Identity formation in multiparty negotiations

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Based on the recently proposed Interactive Model of Identity Formation, we examine how top-down deductive and bottom-up inductive identity formations influence intentions and behaviour in multiparty negotiations. Results show that a shared identity can be deduced from the social context through recognition of superordinate similarities. However, shared identities can also be induced by intragroup processes in which individuals get acquainted with one another on an interpersonal basis. Both top-down and bottom-up processes led to the formation of a sense of shared identity, and this in turn exerted a positive influence on behavioural intentions and actual behaviour in multiparty negotiations.

The Interactive Model of Identity Formation (IMIF) suggests that there are two theoretically distinct pathways to the formation of a sense of shared (social) identity. The classic perspective on social identities is that they are inferred deductively from the broader social context within which the group members act. However, in smaller groups where members can readily interact and observe each others’ actions, a sense of shared identity can also form inductively through a reconciliation of differences and the establishment of interpersonal relations (Postmes, Haslam, & Swaab, 2005a; Postmes, Spears, Novak, & Lee, 2005b). Although this theoretical framework has received some initial support in small group settings, several questions remain unanswered. One purpose of this paper is thus to provide direct evidence of the occurrence of these two processes.

The setting in which this prediction is tested is that of multiparty negotiations. A key challenge to most negotiations is to align individual and group interests. Doing so requires individual negotiators to recognize some overarching commonalities leading them to pursue outcomes that benefit themselves as well as others. We propose that a shared identity may provide just this (see also Swaab, Postmes, Van Beest, & Spears, 2007), regardless of how this shared identity was formed (i.e. deductively or inductively). The second purpose of the present paper is therefore to examine whether different paths to shared identity formation produce essentially similar consequences for group members’ collaborative behaviour in a multiparty negotiation.
Negotiations and shared identity

Multiparty negotiations involve three or more individuals who perceive themselves as having opposing interests regarding scarce resources (Bazerman, Curhan, Moore, & Valley, 2000). Research on the efficacy of different negotiation behaviours shows consistently that the optimal strategy for individuals who face an integrative negotiation is to make sure that their own interests are represented, while at the same time remain open to others’ viewpoints (De Dreu, Weingart, & Kwon, 2000; Pruitt & Carnevale, 1993). How prosocial behaviour emerges in negotiations has been a key question for negotiation and coalition researchers. For example, negotiation researchers have focused on the impact of stable factors such as social value orientations (i.e. psychological motives or tendencies to adopt a particular behavioural strategy) and personality traits (Barry & Friedman, 1998; O’Connor et al., 2002; Olekalns & Smith, 1999). Theories of coalition formation, which tend to be dominated either by game theory perspectives which assume that people behave rationally (Kahan & Rapoport, 1984) or by theories that highlight the social costs associated with exclusion (Diermeier & Gailmard, 2006; Eisenberger, Lieberman, & Williams, 2003; Van Beest, Van Dijk, & Wilke, 2003), have also examined the impact of prosocial value orientations, but again, treated this as a relatively stable characteristic.

But beyond these stable characteristics, there are also contextual factors that influence whether people act communally or not. For example, the social identity perspective has proposed that the emergence of a shared sense of social identity is associated with prosocial behaviour in the interest of the group (Barreto & Ellemers, 2002; Kramer & Brewer, 1984; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Research in the social dilemma literature would appear to be consistent with this suggestion (see for example Van Vugt & De Cremer, 1999). But despite the potential relevance of these ideas for integrative negotiations, there is as yet very little research examining the impacts of the formation of a (superordinate) sense of social identity on negotiation outcomes (see Eggins, Haslam, & Reynolds, 2002; Swaab et al., 2007 for exceptions).

One likely reason for the limited influence of social identity perspectives on the negotiation literature is that most social identity research has concerned itself more with the cognitive representation of large social categories than with the study of social outcomes in small interactive groups. In other words, social identity research tends to be more often concerned with questions of how people perceive self, in-group and out-group in certain intergroup contexts than with actual interaction among the in- and out-group members (see also Haslam & McGarty, 2001). This means that although the relevance of social identity processes to negotiations has been strongly emphasized (Haslam, 2001), the applicability of social identity perspectives to multiparty negotiations (which do by definition entail interactions between people) remains an empirical question.

Thus, key insights from social identity research have not been incorporated into the negotiation research and vice versa. To redress this situation, the present research draws upon the IMIF, a recently proposed model that describes two separate pathways to the formation of a sense of shared social identity (Postmes et al., 2005a, 2005b). In contrast to classic work on social identity, the IMIF specifically addresses the role that interaction and communication play in the formation of shared identities. Although past research has confirmed that these two paths to identity formation exist, the consequences of such identity formation have not yet been the focus of empirical research. The object of this paper is therefore to integrate this model with the negotiation literature, thereby testing novel hypotheses about the consequences of shared identity for multiparty negotiations.
In the remainder of this introduction, we seek to unite the social identity perspective, the IMIF, and the negotiation literature. We first introduce the social identity literature and the IMIF, and then introduce their relevance to negotiations. We then test these ideas in a pilot study and a study of an actual negotiation.

The formation of shared social identities

The social identity perspective predicts that when a social identity is salient, it will influence the behaviour and cognitions of individuals within that group (Turner, 1982; Turner et al., 1987). Among other things, social identity salience leads to behaviour that is consistent with group norms (e.g. Spears, Lea, & Lee, 1990) which advances the group’s interests (Ellemers, Kortekaas, & Ouwerkerk, 1999; Ellemers, Spears, & Doosje, 1997). However, most of the research on this phenomenon has taken place in situations in which social identities are treated as ‘givens’, meaning that their attributes are self-evident and relatively undisputed (e.g. because the experimenter explicitly informs the participant about the content of that social identity and the associated norms).

