Cues to identity in CMC: the impact on person perception and subsequent interaction outcomes
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CHAPTER V: PERSONAL AND SOCIAL IDENTITY IN ONLINE COLLABORATION

The final empirical chapter of this thesis will present a study integrating the previous studies, and put their findings to the test in a real online collaboration setting. In this study I examined the effects of both forms of cues to identity (personal and social) for high as well as low identifiers in an intergroup context, on outcomes related to online collaboration. In order to do so, participants were teamed-up in dyads to jointly perform an online task that required them to extensively communicate, for they were dependent on each other to fulfill the task successfully. Similar to the studies presented in Chapter IV, cues to identity were provided that could be employed to accentuate the individuality of the person (i.e., cues to personal identity), whereas other cues related to relevant social group membership (i.e., cues to social identity). The impacts of these types of cues were expected to be analogous to those of the preceding studies in Chapters 3 and 4, in that the effects of cues that help to depict a person as a unique individual with idiosyncratic characteristics (cues to personal identity), are moderated by cues that emphasize similarity or dissimilarity on the basis of social group membership (cues to social identity). Such effects should be obtained on several dependent variables: on the perception of having a shared identity, and on the satisfaction with and outcome of the task at hand. In line with scholars that stress the importance of “personalized” or individuated interpersonal communication (for instance, Gaertner & Schopler, 1998; Kiesler et al., 1984; Rutter, 1987; Short et al., 1976; Sproull & Kiesler, 1991), and congruent with previously presented studies, cues to personal identity were predicted to affect the subjective quality of impressions and reduce ambiguity. Similar effects were found in preceding chapters, which showed that cues help to build rapport (see Studies 2.2, 3.1, 4.1) and make a target appear more trustworthy (see Study 4.3), compared to target others for whom cues to personal identity are not available.
However, an unambiguous idiosyncratic impression of the interaction partner was not expected to be necessary for positive evaluations of the interaction in all regards. Based on previous findings, predictions were that in collaboration practices, affiliation with the partner in terms of an overarching or shared social identity would be important and, more crucial, cues to personal identity could stand in the way of such affiliation. The inability to individuate a person, due to the absence of cues to personal identity, is believed to accentuate the perceptual unity of a group in conditions where the social identity is made salient (e.g., Lea et al., 2001; Postmes et al., 2001; Sassenberg & Postmes, 2002). The suggestion is that, provided that there is recognition that the members of the dyad are part of the same overarching social group (e.g., both being a student at the University of Amsterdam), the absence of cues to personal identity can strengthen the perception of sharing the same social identity. The reason for this is that cues to personal identity stress the unique individuality of a person, and absence of these cues may provide a context in which the individual differences between members of the dyad are obscured (e.g., Lea et al., 2001; Postmes et al., 2001; Sassenberg & Postmes, 2002).

It is vital to emphasize that the absence of cues to personal identity may accentuate social identity of the target, not only as a member of the ingroup but also as a member of an outgroup, depending on the available cues to social identity (Reicher, Spears, & Postmes, 1995). Thus, in a context where cues to social identity are present and relevant in the light of the interaction, targets can be categorized as ingroup members when the self and the other are perceived as being part of the same social group, but also as a representative of a different group when cues to this effect are available. Predictions therefore were that absence of cues to personal identity would foster the perception of shared identity only when the target was categorized as a member of the ingroup (see Study 3.3 and Chapter IV).

However, the mere recognition of being a member of the same group was not expected to be sufficient for social identification with the other. In order to perceive a shared social identity, one’s stance towards this particular group in terms of identification also needs to be considered (Barreto & Ellemers, 2000; Tajfel & Turner, 1986). As was shown in Study 4.2, in order for effects based on group membership to occur, people need to identify with the particular group (only high identifiers showed ingroup favoritism there). In conclusion, predictions were that the perception of sharing a social identity would be fostered by the inability to individuate, combined with recognition of both being part of the same group with which one identifies.
The expectations were that the outcomes of the perception of a shared identity would be echoed in variables related to the perceived quality of interaction (Haslam, 2001). The studies reported in Chapter III indicated that under conditions where people collaborated anonymously, work satisfaction and subjective performance were higher compared to when partners were identifiable. The same predictions were made in the present study, but again, this effect was only expected to occur when cues to social identity suggested that dyads were from the same social group, and when participants identified with this group.

