Defining the common feature: Task-related differences as the basis for dyadic identity

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In this paper, we present an experimental study that examines the influence of work-goal differences and informational differences on the formation of a common identity in dyads. We show that when both kinds of differences are present within a dyad, these differences – just like similarities – come to be seen as defining dyadic features. Furthermore, mediational analysis shows that as the accumulation of differences results in a clearer conception of the dyad, it fosters dyadic identification. This is not the case when dyad members only differ from each other in one respect (i.e. either in work goals or information), while remaining similar in the other. The results are explained in the light of recent insights and developments in the social identity tradition.

In most work situations, people are a part of one or more teams that aim to achieve common goals. Some of these teams consist of only two people working in joint projects (e.g. scientists). In this contribution, we will specifically focus on the initial stages of such dyadic collaboration. Based on recent theoretical developments in the social identity/self-categorization perspective, we intend to show that people are able to identify not only with similar others they have to collaborate with, but also with collaborating partners who are different from them in task-related ways (i.e. in the personal work goals that they pursue and the information that they possess). Thus, we aim to contribute to existing insights in this area of research by examining the conditions under which a common identity on the basis of differences can naturally emerge within a dyad and in examining whether in such situations, members will perceive these differences as typical features of their dyad. Our central proposition is that this is most likely to occur when dyad members differ from each other in multiple ways and clearly perceive the differences between them. When mutual differences are highly evident to dyad members, they are able to develop a clear picture of each other, which helps them to define the nature of the dyad and to identify with that dyad. In contrast, we propose that dyad members are less likely to identify with their dyad when they differ from one another in one respect, while being similar in another respect, because this makes it more difficult for them to develop a clear conception of the dyad.

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Task-related differences

Researchers have invested a lot of effort in understanding how exactly the presence of differences between group members impacts on group processes and group outcomes. This has yielded valuable insights so far (for reviews see van Knippenberg, De Dreu, & Homan, 2004; Williams & O’Reilly, 1998). However, many findings still seem inconsistent as previous research revealed positive as well as negative consequences of diversity on group functioning (Jackson, Joshi, & Erhardt, 2003). In response to this state of affairs, it has been recommended that researchers should specifically focus on differences between people that are directly related to the joint task that they have to perform independently from other possible demographic or social category differences (that may indirectly give rise to these task-related differences, e.g. in gender, race or ethnicity; Pelled, Eisenhardt, & Xin, 1999). Accordingly, we will examine two central dimensions of task-related features: the presence of informational differences and work-goal differences between dyad members. Differences in people’s personal work goals are relevant to collaborative interactions because they indicate what kind of tasks group (or dyad) members personally prefer to perform and what they individually prefer to obtain from working with a particular other (Jehn, Northcraft, & Neale, 1999, Rink & Ellemers, 2006a). Differences in the kind of information that people possess influences group or dyadic functioning because this reflects what members are able to contribute to their groups’ performance (Stasser & Titus, 1985). We will now examine how task-related differences can contribute to the formation of a common identity.

The formation of a common identity

In the 1970s, Tajfel and his colleagues (e.g. 1972, 1979) conducted a series of experimental group studies which showed that it is possible for people to immediately attach value to their membership of a group even when this group has just been formed (i.e. in minimal groups). These findings were explained by arguing that to varying degrees, people derive their identity and sense of self from the social categories to which they belong (referred to as their social identity; Tajfel & Turner, 1979). Such self-categorization processes are expected to be facilitated when people perceive that they share relevant features with others in their group (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Turner (1985) argued that these feelings of attachment to the group (or the perception of a common group identity) represent the psychological experience of an individual, which can occur relatively independent of the objective size or features of the group. This implies that in principle any two members who share a salient trait can form a common identity.

A central tenet of the social identity approach is indeed that perceived similarity on important features can form a basis for (self-) categorization and identification. Importantly, though it has also been argued that a common identity can become salient when (a) the identity becomes emotionally significant because it is considered self-defining and self-describing (Ellemers, de Gilder, & Haslam, 2004, p. 462; Haslam & Ellemers, 2004; Hornsey & Jetten, 2004; Jackson & Smith, 1999) or (b) when this identity matches subjectively relevant features of reality (i.e. the normative fit principle, Oakes, 1987). Thus, the salience of a common identity is not based on cognitive perceptions of similarity alone, but it can also be fostered when people choose this identity from multiple options as how to define oneself (Lawler, 1992). Likewise, a common identity can emerge due to the conviction that people are reliant on each other.
in order to achieve a common goal (which is often the case in work-groups or dyads; Gaertner & Schopler, 1998, p. 964).

