve high profits (i.e., receive counterconcessions on high-preference issues). Consequently, the risk of partial impasses is reduced when egoistic perspective-takers exploit the integrative potential.

This assumption can be tested by systematically varying the integrative potential of the negotiation: On the basis of the previous reasoning, one may predict that such a beneficial effect does not emerge in zero-sum negotiations. A zero-sum context requires each party to sacrifice the same amount of individual outcomes (i.e., make concessions on low- and high-preference issues) in order to achieve a compromise and to avoid partial impasses. However, when both parties try to increase their individual profits without genuine regard for the counterpart's outcome, the risk of impasses will remain high—irrespective of negotiators' perspective mindsets.

Study 2 further addressed two shortcomings of Study 1: First, the results of Study 1 may reflect a ceiling effect. The task allowed pairs of negotiators to achieve a maximum joint outcome of 114 points. In three of four experimental groups, negotiators achieved outcomes close to this maximum. Consequently, we applied a more complex task in Study 2. Second, it appears that the risk of ending up with partial impasses in Study 1 was rather small. Although the task was high in mundane realism (i.e., reflecting a

real-world conflict), participants may have been confronted with specific social norms (e.g., avoid competition in divorce negotiation), which could have reduced the likelihood of partial impasses. Consequently, Study 2 used a more artificial task, which was not associated with preexisting expectations or social norms.

## Study 2: Limits of a Perspective-Taking Mindset

Study 2 investigated whether the beneficial effect of perspective taking found for egoistic negotiators is limited to integrative as opposed to distributive negotiations. On the basis of previous research (e.g., De Dreu & Van Lange, 1995) it was predicted that prosocial negotiators would successfully avoid partial impasses through concessions, irrespective of whether the negotiation context features integrative potential. In contrast, pairs of egoistic negotiators were expected to end up with more impasses in both distributive and integrative negotiations. It was predicted that in an integrative context this motivational barrier can be overcome by means of a perspective-taking mindset. Egoistic perspective-takers should, however, fail to avoid partial impasses in a distributive context, as negotiators are constrained to compromise (i.e., make concessions on low- and high-preference issues).

## Method and Procedure

**Participants and design.** One hundred and twenty male students of the University of Kiel (Germany; mean age 22 years) participated in Study 2 and received €5 for remuneration. Study 2 followed a 2 (social motivation)  $\times$  2 (perspective mindset)  $\times$  2 (negotiator role: blue vs. red representative) factorial design accounting for nonindependence of data within pairs of negotiators.

**Experimental manipulations and negotiation task.** For each experimental session, eight participants were recruited. Upon arrival at the laboratory, participants were individually taken to one of eight cubicles, which were equipped with a networked computer. Each computer was paired with one of the other computers, resulting in four computer-mediated negotiations per session. Participants received all instructions on the computer screen. Social motivation and perspective mindset were manipulated in the same way as in Study 1.

In Study 2, we reverted to a more artificial negotiation context (cf. Trötschel & Gollwitzer, 2007). Participants were randomly assigned to play the role of a representative of a seafaring nation (blue nation or red nation), which had recently discovered several islands in a formerly unknown archipelago. Similar to Study 1, participants were told that they were to negotiate the distribution of 16 issues, namely, 16 islands (e.g., *Atarkis*, *Trifusa*) found in the archipelago. Negotiators were allowed to find agreements on part of the 16 islands (i.e., nonlinked issues allowing for partial impasses).

<sup>4</sup> To explore whether the manipulation of parties' social motivation and their perspective mindsets affects the quality of outcomes beyond the emergence of partial impasses, we computed an integrativity score by dividing each party's individual outcomes by the number of issues received at the end of the negotiation. The respective score allows one to explore whether parties differ with respect to the average points they received for each issue—irrespective of the number of partial impasses. These analyses did not reveal any main or interaction action effects (all  $F_s < 1.0$ ).

Again, negotiators' underlying interests, the quality of issues with respect to these interests, and the resulting preferences toward the issues were specified in the instructions. Each island consisted of 10 regions, with each region containing one of four specific raw materials (i.e., mountain regions with ore, forest regions with wood, farmland regions with grain, and pasture regions for cattle breeding). The structure of the task was identical to that of Study 1. Study 2 merely altered the type of issues (i.e., 16 islands), the quality dimension of issues (i.e., raw material available on each island), and the type of underlying interests (i.e., low to high interests toward the four types of raw material indicated by values from 1 to 4). Preferences toward the different types of issues were again described as a joint function of the quality of issues (islands with their unique composition of raw materials) and the importance of the respective interest dimension (i.e.,  $P_I = \sum I_{RX} * N_{RX}$ ; with  $P_I$  = preference toward island,  $I_{RX}$  = importance of interest toward Raw Material X indicated by values from 1 to 4, and  $N_{RX}$  = number of regions with Raw Material X on the island ranging from 1 to 4). Again, participants were unaware that the importance of underlying interests was varied between parties.

The entire negotiation was split into two phases: one phase with eight distributive issues (i.e., parties had same preference toward the issues) and the other phase with eight integrative issues (i.e., parties had different preferences). The order of phases was counterbalanced within the four experimental conditions. Participants were informed that negotiation phases were limited to five rounds each—one round involving an offer and a respective counteroffer. Pretests had proven this period of time to be sufficient for finding an agreement on all issues without experiencing time pressure. Along with their offers, participants were allowed to send text messages to the counterpart. The participant making the first offer was randomly selected. Prior to the last round, negotiators were informed that the respective phase would end upon completion of the upcoming round. Participants were informed that in the case of partial impasse(s) neither party would receive any points for the respective issue(s).

**Dependent variables.** Number of partial impasses (ranging from zero to eight for each phase) was the major dependent variable. Again, we also recorded the quality of outcomes (i.e., ranging from 0 to 200 points and 0 to 228 points for the distributive and the integrative phases, respectively). In addition, a pre-negotiation questionnaire assessed participants' social motivation with the same items as in Study 1. To measure perspective-taking intentions, participants were asked whether they would take their counterpart's perspective in the forthcoming negotiation ("In the upcoming negotiation, I will try to put myself in my counterpart's shoes"). Both manipulation checks were assessed prior to the negotiation. All items were accompanied by 7-point scales ranging from 1 (*not at all*) to 7 (*very much*). In addition, we again measured negotiators' understanding of their counterpart's interests with the interest estimation score described in Study 1. Parties were asked to estimate their counterpart's underlying interests on the four interest dimensions (i.e., different raw materials on the islands' regions). Again, we calculated an inaccuracy score by summing the absolute difference between the estimated rankings and the counterpart's actual interest order. Due to the increased number of underlying interests (i.e., four instead of three as in Study 1), the respective interest estimation score ranged from 0 (*all*

*interests were estimated accurately*) to -8 (*all interests were estimated with maximum inaccuracy*).

**Analysis of data.** As the order of phases (i.e., distributive first vs. integrative first) did not produce a main or any interaction effects with the experimental factors involved (all  $\lambda^2$ s < 1.20, all  $F$ s < 1.0), this variable is not included in the statistical analyses. Partial impasses were observed in each experimental condition, hence allowing for parametric statistical procedures. Note that partial impasses represent count data (i.e., number of issues with nonagreements), which are not amenable to the assumption of ordinary least squares regression, as this may lead to several problems (e.g., violation of normal distribution, heteroscedasticity, expected values with negative signs; Elhai, Calhoun, & Ford, 2008; Gardner, Mulvey, & Shaw, 1995). Thus, the subsequent analyses used the negative binomial regression procedure (Atkins & Gallop, 2007; Elhai et al., 2008; Gardner et al., 1995), which can be used to analyze count data and also accounts for overdispersion (i.e., variance is larger than the mean). We followed the procedure suggested by Cox, West, and Aiken (2009) to test the effects of our independent variables (i.e., social motivation and perspective mindset in a first step) and their interaction (second step) on the counts of partial impasses.

