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Breaching or Building Social Boundaries?

SIDE-Effects of Computer- Mediated Communication

Computer-mediated communication (CMC) is sometimes heralded for its power to break down social boundaries and to liberate individuals from social influence, group pressure, and status and power differentials that characterize much face-to-face interaction. We review research conducted within the framework of the social identity model of deindividuation effects (SIDE) demonstrating that this is not always the case. When communicators share a common social identity, they appear to be more susceptible to group influence, social attraction, stereotyping, gender typing, and discrimination in anonymous CMC. Although CMC gives us the opportunity to traverse social boundaries, paradoxically, it can also afford these boundaries greater power, especially when they define self- and group identity.

The first edition [of our book] had one major mistake: over-optimism about the speed at which computer-mediated communication would be adopted around the world, to create a “network nation” that spans political and social boundaries. . . . Social systems do not change rapidly or easily; there is the very basic problem of “social inertia.”

—Hiltz and Turoff (1993,
p. xxix; emphasis added)

For many users, the appeal of the Internet resides in its versatility and its ability to connect people, irrespective of time or place. When a computer is

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part of such a network, it can be a powerful tool for communication, as is evidenced by the popularity of e-mail and related applications. Due to the global scale of this technology and the fast the pace of innovation, computer-mediated communication (CMC)² has a clear potential to breach boundaries of nationality, race, language, and ideology (e.g., Hiltz & Turoff, 1978). Indeed, this connectivity has led many commentators to speculate about the breakdown of (traditional) social boundaries, the implication being that we are now just all individuals in the "global village." Enhanced communication allows us to traverse, and thus potentially transcend, social boundaries by facilitating the proliferation of both standardization across, and social differences within, communities. On the other hand, the new communication technologies also provide the prospects for developing new ("virtual") communities and social identities, thereby erecting new boundaries as well as breaking down old ones. The implicit assumption of both these analyses, however, is that electronic communication will help to crosscut traditional boundaries and undermine the bases of social division in its many senses. The utopian image sometimes conveyed is that the new technology affords a new and more liberated way of being. The central argument of this article will be to question the validity of this assumption.

This article reviews a series of studies that examine CMC's effects on social influences in groups. A group—or, more generally, any social category—exerts on its members an influence that restricts and restrains behavior, but more positively can also be seen as a source of (social) identity and self-expression. Different boundaries are thereby imposed on group members, but group members also impose these boundaries on themselves. Group norms and social stereotypes define the limits of social behavior that are often used to differentiate groups to which we belong from those to which we do not. Social boundaries define where the ingroup ends and the outgroup begins, and what is appropriate conduct within the intragroup and intergroup context. Social validation and social influence are the processes that create and maintain the boundaries that define the group (Turner, 1991).

The research reviewed in this article examines the impact of characteristics of CMC on social influence. Our overview attempts to draw out the implications of this new medium for social boundaries within and between groups, and tries to enhance our understanding of whether forms of CMC can help to breach these boundaries or actually bolster them. The purpose is not to provide a general review of this entire field or even of representative research in this domain. Rather, the more modest goal is to present a series of studies, primarily from our own research program, conducted within the theoretical framework of the Social Identity Model of Deindividuation Effects (SIDE).

According to this model, the characteristics of a communication medium interact with characteristics of the social context and with the particular social definition of self to produce media effects. The theoretical background to this research has been extensively discussed (e.g., Spears & Lea, 1994), but an empirical overview and systematic test of these ideas has been lacking hitherto.

The studies conducted within this framework were mostly recent ones, many as yet unpublished, and addressing a range of different audiences and theoretical issues. However, a recurrent theme is the central importance of social identity and social context, and the argument that these factors may assume an increased impact and importance in the anonymity of CMC compared to more individuated forms of communication. In short, the purpose of this overview is to present the SIDE model's implications for the impact of CMC on social boundaries, and to address whether CMC strengthens or weakens their effects. Before examining the medium's social effects, however, it is useful first to explore more closely the characteristics of the medium.

Characterizing CMC

There is a fundamental problem with any concrete description of CMC or CMC systems, which is related to CMC being—in a particular sense—a universal medium. The networked computer is a universal medium because the computer is itself an information processing machine which is capable of performing (in theory) the capacities of any other information processing machine; the computer is in this sense a universal Turing machine (Hodges, 1983; Turing, 1936). Therefore, the networked computer as a communication device is capable of dealing with communicated information in the same universal way of enabling all possible transformations of the communicated information.