**Method**

**Participants and Design**

One hundred and ninety students of the University of Amsterdam participated in the experiment in return for a financial compensation. For reasons of technical malfunctioning, 14 respondents were removed from further analysis. The design was a 2 (social identity of partner: ingroup vs. outgroup) x 2 (ingroup identification: low vs. high) x 2 (cues to personal identity: no cues vs. cues) factorial design.

**Procedure and Independent Variables**

The experiment was conducted in two separate laboratories, each consisting of eight personal computers connected to a network. Participants were invited to one of the laboratories where, in the conditions with cues to personal identity, a digital portrait picture was taken, after which the participant was directed to the cubicle with the computer. In the conditions without cues to personal identity, participants where taken to their computer upon entering. The software used was a custom-built application programmed in cold fusion, which provided the instructions and facilitated online interaction through a java-chat application.

Participants were told that they were going to be teamed-up with a randomly selected partner that was located in the other laboratory, with whom they could interact by means of an online-chat application. These dyads were told that they were going to perform a matching task (adapted from: Hancock & Dunham, 2001; Schober & Clark, 1989). In this task, there were two roles: a director and a matcher, and a card in front of the computer screen indicated the role that was assigned to the participant. The participants that were given the role of director were asked to describe a series of 12 abstract figures that were printed on a piece of paper lying in front of them. The task of the matcher was to match the descriptions given by the director to the correspondent figure in a list of 20 figures. The players were encouraged to
discuss each figure until the matcher was reasonably sure that the figure selected was the correct one. Participants were told that their partner would either be a student from the University of Amsterdam (ingroup) or the Free University (outgroup). In reality, all participants were from the University of Amsterdam, so for half of the participants false cues to social identity were provided. Social identity was made salient by means of presenting the logo of the particular university on the screen. In the condition where cues to personal identity were provided, participants were told that the first name and a portrait picture of both players would be shown on screen. In reality, participants only saw their own picture, and the picture of the other player was randomly drawn from the database with neutral pictures. This was to prevent participants recognizing each other. For practical reasons, real names of both players were used. In the condition without cues to personal identity, no pictures where shown, and in the chat-application, first names were replaced by "id1" and "id2". In addition to demographic questions (age, sex), ingroup identification was measured using a three-item scale developed by Doosje et al. (1995, see Study 3.3 for items), which had a satisfactory reliability (Cronbach’s alpha = .90). Identification with the outgroup was measured using the same questions, replacing “UvA” with “VU” (α = .89). After this, participants started the task that took a maximum of 15 minutes.

**Dependent Variables**

Following the interaction, a number of statements were presented (7-point scales, 1 = strongly disagree, 7 = strongly agree) measuring the dependent variables. Three statements assessed the ambiguity of impressions ("I have a clear impression of my partner", "I have a complete impression of my partner", and “I think that I see my partner the way he/she really is”; α = .72). Positivity of impressions was measured by two statements (“I have got a positive impression of this person”, and “I think this is a nice person”; α = .74). Participants responded to six statements addressing the development of shared identity. Three statements were measured on a 7-point scale (“I have the feeling that my partner and I are part of the same group”, “I think my partner and I are part of a larger group” and “I feel connected to the other person”). In addition to this, three pictorial measures were used for which participants had to indicate which picture depicted their team best (same pictures as used in Study 3.3, Figure 3). The so-composed social identity scale was based on the z-transformed scores (α = .72). Work satisfaction was measured by four items (“Our dyad collaborated well”, “I was able to

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21 Again, the same database of pictures that was used in the previous chapters.
concentrate on the task”, “Our dyad worked effectively”, and “Our dyad communicated clearly”; $\alpha = .84$). Subjective performance was measured by two statements (“I feel confident about our result” and “We have delivered a good product”; $\alpha = .84$). The total number of correct matches was used as a measure of objective performance.

**Data Analysis**

Data was scanned for outliers on dependent variables by using the method of estimating Mahalonobis distances (Tabachnick & Fidell, 1996). Three participants were identified as outliers and these cases were excluded from further analysis. This resulted in a total sample size of 173 (69 males, 104 females).