This model of a social identity has proven its value, especially in large social categories that we have reasonably consensual stereotypes about (e.g. gender, race or perhaps certain nationalities). However, in small interactive groups, there is little evidence that such clearly defined social identities exist, let alone that they are influential (Kerr & Tindale, 2004; Krizan & Baron, 2006). Recently, it has been proposed that this lack of evidence may have less to do with the relevance or irrelevance of the social identity concept for small groups than with the faulty assumption that social identities in small groups would necessarily operate as they do in large social categories. Inspired by distinctions between common bond and common identity groups (Prentice, Miller, & Lightdale, 1994), interpersonal and collective identities (Brewer & Gardner, 1996), relational and collective identities (Yuki, 2003) and dynamic and categorical groups (Wilder & Simon, 1998), Postmes and colleagues (Postmes, Baray, Haslam, Morton, & Swaab, 2006; Postmes et al., 2005a, 2005b) proposed that social identities can and do play a prominent role in small interactive groups. However, they suggest that an important distinction needs to be made between social identities which are deduced and those that are induced.

Top-down deduction of shared identity in negotiation

On the one hand, the IMIF elaborates the process by which group members can infer a shared identity from knowledge of their group within the social context. This path to shared identity formation is referred to as a process of top-down deductive identity formation. A shared identity is formed deductively when a group of, say, negotiators infer group-level similarities from the context they act in. The classic way to approach this type of identity formation is when people make comparisons with relevant outgroups and identify more highly with, or at a minimum become more aware of, their ingroup as a result. One good example of deductive identity formation in an intergroup context is evident in political parties. Political parties can often be distinguished on a left–right, progressive – conservative continuum so that the political ideology gives a ‘top-down’ indication of what the party line might be on any particular issue. Moreover, it is in the nature of political parties that they compete with each other for votes and support, so that the salience of group identity (and also the content of group identity) is likely to be enhanced when other parties are in the frame (both left and right). However,
a shared identity may also develop deductively in the absence of a directly relevant out-group from abstract notions of togetherness such as the recognition of superordinate commonalties and cues (Postmes et al., 2005a). For example, within many religious groups, individual members may identify so strongly with their group that this will impact on their way of life, regardless of the presence of other religious groups. Many religions have doctrines that are absolute in nature and also enshrine non-competitive values and morals, so that the religious identity will often be evident in the absence of a comparative context (which of course is not to say that conflicts between different religions cannot arise). Both types of deductive identity formation, in turn, enable individual group members to deduce properties to construct an internalized group identity that comprises stereotypes and behavioural norms which define the group’s identity further (e.g. by seeking distinctiveness or conformity).

Empirical evidence has supported the deductive path to identity formation in small group interactions. In a series of studies, Haslam and colleagues (Haslam, 1997; Haslam, Turner, Oakes, McGarty, & Reynolds, 1998; Haslam, Turner, Oakes, Reynolds, Egginis, & Nolan, 1998) divided participants into groups of three or four people and asked them to indicate which traits they thought were most typical of Australians. In addition, they manipulated the salience of social identity by asking participants to list three things they and the other Australians do well. The results demonstrated that communication about Australian stereotypes strengthened group members’ consensus and especially when a shared social identity was salient. Research is also supportive of the idea that a deductively inferred shared identity may develop in the absence of relevant out-groups. For example, previous research has demonstrated that communication in on-line discussion groups provided a capacity to translate an abstract sense of togetherness into an operational identity that informed group members about appropriate norms for decision making within the group (Postmes, Spears, & Cihangir, 2001). By instructing participants to debate an issue that pilot data have shown was one with which they fervently disagreed, Postmes and colleagues promoted a critical norm that was synonymous with the group’s identity. In a subsequent hidden profile task, this particular identity enabled the group to perform at a higher level than those who did not develop such an identity. Throughout the experiment, no references were made to any relevant competing out-groups so as to avoid an intergroup context, suggesting that a group identity can develop in a variety of settings which need not be accompanied by the presence of relevant out-groups per se.

Negotiation research too, has focused on the impact of deductively inferred shared identities on cooperative intentions and prosocial behaviour. For example, previous research in social dilemmas (Kramer & Brewer, 1984), ultimatum bargaining (Robert & Carnevale, 1997) and negotiation (Thompson, Valley, & Kramer, 1995), all show that people have more negative expectations when dealing with out-group members and more positive expectations when dealing with in-group members (Brewer, 1981). As a result, interacting with in-group members yields stronger prosocial intentions and integrative behaviour than interacting with an out-group member, and enables negotiators to obtain higher joint gains (De Dreu et al., 2000). In sum, the research evidence to date suggests that (in line with predictions of social identity theorists) deductive shared identities positively affect negotiators’ prosocial intentions and behaviour.

However, the IMIF also proposes that identities can be deduced from a sense of unity and similarity which is observed at the group level (i.e. in the absence of an intergroup comparison; see also Castano, Yzerbyt, & Bourguignon, 2003). According to prevailing theory, the impact of shared identities that are deduced in this alternative fashion should be similarly positive. However, it remains unclear from this research or the negotiation
Bottom-up induction of shared identity in negotiation

There is also a relatively neglected process by which individual contributions of group members can serve as input for the induction of a shared identity. This path to identity formation is referred to as bottom-up inductive identity formation. This process takes place when group members construe their identity over time and develop norms that correspond to this identity (Postmes et al., 2005a, 2005b). The possibility to observe and communicate with other (in)group members informs individuals about certain group characteristics and attributes that allow them to induce a shared identity which comprises stereotypes and norms for appropriate behaviour that is distinctive to the group. An amateur band for example, may develop its own style of music which in turn may be synonymous with the band’s identity. In addition, the ability for group members to display unique abilities and desires through mutual communication may also highlight a shared identity between them and strengthen the group by enhancing its performance on certain tasks (Rink & Ellemers, 2007). Finally, and perhaps most straightforwardly, good interpersonal relations among all group members can create the conditions under which they are willing to assimilate behaviourally to each other (Gaertner, Iuzzini, Guerrero Witt, & Oriñá, 2006). Communication, then, functions as the vehicle through which group members’ interpersonal differences and commonalities, and the interpersonal relations that flow from them, can be translated into a concrete shared identity.