The normative fit principle refers to the notion that the content of a common identity also needs to be logical and meaningful for group members in their particular social context.

From this, we infer that when groups cannot easily be defined in terms of interpersonal similarities, clarity about other possible sources that may constitute the basis for a common identity will help to give meaning to the group and the way group members relate to each other (i.e. in the meaning seeking phase of group formation, Oakes, 1987; Scheepers, Spears, Doosje, & Manstead, 2003). This is consistent with the notion that the provision of concrete information about the specific features or behaviours of others can help to suppress the effects of stereotypical beliefs about these others that are based on similarity assumptions (Krueger & Rothbart, 1988). In relation to our study, this means that dyad members will try to make sense of the situation, to be able to clearly define their joint goals and actions (Haslam, 2001). When a dyad consists of individuals who are similar to each other, it is relatively easy for members to quickly form a shared world view on the basis of their shared perceptions and characteristics which distinguish their group from others (cf. meta-contrast in intergroup comparisons). As a consequence, these similarities will be highly valued, become accepted as normative for the group and will thus form the basis for a common group identity (Turner, 1985). However, when members are different from each other, they cannot easily rely on pre-existing similarities that characterize their group. Instead, they need to create and establish a new shared understanding of the dyad based on intragroup comparisons (see also Earley & Mosakowski, 2000). In such a situation, dyad members first need to develop a clear view of what constitutes their dyad and communicate about existing differences between them before they can develop a common identity. Therefore, we argue for a clarity-based account of identification. When dyad members differ from each other, these differences can come to be seen as typical dyadic features and form the basis for a common identity, provided that members clearly perceive these differences as characterizing the way they relate to each other.

**The content of a common identity**

Recent social identity research provides a growing body of evidence for our argument that a common identity can also be based on differences between the individual group members, rather than relying exclusively on the features that they have in common. For instance, the work of Postmes and his colleagues shows that within relatively small work-groups (like dyads), members primarily develop a common identity on the basis of their individual actions on behalf of the team (i.e. inductive identity formation; Postmes, Baray, Haslam, Morton, & Swaab, 2006; Postmes, Haslam, & Swaab, 2005; Postmes, Spears, Lee, & Novak, 2005). In contrast to large entities (such as social categories) which often require their meaning only when contrasted with other (out-) groups (i.e. deductive identity formation), smaller groups are more interactive by nature and thus define themselves in terms of group features, relatively independent of their social structure (see also literature on comparative fit, e.g. Haslam & Turner, 1992). This line of research primarily focused on the acceptance of individualistic behaviour within-groups. Importantly, though the expression of personal opinions in a group does not necessarily imply that group members will perceive differences among them. Group members can in fact notice that they have very similar views on important issues.
The studies that did examine how actual intragroup differences relate to the content of a collective identity mainly focused on the influence of externally induced norms on feelings of group attachment. In line with our reasoning, social identity researchers have found that the induction of any kind of norm can determine the content of a shared identity and the way in which group members show loyalty to their group, even a norm that emphasizes individuality, criticality or diversity (Gellatly & Luchak, 1998; Hornsey & Jetten, 2004; Hutchinson, Jetten, Christian, & Haycraft, in press; Jetten, Postmes, & McAuliffe, 2002; Postmes & Jetten, 2006; Postmes, Spears, & Cihangir, 2001). Our aim is to investigate the conditions under which, dyad members can also naturally start to define their mutual differences as typical and meaningful features of their dyad. Can the presence of task-related differences in itself elicit the development of a diversity-based identity? For the present research, this implies the very fact that members are different from each other in the work goals, which they prefer and the task information that they possess could, come to characterize the dyad and can define its identity. From the above-mentioned insights, we propose that dyad members are likely to value and effectively use their task-related differences when they can clearly recognize the ways in which their task-related differences are meaningful to their collaboration. We will now examine the conditions under which this is most likely to occur.