**Results**

As predicted, identification with the ingroup ($M = 4.60$, $SD = 1.25$) was higher than identification with the outgroup ($M = 2.25$, $SD = 1.17$), $F(1, 171) = 334.78$, $p < .001$. Relative identification with the ingroup was calculated by means of computing the difference between identification with the ingroup and outgroup, and on this measure high identifiers ($M = 3.49$, $SD = 0.90$) were distinguished from low identifiers ($M = 0.99$, $SD = 1.42$) by means of a median split. In order to test the effect of cues to personal identity and the level of ingroup identification in interactions with partners from either the ingroup or the outgroup, a 2 (social identity of partner: ingroup vs. outgroup) x 2 (ingroup identification: low vs. high) x 2 (cues to personal identity: no cues vs. cues) analysis of variance was conducted.

Impression formation. Presence of cues had a significant effect on the reduction of ambiguity, $F(1, 165) = 5.97$, $p < .05$. In conditions where cues were present, ambiguity was reduced ($M = 3.14$, $SD = 1.17$) compared to conditions where cues were not present ($M = 2.72$, $SD = 1.13$). Group membership did not significantly affect reduction of ambiguity, $F(1, 165) = 0.66$, ns, and also the level of identification with the ingroup had no effect, $F(1, 165) = 1.95$, ns. There were no reliable two-way interaction effects, all $F$'s < 2.25. However, a significant 3-way interaction was found, $F(1, 165) = 4.35$, $p < .05$. In order to interpret this 3-way interaction it was broken down into separate 2-way interactions for ingroup and outgroup targets. There were no significant main or interaction effects for the ingroup, all $F$'s < 3.62. For the outgroup there was a significant interaction, $F(1, 82) = 4.85$, $p < .05$. Inspection of the means showed that low identifiers were unaffected by the presence of cues to identity, $F(1, 37) = 0.24$, ns. However, among high identifiers, more ambiguity was reduced when cues
were present \((M = 3.44, SD = 1.00)\) than when no cues were present \((M = 2.61, SD = 1.13)\), \(F(1, 41) = 6.64, p < .05\).

No main effects or higher order effects proved significant for positivity of impression, all \(F^*s < 3.06\).

Table 11. Mean Scores and Interaction Effects on the Dependent Variables for the Ingroup Targets

<table>
<thead>
<tr>
<th></th>
<th>No cues</th>
<th>Cues</th>
<th>Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Identifiers</td>
<td>High Identifiers</td>
<td></td>
</tr>
<tr>
<td>Shared identity</td>
<td>-0.39&lt;sub&gt;a&lt;/sub&gt;</td>
<td>0.21&lt;sub&gt;b&lt;/sub&gt;</td>
<td>0.06&lt;sub&gt;ab&lt;/sub&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>0.71</td>
<td>0.95</td>
<td>0.98</td>
</tr>
<tr>
<td>Work satisfaction</td>
<td>4.80&lt;sub&gt;a&lt;/sub&gt;</td>
<td>5.77&lt;sub&gt;b&lt;/sub&gt;</td>
<td>5.83&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>1.00</td>
<td>0.95</td>
<td>0.68</td>
</tr>
<tr>
<td>Subject. performance</td>
<td>3.63&lt;sub&gt;a&lt;/sub&gt;</td>
<td>4.92&lt;sub&gt;b&lt;/sub&gt;</td>
<td>5.21&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>1.23</td>
<td>1.32</td>
<td>1.26</td>
</tr>
<tr>
<td>Object. performance</td>
<td>7.80&lt;sub&gt;a&lt;/sub&gt;</td>
<td>8.50&lt;sub&gt;a&lt;/sub&gt;</td>
<td>9.00&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>2.04</td>
<td>2.83</td>
<td>2.63</td>
</tr>
</tbody>
</table>

*Note.* Means in the same row with a different subscript differ significantly from each other at \(p < .05\).

*<sup>a</sup>* Analysis of variance on level of dyad, \(F(1,22)\)

\(* p < .05. ** p < .005\)