Whereas the inductive route to identity formation is essentially no different from the classic phenomenon that the observation of in-group members gives rise to the spontaneous (and often tacit) inference of group norms (Sherif, 1935), it does suggest intragroup communication is an essential prerequisite for this kind of shared identity formation. In a study of email discussions for example, it was found that messages between group members converged in both content and form over time in such a way that intragroup interaction produced unique attributes of the group (Postmes, Spears, & Lea, 2000). In other words, the results of this study showed that, over time, each group converged in their use of humour and punctuation of their messages in such a way that intragroup communication produced and accentuated attributes that were distinctive to each individual group, effectively displaying a form of group polarization that served to express and display a particular identity for the group. In addition, previous research has shown that respecting mutual differences can protect group identification and strengthen loyalty to the group (Simon & Stürmer, 2003). Although in practice these inductive and deductive processes of identity formation are unlikely to operate independently, the key notion here is that they have qualitatively different origins.

Negotiation scholars have acknowledged that establishing interpersonal relationships and appreciating mutual differences facilitate the negotiation process and outcome. For example, Loewenstein and colleagues showed that negotiators who were attracted to the other party displayed more prosocial behaviour and chose alternatives that benefited both parties (Loewenstein, Thompson, & Bazerman, 1989). Other research revealed that getting acquainted with the counterparty or the mere ability to communicate fostered a shared identity and improved outcomes in social dilemmas (Bouas & Komorita, 1996; Dawes, McTavish, & Shaklee, 1977; Dawes, Van de Kragt, & Orbell, 1988; Kerr & Kaufman-Gilliland, 1994) as well as in integrative negotiations (Moore, Kurtzberg, Thompson, & Morris, 1999; Morris, Nadler, Kurtzberg,
Hitherto, however, this research has not concerned itself with the role played in this process by social identity induction, nor has it examined the effects of these factors in the context of multiparty negotiations.

In sum, the IMIF suggests that the establishment of interpersonal relations can foster the construction of a shared identity. The present research tests the prediction that, in line with perspectives on the influence of shared identity in negotiations, this induction of a shared identity gives rise to an increase in prosocial intentions and behaviour, and thus to higher joint outcomes in integrative negotiations.

Overview

Although prior research has shown evidence that inductive and deductive paths to social identity formation exist, it did not investigate the consequences of each. One purpose of the present research is to develop and test manipulations of these two forms. Having done this, the research then tests the predictions that 1) both forms of social identity formation will foster the development of prosocial intentions, and as a result 2) both forms of social identity formation will enhance negotiation outcomes.

In order to achieve these objectives, a Pilot Study was designed to develop the manipulation of a deductive shared identity, also testing the prediction that such a deductive identity would be associated with more prosocial intentions. Testing this prediction in an elegant and conclusive fashion is not all that easy - traditionally the social identity literature has relied on subjective measures of identification as independent variables, but these introduce a risk of circularity, with identification potentially being an independent variable, dependent variable or process (Doosje, Spears, & Ellemers, 2002). A further challenge was to manipulate deductive identity in the absence of any salient intergroup comparison. This is important because we did not want to confound the inductive-deductive comparison with intra- vs. intergroup processes. Therefore, we experimentally induced the formation of a sense of deductive identity among negotiators by manipulating the perceived degree of identification and unity (unity and identification being closely related, Castano et al., 2003). One key purpose of the Pilot Study was to establish the effectiveness of this manipulation. We predicted that

Hypothesis 1: participants with a deductive identity would be more inclined to adopt prosocial intentions.

PILOT STUDY: DEDUCTIVE IDENTITY FORMATION

Method

Participants

One hundred undergraduate students (54 males, 46 females, mean age = 21.68 years) of a Dutch University were asked to participate as part of a course, and were randomly allocated to two deductive identity conditions (high deductive-identification, N = 50, vs. low deductive identification, N = 50).

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1 It should be noted that the inductive path to identity formation differs from the metacounter principle because it does not require the presence of in-group members. Multiparty negotiations are intergroup settings in nature in which rivalry between groups is (oftentimes falsely) assumed. Key here is to reframe disputants' intergroup frames into intragroup frames since this enables them to make trade-offs. Inductive identity formation provides the means to reframe intergroup differences into intragroup opportunities.
Procedure
At the start of the experiment, participants were informed that they would enter a negotiation with two other parties.2 This feedback was given to provide a suitable framework for the examination of participants' collaborative intentions - no actual negotiation took place. However, participants were led to expect that they would be facing an integrative negotiation where mutual benefit could flow from collaboration. It was emphasized that in this negotiation they could not only look after the interests of their own company (a baker, florist or grocer), but also look after the collective interest of the group of negotiators (as occupants of a shopping mall). This set the stage for the appropriate measurement of prosocial value orientations.

To manipulate a deductive identity, we substantially adapted and modified an established manipulation of in-group prototypicality (Jetten, Spears, & Manstead, 1997) - with an eye to making it applicable to tap into the cognitive component of identification. Participants filled in an identity questionnaire which asked leading questions about their identification with the overarching negotiating group and about relations between the different parties (see Appendix). The participants then generated feedback for themselves by computing their ‘deductive identification score’. Due to the nature of the questions, this score was likely to reinforce the impression that they identified weakly or strongly with the (existing) shared identity inferred. It is important to emphasize that this manipulation merely made a predefined social identity salient, emphasized the individual’s affiliation with the group, and thus formed a robust operationalization of deductive identity formation. It did not offer any scope for the inductive inference of social identity attributes.

In the low deductive identity condition, questions were framed such that participants were likely to indicate that they disagreed with the identification statements. For example, we asked participants to indicate agreement with statements such as ‘I consider the three parties in the negotiation to be three independent individuals’ and ‘Own interests will not be important to these negotiators’ (recoded). Given the parameters of the expected negotiation, the first statement is logically true and the second is false. As can be seen in Appendix A, the majority response confirmed this. By inviting these (dis)confirmative responses, we hoped to subtly prime that the three parties were psychologically independent. For participants in the high deductive identity conditions, questions were more or less equivalent, in the sense that they primed the same concepts. However, importantly, they were framed in such a way that they invited the opposite response and also the participants were likely to agree with statements that implied a sense of shared identity. Thus, in this condition, the equivalent items were ‘I and the others are totally independent of each other’ (recoded) and ‘Own interest is not the only thing which counts for this negotiating group’. It should be noted that the main difference between these items and those in the other condition (above) was the way they were framed, and their reference to ‘group’ instead of ‘negotiators’. Each participant answered seven negatively and seven positively framed items.