## Results

**Manipulation check.** The manipulation check items were analyzed with the multilevel procedure described in Study 1. The analysis on the egoistic item revealed a significant main effect for the social motivation factor,  $F(1, 115.6) = 24.31, p < .01$ , which was qualified by a significant Social Motivation  $\times$  Perspective Mindset interaction effect,  $F(1, 115.6) = 6.52, p < .05$ . Egoistic negotiators reported a stronger concern for their own outcomes ( $M = 6.50, SE = 0.16$ ) than did prosocial negotiators ( $M = 5.39, SE = 0.16$ ). This effect was less pronounced in the own-perspective condition ( $M = 6.48$  vs.  $M = 5.95$ ),  $F(1, 115.6) = 2.82, p = .09$ , than in the perspective-taking condition ( $M = 6.51$  vs.  $M = 4.82$ ),  $F(1, 115.6) = 28.02, p < .01$ .<sup>5</sup> More important, analysis on the prosocial item revealed that prosocial negotiators were more concerned about their counterpart's outcomes ( $M = 4.83, SE = 0.20$ ) than egoistic negotiators ( $M = 4.27, SE = 0.20$ ),  $F(1, 115.6) = 3.70, p = .05$ . All other effects did not reach significance ( $F$ s < 1.25).

Analysis on the perspective-taking item revealed that parties in the perspective-taking condition reported stronger intentions to take their counterpart's perspective ( $M = 5.90$  and  $M = 5.80$ , for prosocial and egoistic negotiators, respectively) than in the own-perspective condition ( $M = 4.13$  and  $M = 4.17$ , for prosocial and egoistic negotiators, respectively),  $F(1, 115.9) = 32.95, p < .01$ . All other effects did not reach significance ( $F$ s < 1.0). Corroborating these findings, analysis on the interest estimation scores revealed a significant main effect for perspective mindset,  $F(1, 155.3) = 3.74, p < .05$ , while again both other effects did not reach significance,  $F(1, 115.3) = 0.45, ns$ , and  $F(1, 115.3) = 1.28$ ,

<sup>5</sup> Note that the observed interaction effect on concern for own outcomes does not track the interaction pattern found on our major dependent variables (i.e., impasses and outcomes). As the unpredicted interaction effect was neither found in Study 1 nor replicated in Study 3, it may be wise to refrain from further speculation.

*ns*, for social motivation and the interaction effect, respectively. Participants in the perspective-taking conditions ( $M = -4.33$  and  $M = -5.25$ , for prosocial and egoistic negotiators) made less inaccurate estimations than did participants in the own-perspective conditions ( $M = -6.13$  and  $M = -5.89$ , for prosocial and egoistic negotiators). This finding suggests that the increased number of integrative issues in Study 2 allowed negotiators with a perspective-taking mindset to better understand their counterparts' underlying interests.

**Partial impasses and negotiation outcomes.** The analysis of partial impasses in the integrative phase revealed a significant perspective mindset predictor (Wald  $\chi^2 = 4.08$ ,  $p < .05$ ) and a marginally significant social motivation predictor (Wald  $\chi^2 = 2.98$ ,  $p = .08$ ). Supporting our hypotheses, the Social Motivation  $\times$  Perspective Mindset predictor was also significant (Wald  $\chi^2 = 7.73$ ,  $p < .01$ ; see Table 3). The findings on partial impasses for each experimental condition are depicted in Figure 2.

To further decompose the significant two-way interaction effect in the integrative phase, we ran pairwise comparisons for the effects of social motivation on partial impasses at each level of the perspective mindset factor. The analysis in the own-perspective condition revealed that egoistic negotiators produced more partial impasses than did prosocial negotiators (Wald  $\chi^2 = 8.54$ ,  $p < .01$ ). In line with our predictions, the analysis in the perspective-taking condition did not reveal a significant difference in the number of partial impasses (Wald  $\chi^2 = 0.08$ , *ns*). Corroborating these findings, nonparametric analyses on the dichotomously recoded impasse variable (cf. Study 1) revealed a significant third-order effect (Social Motivation  $\times$  Perspective Mindset  $\times$  Partial Impasse;  $G^2 = 11.08$ ,  $p < .05$ ). In the own-perspective condition, egoistic pairs more frequently ended up with at least one impasse than did prosocial pairs ( $\chi^2 = 5.40$ ,  $p < .05$ ; cf. Figure 2). In contrast, no difference between egoistic and prosocial pairs was found within the perspective-taking condition ( $\chi^2 = 0.37$ , *ns*).

Analyses in the distributive phase revealed that although the social motivation predictor became marginally significant (Wald  $\chi^2 = 2.73$ ,  $p = .09$ ), the other two predictors did not reach significance (Wald  $\chi^2 = 0.42$ , *ns*, and Wald  $\chi^2 = 0.26$ , *ns*, for the perspective mindset and the interaction predictor, respectively; see

Table 3). Partial impasses are depicted in Figure 3. As predicted, egoistic negotiators produced more partial impasses than did prosocial negotiators—irrespective of the perspective mindset. Nonparametric analyses further corroborated this pattern of results for the distributive phase with a significant second-order effect (Social Motivation  $\times$  Partial Impasse;  $G^2 = 4.90$ ,  $p < .05$ ). In the distributive phase, egoistic pairs more frequently ended up with at least one impasse than did prosocial negotiation pairs ( $\chi^2 = 4.80$ ,  $p < .05$ ; cf. Figure 3).

Again, the quality of outcomes was analyzed without using substitution scores for partial impasses. As expected, this approach increased the heterogeneity of variance. However, differences in variance in the integrative phase, Levene's  $F(3, 56) = 13.87$ ,  $p < .01$ , disappeared when partial impasses were added as a covariate to the analyses on quality of outcomes, Levene's  $F(3, 56) = 0.92$ , *ns*, suggesting that the heterogeneity of variance was due to the differences in partial impasses. In the distributive phase no heterogeneity of variance was observed, Levene's  $F(3, 56) = 1.85$ , *ns*. The Satterthwaite's *dfs* were used to account for the observed heterogeneity of variance. The multilevel analysis on the quality of outcomes in the integrative phase revealed a significant perspective mindset effect,  $F(1, 107.3) = 5.21$ ,  $p < .05$ ; a marginally significant social motivation effect,  $F(1, 107.3) = 3.61$ ,  $p = .06$ ; a marginally significant main effect for negotiator role,  $F(1, 107.3) = 2.99$ ,  $p = .09$ ; and a significant Social Motivation  $\times$  Perspective Mindset interaction effect,  $F(1, 107.3) = 5.81$ ,  $p < .05$  (all other  $F$ s  $< 1.80$ ). As indicated by the marginally significant effect of negotiator role, participants in the role of the red representative tended to achieve higher individual outcomes ( $M = 102.13$ ,  $SE = 4.68$ ) than did participants in the role of the blue representative ( $M = 91.71$ ,  $SE = 3.78$ ). More important, additional analyses on the significant interaction effect revealed that in the own-perspective condition prosocial negotiators achieved higher outcomes ( $M = 103.03$ ,  $SE = 6.02$ ) than did egoistic negotiators ( $M = 77.06$ ,  $SE = 6.01$ ),  $F(1, 107.3) = 10.76$ ,  $p < .01$ . In line with our predictions, there was no difference between egoistic ( $M = 105.33$ ,  $SE = 6.02$ ) and prosocial negotiators ( $M = 102.26$ ,  $SE = 6.02$ ) when perspective taking was induced ( $F < 1.0$ ). These findings completely parallel the results of Study 1.<sup>6</sup> For the distributive phase, the multilevel analysis revealed a marginally significant social motivation main effect,  $F(1, 111.9) = 3.17$ ,  $p = .08$ , and a significant negotiator role main effect,  $F(1, 111.9) = 4.54$ ,  $p < .05$  (all other  $F$ s  $< 1.40$ ). Participants in the role of the red representative achieved higher individual outcomes ( $M = 91.08$ ,  $SE = 4.84$ ) than did participants in the role of the blue representative ( $M = 76.40$ ,  $SE = 4.90$ ). More relevantly, prosocial negotiators ( $M = 89.92$ ,  $SE = 4.92$ ) achieved higher joint outcomes than did egoistic negotiators ( $M = 77.73$ ,  $SE = 4.92$ ). In line with our assumptions, perspective taking did not help egoistic negotiators to alleviate the risk of partial impasses in a zero-sum context ( $F$ s  $< 0.50$ ).