**Degree of task-related differences**

We propose that the degree to which dyad members differ from each other (i.e. whether they are similar in both respects, whether they only differ in one aspect or whether they differ in both respects) will determine whether they will define their dyad in terms of the (task-related) features that they have in common or the features on which they differ. Based on our reasoning above, we expect that when dyad members are fully similar to each other (i.e. possess similar information and prefer the same work goals), it will be obvious for them that they share these task-related features. As a consequence, it will be relative to form a common identity on the basis of this similarity (similarity based identity formation). However, we also propose that when dyad members are highly different from each other in the sense that both kinds of task-related differences are present within the dyad (i.e. with respect to information and work goals), members will be able to form a common identity as well. In this situation, dyad members will be able to clearly perceive their differences and can therefore make sense of the situation. As a consequence, we expect that they will identify with the dyad and come to see their mutual differences as typical dyadic features (clarity based identity formation). In both instances, either when dyad members are fully similar to each other or when they are clearly different in multiple ways, a sense of congruence or balance may be present and this allows the dyad members to focus on their collaboration and to identify the dyad (cf. Heider, 1958; Phillips, 2003; Phillips, Mannix, Neale, & Gruenfeld, 2004).

The literature on the influence of work-goal differences and informational differences on group interactions supports our argument that group members are more willing to accept the presence of both differences when they are highly evident within the group. In this situation, group members openly explore and think about their differences and know right at the start of the collaboration ‘who can contribute what’ to the group (Stephenson & Wicklund, 1984; Wittenbaum, Hollingshead, & Botero, 2004). As a consequence, they discuss their unique knowledge and diverging preferences more often and are more willing to deal with their differences (Olekalns, Smith, & Walsh, 2004).
1996; Stasser, Stewart, & Wittenbaum, 1995) than group members who do not clearly notice that they are different from each other.

When we turn to the situation in which dyad members are only partially different from each other (i.e. either in terms of work goals or information), we expect that it will be more difficult for them to recognize how they relate to each other. People who notice that they are similar in one respect tend to expect similarity in other important features as well (Rink & Ellemers, 2006a). When this is not the case, as there is a combination of similarities and differences (in information and work goals) within the dyad, this incongruence will confuse members as to what is normative for the dyad and what they may expect from their dyad partner. This lack of clarity will make it more difficult for dyad members to establish a common identity. In sum, in the present research we will examine the following predictions.

**H1:** Members of dyads in which both task-related differences are present are more likely to consider these differences as typical dyadic features than members of dyads who are only different from each other in one respect, but not in the other.

**H2:** Members of dyads who are fully similar to each other, as well as members of dyads in which work goal and informational differences are both present are better able to develop a clear picture of their dyad than members of dyads who are only partially different from each other (i.e. either in the work goals that they prefer, or in the information that they posses).

**H3:** These differences in perceived dyadic clarity will in-turn determine the extent to which members are able to identify with the dyad. As a result, dyad members who have developed a clear conception of their dyad will report higher levels of identification than members who have not developed a clear idea of their dyad.

**Method**

**Design and participants**

In a 2 (work goal: similar vs. different) by 2 (information: similar vs. different) experimental between-subjects design, participants had to collaborate with a simulated other via the computer. A total of 86 students from the psychology department of a Dutch University participated in this experiment (25 males and 61 females, $M = 19.84$ years). They were randomly allocated to the four conditions. At the end of the experiment, all participants received 5.50 Euros for their participation.

**Procedure and decision-making task**

Upon arrival, participants were seated in front of computers that were placed in separate cubicles. They were led to believe that they were assigned to a dyad with a fellow student in order to perform a joint decision-making task. However, in reality the collaborating partner did not exist. Participants obtained the manipulations, task information and dependent measures via the computer and were not able to see their alleged partner. Each participant received a copy of the student newspaper in which an announcement for a joint internship was placed. Together with their dyad partner, participants had to choose one out of three possible organizations for this joint internship. Participants were told that their joint decision would be evaluated and compared with the decisions of other dyads who participated in the experiment.
The joint task supposedly comprised three parts. In the first part, participants had to select their personal work goal and received 10 minutes to read the organizational profiles. In the second part, participants had to exchange some information about each organization with their partner via the computer. All information that the participants received from the partner was experimentally simulated. To make this second part realistic, we told participants that the information exchange would help them prepare for the final (bogus) part of the task; an actual face-to-face discussion with their partner to come to a final joint decision.