After responding to each item, participants summed the total number of (dis)agreements for the 14 items. This was used to reinforce the manipulation. Given that the questionnaire led participants to maximize (high identification) or minimize (low identification) their total scores, they ‘discovered’ that their scores were either low or high depending on what deductive identity condition they were in (Appendix A

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2 The scenario sketched a negotiation situation which was similar to the Tower’s Market case (Weingart et al., 1993).
presents items and mean scores per condition). After calculating their total scores, participants were told that prior research demonstrated that total scores from 0 to 7 indicated that people identified weakly with their group (the average score was 3.36), whereas scores ranging from 8 to 14 indicated that they identified highly with their group (average score 11.70). In effect, this meant that participants were given feedback that their deductively inferred identification scores showed them to be either low or high identifiers (depending on condition). Participants proceeded by filling in a questionnaire assessing prosocial value orientations and their intentions during the group negotiation which would follow soon. In addition, they expressed how much they identified with the superordinate group. Participants were then informed that no actual negotiation would take place and fully debriefed.

**Dependent variables**

Participants responded to several statements on 7-point scales. The manipulation check of deductive identification tapped into the cognitive component of social identification (Ellemers *et al.*, 1999) and asked the participants ‘how much they identified with their overarching group’, ‘how closely they felt connected with the others in their group with whom they would negotiate’ and ‘how glad they were to be in that specific group’ (1, Not at all; 7, Very much, Cronbach’s $\alpha = .80$). Note that we only manipulated superordinate identification but not subgroup identification. In their instructions, participants were made aware of their subgroup identity by saying that they were going to negotiate on behalf of a certain party and faced two other parties during this negotiation.

The dependent variable was a measure of the prosocial intention (compared with self-interested intentions). We simply asked the participants the extent to which they personally intended to strive for their own interests (1) or for mutual interests (7).³

**Results**

**Manipulation check**

The manipulation of identification was successful. The manipulation check showed that participants in the high deductive identity condition indicated significantly higher identification with the superordinate category ($M = 4.90, SD = 0.87$) than those in the low deductive identity condition ($M = 4.05, SD = 1.07$), $t(99) = 4.55$, $p < .001$, $\eta^2 = .08$.

**Prosocial intentions**

Our prediction that participants in the high deductive identity condition had more prosocial intentions ($M = 3.96, SD = 1.54$) than those in the low deductive identity condition ($M = 3.22, SD = 1.27$) was supported, $t(99) = 2.84$, $p < .01$, $\eta^2 = .16$.

³The disadvantages of a 1-item measure are well known: this typically decreases power. However, we felt that the use of such a measure was justified because we wanted to ask participants simply whether they intended to strive for their own or for the mutual interest. Since this was such a straightforward behavioural intention (with no obvious alternative wordings or concepts involved), we saw no need for additional items.
NEGOTIATION STUDY: DEDUCTIVE AND INDUCTIVE IDENTITY FORMATION

Confirming predictions inferred from the IMIF, the Pilot Study showed that a deductive identity manipulation leads negotiators to identify more strongly with a shared identity and to become more concerned about mutual interests. However, the IMIF further predicts that an inductive identity manipulation should yield similar effects on the formation of a shared identity and that the presence of either a deductively inferred shared identity or inductively construed shared identity is indispensable in promoting integrative behaviour among negotiators. However, the Pilot Study only manipulated deductive identity formation. The aim of the follow-up study was therefore to examine both paths to identity formation and their impact on an actual negotiation.

One additional purpose of the negotiation study was to manipulate inductive identity formation. The fact that groups have the possibility of actually interacting with each other in the negotiation study makes it possible to manipulate an inductively construed identity in an elegant fashion. As mentioned before, the IMIF suggests that inductive identity formation takes place through (interpersonal) interaction between group members (Postmes et al., 2005a). This logic implies that an inductive identity can be construed prior to the actual negotiation by manipulating the nature or quality of interaction between the negotiating individuals. One effective way to do so is by providing negotiators an opportunity to get acquainted on an interpersonal basis because previous research has shown that self-disclosure is a powerful factor in the formation of personal relationships (Aron, Melinat, Aron, Vallone, & Bator, 1997; Berscheid, 1994). Hence, in order to foster the formation of an inductively construed shared identity between negotiators prior to their actual negotiation, we adopted a manipulation of self-disclosure (Sedikides, Campell, Reeder, & Elliot, 1998).

Based on the IMIF, which suggests that either path to identity formation is sufficient to establish a shared identity among a group of individuals, and previous social identity research showing that the presence of a shared identity is correlated with constructive behaviour among individuals, we predicted that

Hypothesis 2a and 2b: The absence of both a deductive identity manipulation as well as an inductive identity manipulation obstructs the formation of a shared identity among negotiators (a) prior to and (b) during the negotiation.

Hypothesis 3: The absence of both a deductive identity manipulation as well as an inductive identity manipulation negatively impacts integrative behaviour.

Hypothesis 4: Effects on integrative behaviour during the negotiation are driven by the extent to which negotiators recognize a shared identity to be present.

4 It is important to emphasize that the manipulation was explicitly designed to be neutral with regard to the intentions it could possibly have primed. Where references were made to goals or outcomes (i.e. regarding own or collective profit), these were carefully counterbalanced. A post-hoc mediation analysis confirms that the identification manipulation check mediates the effects of condition on social value orientations and not the other way around. Our confidence in the finding that we primarily manipulated a deductive inferred shared identity and not prosocial value orientations is further strengthened by another study demonstrating that the presence of a shared identity before a negotiation had independent effects on prosocial behaviour during the negotiation (Swaab et al., 2007). Thus, manipulating a shared identity via deductive routes and the subsequent development of prosocial values is qualitatively different: whereas the first refers to a cognitive process where one is led to see oneself as part of a larger whole (or not), the latter refers to behavioural intentions individuals have.
Method

Participants and design
Undergraduate students of a Dutch University (N = 180, 98 males, 81 females, mean age = 21.57 years) participated for a monetary reward (€8). They were assigned at random to 60 groups of three persons who were randomly assigned to experimental conditions in a 2 (inductive identity formation: low vs. high) × 2 (deductive identity formation: low vs. high) factorial design. The allocation of men and women to groups was approximately the same for all conditions and, importantly, results did not vary as a function of the gender composition of groups, p > .32.