Table 3

*Negative Binomial Regression for the Integrative and the Distributive Phase With the Predictors Social Motivation, Perspective Mindset, and Social Motivation  $\times$  Perspective Mindset (Study 2)*

Predictor	<i>b</i>	<i>SE</i>	<i>z</i>
Partial impasses integrative phase			
Social motivation	.53	.31	1.78 <sup>†</sup>
Perspective mindset	.63	.31	2.02*
Social Motivation $\times$ Perspective Mindset	.88	.31	2.78**
Partial impasses distributive phase			
Social motivation	.38	.23	1.65 <sup>†</sup>
Perspective mindset	.08	.23	0.35
Social Motivation $\times$ Perspective Mindset	.12	.23	0.51

*Note.* Prosocial = -1 and egoistic = +1 (social motivation); perspective-taking = -1 and own-perspective = +1 (perspective mindset); positive *b* and *z* coefficients indicate more partial impasses.

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ .

<sup>6</sup> Again, we explored whether the independent variables affected the quality of outcomes beyond the emergence of partial impasses. The respective analyses with the integrativity score did not reveal any main or interaction effects (all  $F$ s  $< 1.0$ ).

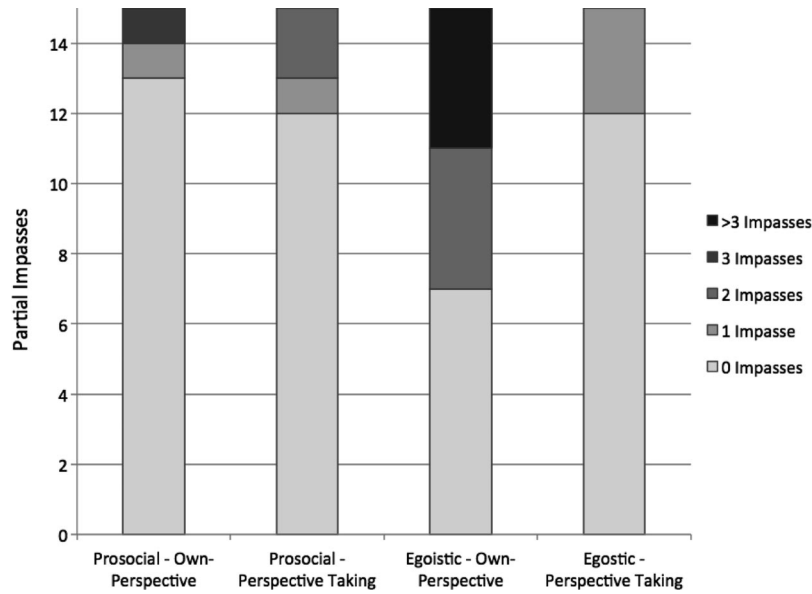


Figure 2. Count data of partial impasses as a function of social motivation and perspective mindset (Study 2, integrative phase). Each experimental cell consisted of 15 pairs of negotiators.

**Discussion**

Study 2 further corroborated the predictions on the emergence and alleviation of partial impasses: First, the findings in the integrative phase replicated the effects of Study 1, suggesting that a perspective-taking mindset helps egotistic negotiators to exploit integrative potential—thereby allowing each party to increase its individual outcomes without doing so at the counterpart’s expense. An integrative context allows negotiators to make concessions on low-preference issues while receiving counterconcessions on high-

preference issues. In this way, negotiators merely need to forgo a comparatively small part of their individual outcomes in order to achieve mutually satisfying profits.

Study 2 further confirms the assumption that the perspective-taking instructions do not turn egoistic negotiators into prosocial negotiators. Egoistic negotiators insisted on their claims in the distributive phase, thus leading to high impasse rates. This effect occurred irrespective of egoistic negotiators’ perspective mindset. Note that in a distributive context negotiators cannot increase their individual outcomes without inflicting hurtful losses upon their

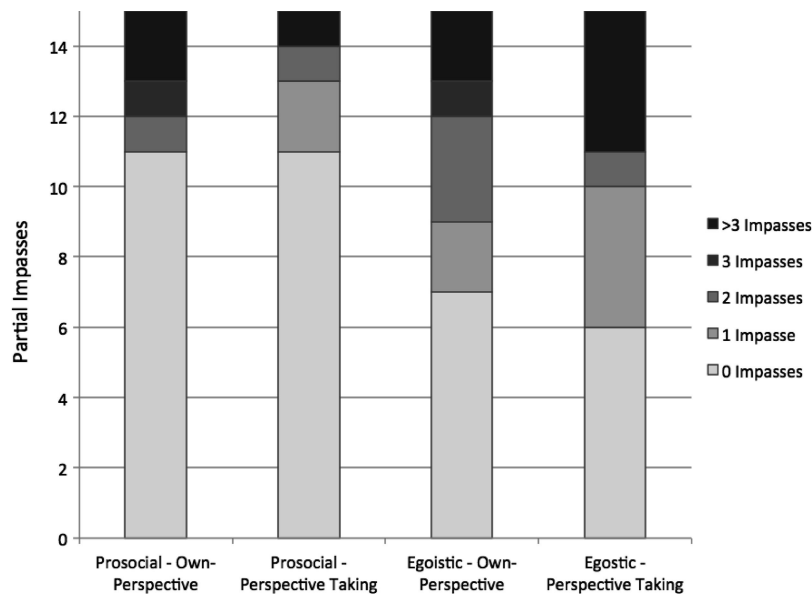


Figure 3. Count data of partial impasses as a function of social motivation and perspective mindset (Study 2, distributive phase). Each experimental cell consisted of 15 pairs of negotiators.

counterparts. Hence, each egoistic party needs to forgo individual profits to come to the Pareto optimal agreement of a compromise and to avoid impasses. If, however, both egoistic negotiators continue to strive for their selfish goals without the willingness to concede, they run into impasses—irrespective of their perspective mindset.

Study 3 was conducted to further investigate the underlying mechanism for the beneficial effect of a perspective-taking mindset. On the basis of the results of Study 2, we predicted that perspective taking would help pairs of egoistic negotiators to avoid impasses by means of systematically exchanging concessions on low- versus high-preference issues (i.e., logrolling). In contrast, prosocial negotiators should reveal an increased willingness to concede (De Dreu & Van Lange, 1995), irrespective of their perspective mindset. In addition, Study 3 addressed two relevant issues of Study 2: First, it could be argued that explicit instructions to take the counterpart's perspective may have given unintentional cues about the integrative potential, thus rendering the finding of the integrative potential more likely. To safely rule out this alternative explanation, the perspective mindset was induced with an implicit mindset priming procedure (Bargh & Chartrand, 2000; Gollwitzer, 1990). Second, one may argue that egoistic negotiators produced only partial impasses because negotiations were limited to five rounds in each phase. Consequently, we did not limit the number of rounds in Study 3.