However, this discussion was never held; right after completion of the information exchange, participants received a questionnaire with the dependent measures. Then, they were debriefed and thanked for their cooperation.

**Selection of personal work goal**

After the general introduction of the decision-making task, participants received information about two equally valid personal goals that students could pursue in an internship: (1) Gaining *practical experience* in the organizations or (2) gaining *research experience* for their master thesis. They had to choose which work goal they personally considered to be most important and after their decision, we enhanced the internalization of this work goal by giving them additional information stating that their personal work-goal preference was indeed an important goal that could be obtained from an internship. We subsequently provided participants with information about the three organizations.

**Control variables**

Prior to the computer mediated information exchange, we wanted to control for self-activated expectations of participants of their partner as well as their attitudes towards task-related differences within the dyad. This way, we could check whether these variables possibly interfered with the influence of our manipulations on participant’s responses.

**Self-activated expectations prior to manipulations**

People generally create similarity expectations about the important features of other group (or dyad) members and a violation of such expectations influences people’s evaluation of these members (Bettencourt, Dill, Greathouse, Charlton, & Mulholland, 1996; Rink & Ellemers, 2006a). To prevent participants from developing self-activated similarity expectations about their partner, we told them that they could either favour a similar or a different goal We also indicated that the computer could have allocated either the same information about the three organizations among the dyad members or partly different information (see Stasser & Titus, 1985). We consequently checked for participants’ expectations with respect to the two task-related aspects. For work-goal preferences, we asked: ‘Are you certain that you and your dyad partner personally favour the same work goal?’ and ‘Are you certain that you and your dyad partner have different work preferences?’ (1 = Yes or 2 = No). Likewise, we asked two questions about

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1 Almost all participants preferred gaining practical experience (N = 81), whereas only a few indicated that they personally preferred gaining research experience (N = 5).
informational differences; ‘Are you certain that you and your dyad partner received similar information about the organizations?’ and ‘Are you certain that you and your dyad partner received partly different information about the organizations?’ (1 = Yes or 2 = No).

Diversity attitudes
As our main objective with this study is to test whether task-related differences, just like similarities, can come to be seen as typical dyadic features and form the basis for a common identity, we wanted to exclude the possibly confounding influence of the personal attitude of participants towards task-related diversity prior to the interaction (Ely & Thomas, 2001). Therefore, we tried to create an equally positive attitude towards the different possible compositions of task-related attributes within dyads prior to the information exchange. Specifically, participants were told that they could equally benefit from a dyad partner who was similar to them in task-related attributes during the decision-making process, as from a partner who turned out to be different in terms of these attributes. The effect of this information was checked with two statements; ‘I believe that being similar to my partner in task related features can be beneficial for our collaboration’ and ‘I believe that being different from my partner in task related attributes can be beneficial for our collaboration’ (1 = Do Not Agree to 7 = Totally Agree).

Information exchange
Finally, participants had the opportunity to exchange information with their dyad partner about each organization via the computer allegedly, in order to prepare them for the upcoming face-to-face discussion. During this computerized exchange of information, we induced our experimental manipulations of work-goal diversity and informational diversity.

Manipulation of work-goal preferences
Each organizational profile consisted of 12 parts of information covering 6 content areas relevant to the selection of an organization (e.g. information about the organizational culture, opportunities for career development and selection procedures). In each organizational profile, we provided four units of information that either referred to gaining research experience or to practical experience. The remaining eight information units were neutral in this respect. For example, a unit of information could indicate that employees oftentimes gained practical experience at several different organizational divisions, or state that most employees had to work on different research projects. The content of this information differed per organization.

At the start of the second part of the task, participants learned that they could exchange a limited number of information units from each organizational profile with their partner. The main goal of the computerized interaction was merely to exchange arguments about the three organizations, allegedly so that participants could develop a good impression of their partner and the decision-making task before the anticipated discussion. Participants had to select two important information units that they evaluated negatively and two important units that they evaluated positively for each profile. This was done to prevent them from
revealing their own favourite organization to the partner, or infer the preference of their partner on the basis of the information exchange.\(^2\) We wanted them to focus on the content of the information they exchanged and the work goals these communicated, instead of being distracted by specific choice preferences. After selecting and submitting their own information from the first organization via the computer, participants received two positive and two negative information units which allegedly were selected by their dyad partner for this same organization.\(^3\) This information was pre-programmed in such a way that participants received units of information that indicated the work goal of the dyad partner. In the *similar* work-goal conditions, at least two of the four information items selected by the dyad partner related positively to the work goal that participants had chosen themselves. The other two items were neutral in this respect. In the *different* work-goal conditions, two out of the four items that were supposedly selected by the dyad partner indicated a preference for a different work goal with the remaining items showing neutral information. After participants had exchanged information about all three organizations, we checked whether participants were indeed able to infer the work goal of their partner from the information they had received with one question: ‘During the exchange of information, I noticed that my partner has a different work-goal preference’ (1 = *Not at All* to 7 = *Completely True*).