Procedure
The experiment consisted of four phases. In Phase 1, inductive identity formation was manipulated. In the high inductive identity formation, participants were seated together at a large table, where they completed a self-disclosure task (Sedikides et al., 1998). The task consisted of talking in dyads about 29 questions which were designed to induce interpersonal attraction through inducing self-disclosure (e.g. ‘What is your first name?’, ‘What would be a perfect way of living for you?’, ‘If you could change one thing about yourself, what would that be?’). Participants were instructed to work on the self-disclosure task with each individual group member, one at a time, so that three conversations took place in each group. After their conversations, participants were brought to separate cubicles to await instructions for the second phase of the study. In the low inductive identity conditions, participants did not perform the self-disclosure task and were taken to separate cubicles straight away.

During Phase 2, participants received detailed instructions about the negotiation task. This was an integrative negotiation in which cooperation could lead to higher joint gains. Participants were informed that they would play managers of a bakery, florist or grocery store. With the other parties, they would negotiate about issues such as design, distribution of rental costs and temperature in a shared shopping mall. Numbers of points were attached to each alternative solution, indicating relative profitability (Beersma & De Dreu, 1999; Weingart, Bennett, & Brett, 1993). The total instruction took about 7 minutes, during which participants were allocated a specific role, were given feedback about the scenario and their objectives within it, ensuring each payer understood the pay-off structure.

During Phase 3, before the actual negotiation started, participants received the deductive identity manipulation identical to the Pilot Study. They had 5 minutes to fill in the questions, calculate their deductive identification scores and indicated how much they agreed with the items regarding the superordinate identification measure. It is important to note that the deductive identity manipulation followed the role allocation - this was to ensure that a sense of superordinate identity respected inter-party differences (cf. Hornsey & Hogg, 2000).

In Phase 4 of the experiment, participants were seated at a large negotiation table behind plaques identifying their role. They were given 20 minutes to reach an agreement. If they had not come to a conclusion after this time, then the experimenter gently prompted participants to round off and settle. If no settlement could be reached, negotiations were terminated. After finishing the negotiation, participants calculated how many points they had earned and filled in a questionnaire.
Manipulation checks
We checked the deductive manipulation by asking participants whether their identification score before the negotiation was low (1) or high (2). We also checked the inductive manipulation by asking participants whether they interacted with the group members separately before their negotiation (1) or not (2).

Dependent variables
The questionnaire after Phase 3 (i.e. pre-negotiation) asked participants how much they perceived a shared identity prior to their interaction and was similar to the measure from the Pilot Study. This measure thus allowed us to test whether both inductive and deductive manipulations had independent effects on the formation of a shared identity.

Perceptions of shared identity during the negotiation itself were measured after Phase 4. This measure of shared identity was similar to the measure prior to the negotiation and to the Pilot Study.

Actual behaviour was measured after Phase 4 and consisted of three measures. Our most conservative here were the number of impasses in each condition. Second, we measured the total number of points achieved after negotiation. Here, a compromise (i.e. all individuals settle on the mid-point for each negotiation issue) would yield a total of 525 points whereas a full integrative outcome (i.e. individuals trade-off issues) yielded 600 points to be divided. The number of points thus reflects the extent to which negotiators engaged in integrative behaviour. If groups did not reach agreement (i.e. an impasse), they were not rewarded any points. Because of this and omitting no agreement groups from the analyses would imply a loss of valuable data (i.e. one of the goals was to examine how manipulations affect the quality of agreements), we had to recode the outcome data in order to avoid biased results. To correct for (negative) skew, we first subtracted all values from the highest possible value of 600 points, added 1 and applied a square root transformation (as recommended by Hutcheson & Sofroniou, 1999). We then multiplied this corrected outcome by $\frac{2}{\sqrt{1}}$, so that higher scores (i.e. less negative) indicated higher outcomes. We report analyses for the outcome data without correction and with correction for skew. Hence, the negotiation paradigm we used was constructed in such a way that integrative behaviour would be evidenced by the total number of points achieved by the group, and allowed us to test that the lowest scores would be achieved in the condition where participants had no deductive and no inductive identity.

Results
Analytic strategy
To do justice to the interplay of individual and group-level effects, we conducted multilevel analysis (Snijders & Bosker, 1999). However, our outcome measures, the number of points and impasses, were a group attribute and therefore analysed at the group level only. We dummy coded a contrast (1 1 1 3) predicting that only in the condition in which no deductive or inductive identity was manipulated, shared identity and outcomes of integrative behaviour would be low. This contrast analysis provided us a direct test of our hypotheses. It should be noted here that testing a contrast (as advocated by e.g. Rosenthal & Rosnow, 1985) is the recommended strategy for these analyses according to recent APA statistical guidelines (Wilkinson & The Task Force on Statistical Inference, 1999). As a secondary set of analyses, main effects of deductive identity formation and inductive identity formation were dummy-coded. Contrast and
main effects were entered as level 2 (group) predictors in HLM for Windows version 5.04 (Raudenbusch, Bryk, & Congdon, 2001).

In the results section, we report $t$- and $p$-values to test the strength of the relation (gamma’s or $\gamma$’s) of the predicted contrast and main effects. These parameters are indicative for whether or not differences were significant, and for the size of the effect. For ease of interpretation, means and standard deviations of dependent measures at the group level can be found in Table 1.