### Study 3: Underlying Mechanism

Study 3 was conducted to further investigate the beneficial effect of perspective taking found for egoistic negotiators. As this effect was observed only in the integrative phase of Study 2, we hypothesized that it would be associated with the integrative strategy of logrolling (i.e., systematic exchange of concessions on low- vs. high-preference issues). It was predicted that logrolling would help egoistic negotiators to increase their individual outcomes without inflicting hurtful losses upon their counterparts, thereby alleviating the risk of partial impasses.

### Method and Procedure

**Participants and design.** One hundred and ninety-four students (96 women) of the University of Kiel (Germany; mean age 23 years) participated in Study 3. Nine pairs were excluded from analyses because their data recording was incomplete. Participants received €9 for remuneration. Study 3 followed a 2 (social motivation)  $\times$  2 (perspective mindset)  $\times$  2 (role) design. In each session, six to 12 same-sex students formed negotiation pairs and were randomly assigned to an experimental condition.

**Experimental manipulations.** The perspective mindset was induced by means of a mindset priming procedure as originally introduced by Gollwitzer (1990; cf. Taylor & Gollwitzer, 1995). Bargh and Chartrand (2000) defined mindset priming procedures as follows:

As opposed to conceptual priming or sequential priming, mindset priming manipulations . . . have the participant actively engage in a goal-directed type of thought in one context, to show that this mindset . . . is more likely to operate later in an unrelated context. (p. 258)

Manipulating the perspective mindset with an implicit priming procedure allows us to refute the argument that unintentional cues

of explicit instructions may have hinted toward the integrative potential of the task.

The perspective mindset was primed as follows: In the computer-mediated negotiation, participants took turns sending offers and waiting for counteroffers. Participants were informed that after they had sent their respective offer a short break would occur, in which the counterpart would prepare his or her counteroffer. During this break, participants were asked to take part in an allegedly unrelated study conducted by the local Department of Developmental Psychology. Participants were informed that this study investigated children's ability to process multipart information with a so-called children's information processing task (CIPT) and that a baseline of adult participants was needed.

The CIPT was presented as a different program with a significantly different layout, and it was conducted before the first, second, and third negotiation round. Participants saw a pair of cards in the middle of the computer screen, one colored number card and one colored letter card. In the own-perspective condition, participants were instructed to drag and drop the cards to stacks at the bottom of their computer screen according to four specific rules (e.g., move all red letter cards to Stack 1, move all cards with the number 3 to Stack 2, etc.). Participants had to decide for the two cards displayed in the middle of the computer screen whether they could use these cards for one of their four stacks. After they had made their decision and moved the cards, a new pair of cards was displayed (within each priming phase 20 pairs of letter and number cards were displayed).

In the perspective-taking condition, 20 pairs of letter and number cards were again displayed. Participants were asked to decide whether they could move the number card to one of two stacks of their own and to predict the behavior of a virtual other person with respect to the letter card. Specifically, participants had to decide whether they would drag and drop the number card to one of their own two stacks in accordance with the assigned rules. In contrast to the own-perspective condition, the computer screen displayed two stacks with assigned "letter rules" at the top of the computer screen, which were flipped upside down—indicating that these stacks belonged to a virtual other person. Participants were asked to predict whether this virtual other person would drag and drop the letter card to one of his or her two stacks at the top of the computer screen.

Thus, whereas participants in the own-perspective condition had to focus solely on their own rules to complete the task, participants in the perspective-taking condition had to put themselves into the shoes of the virtual other person. Participants' performance in the CIPT was measured by counting the number of correct and incorrect card assignments as well as participants' correct and incorrect predictions of the card assignments by the virtual other person. Statistical analysis on this performance measure did not reveal differences between conditions (on average, participants made 86% and 84% correct decisions, in the own-perspective and the perspective-taking conditions, respectively).

In addition to this perspective mindset manipulation, we also altered the instructions for the two social motivation conditions. In Studies 1 and 2, we used monetary incentives to induce an egoistic or a prosocial motivation (Beersma & De Dreu, 2002). As Thompson (1990) pointed out, manipulations of this kind may contain unintended hints about the variable-sum structure of the task. To rule out this alternative explanation, Study 3 manipulated prosocial

and egoistic motivation by means of different cover stories. Whereas participants in the prosocial condition were asked to imagine that they and their counterpart had a long-lasting cooperative relationship, participants in the egoistic condition were asked to imagine that they and their counterpart did not have a cooperative relationship. Moreover, the other negotiator was either referred to as negotiation partner (prosocial condition) or as the negotiation opponent (egoistic condition; see Giebels et al., 2000).

**Procedure and negotiation task.** We adapted the negotiation task from Studies 1 and 2 to a more economical situation. Participants were randomly assigned to the role of the manager of a travel agency (Blue Sea Agency vs. Red Sunset Agency). Participants were informed that the success of their business depended largely on the quality of hotels in their portfolio. They were then told that on a popular vacation getaway island, a total of 24 newly built hotels had decided to sign exclusive contracts with one of the two agencies. Participants were to bargain as to who would get the deal—hence, the task was to negotiate the distribution of the 24 hotels. Participants were informed that negotiation time was not limited and that they were not allowed to end the negotiation during the first three rounds. Before the fourth round, parties were informed that from this point forward they could choose between three different types of action: making another offer, accepting the counterpart's offer, and sending a final offer. When a participant decided (a) to make another offer, negotiations continued; (b) to accept the counterpart's offer, the counterpart received a corresponding message and the negotiation ended; and (c) to make a final offer, the counterpart was asked whether this final offer was acceptable or whether he or she preferred to end the negotiation by making his or her own final offer. Participants were informed that hotels claimed by both parties at the end of the negotiation would be treated as partial impasses and that neither party would receive any points for the respective issue(s).

The basic structure of the task was the same as in Study 1 and Study 2, except for the type of issues (i.e., 24 hotels), the quality dimensions of these issues (i.e., hotels' quality with respect to [a] catering, **cultural program**, [c] **general service**, and [d] **sports facilities**, indicated by rating stars from 1 to 4), and the importance of negotiators' underlying interests toward the different quality dimensions (a) through (d) (indicated by values from 1 to 4). Again, preferences toward the issues (i.e., hotels) were explained to be a joint function of the hotels' quality on the four dimensions (e.g., catering, cultural program, etc.) and the importance of negotiators' interests in the respective quality dimension (cf. Studies 1 and 2). The hotels' qualities on the four dimensions were varied in a way that both parties had different preferences toward the 24 hotels (i.e., negotiation with integrative potential).

**Dependent variables.** The major dependent variable was the number of partial impasses (ranging from 0 to 24 partial impasses). Again, we also measured the quality of outcomes (ranging from 0 to 640 points for the Pareto optimal solution). Negotiators' social motivation was assessed with items identical to Studies 1 and 2. Items were accompanied by 7-point scales ranging from 1 (*not at all*) to 7 (*very much*). Due to the implicit priming procedure, a manipulation check on participants' perspective-taking tendencies could not be assessed with self-reports. However, disputants were again asked to estimate their counterparts' underlying interests on the four dimensions (i.e., catering, cultural program, general ser-

vice, and sports facilities). Moreover, to check whether participants were aware of the connection between the negotiation and the allegedly unrelated priming task, they were asked about the purpose of the CIPT and whether they had noticed anything unusual over the course of the experimental session (cf. Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001). None of the participants reported awareness of the relationship between the negotiation and the priming task.