*Shared identity.* With respect to shared identity, there were no significant main or 2-way interaction effects, all \(F^*s < 1.23\). However, a significant 3-way interaction was found, \(F(1, 164) = 4.93, p < .05\). In order to interpret this interaction a separate 2 (ingroup identification: low vs. high) x 2 (cues to personal identity: no cues vs. cues) analysis of variance was conducted for ingroup and outgroup targets. For the outgroup there were no significant main or interaction effects, all \(F^*s < 1.10\). For the ingroup, no significant main effects were found, \(F^*s < 0.55\). However, there was a significant interaction, \(F(1, 83) = 4.58, p < .05\) (see Table 11). When cues were present, the level of identification did not significantly affect shared identity, \(F(1, 41) = 0.78, ns\). However, in the condition without cues, low identifiers reported perceiving less of a shared identity with their interaction partner.
Work Satisfaction. With respect to the satisfaction with the collaboration, no significant main effects or 2-way interaction were found, all $F$'s < 2.58. But again, the 3-way interaction was significant, $F(1, 164) = 8.39$, $p = .005$. A 2 (ingroup identification: low vs. high) x 2 (cues to personal identity: no cues vs. cues) analysis of variance was performed for the ingroup and the outgroup separately. For the outgroup no significant main or higher order effects were found, all $F$'s < 0.70. No main effects were found for the ingroup either, all $F$'s < 3.37, but the interaction proved significant, $F(1, 83) = 12.35$, $p = .001$. In the conditions without cues, low identifiers had less work satisfaction ($M = 4.80$, $SD = 1.01$) compared to high identifiers ($M = 5.77$, $SD = 0.95$), $F(1, 42) = 9.79$, $p < .005$. In the cues condition, there was no significant difference, $F < 2.39$. The pattern of means as displayed in Table 11 suggests that satisfaction was significantly lower in only one condition: the low identifier – no cues condition. A post-hoc contrast analysis (Rosenthal et al., 2000) confirmed this pattern: Participants expressed the least satisfaction when they were low identifiers and working with an anonymous partner ($M = 4.80$, $SD = 1.01$), compared to the other conditions ($M = 5.67$, $SD = 0.86$), $F(1, 85) = 13.53$, $p < .001$.

Subjective Performance. Scores on subjective performance showed a comparable pattern as the other dependent variables: There were no significant main effects, all $F$'s < 2.98, and all but one two-way interaction proved insignificant, $F$'s < 2.19. The significant two-way interaction between identification and group membership, $F(1, 164) = 5.39$, $p < .05$, was qualified however by a significant 3-way interaction, $F(1, 164) = 3.89$, $p < .05$. Again, two separate 2 x 2 analyses were performed for both the ingroup and the outgroup. The 2 (ingroup identification: low vs. high) x 2 (cues to personal identity: no cues vs. cues) analysis of variance showed no significant main or higher order effects for the outgroup, all $F$'s < 0.05. For the ingroup, a main effect was found for cues $F(1, 83) = 6.05$, $p < .05$. In conditions where cues were present, participants indicated that they were more satisfied with their performance ($M = 4.92$, $SD = 1.29$) compared to the conditions where no cues were present ($M = 4.33$, $SD = 1.43$). However, this effect was qualified by a significant 2 x 2 interaction $F(1, 83) = 10.82$, $p = .001$. In the condition with cues, the level of identification did not significantly affect the perception of performance, $F(1, 41) = 1.79$, ns. In the condition without cues, low identifiers were less satisfied with their performance ($M = 3.63$, $SD = 1.22$) compared to high identifiers ($M = 4.92$, $SD = 1.32$), $F(1, 42) = 10.75$, $p < .005$. In order to establish that the pattern was the same as for satisfaction, the same post-hoc contrast analysis
(Rosenthal et al., 2000) was conducted. Again, this was confirmed: Participants perceived to have performed the least when they were low identifiers and working with an anonymous partner \((M = 3.63, SD = 1.22)\), compared to the other conditions \((M = 4.92, SD = 1.29)\), \(F(1, 85) = 15.86, p < .001\).

**Objective Performance.** In order to examine the effects of the independent variables on the way participants performed their task, data needed to be analyzed on the level of the dyad. This meant that data had to be aggregated, and with respect to the level of ingroup identification, mixed groups (i.e., dyads that consisted of a high identifier and a low identifier) had to be removed. This resulted in a sample size of 44 dyads. A 2 (social identity of partner: ingroup vs. outgroup) x 2 (ingroup identification: low vs. high) x 2 (cues to personal identity: no cues vs. cues) analysis of variance was conducted to examine the influence on objective performance. No main or interaction effects were found. Despite the fact that objective performance did not show the same pattern of effects, it was highly correlated with subjective performance, \(r(42) = .46, p < .02\), indicating that subjective assessment of performance was fairly accurate when compared with actual performance. Thus, despite the fact that the differences in objective performance did not show a similar pattern to those of subjective performance and satisfaction, there is an indication that these subjective assessments are rooted in actual performance effects.