**Table 1.** Means and standard deviations of dependent variables in negotiation study

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<th>Inductive identity high</th>
<th>Inductive identity low</th>
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<tr>
<td></td>
<td>Deductive identity high</td>
<td>Deductive identity low</td>
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<tr>
<td>Shared identity (prior to)</td>
<td>4.63a (0.89)</td>
<td>4.22ab (0.94)</td>
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<td></td>
<td>4.39a (0.68)</td>
<td>3.79b (0.77)</td>
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<tr>
<td>Shared identity (during)</td>
<td>4.65a (0.89)</td>
<td>4.40ab (0.52)</td>
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<td>4.39ab (0.58)</td>
<td>4.21b (0.57)</td>
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<tr>
<td>Impasse rates (%)</td>
<td>.07a (.13ab)</td>
<td>.13ab (.36b)</td>
</tr>
<tr>
<td>Total points (uncorrected)</td>
<td>507.50a (145.52)</td>
<td>459.17ab (190.89)</td>
</tr>
<tr>
<td></td>
<td>468.33ab (194.50)</td>
<td>354.46b (275.59)</td>
</tr>
<tr>
<td>Total points (corrected)</td>
<td>−4.67 (3.28)</td>
<td>−5.83 (3.78)</td>
</tr>
<tr>
<td></td>
<td>−5.41 (4.09)</td>
<td>−7.50 (5.35)</td>
</tr>
</tbody>
</table>

Note. Means in a row with different subscripts differ at $p < .05$; Standard deviations between parentheses.

**Manipulation checks**

Checks indicated that manipulations were successful. Participants had higher identification scores in the high deductive conditions than in the low deductive conditions, Mann–Whitney $U = 2,570.00, z = −5.43, p < .001$. No other main or interaction effects were found. Checks of the inductive identity formation manipulation were also successful. Participants in the high inductive identity conditions indicated to have had (more) interaction with others prior to their negotiation than those in the low inductive identity conditions, Mann–Whitney $U = 1,213.50, z = −9.57, p < .001$. No other main or interaction effects were found.

**Dependent variables**

Hypothesis 2a was supported: the absence of both a deductive identity manipulation as well as an inductive identity manipulation obstructed the formation of a shared identity among negotiators prior to the negotiation, $\gamma = .15, t(58) = 2.56, p = .01, \eta^2 = .09$. Secondary analyses of main effects show that the deductive identification manipulation failed to reach conventional levels of significance, $p = .17$, while the inductive manipulation was significant, $p = .05$.

Hypothesis 2b was partially supported: although the contrast predicting that a shared identity would not develop when both inductive identity manipulation and deductive identity manipulation were absent was in the predicted direction, it was not significant, $\gamma = .07, t(58) = 1.57, p = .12, \eta^2 = .04$. However, cross-comparison analyses revealed a significant difference between the condition in which neither a deductive nor inductive identity was manipulated and the condition in which both were
manipulated, \( p = .03 \) (see also Table 1). Secondary analyses of main effects show that these failed to reach conventional levels of significance, \( p = .12 \) and \( p = .13 \) for the deductive and inductive manipulations, respectively.

Hypothesis 3 was supported. Analyses of the impasses – the most conservative outcome measure – showed that the absence of both a deductive identity manipulation as well as an inductive identity manipulation negatively impacts on integrative behaviour, Mann–Whitney \( U = 242.00, z = −2.22, p = .03, \eta^2 = .06 \). Secondary analyses of main effects failed to reach significance, \( p = .14 \) and \( p = .17 \) for deductive and inductive manipulations, respectively. We found similar effects for Hypothesis 3 with regard to the total amount of points: the contrast designed to test the prediction was significant for the uncorrected measure \( (F(1, 58) = 4.09, p = .05, \eta^2 = .07) \) and marginally significant for the corrected measure \( (F(1, 58) = 3.03, p = .09, \eta^2 = .05) \). Secondary analyses of main effects failed to reach significance, \( p = .17 \) and \( p = .13 \) for deductive and inductive manipulations for the uncorrected measure and \( p = .27 \) and \( p = .14 \) for the corrected measure, respectively.

Hypothesis 4 which stated that effects on integrative behaviour during the negotiation would be driven by the extent to which negotiators recognize a shared identity to be present required a mediation analysis and was only partially supported. We tested whether the effect of the contrast on integrative behaviour was mediated by shared identity during the negotiation. Since small differences were found between the different measures of the outcome, we used group-level mediation analyses to test hypothesis 3 for the uncorrected outcome measure and controlled for shared identity prior to the negotiation in these analyses. First, there was a direct effect of the contrast on the outcome \( (\beta = 0.26, p < .05) \) and a trend for shared identity during the negotiation \( (\beta = 0.21, p = .11) \). Importantly, when both contrast and shared identity (controlling for shared identity prior to negotiation, \( \beta = 0.00, p = .98 \)) were entered as predictors of the outcome measure, the effect of the first became weaker and non-significant \( (\beta = 0.20, p = .13) \), while shared identity became stronger and significantly predicted the outcome \( (\beta = 0.27, p = .04) \). Although the Sobel test was non-significant \( (t = 1.27, p = .20) \), and hence there was no evidence that shared identity fully mediated the effects of condition, the results are consistent with the conclusion that shared identity exerted a significant influence on the negotiation outcomes.

**Discussion**

The results of this study broadly support our hypotheses concerning the consequences of identity formation along deductive and inductive paths. Both were independently manipulated, and equally affected the development of a shared identity and corresponding behaviour. This confirms predictions derived from the Interactive model of Identity Formation (Postmes et al., 2005a) that there is a deductive path to identity formation by which group members infer their identity from superordinate similarities as well as an inductive path to the formation of social identity.

In this study, the findings for the outcomes of integrative behaviour effectively mirrored the pattern for shared identity: the two manipulations both affected the use of integrative behaviour and outcomes. This signals that both inductive and deductive paths to identity formation induce negotiating partners to behave more cooperatively and prosocially during their negotiation. Moreover, this effect of conditions on negotiation outcomes was partially mediated by the presence of a shared identity, which is consistent with prior studies showing that the display of constructive negotiation
behaviours is influenced, among others, by the establishment of a superordinate identity that unites the parties (see Eggins et al., 2002; Swaab et al., 2007 for exceptions). Furthermore, the results confirm that interpersonal relations between group members are an important predictor of negotiation outcomes (Gillespie, Brett, & Weingart, 2000; Loewenstein et al., 1989; Thompson, Kray, & Lind, 1998).