In addition, two different types of behavioral strategies were captured over the course of the negotiation, which can be applied to overcome the risk of partial impasses. Negotiators may either come to an agreement on issues via *systematic concessions*—that is, by distributing issues in line with the differences in negotiators' preferences. Alternatively, negotiators may agree on issues via *nonsystematic concessions*—that is, by distributing issues, but not in line with their preferences. Although systematic concession making (i.e., logrolling) is superior to nonsystematic concession making (i.e., conceding) with respect to the utilization of the integrative potential, conceding may nevertheless help negotiators to avoid impasses. Thus, in negotiations with nonlinked issues, both strategies are positively related to the quality of outcomes.

To quantify the systematic exchange of concessions, we counted for each round the number of issues, which were exchanged in line with participants' preferences. The respective logrolling score ranged from 0 (none of the issues distributed in line with preferences) to 24 (all issues distributed in line with preferences). To quantify the nonsystematic exchange of concessions we counted for each round the number of issues that were successfully distributed between both parties, but not in line with their preferences. The respective conceding score ranged from 0 (none of the issues were distributed) to 24 (all issues distributed, but contrary to preferences). Both scores were moderately correlated within the five rounds (minimum  $r = -.05$ , *ns*; maximum  $r = -.37$ ,  $p < .05$ ).

As in the previous two studies, at the end of the negotiation disputants were asked to rank their counterparts' underlying interests with respect to the four dimensions (i.e., the hotels' quality of catering, cultural program, general service, and sports facilities). As in Study 2, the interest estimation score ranged from 0 (all interests were estimated accurately) to  $-8$  (all interests were estimated with maximum inaccuracy).

**Analysis of count data.** Again, partial impasses were analyzed with the negative binomial regression procedure (cf. Study 2). To analyze the impact of our experimental factors on the behavioral strategies over the course of the negotiation we applied the generalized estimation equations (GEE) procedure based on a negative binomial distribution, which is used in the case of repeated measures of count data. We analyzed the impact of the social motivation, the perspective mindset, and the round predictors, as well as their interactions on systematic and nonsystematic concession making.

## Results

**Manipulation check.** Multilevel analysis on the egoistic item revealed that egoistic negotiators ( $M = 6.69$ ,  $SE = 0.14$ ) were more concerned with maximizing their outcomes than prosocial negotiators ( $M = 4.64$ ,  $SE = 0.14$ ),  $F(1, 168.7) = 108.79$ ,  $p < .01$  (both other  $F$ s  $< 1.0$ ). Analysis on the prosocial item revealed that prosocial negotiators were more concerned about their counter-

part's outcomes ( $M = 4.16$ ,  $SE = 0.14$ ) than egoistic negotiators ( $M = 1.66$ ,  $SE = 0.14$ ),  $F(1, 170.8) = 156.50$ ,  $p < .01$  (all other  $F$ s  $< 1.5$ ). Analysis on the interest estimation score showed that negotiators in the perspective-taking mindset conditions ( $M = -4.20$  and  $M = -4.13$ , for prosocial and egoistic perspective-takers) deviated less from their counterpart's actual interests than did participants in the own-perspective conditions ( $M = -4.64$  and  $M = -5.17$ , for prosocial and egoistic negotiators),  $F(1, 170.6) = 5.01$ ,  $p < .05$ . All other effects did not reach significance ( $F$ s  $< 0.80$ ).

**Partial impasses and negotiation outcomes.** Negative binomial regression analyses on partial impasses revealed a marginally significant social motivation predictor (Wald  $\chi^2 = 3.01$ ,  $p = .08$ ), a marginally significant perspective mindset predictor (Wald  $\chi^2 = 3.41$ ,  $p = .06$ ), and a significant Social Motivation  $\times$  Perspective Mindset predictor (Wald  $\chi^2 = 4.36$ ,  $p < .05$ ; see Table 4). Partial impasses for each experimental condition are depicted in Figure 4. Corroborating our predictions, egoistic negotiators with an own-perspective mindset produced more partial impasses than did prosocial negotiators with an own-perspective mindset (Wald  $\chi^2 = 9.13$ ,  $p < .01$ ). Again, in the perspective-taking condition egoistic and prosocial negotiation pairs did not differ in the number of partial impasses (Wald  $\chi^2 = 0.14$ , *ns*). Nonparametric analyses with the procedure described in Study 1 on the dichotomously recoded impasse variable further corroborated this pattern of results (Social Motivation  $\times$  Perspective Mindset  $\times$  Partial Impasse;  $G^2 = 24.58$ ,  $p < .01$ ). In the own-perspective condition, pairs of egoistic negotiators more frequently ended up with at least one impasse than prosocial negotiators ( $\chi^2 = 17.96$ ,  $p < .01$ ; see Figure 4). In contrast, no difference was found in the perspective-taking condition ( $\chi^2 = 1.83$ ,  $p > .30$ ).

Again, the quality of outcomes was analyzed without using substitution scores for partial impasses. Differences in variance between conditions, Levene's  $F(3, 84) = 5.65$ ,  $p < .01$ , disappeared when partial impasses were added as a covariate to the subsequent analyses on outcome quality, Levene's  $F(3, 84) = 1.68$ , *ns*. Satterthwaite's *dfs* were used to account for the observed heterogeneity of variance. The respective multilevel analysis on the quality of outcomes revealed a significant social motivation effect,  $F(1, 166.6) = 7.74$ ,  $p < .01$ , and a significant perspective mindset effect,  $F(1, 166.6) = 7.02$ ,  $p < .01$ . Both main effects were qualified by the predicted Social Motivation  $\times$  Perspective Mindset interaction,  $F(1, 166.6) = 4.10$ ,  $p < .05$ . No other effect became significant (all  $F$ s  $< 1.0$ ). Paralleling the findings of Study

1 and the integrative phase of Study 2, contrast analyses showed that in the own-perspective condition egoistic pairs achieved lower joint outcomes ( $M = 251.16$ ,  $SE = 9.47$ ) than did prosocial pairs ( $M = 296.84$ ,  $SE = 9.47$ ),  $F(1, 166.6) = 11.27$ ,  $p < .01$ . In the perspective-taking condition, there was no difference between egoistic ( $M = 295.50$ ,  $SE = 9.47$ ) and prosocial negotiators ( $M = 302.65$ ,  $SE = 9.47$ ),  $F < 1.0$ .<sup>7</sup>

**Negotiation process.** Logrolling and conceding scores were analyzed in the first four rounds and the final negotiation round.<sup>8</sup> It was predicted that prosocial negotiators would concede from the start of the negotiation, thus avoiding the emergence of partial impasses at an early stage (De Dreu & Van Lange, 1995). In contrast, negotiators' perspective mindset was not expected to affect their conceding behavior. With respect to logrolling, it was predicted that no effects would occur at the beginning of the negotiation but that perspective-takers compared with those with an own-perspective mindset would increase their logrolling behavior to a larger extent, thus taking advantage of the integrative potential.

**Nonsystematic concession making.** GEE analyses on negotiators' conceding revealed a significant social motivation predictor (Wald  $\chi^2 = 8.04$ ,  $p < .01$ ), a significant negotiation round predictor (Wald  $\chi^2 = 173.32$ ,  $p < .01$ ), and a significant Social Motivation  $\times$  Negotiation Round predictor (Wald  $\chi^2 = 6.20$ ,  $p < .05$ ; see Table 5). Analysis on the Social Motivation  $\times$  Round interaction revealed that differences in nonsystematic concession making between egoistic and prosocial parties were more pronounced at the start than at the end of the negotiation (Wald  $\chi^2 = 8.01$ ,  $p < .01$ ;  $\chi^2 = 5.33$ ,  $p < .05$ ;  $\chi^2 = 3.65$ ,  $p = .05$ ;  $\chi^2 = 3.29$ ,  $p = .07$ ; and  $\chi^2 = 3.95$ ,  $p < .05$ , for Rounds 1 to 5, respectively). To illustrate these findings, Figure 5 shows averaged conceding scores as a function of negotiators' social motivation and round.