**Manipulation of informational differences**

From the information provided by the dyad partner, participants could also infer whether both partners had received similar or different information. In the *similar* information condition, all four (positively or negatively evaluated) information items that were submitted by the dyad partner were familiar to the participants. Yet, in the *different* information condition, at least two out of the four items sent by the dyad partner was new for participants, as they had not received this information about the organizations prior to the information exchange. We checked the successfulness of this manipulation with one question: ‘During the exchange of information it became clear that my dyad partner had received partly unique information’ (1 = *Not at All* to 7 = *Completely True*).

**Dependent measures**

After the exchange of information, participants completed a questionnaire to assess our dependent measures. We assessed the *construal of typical features* of their dyad by asking participants to describe their dyad after the information exchange. We asked them: ‘Please try to think of at least one typical feature which at first sight characterizes

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\(^2\) As intended, this made it difficult for participants to detect the organizational preference of their partner. This was controlled with one question: ‘I could infer the organizational preference of my dyad partner from the information exchange’ (1 = *not agree* to 7 = *totally agree*). As expected, participants were only moderately able to detect the dyad partner’s preference on the basis of the information that was exchanged, \(M = 3.09, \ SD = 1.53\). Furthermore, the experimental manipulations did not affect this measure, \(F < 1\). This finding indicates that participants awareness of the partner’s organizational preference could not influence the effects of our work goal and information manipulations on our dependent measures.

\(^3\) The content of the partners’ response was counterbalanced so that there was an equal representation of the information units that referred to a certain work goal.
your dyad. If you cannot think of any feature please type in unclear. The answers were provided in free format. Two independent raters coded the answers to this question into three categories; (1) Explicit references to being similar in work goals or information, (2) Explicit references to being different in work goals or information and (3) ‘Unclear’, or explicit references to features unrelated to the issue of similarity vs. difference in work goals or information. The inter-rater reliability was high, $r = .93$. Subsequently, five questions assessing the extent to which participants were able to form a clear impression of their dyad; (1) ‘Based on the information exchange, I have developed a clear picture of my dyad’, (2) ‘Based on the information exchange, I have formed a clear impression of my dyad partner’, (3) ‘Through the information exchange, I could clearly conceive of my dyad’, (4) ‘At the moment, I feel confident about this situation’ and (5) ‘At the moment, I am surprised by the situation(reverse coded; $\alpha = .72$).

In addition, four items were used the level of dyadic identification; (1) ‘I am happy to belong to this dyad’, (2) ‘I see myself as part of this dyad’, (3) ‘I have a positive feeling about my dyad’ and (4) ‘I am glad to belong to this dyad’ ($\alpha = .72$; Hogg, Hains, & Mason, 1998). All questions were answered on 7-point scales, (1 = Not at All to 7 = Very Much). A principal components analysis (with Varimax rotation) confirmed that the nine items indeed measured two independent constructs, as they loaded in the intended way on two separate factors with eigenvalues > 1, which together accounted for 52% of the variance in the individual items.

Results

Control variables

Self-activated expectancies

Before the information exchange, almost all participants answered that they were unsure whether their partner preferred the same work goal as they did (94.2%), or a different work goal (95.3%). In addition, they also indicated that there were uncertain whether they had received the same (98.8%) or different information about the organizations as their dyad partner (97.7%). Thus, these results indicate that the large majority of participants had not developed self-activated similarity or diversity expectations of the dyad partner. The few participants who did develop such expectations were equally distributed among the four experimental conditions.