**GENERAL DISCUSSION**

Taken together, the results of the Pilot Study and the Negotiation Study add to our understanding of the social factors influencing negotiation behaviours and intentions. Summarizing the findings, these studies demonstrate that deducitively inferred identities as well as inductively construed ones foster the development of prosocial behavioural intentions and actual behaviour during a multiparty negotiation. They establish a clear relationship between social identification and intentions for prosocial behaviour during negotiations, as well as actual cooperation in the achievement of an integrative solution.

Results of the negotiation study also show that deductive and inductive processes (and interpersonal and group-level factors) are closely entwined in their effects. On the one hand, these two factors appear to mutually reinforce each other. Indeed, results show that deductive and inductive manipulations both gave rise to the development of a shared identity prior to the negotiation while originating from qualitatively different sources. This supports the suggestion elsewhere that, in small interactive groups at least, factors at the interpersonal level are very closely related to factors at the group level. This finding is especially interesting given the tendency of group researchers to focus on either group-level or personal and interpersonal factors, but rarely on the reciprocal influence between the two (Spears, 2001). On the other hand, both factors seem to retain an independent influence on the formation of prosocial intentions and on actual group behaviour. Indeed, it was notable that the establishment of an inductively construed shared identity had effects very similar to those of deductively inferred shared identities.

**Implications**

Perhaps the most theoretically consequential finding in this research is that getting interpersonally acquainted with other group members is far from independent of social identity-level factors such as superordinate identification in small groups. Consistent with the IMIF, we found that both factors, effective through deductive and inductive manipulations, are involved in the processes of social identity formation. This is likely to be true of related processes of identity transformation and change as well.

At some level, these conclusions are obvious and intuitive. Researchers have long championed the interactive approach to the study of social psychological phenomena, noting the close interdependence between individual and group (e.g. Asch, 1952; Mead, 1934; Sherif, 1935). However, although this has been the word, it appears most of the (research) money has been put elsewhere. A closer examination of the small groups' literature shows that our understanding of the interaction between social identities and intragroup dynamics has evolved little. In large part, this may be due to the tendency to favour paradigms of research that do not allow for a 'contamination' with factors that the researcher is not principally interested in. For instance, although social identity researchers have long claimed to be well positioned to explain small group phenomena, social identity research has (in line with the parameters of theory) largely focused on paradigms in which the key variables of interest are *perceptions* of groups, and not *interactions* in-groups.
As a result, the majority of social identity research at best speaks indirectly to issues of group dynamics (Kerr & Tindale, 2004). Similar criticism can be levelled at researchers of group dynamics, however, who have been somewhat reluctant to explore the relevance of social identity approaches. The present results suggest that this is an area where future advances can be made. Ultimately, the fruitful colonization of this ‘no person’s land’ may depend on the abandonment of some theoretical and methodological trenches.

As one example of the scope for theoretical integration and growth, the negotiations literature may benefit from a consideration of the relationships between social identity perspectives of negotiations (Haslam, 2001) and perspectives such as dual concern theory (Pruitt & Rubin, 1986; Pruitt & Carnevale, 1993). Both perspectives argue that productive negotiations are the consequence of the dual consideration of own and other party concerns. But whereas dual concern theory focuses on the role of prosocial value orientations, social identity approaches concern themselves with the social identities at various levels that may be involved. Moreover, whereas the focus of dual concern models is on the relation of self to others, dual identity models are concerned with subgroup and superordinate group relations. Both arguments have in common the assumption that convergence is predicated upon the recognition of commonality which allows for the expression of selfhood. The similarity between these approaches is even more apparent if one accepts that self may comprise group-level as well as individual identities, and is therefore not just purely individual (Sedikides & Brewer, 2001; Tajfel & Turner, 1979; Turner et al., 1987).

An interesting methodological implication of the current research is that one can quite easily foster deductive identity formation. This is encouraging because until now, few robust manipulations of deductive identity formation in (interactive) ad hoc groups have been developed (with some exceptions, see for example Witt & Kerr, 2002). Similarly, our inductive identity manipulation has practical implications as well. We found inductive identity formation – evoked by short off-topic pre-negotiation caucusing – to have a positive influence on the group process in that it fostered the development of a shared identity between negotiations and integrative behaviour. Although the effect of (dyadic) off-topic pre-negotiation caucusing seems to be positive relative to no interaction, there are risks associated with such procedures in real-life settings. For instance, when there is inequality in the nature or amount of caucusing, not all possible dyads (negotiating parties and or mediators involved) would have communicated with each other in similar fashion or with similar outcomes. This may give rise to feelings of distrust which could impair the negotiating process. Nevertheless, it would be interesting to investigate the role of (on-topic as well as off-topic) pre-negotiation caucusing in future research.

Issues for future research
The present research operationalized, manipulated and measured identification in terms of its cognitive (self-categorization) component. Previous research suggests that identification is a multifaceted construct encompassing not just cognitive aspects of collective self-definition but also socio-emotional aspects reflecting an individual’s affiliation with the group (Ellemers et al., 1999). A fruitful question for future research would be to disentangle the impact that the different paths to identity formation have for the various dimensions of social identification. For example, it could be that a deductive identity, inferred from either intergroup comparisons or the recognition of some superordinate similarity, is more cognitive in nature, at least initially. For instance, knowing that you and others are competing with other groups for certain resources may
urge you to operate on behalf of your group’s interest more so than when such competition is absent (i.e. in-group favouritism). Although this need not make you more attracted to other in-group members in the first instance, research does suggest that such an association between (cognitive) salience and attraction can occur (Hogg & Hardie, 1992).