**Systematic concession making.** GEE analyses on negotiators' logrolling revealed a marginally significant perspective mindset predictor (Wald  $\chi^2 = 3.25$ ,  $p = .07$ ), a significant negotiation round predictor (Wald  $\chi^2 = 412.10$ ,  $p < .01$ ), a significant Social Motivation  $\times$  Perspective Mindset predictor (Wald  $\chi^2 = 3.71$ ,  $p = .05$ ), and a marginally significant Perspective Mindset  $\times$  Negotiation Round predictor (Wald  $\chi^2 = 2.87$ ,  $p = .09$ ; see Table 6). To further decompose the Social Motivation  $\times$  Perspective Mindset interaction, pairwise comparisons on the social motivation effect within the own-perspective and the perspective-taking condition were conducted. Analyses revealed that when scores were averaged over all five negotiation rounds, egoistic negotiators without

Table 4

*Negative Binomial Regression With the Predictors Social Motivation, Perspective Mindset, and Social Motivation  $\times$  Perspective Mindset on Number of Partial Impasses (Study 3)*

Predictor	<i>b</i>	<i>SE</i>	$\zeta$
Social motivation	.41	.23	1.74 <sup>†</sup>
Perspective mindset	.44	.23	1.85 <sup>†</sup>
Social Motivation $\times$ Perspective Mindset	.46	.23	1.94 <sup>*</sup>

*Note.* Prosocial = -1 and egoistic = +1 (social motivation); perspective-taking = -1 and own-perspective = +1 (perspective mindset); positive *b* and  $\zeta$  coefficients indicate more partial impasses.

<sup>†</sup>  $p < .10$ . <sup>\*</sup>  $p < .05$ .

<sup>7</sup> Analysis on the quality of outcomes with the integrativity score revealed a marginally significant Social Motivation  $\times$  Perspective Taking interaction effect,  $F(1, 107.9) = 3.48$ ,  $p = .07$  (all other  $F$ s  $< 1.0$ ). Egoistic perspective-takers ( $M = 26.57$ ,  $SE = 0.18$ ) achieved more points per issue than did egoistic negotiators with an own-perspective mindset ( $M = 26.10$ ,  $SE = 0.18$ ),  $F(1, 107.9) = 3.88$ ,  $p = .08$ . There was no difference for prosocial negotiators ( $M = 26.33$  and  $M = 26.10$ , for the perspective-taking and own-perspective conditions, respectively),  $F(1, 107.9) = 0.76$ , *ns*.

<sup>8</sup> Analyses of negotiation behavior (i.e., logrolling and conceding) were limited to the first four rounds plus the final round (i.e., negotiation round in which negotiators ended the negotiation). In the subsequent rounds, less than 50% of the participants were still negotiating. Sample size was thus reduced to a level where statistically reliable effects are difficult to find.

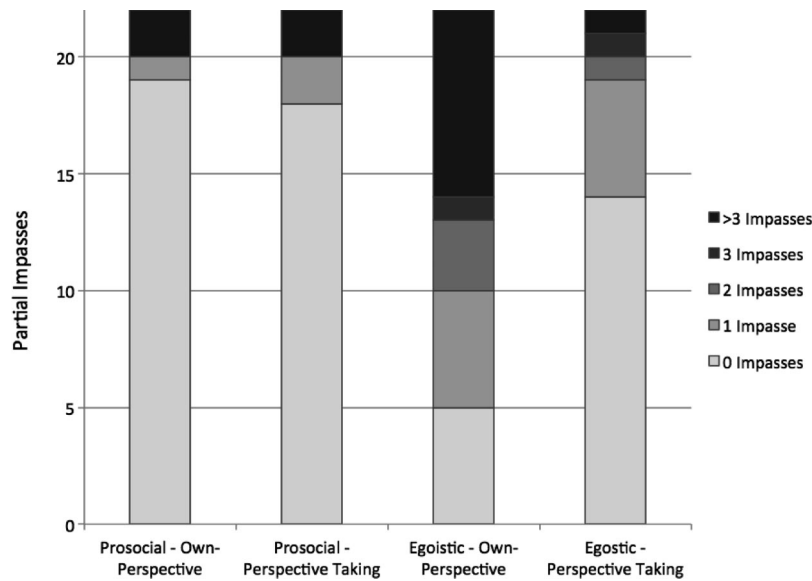


Figure 4. Count data of partial impasses as a function of social motivation and perspective mindset (Study 3). Each experimental cell consisted of 22 pairs of negotiators.

a perspective mindset engaged in less logrolling behavior than did prosocial negotiators (Wald  $\chi^2 = 5.60$ ,  $p < .05$ ). In contrast, egoistic perspective-takers did not differ from prosocial perspective-takers (Wald  $\chi^2 = 0.10$ , *ns*). Analysis on the Perspective Taking  $\times$  Round interaction revealed that although there was no difference in logrolling behavior between own-perspective and perspective-taking parties at the start of the negotiation, differences in logrolling increased over the enduring course of the negotiations (Wald  $\chi^2 = 0.002$ , *ns*; Wald  $\chi^2 = 1.50$ , *ns*; Wald  $\chi^2 = 2.54$ , *ns*; Wald  $\chi^2 = 5.28$ ,  $p < .05$ ; and Wald  $\chi^2 = 6.20$ ,  $p < .05$ , for Rounds 1 to 5, respectively). To illustrate these findings, Figure 6 shows averaged scores of systematic concession making as a function of negotiators' perspective mindset and round.

**Mediation analyses.** To test our mediational assumption, bootstrapping analyses for estimating direct and indirect effects (Preacher & Hayes, 2008) were conducted with 5,000 bootstrap

samples and a 95% BCa CI (bias-corrected and accelerated confidence interval; see Efron, 1987). There are three advantages to using this statistical method: (a) Multiple mediators can be tested simultaneously, (b) the method does not rely on the assumption of normal sampling distribution, and (c) the number of inferential tests is minimized thus reducing the likelihood of Type I errors. First, in line with the previous reasoning, it was predicted that the main effect of social motivation on the emergence of partial impasses could be explained in terms of differences in conceding. To test this assumption, we entered the social motivation factor as the predictor, partial impasses as the dependent variable, averaged conceding and logrolling scores as multiple mediators, and the perspective mindset factor as a covariate.<sup>9</sup> The respective analyses confirmed our prediction, as only conceding differed significantly from zero (95% BCa CI) and thus qualified as a mediator for the social motivation main effect (see Table 7). Second, we predicted that the main effect of perspective mindset could be explained in terms of differences in logrolling. To test this assumption, we entered the perspective mindset factor as the predictor, partial impasses as the dependent variable, averaged conceding and logrolling scores as multiple mediators, and the social motivation factor as a covariate. The respective analyses confirmed our prediction, as only logrolling qualified as a mediator for the perspective mindset main effect (see Table 7). Third, it was predicted that the Social Motivation  $\times$  Perspective Mindset interaction effect could also be explained in terms of differences in logrolling. To test this mediated moderation assumption (Muller, Judd, & Yzerbyt, 2005; Preacher, Rucker, & Hayes, 2007), we entered the Social Motivation  $\times$  Perspective Mindset interaction term as the predictor variable, partial impasses as the dependent variable,

Table 5

*Negative Binomial Regression With the Predictors Social Motivation, Perspective Mindset, Negotiation Round, and Their Interactions on Nonsystematic Concession Making (Study 3)*

Predictor	<i>b</i>	<i>SE</i>	<i>z</i>
Social motivation	-.191	.068	-2.83**
Perspective mindset	-.012	.068	-0.18
Round	.301	.023	13.14**
Social Motivation $\times$ Perspective Mindset	.089	.065	1.35
Social Motivation $\times$ Round	.051	.020	2.49**
Perspective Mindset $\times$ Round	.020	.020	0.97
Social Motivation $\times$ Perspective Mindset $\times$ Round	-.012	.020	-0.58

Note. Prosocial = -1 and egoistic = +1 (social motivation); perspective-taking = -1 and own-perspective = +1 (perspective mindset); positive *b* and *z* coefficients indicate more logrolling behavior.