Because networked computers are universal machines, it is very difficult to pin down the properties of this communication device beyond a general communication function. For example, the networked computer has acquired the functionality of a person-to-person communication medium through applications such as e-mail, voice mail, and desktop video conferencing. It is used to support group negotiation and discussion forums, as a chatbox or interactive gaming environment. Also, it is used as a mass communication medium, performing functions which are traditionally associated with newspapers, radio, or television. This list of functions, although by no means

complete, illustrates that the computer is capable of performing any other form of mediated communication. It is this feature that distinguishes the computer from other erstwhile new media. These "older" new media, such as the telephone, were designed with one function in mind: to transmit sound. The computer is perhaps the first uniquely undedicated communication technology, and is already capable of performing all the communication modes of the older technologies, as well as of a good deal more.³

Realizing that CMC (and, more broadly, the Internet) is not best characterized by specific applications accentuates the importance of searching for underlying dimensions that are characteristic of a wide range of applications, and which may drive effects of these media. A fundamental characteristic of all these forms of communication is that they are, by definition, mediated by a machine and, therefore, relatively indirect means of interaction. The advantage of being able to communicate across space and time reduces the requirement for proximity between communicators, with potentially disadvantageous effects. For example, it may result in decreased awareness of the people with whom we communicate, and perhaps of our own personal identity, and the need to present this. In CMC, for example, the communicators' *public* self-awareness of themselves as engaged in social interaction with an audience may be hindered (Matheson & Zanna, 1988). However, the strength of these effects is likely to depend upon the kind of computer-mediated communication. A desktop video conference presumably would give users much more awareness of who they are talking to than a text-only conference, and it certainly gives them a different impression of the other person.

The literature has conceptualized the difference between mediated and nonmediated communication in a variety of ways that are often related. In CMC, for example, communicators are connected through a device (the computer) which inevitably eliminates part of the direct feedback available in regular conversation. The obvious difference is that the medium is text-based rather than using visual or verbal communication channels, or both. This may have the consequence of making CMC less "socially present" (Short, Williams, & Christie, 1976) or lacking in social cues (Kiesler, Siegel, & McGuire, 1984), compared to face-to-face interaction (see Hiltz & Turoff, 1978, for a full discussion of limitations). These different constructs are closely related and based on the physical bandwidth of the medium and its associated capacity to enable relatively direct feedback (see Lea & Giordano, 1997, for a full discussion). The degree to which a medium is successful on these dimensions is based on a medium's (or application's) capacity to imitate face-to-face inter-

action, and the assumption generally is that a medium that does this best is somehow more social.

Social Effects: Breaking Down or Building Boundaries?

The first and foremost effect of CMC is that, like other media before it, it reduces the limitations that physical boundaries impose on people's social contacts. Because of its power to perform the functions of any other communication medium, and because of its easy accessibility and low cost, it is acclaimed as giving individuals the autonomy to engage in interaction irrespective of geographical, national, religious, and other restrictions (although this tends to ignore that access to technology is unequally distributed; Balka, 1993). It has been proposed that the breakdown of physical boundaries is accompanied by a breakdown of social boundaries imposed by traditional norms and social roles, presumably because electronic interaction gives the individual greater freedom from social strictures (Dubrovsky, Kiesler, & Sethna, 1991; Jessup, Connolly, & Tansik, 1990; Kiesler et al., 1984). The capacity for interaction across physical boundaries, especially the potential to make easy contact with members of other social groups, has promised the prospect of reduced tensions, intergroup animosities, and increased equality (Dubrovsky et al., 1991; Herring, 1993). Yet some have identified negative effects as well. For example, the lack of control and increased freedom of the individual associated with CMC may increase antisocial behavior or decrease the regulatory function of social norms (e.g., Hiltz, Turoff, & Johnson, 1989; Kiesler et al., 1984; see Lea, O'Shea, Fung, & Spears, 1992; Walther, Anderson, & Park, 1994, for reviews).