Diversity attitudes

As intended, in all experimental conditions, participants held no preference for task-related diversity or similarity prior to the information exchange, $t(86) = -0.09, p = ns$. Participants generally believed that task-related differences, $M = 4.72, SD = 1.52$ would be just as beneficial for the future collaboration with their dyad partner as task-related similarities, $M = 4.74, SD = 1.50$.

Manipulation checks

All further analyses were conducted using 2(work goals: similar vs. different) × 2 (information: similar vs. different) ANOVAs.

4*. Almost all other features refer to the content of the information that was exchanged (e.g. people’s preferences with respect to the financial compensation for the internship).
Work goal of partner
As predicted, the ANOVA on our check of the work goal of the partner only showed the intended main effect. In the similar work-goal condition, participants were significantly more inclined to think that their dyad partner had chosen the same work goal as they had, $M = 4.07$, $SD = 1.78$, than in the different work-goal condition, $M = 2.48$, $SD = 1.06$, $F(1, 85) = 53.55$, $p < .001$, $\eta^2 = .23$. This confirms that participants could infer the work goal of the dyad partner from the information exchange, as intended.

Information from partner
The ANOVA on the check for information only showed the intended main effect, $F(1, 85) = 69.54$, $p < .001$, $\eta^2 = .46$. In the similar information condition, participants were significantly more likely to indicate that their partner had received similar information about the organizations, $M = 4.07$, $SD = 1.78$, than in the different information condition, $M = 2.48$, $SD = 1.06$, $F(1, 82) = 53.55$, $p < .001$, $\eta^2 = .23$. Thus, as intended, participants could infer from the information exchange whether their partner possessed similar or different information than themselves.

Dependent measures
Construal of typical features
To assess whether participants indeed defined the differences between them as a typical dyadic feature, we conducted a hierarchical loglinear analysis to examine how work goals and information affected the type of defining features mentioned by participants (which were classified as either being different in task-related ways, being similar in task-related ways or references to other unrelated issues). The predicted interaction was not significant, $\chi^2_{(1, N=86)} = 0.50$, $p = ns$. However, we did observe a significant main effect of work goals, $\chi^2_{(2, N=86)} = 36.31$, $p < .001$, indicating that being different in task-related ways was more often explicitly mentioned as the most typical feature of the dyad when participants preferred a different work goal than their partner. Importantly, an additional analysis on the two conditions where participants had different work goals shows that this occurred significantly more often when participants also differed from their partner in the information that they had received, compared with when they only differed from their partner in terms of work goals, $\chi^2_{(1, N=41)} = 27.73$, $p < .001$. Thus, our results offer converging support for hypothesis 1 that task-related differences can be seen as defining features of a group and that this is more likely to happen when dyad members are different from each other in multiple ways (see Table 1).

Perceived clarity
The results of the ANOVA on perceived clarity of the dyad revealed the predicted interaction effect between work goals and information, $F(1, 85) = 41.08$, $p < .001$, $\eta^2 = .33$. Analysis of simple main effects showed that participants who noticed that they were fully similar to their dyad partner and participants who noticed that they were different on both features were significantly better able to clearly perceive their dyad than participants who noticed that they partially differed and partially similar from their dyad partner (i.e. in work goals or in information; see Table 2 for the relevant means and standard deviations).
Dyadic identification also showed the predicted interaction between work goals and information, $F(1, 85) = 19.93, p < .001, \eta^2 = .20$. Participants identified more strongly with their dyad either when they noticed that their partner was fully similar to them or when their partner turned out to be fully different from them. By contrast, participants identified relatively less with their dyad when they were partly similar and partly different (see Table 2). In sum, these results confirm our second hypothesis that the accumulation of task-related differences within a dyad enhances perceived clarity and fosters dyadic identification, compared with the situation of being partly similar, partly different.