\*\*  $p < .01$ .

<sup>9</sup> The mediational analyses revealed the same pattern of results when quality of outcomes was entered as the dependent variable instead of partial impasses.



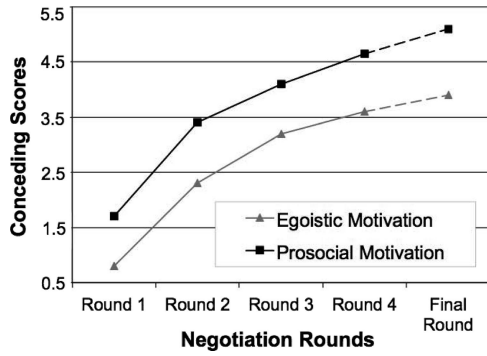


Figure 5. Conceding scores as a function of negotiation round and social motivation (Study 3). Dashed lines indicate that some of the disputants negotiated more than four rounds until they reached the final round.

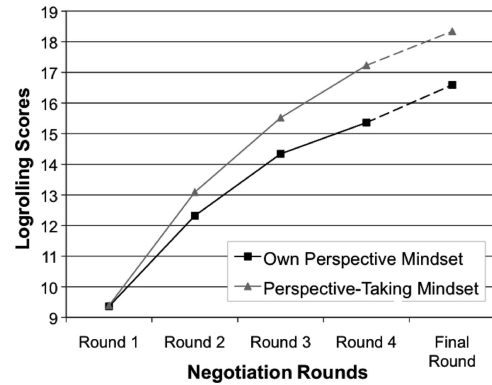


Figure 6. Logrolling scores as a function of negotiation round and perspective mindset (Study 3). Dashed lines indicate that some of the disputants negotiated more than four rounds until they reached the final round.

the averaged logrolling and conceding scores as multiple mediators, and the social motivation and perspective mindset main effects as covariates. Again, only logrolling qualified as a mediator for the interaction effect on partial impasses, thereby confirming the predictions that egoistic perspective-takers were able to reduce the number of partial impasses to the level of prosocial negotiators through the strategy of logrolling.

**Discussion**

The major goal of Study 3 was to uncover the underlying mechanisms for the effects found in the previous studies. Study 3 demonstrated that perspective taking enables egoistic negotiators to detect the integrative potential, allowing them to apply the integrative strategy of logrolling. By means of logrolling egoistic negotiators increased their outcomes without inflicting hurtful losses upon their counterparts. The findings of the present research not only help explain how egoistic perspective-takers overcome the risk of impasses but give additional insight into the strategies applied by prosocial negotiators. As suggested by the analyses on nonsystematic concession making, prosocial negotiators avoided the emergence of partial impasses from the start of negotiations. As a consequence, they ended up with fewer impasses. This

finding may also help to explain how prosocial negotiators reduced the risk of impasses in the distributive phase of Study 2. As distributive issues do not allow for logrolling, negotiators had to concede on both high- and low-preference issues in order to avoid impasses. From the findings of Study 3 one may conclude that prosocial negotiators successfully overcome the risk of partial impasses—irrespective of whether the negotiation is on zero-sum or variable-sum issues.

**General Discussion**

The present studies point to the important role of partial impasses and examine social motivation and perspective taking as important determinants for the emergence and alleviation of impasses. As indicated by differences in the quality of joint outcomes, partial impasses produce strong detrimental effects in negotiations. Hence, the present study addresses the call by Tripp and Sondak (1992) to consider impasses as an important dependent variable and to explore conditions that lead to impasses. We introduced a negotiation task with nonlinked issues allowing for partial impasses, thereby reflecting many real-world negotiations, in which nonagreements on part of the issues play a crucial role. Future research may implement the newly developed negotiation task with nonlinked issues to take a closer look at other psychological factors affecting the emergence of partial impasses.

From a theoretical standpoint, the reported experiments support the assumption that perspective taking, social motivation, and their interaction have different effects on negotiators’ behaviors and outcomes. First, we demonstrated that a perspective-taking mindset unfolds its beneficial effect when egoistic negotiators are able to exploit the integrative potential but that it is an ineffective strategy in a distributive context (Study 2). Second, we showed that negotiators’ social motivation and their perspective-taking mindset are associated with different types of behavioral strategies. Whereas social motivation affects the extent to which negotiators engage in conceding behavior, perspective taking increases logrolling over the course of the negotiation (Study 3). Thus, in contrast to previous research, the present studies provide first insight into the limits and the underlying mechanism of the beneficial effects of perspective taking in negotiations.

Table 6  
Negative Binomial Regression With the Predictors Social Motivation, Perspective Mindset, Negotiation Round, and Their Interactions on Systematic Concession Making (Study 3)

Predictor	b	SE	z
Social motivation	-.026	.018	1.44
Perspective mindset	-.032	.018	-1.78 <sup>†</sup>
Round	.153	.030	5.10 <sup>**</sup>
Social Motivation × Perspective Mindset	-.034	.018	-1.89 <sup>*</sup>
Social Motivation × Round	-.007	.008	-0.94
Perspective Mindset × Round	-.013	.007	-1.76 <sup>†</sup>
Social Motivation × Perspective Mindset × Round	-.011	.007	-1.57

Note. Prosocial = -1 and egoistic = +1 (social motivation); perspective-taking = -1 and own-perspective = +1 (perspective mindset); positive b and z coefficients indicate more logrolling behavior.  
<sup>†</sup> p < .10. <sup>\*</sup> p < .05. <sup>\*\*</sup> p < .01.

Table 7  
*Indirect Effects of Social Motivation, Perspective Mindset, and Their Interaction on Partial Impasses Through Logrolling and Conceding (Study 3)*

Mediator	Bootstrap estimate	SE	95% BCa CI	
			Lower	Upper
Social motivation main effect				
Logrolling	0.413	0.250	-0.011	0.981
Conceding <sup>a</sup>	0.374	0.170	0.093	0.801
Perspective mindset main effect				
Logrolling <sup>a</sup>	0.481	0.281	0.052	1.190
Conceding	-0.005	0.157	-0.297	0.339
Social Motivation × Perspective Mindset interaction				
Logrolling <sup>a</sup>	0.411	0.243	0.027	0.970
Conceding	-0.202	0.172	-0.675	0.051

Note. Bootstrap analyses based on 5,000 bootstrap samples. Partial impasses were entered as a dependent variable; logrolling and conceding were entered as multiple mediators.

<sup>a</sup> Indicates that mediator differed significantly from zero with a 95% bias-corrected and accelerated confidence interval (BCa CI).