**Discussion**

This final empirical study again confirms that cues to personal identity affect the subjective quality of impressions that people form of each other, thereby replicating results from preceding studies. Even though objectively their knowledge of the person is limited, participants feel that their person impressions are less ambiguous when they know what their interaction partner looks like and how he or she is named. These personalized perceptions not only provide clearer, less ambiguous impressions, but also make the individual distinct from his/her social "background", which may ground a target in a particular social setting and thereby is likely to be judged in terms of his/her social identity (Postmes et al., 1998; Reicher et al., 1995). According to SIDE (Reicher et al., 1995; Spears & Lea, 1994), information about idiosyncratic characteristics of persons stresses their unique individuality, thereby individuating them, and vice versa, it is the inability to individuate a person that can emphasize the shared group identity (Reicher et al., 1995; Spears & Lea, 1992, 1994). It is this process that is held responsible for the outcomes on the interaction-related variables, as will be described below.
Predictions were confirmed that the level of identification with a social group, in combination with the inability to individuate determines the perception of shared identity. In conditions without cues to personal identity, high identifiers perceived more shared identity compared to low identifiers. This is completely in line with SIDE-expectations, which suggest that under circumstances when social identity is made salient and important to the communicators, the absence of cues to personal identity can accentuate the perceptual unity of the group and thereby enhance group members’ feelings that a social identity is shared (e.g., Lea et al., 2001; Postmes et al., 2001; Sassenberg & Postmes, 2002). It is important to emphasize that this effect corroborates the assertion in the introductory chapter to this thesis that a third aspect of person perception needs to be taken into account—social-categorical effects of cues being dissimilar to the effects of cues on the inter-personal relations, even within the context of a dyad.

A reverse effect, which could have been predicted from the SIDE model, in which cues to personal identity disrupt the unity of the social group and decrease feelings of shared identity, was not confirmed. Even though visual inspection of the means suggests that high identifiers perceived less shared identity with individuated ingroup others than with anonymous ones (see Table 11), this difference was not reliable ($F = 0.78$, ns). There is no definitive explanation for this, but a tentative suggestion would be that if the fact that communicators are both students at the same university is being de-emphasized due to cues to personal identity, at the same time these cues increase rapport through making the person identifiable. In other words, the cues to personal identity might have decreased the perceptual unity of the group, but at the same time visually identified the target, which might have strengthened a perceived common bond with that target (similar to the effects on positivity of impressions reported in Chapter II, among others). Of course such interpersonal attractions are theoretically distinct from social identification, but there are cases in which interpersonal attraction can have similar effects in the sense of producing social attraction (i.e., identification) and identity-related social influences (see for elaborate discussion: Postmes & Spears, 2000a). This assumption is supported by the data, which show that for high identifiers, positivity of impression is highly correlated with shared identity when cues are available, $r(22) = .73$, $p < .001$. Thus, perceptions of communality seem to be fostered by emphasizing the group membership, but they also appear to be influenced by interpersonal attraction. This finding suggests that attraction at the interpersonal level and attraction at the group level are not independent of each other. In contrast to Hogg’s (1992) assertion that
group-based attraction provides the basis for interpersonal attraction, the reverse might also be the case (Postmes, Spears, Lee, & Novak, 2003).

This same pattern was found for the variables that were related to the interaction. Both work satisfaction and subjective performance showed that cues to personal identity were only effective when identification with the ingroup was low. So, participants were satisfied when they were teamed-up with a partner from which they had a clear unambiguous impression, or with whom they could identify on the basis of sharing a salient social identity. This again confirms that two processes might be taking place at the same time that both lead to higher satisfaction: on the one hand, satisfaction with work and performance is fostered on the basis of identification with a shared social identity, but in conditions where cues to personal identity might weaken the influence of such a common group, interpersonal attraction might compensate for the loss of rapport which ensues.

In addition to subjective performance, the objective performance (i.e., how good do the teams perform) was assessed. Differences across conditions were not significant, but this could be due to the weak power of analysis with only 44 dyads (cf. Cohen, 1977). However, inspection of the means shows a comparable pattern, in that low identifying dyads performed worse when no cues were present, compared to the other conditions. Also, the high correlation between subjective performance and the objective scores suggest that the cues to identity affect performance in a comparable manner. However, definite conclusions cannot be drawn due to the insignificance of the effects.