**Table 1.** Number of times differences are construed as typical dyadic features

<table>
<thead>
<tr>
<th>Obtained information</th>
<th>Personal work goals</th>
<th>Similar</th>
<th>Different</th>
</tr>
</thead>
<tbody>
<tr>
<td>Similar</td>
<td>2 (22)</td>
<td>9%</td>
<td>12 (20)</td>
</tr>
<tr>
<td>Different</td>
<td>5 (22)</td>
<td>23%</td>
<td>18 (22)</td>
</tr>
</tbody>
</table>

**Table 2.** The perception measures as a function of work goals and information

<table>
<thead>
<tr>
<th>Obtained information</th>
<th>Personal work goals</th>
<th>Similar</th>
<th>Different</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived clarity of dyad</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Similar</td>
<td>4.41a</td>
<td>0.68</td>
<td>3.49b</td>
</tr>
<tr>
<td>Different</td>
<td>3.67b</td>
<td>1.02</td>
<td>4.47a</td>
</tr>
<tr>
<td>Dyadic identification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Similar</td>
<td>4.56a</td>
<td>0.79</td>
<td>3.23b</td>
</tr>
<tr>
<td>Different</td>
<td>3.45b</td>
<td>1.07</td>
<td>4.44a</td>
</tr>
</tbody>
</table>

Note. Means with different subscripts (a or b) differ significantly from each other, $p < .05$ (Simple main effects).

**Mediation analysis**

To test whether perceived clarity mediates dyadic identification (see H3), we standardized all variables into $z$ scores and conducted a series of hierarchical regression analyses (Baron & Kenny, 1986). We first confirmed that perceived clarity of the dyad emerged as a significant predictor of dyadic identification, $\beta = 0.32, p = .003, R^2 = .10$. Then, we examined whether the introduction of perceived clarity of the dyad significantly reduced the direct effects of the interaction between work goals and information on dyadic identification. As expected, perceived clarity of the dyad remained a significant predictor for dyadic identification, $\beta = 0.24, p = .057, R^2 = .11$, whereas the direct effect of the interaction on identification ($\beta = 0.27$) dropped to non-significance after inclusion of perceived clarity as a mediator, $\beta = 0.13$, ns.
\[ \Delta \beta = 0.14, \ p < .001. \] A Sobel test indicated that the mediating influence of the perceived clarity of the dyad was marginally significant, \( z = 3.45, \ p = .06. \)

We also examined the reversed possibility, whether the mediator could also be caused by the dependent variable. However, we found that these measures cannot be interchanged. That is, the direct effect of the interaction between work goals and information on perceived clarity of the dyad still remained highly significant when we entered dyadic identification as potential mediator in the regression equation, \( \beta = 0.32, \ p < .001, \ R^2 = .16. \) This indicates that the effect of our manipulations on dyadic identification is mediated by perceived clarity of the dyad, which is consistent with our prediction.

**Discussion**

In this study, we have examined how the presence (or absence) of task-related differences in work goals and information between dyad members influences the extent to which dyad members identify with each other. The results confirm our main hypothesis that dyad members are able to develop a clear picture of their dyad when they are highly similar to each other on both task-related aspects, or when they are different in both the work goals that they prefer and the information that they possess. In the latter situation, they also come to see their mutual differences as a typical feature of the dyad. Since these members can clearly conceive their dyad, they feel more identified with their dyad than members who are similar in one, but different in another respect. In the latter (incongruent) situation, members are less able to develop a clear idea of what their dyad is all about, nor do they construe the presence of a single difference between them as a typical dyadic feature. As a consequence, they reported relatively low levels of dyadic identification.

We want to point out that in order to examine the robustness of our findings, we have conducted additional research using a slightly different methodology (Rink & Ellemers, 2006b). In these studies, we used real groups and examined how other types of task-related diversity (e.g., in work strategies) influenced group process related variables (e.g., conflict experience). We consistently observed that group members evaluate the decision-making process more positively when they notice that all of them are fully similar to each other in the task-related aspects or when all of them are different in both aspects. These further results show across different studies that similar effects as those reported in the present research can be observed regardless of the kind of task-related differences that we have examined, and regardless of whether people only engage in a computerized interaction with their partner (as in the present research), or actually had to perform a joint decision-making task in a face-to-face setting. Notably, the current study is the only one we did that explicitly examines how work goal and informational differences specifically influence the formation and content of a common dyadic identity, and is the first to show that task-related differences can be seen as typical dyadic features, just like similarities.