### Conceding and Logrolling

Previous research revealed that concession making can have different effects in negotiations (Pruitt & Carnevale, 1993). On the one hand, studies demonstrated that negotiators with a low willingness to make concessions are likely to end up in a total impasse and, consequently, achieve weaker outcomes (Bartos, 1974; Benton, Kelly, & Liebling, 1972; Hamner, 1974). On the other hand, studies suggest that negotiators with a strong resistance to concession making will be more likely to explore the integrative potential and are therefore more likely to achieve win-win agreements (e.g., De Dreu, Weingart, & Kwon, 2000; Pruitt & Lewis, 1975). From these different findings one can conclude that negotiators are faced with a *concession dilemma* on their way to an optimal agreement (Benton et al., 1972; Weingart, Thompson, Bazerman, & Carroll, 1990): Negotiators need to make concessions; otherwise, they will end up with impasses. However, they need to be somewhat resistant to concede in order to explore and exploit the integrative potential.

Previous research on integrative negotiations revealed that the systematic exchange of concessions in terms of logrolling leads negotiators to explore the integrative potential, thereby achieving higher individual and joint outcomes in negotiations on interlinked issues (Pruitt & Carnevale, 1993; Thompson, 2008). The present research extends the understanding of the beneficial effects of logrolling by demonstrating that a systematic exchange of concessions will also help negotiators to overcome the risk of partial impasses: Conceding on low-preference issues while receiving counterconcessions on high-preference issues allows each party to strive for their egoistic goals without inflicting hurtful losses upon the counterpart.

Although systematic concession making proved to be an efficient strategy to avoid impasses in integrative negotiations, it cannot be applied in a distributive context. An alternative way to avoid partial impasses in both integrative and distributive negotiations can be found in the strategy of conceding (i.e., unsystematic concession making). Although conceding is inferior with respect to the utilization of the integrative potential, it may nevertheless prevent partial impasses. Thus, conceding should not be seen as an

inevitably maladaptive strategy, as it helps disputants to avoid impasses.

### Perspective Taking and Social and Epistemic Motivation in Negotiations

The findings of the present research suggest that perspective taking can be a powerful tool in integrative negotiations. Note that perspective taking is a cognitive demanding process, which requires cognitive capacity (Roßnagel, 2000) and epistemic motivation (Thompson, 1995; Tjosvold & Johnson, 1977, 1978). Recently, De Dreu and Carnevale (2003; cf. De Dreu et al., 2008) suggested a motivated information processing model (MIPM), which proposes that the quality of negotiation outcomes depends on social motivation, epistemic motivation (Chaiken & Trope, 1999; Kruglanski & Webster, 1996), and their interaction. Specifically, the MIPM assumes that social motivation determines the kind of information (i.e., cooperative or egoistic) negotiators seek, provide, and consider, whereas epistemic motivation affects the extent to which it is being processed.

It should be emphasized that social motivation, epistemic motivation, and a perspective-taking mindset differ in important ways: Social motivation (a) determines the outcomes negotiators aim to maximize (high individual vs. joint profits; De Dreu & Carnevale, 2003; cf. Carnevale & De Dreu, 2006) and (b) biases the type of information that parties look for, generate, and process (De Dreu et al., 2008). Epistemic motivation, in contrast, influences the extent to which new information is searched and generated, as well as how deeply and deliberately this information is processed. In terms of lay epistemic theory (Kruglanski & Webster, 1996), epistemic motivation is *nondirectional*, in that a rich and accurate understanding of the world, rather than a specific content of knowledge or information, is looked for. In contrast to both social and epistemic motivation, perspective taking is neither biased in the service of specific motives (e.g., attainment of high individual or joint profits), nor is it nondirectional in terms of lay epistemic theory (cf. Kruglanski & Webster, 1996). In juxtaposition to social motivation, a perspective-taking mindset does not

define specific ends but rather functions as a cognitive means that can be applied to achieve various desired end-states. In contrast to epistemic motivation, perspective taking is more than a nondirectional augmentation of information processing in that it functions as a cognitive mindset, which activates a *directional* cognitive orientation (Gollwitzer, 1990) toward another party's point of view (Bazerman & Neale, 1983).

Following the reasoning of lay epistemic theory (Kruglanski & Webster, 1996), negotiators may use their epistemic motivation to either deeply process information on their own preferences and interests, or they may turn their attention toward their counterpart's preferences and interests. In line with this reasoning, all three experiments measured negotiators' nondirectional epistemic motivation with two items ("In the negotiation, I made an effort to concentrate"; "In the negotiation, I spent a lot of time thinking") and found a moderately high level of epistemic motivation irrespective of negotiators' perspective mindsets. The lack of differences across our experimental conditions suggests that (a) in line with the MIPM, social motivation and epistemic motivation are unrelated factors, and (b) the effects found for the manipulation of directional perspective mindsets cannot be explained by means of an increased level of nondirectional epistemic motivation.

The assumption that negotiators' social motivation and perspective mindset differ from each other gains further support from recent research conducted by Epley, Caruso, and Bazerman (2006). The authors demonstrated in a series of resource dilemma games that although perspective-takers may reduce their self-serving fairness bias, they remain egoistic in terms of their behaviors (reactive egoism, i.e., egoistic behavior in reaction to the presumably egoistic behavior of others). This finding suggests that perspective taking may fall short not only in bringing about beneficial effects (cf. Study 2) but may even produce detrimental effects in mixed-motive settings. Thus, it could be interesting for future research to investigate conditions in which perspective-takers develop reactive egoism in negotiations, which in turn may lead to even higher impasse rates.

### Limitations and Future Research

The present research uncovered the boundary conditions and underlying mechanism of the beneficial effect of perspective taking to overcome the barrier of an egoistic motivation. These findings also point to important aspects that should be further explored. Future research may focus on different types of perspective taking, such as negotiators' tendencies to focus on the counterpart's preferences and underlying interests, the counterpart's value orientation (e.g., the counterpart's prosocial, egoistic, or competitive motivation; Epley et al., 2006), or on the counterpart's thoughts (Galinsky & Ku, 2004; Galinsky & Moskowitz, 2000) and feelings (Batson et al., 1997; Dovidio et al., 2004). As suggested by recent research (Galinsky et al., 2008), focusing on different psychological states of the counterpart brings about different effects with respect to individual and joint outcomes in negotiations with interlinked issues. In this respect, it may be particularly interesting to explore the effects of different types of perspective taking on the emergence and alleviation of partial impasses.

Moreover, as has been suggested by recent research conducted by Moran and Ritov (2007), parties' perspective-taking mindset

can turn their attention either toward the other party's preferences or toward the other party's outcomes for a specific offer. The authors found that focusing on the other party's outcomes is a more promising strategy to attain integrative agreements than focusing on the other party's preferences. Future research should also investigate the effects of different targets at which perspective taking may aim (e.g., understanding other parties' preferences vs. understanding their gains for particular offers) with respect to the emergence and alleviation of partial impasses.

Finally, it remains unclear how a perspective-taking mindset affects mixed-motivated pairs of negotiators. As indicated by the present research, prosocial negotiators are willing to concede at an early stage of the negotiation, whereas egoistic negotiators are not. On the basis of this finding, one may predict that partial impasses are less likely to emerge in negotiations between mixed-motivated pairs of negotiators. However, the risk of partial impasses should be reduced at the expense of the prosocial party. It then remains an interesting question whether a perspective-taking mindset helps prosocial parties to protect themselves against exploitation by their egoistic counterpart.

### Conclusion

The present research shows that pairs of egoistic negotiators not only fall short in detecting the integrative potential (e.g., De Dreu, Weingart, & Kwon, 2000) but also run the risk of getting stuck in partial impasses. As nonlinked issues are featured in many real-world negotiations, future research should further investigate conditions and psychological mechanisms that affect the risk of partial impasses. Thus, the present research with its focus on social motivation, perspective mindset, negotiation strategies (i.e., log-rolling, conceding), and different types of contexts (i.e., integrative vs. distributive negotiations) can be understood as a first important step to explore conditions that lead to the emergence and the alleviation of partial impasses.

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