In contrast, inductive identity formation requires a reconciliation of interpersonal differences or the establishment of interpersonal relations and it would appear logical that this were more affective in nature, and/or related to in-group ties (Cameron, 2004). Here, closer (inter)personal ties with other group members lead one to act on behalf of the group’s goals. But once again, it would appear logical to assume that this form of identification would give rise, over time, to the emergence of a sense of shared identity of the more abstract, cognitive and kind.

Our research suggests that (within multiparty negotiations) the presence of a deductively inferred or inductively construed shared identity is sufficient for individuals to act in the collective interest. However, it would be interesting to see whether these findings also hold when one of the paths to identity formation has a negative valence. In other words, are groups able to establish integrative behavioural outcomes when their inductive identity is negative (e.g. they dislike each other) but their deductive identity is positive and strong or vice versa? Our results suggest that they can but additional research is needed to answer such questions more precisely.

Our results also suggest that the different paths to identity formation are potentially (if very slightly) additive. The best negotiation outcomes were found in the condition that fostered both forms of identity formation. Nevertheless, future research would do well to examine the interplay between the inductive and the deductive paths. Although we certainly believe that, in practice, both the paths can reinforce each other, it is also easily imaginable that there are conditions under which inductive processes would undermine deductive identity and vice versa. Some research speaks to the latter process: for instance research on computer-mediated interaction suggests that on-line interpersonal interactions can undermine the perceptual unity of the group (Sassenberg & Postmes, 2002). Furthermore, it is likely that intragroup interactions that invoke intergroup comparisons within the group would entirely undermine the capacity to maintain a sense of superordinate identification. Understanding the ways in which inductive and deductive identity formations interact is of key importance, given that in most, if not all, real-world groups both processes are likely to coexist.

In sum, our research demonstrates that different paths towards social identity formation have similar social effects on intentions and actions. These social identities are so readily inferred from the establishment of interpersonal relations confirm that our understanding of social identity can benefit from the study of dynamic and interactive processes in-groups. Conversely, this speaks to the fruitfulness of considering the influence of social identity concepts in small group research in general and in particular in integrative negotiations.

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Appendix: Deductive identity manipulation

This part of the study is about your opinion of the group of negotiators as representatives of different parties with a common interest. In the current section, we are interested in your opinion of other negotiators and their common goal. Please fill in the questionnaire after you have read each statement and indicate whether you agree with it or not. Please try to empathize with your role and the fact that you are going to negotiate with two others as good as possible during this activity.

**Low deductive identity condition**

<table>
<thead>
<tr>
<th>Statement</th>
<th>% agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I consider the three parties in the negotiation as three independent individuals</td>
<td>86</td>
</tr>
<tr>
<td>I think each negotiator considers his or her own interests</td>
<td>98</td>
</tr>
<tr>
<td>I think each negotiator decides for him or herself which proposal(s) to make</td>
<td>90</td>
</tr>
<tr>
<td>In the end, an entrepreneur only has to deal with his or her own profit</td>
<td>100</td>
</tr>
<tr>
<td>For the parties involved in this negotiation, own profit will be equally important as the attainment of a mutually satisfying agreement</td>
<td>90</td>
</tr>
<tr>
<td>I see myself and the others as three independent negotiators and a group at the same time</td>
<td>82</td>
</tr>
<tr>
<td>When these negotiators talk with each other, it will be to attain outcomes which are beneficial to themselves</td>
<td>72</td>
</tr>
<tr>
<td>How many times did you tick ‘Disagree’ with the above statements?</td>
<td>X = 1.34 SD = 1.81</td>
</tr>
<tr>
<td>Own interests will not be important to these negotiators</td>
<td>4</td>
</tr>
<tr>
<td>There will not be any difference between the group of negotiating parties’</td>
<td>0</td>
</tr>
<tr>
<td>Own profit is guaranteed when we attain good outcomes for the group as a whole</td>
<td>38</td>
</tr>
</tbody>
</table>
For these negotiators, profit for the own organization will be less relevant than good outcomes for the collective I see myself and the other negotiators as a group without any differences

When these negotiators talk with each other, especially those outcomes which are good for the collective will count I am sure that I and the other negotiators are going to form a strong collective

How many times did you tick ‘Agree’ with the above statements? $X = 2.00 \ \text{SD} = 2.08$

Now calculate your identification score by summing the scores you got in the first and the second part $X = 3.36 \ \text{SD} = 3.20$

---

### High deductive identity condition

<table>
<thead>
<tr>
<th>Pilot (N = 50) % agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I see myself and the other negotiators as a group with common goals</td>
</tr>
<tr>
<td>The common goal will be important in this group of negotiators</td>
</tr>
<tr>
<td>Own interest is not the only thing which counts for this negotiating group</td>
</tr>
<tr>
<td>A collective outcome and a profitable shopping mall contribute to the profit of each organization separately</td>
</tr>
<tr>
<td>For these negotiators, good collective outcomes will be related to individual profit</td>
</tr>
<tr>
<td>When these negotiators discuss issues with each other, collective outcomes will also count</td>
</tr>
<tr>
<td>I think I and the other negotiators are able to form a collective</td>
</tr>
<tr>
<td>How many times did you tick ‘Agree’ with the above statements? $X = 6.30 \ \text{SD} = 0.95$</td>
</tr>
<tr>
<td>I think that own interests are the only thing negotiators care about</td>
</tr>
<tr>
<td>I think each negotiator only strives for good outcomes for him/herself without considering others’ profit</td>
</tr>
<tr>
<td>These entrepreneurs only care about individual profit</td>
</tr>
<tr>
<td>A collective outcome will be unimportant to the negotiators involved</td>
</tr>
<tr>
<td>I and the others are totally independent of each other</td>
</tr>
<tr>
<td>When the negotiators discuss with each other, it will only be to attain outcomes which are good for themselves</td>
</tr>
<tr>
<td>I see the negotiating parties only as individuals</td>
</tr>
<tr>
<td>How many times did you tick ‘Disagree’ with the above statements? $X = 5.38 \ \text{SD} = 1.38$</td>
</tr>
<tr>
<td>Now calculate your identification score by summing up the scores you got in the first and the second part $X = 11.70 \ \text{SD} = 1.99$</td>
</tr>
</tbody>
</table>