**Theoretical implications and issues for further research**

One question that may come to mind is, how the simultaneous awareness of intragroup differences on the one hand and the development of a common identity on the other relates to the principle of functional antagonism (Turner, 1985). Functional antagonism
refers to the notion that self-categorization can occur at multiple levels (e.g. at the social intergroup level or at the subordinate, personal level, see Haslam, 2001), but that as one of these levels of self-categorization becomes more salient, self-categorization at other levels should become less salient. As a result, it should be difficult for people to have an equally salient personal identity (i.e. reflecting their unique views and individual perspectives) and common group identity at the same time. However, recently social identity researchers have found that the relation between these levels of identification depends on the content of the common group identity as well (e.g. Codol, 1984) that is, when the content of an emerging superordinate group identity is based upon lower-level differentiation - as in the case in our study - (or in multidisciplinary groups in which all members are dependent on each others unique knowledge in order to solve problems and reach common goals), people can equally strongly identify with both their personal and social identity (Gaertner et al., 1999 and see Haslam, 2001). Indeed, Reynolds, Eggins, and Haslam (2003) have also argued that if a common group identity incorporates and uses the individual differences among the members, both personal and group identity will remain equally important to people. In such situations, the notion of dual identification can be reconciled with the assumption of functional antagonism. In future research, it would therefore be important to examine the role of dual identification within highly diverse groups in more detail.

Another relevant question is whether our findings will apply to all group situations and accounts for all kinds of differences that may exist within a group. As we have outlined in the introduction, work-goal differences and informational differences are both directly related to the task that a group (or dyad) has to perform, and are therefore meaningful in the groups’ social context (i.e. in a work situation). Therefore, members of small work-groups can come to value such task-related differences and can even consider them necessary for the achievement of the common group goals. However, the effects of other social category differences (e.g. gender, ethnicity or age) on small group functioning and identity formation might be more complex. That is, it is less evident for group members how these differences are meaningful in a work context and how they relate to the attainment of common goals. That is, social category differences are less likely to become subjectively relevant for the collaboration than task-related differences. As a consequence, social category differences might create uncertainty and endanger the formation of a common identity, regardless of whether they are clearly perceived by the group members or not. Thus, future research could examine whether social category differences can also be seen as typical group-defining features and form the basis for a common identity or whether such differences impede identity formation.

To conclude, we want to point out that diversity might not always be an advantage for groups. We believe that this is the case when group members are interdependent with each other for the achievement of a common goal, when the differences do not threaten this goal, when members perceive the differences among them to be subjectively relevant for the group (see Ellemers & Rink, 2005; Sani, Todman, & Lunn, 2005) and - as shown in the current study - when these differences are clearly perceived by group members. Nevertheless, this study offers strong support for our central hypothesis and complements recent work on identify formation by Postmes et al. (2006). When people have to work together as a dyad, they can infer their common identity from their interpersonal interactions. We show that feelings of dyadic identification can either be based on similarities between them or on the awareness that each group member can offer a unique contribution to the collaboration. Therefore, we believe that these findings contribute in important ways to the current insights in the
psychological processes underlying identity formation. In our view, the traditional reading of the social identity approach has put too much emphasis on intergroup comparisons and the role of similarities in identity formation. Based on our finding that the presence of individual differences can also lead members to evaluate their dyad (or group) in a positive way and can even form the basis for a common identity due to intragroup perceptions, we propose that some of the previous predictions about the effects of diversity in task groups based on the social identity approach need to be refined and extended.

**Practical implications and conclusion**

This research is the first to show that feelings of identification not only reside in perceived similarity, but can also be based on the very fact that dyad members agree and accept to differ from each other and consider their mutual differences as a typical dyadic feature they share. We believe that the results of our study are highly important for work situations in which people differ from others they have to work with. In order for dyads or groups to function effectively, members should on the one hand be able to express their personal and unique task-related views, while on the other hand, they should feel that they belong to the group and are able to reach consensus together, based on their common goals. Indeed, there is a large body of literature showing that a common group identity has a large impact on the functioning of groups. For instance, there is evidence showing that a common group identity influences the extent to which group members are motivated to make an effort for the group, feel satisfied with the group or want to leave the group (Ellemers et al., 2004; van Dick, Wagner, Stellmacher, & Christ, 2004; van Knippenberg & Schie, 2000).

One clear and practical message that can be derived from this study is that future interventions in organizations should take group or dyadic-level characteristics into account when trying to understand or influence the impact of diversity on groups. For instance, organizations could introduce diversity training designed to change existing group norms and underline the value of using unique knowledge and skills of individual group members in order to reach the common goals of the group. To the extent that the common feature is defined in terms of task-related differences between-group members, clarity about the existence of such differences can form the basis for identification.

**References**


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