No effects for interactions with the outgroup were found whatsoever. The assumption that collaboration with anonymous outgroup others would be less valued (especially among high identifiers) was not confirmed. Overall, participants were indifferent to whether or not cues to personal identity were available for outgroup members. Although there is no satisfactory explanation why this result was not found, it should be stressed that the interpretation of null effects is a practice that is best avoided: not demonstrating a significant difference in an isolated study does not tell whether an effect is actually there or not. However, in order to explore why the results of this study were different to others in this thesis on this point, some speculations can be made.

It could be that the stereotypes about the outgroup in question (Free University) tend to be more positive when it comes to qualities that one might find desirable in the type of collaboration task which was used in the present study. Thus, whereas the stereotype of the outgroup is negative on a number of characteristics (making it less "fun" to collaborate with someone from the Free University, for example), the stereotype is rather more positive with
regard to the quality of Free University students' work, their diligence, and their work motivation. Seen in the light of preceding studies, in which ingroup favoritism (or outgroup "dislike") was demonstrated on the selection of collaboration partners (Studies 4.1 and 4.2), the investment of trust (Study 4.3), and the perceived success of the interaction (Study 3.1 and 3.2), this could explain why there were somewhat different effects on the actual evaluation of the collaboration outcomes in a task where collaboration on a collective product took place. It should be noted again that these are ultimately no more than interpretations of a null effect—there are numerous reasons why this study yielded seemingly different outcomes than previous ones, ranging from the more profound ones discussed above to more banal explanations due to chance and power (Cohen, 1977).

Another explanation may be that the interaction was not free of cues to personal identity. Based on the social information processing (SIP) approach developed by Walther (Walther, 1992, 1996), suggestions could be made that, even though cues to personal identity in the form of portrait pictures and first names were absent, personal information was conveyed on a linguistic level. According to SIP, people always strive for meaningful, interpersonal relationships and in order to develop such positive relationships, communicators have to exchange personal information. However, SIP argues that in conditions where it is less easy to send or receive these personalizing cues, this does not mean that personal information is not being exchanged. When these cues are not automatically transmitted (i.e., when the bandwidth of the medium does not enable the transmission of easily available cues such as the cues to personal identity that were used in these studies), participants will overcome this by adapting their behavior according to whatever cues the medium allows them to use. So, in contexts that allow only textual interactions, SIP argues that interactors adapt their linguistic and textual behavior, in such a manner that social or personal information is exchanged nonetheless (Walther, 1992; 1996, and Chapter I for more elaborated description). Even though this could explain the results for collaboration with the outgroup, this same process should have occurred for the ingroup. However, as is described above, for ingroupers, cues to personal identity (or actually the lack thereof) did have significant effects as predicted.

A final suggestion, and maybe the most promising when considering the differences across studies presented in this thesis, is that the effects of group membership are transformed during the interaction. The studies of Chapter III (especially Studies 3.1 and 3.2) offer suggestions that interacting itself may help to build a shared social identity. From a theoretical perspective, this is an interesting assumption to consider in future research. Whether or not specific cues will be used to categorize a person as an outgroup member may depend on the
situations at hand, and categories do not represent fixed properties, but may vary, depending on
the context (Turner et al., 1994, p. 456). Therefore, it could be that working together on a
collaborative task decreases the relevance of differentiation on the basis of the university
attended. Put differently, the cues to identity that were initially meant to categorize, providing
relevant information about the group membership of the target (i.e., his/her university), could
have been made irrelevant in the light of the nature of the interaction, and thus gradually
"replaced" by an emergent shared identity, for example one which defines the dyad as a
distinct collaboration team. This again is only speculation and further research seems
necessary to draw more definite conclusions.

However, for the ingroup, the results are consistent with, and thereby reinforce, the
previous findings, suggesting that in online collaboration activities, cues to social identity,
and in particular one’s stance towards the respective social group play and important role in
determining whether or not cues to personal identity are a necessity for good collaboration.
Previous findings that suggest that when social identity is shared and appreciated, cues to
personal identity lose their value for positive collaboration outcomes are once again
confirmed. The importance of the social-categorical perceptions (self and other in the dyad
belonging to the same social group or not) was also evident in this study, which underlines the
importance of distinguishing different aspects of person perception. Perceptions of the
individual should not merely be conceived of in terms of ambiguity or positivity in inter-
personal terms, but also in terms of social-categorical relations.