It is not entirely clear why CMC is accorded the capacity to democratize and to empower the oppressed, but much of its appeal in this respect appears to be in the freedom that such a relatively anonymous medium allows (Herring, 1993).⁴ Social theorists, feminists, and philosophers have foreseen a possible transcendence of traditional social relations in the emerging virtual communities, where traditional power and status differences would play no role (Haraway, 1990; Mantovani, 1994; Myers, 1987; Poster, 1990). This equalization phenomenon (Dubrovsky et al., 1991) is usually hypothesized to occur as a result of the relative anonymity of CMC: "Because it is harder to 'read' status cues in electronic messages than it is in other forms of communication, high status people do not dominate the discussion in electronic groups as much as they do in face-to-face groups" (Kiesler & Sproull, 1992).

The notion that CMC gives people a strategic freedom to express themselves because they are unaccountable has also been identified as the cause of an ostensible increase in antinormative behavior in CMC compared to face-to-face conditions (Walther et al., 1994). Again, this decreased influence of social norms of appropriateness is related to the lack of direct contact available in face-to-face settings. In extreme cases, the communicator is deprived of awareness of the individual identity of the self and of others, or *deindividuated* (Hiltz et al., 1989; Jessup et al., 1990; Kiesler et al., 1984). The proposed effects of deindividuated CMC are identical to the disruptive effects proposed by theories of deindividuation in social psychology (Diener, 1980; Postmes & Spears, 1998): decreased awareness of the social environment, of the self, and therefore, decreased adherence to social norms. However, there can also be positive side effects, such as the reduction of process losses that normally occur in groups (e.g., Nunamaker, Dennis, Valacich, & Vogel, 1991; Valacich, Jessup, Dennis, & Nunamaker, 1992).⁵

Although it is not denied that some forms of CMC give users a great strategic freedom to do as they please, CMC might paradoxically have the opposite effect of reinforcing existing social boundaries or erecting new ones. We will argue that CMC does not necessarily lead to increased equality or democratization, and may even increase intergroup discrimination and hostility. Likewise, despite the lack of directness of some forms of CMC, social restraints and normative demands may still exert influence, and may even be enhanced (Spears & Lea, 1994). This prediction can be derived from the SIDE model. A starting point of research of the SIDE model was an analysis of collective behavior and a critique of deindividuation theory (Reicher, 1982, 1987). Although the crowd and the computer may seem worlds apart, parallels have been drawn in terms of their influence on social behavior, and there is much common ground in the theoretical analysis of these two domains (Postmes, Spears, & Lea, in press). Therefore, the development of our model of social influence in computer-mediated groups starts with a critique of traditional theories of deindividuation.

Deindividuation

Some influential theories of behavior in CMC are closely related to theories of the crowd and of mass communication proposed by the founding figures of social science in the previous century. Theorists such as Gustave Le Bon (1895/1995) and Gabriel Tarde (1890/1921) focused on questions such as what causes the crowd to run amok, or what causes large assemblies to

imitate their leaders and be persuaded by them. The answer, according to these theoreticians, was a basic propensity for collective action (based on suggestibility and imitation) stimulated by anonymity in the crowd, resulting in a concomitant loss of awareness of individual identity. They proposed that social norms and reflection about the consequences of their actions normally restrain people, but that such reflection diminishes when individuals are submerged in the crowd and thereby rendered unaccountable. Therefore, anonymity in the crowd or in a group can be associated with the breakdown of traditional values and norms. This simple idea has had a very pervasive impact on social science (Reicher, 1996) and was reintroduced into mainstream social psychology in the form of deindividuation theory (Festinger, Pepitone, & Newcomb, 1952). Deindividuation is one of the most widely cited effects of social groups. It is defined as a psychological state of decreased self-evaluation, causing antinormative and disinhibited behavior (Diener, 1980; Zimbardo, 1969). The phenomenon of deindividuation appears to be empirically well established (e.g., Franzoi, 1996; Lord, 1997; Sabini, 1995) and has even been admitted as legal grounds for extenuation in murder trials in some countries (Colman, 1991).

Despite the apparent robustness of this effect and the persistence and pedigree of the theory, its foundations have not gone unquestioned. Most recently, Postmes and Spears (1998) have conducted a meta-analysis of deindividuation research. In the 60 studies they examined, no support was found for the suggestion that deindividuation would be responsible for increased antinormative and disinhibited behavior. The averaged effect size appears to be quite close to zero (it is actually $r = 0.09$), indicating there is only marginal support for the suggestion that deindividuating experimental conditions would increase antinormative behavior. Moreover, effects range from giving very strong support for deindividuation theory, to very strong support for the opposite suggestion that deindividuation causes more normative behavior. Hence, effects are surprisingly variable, and no clear overall effect can be found (see Postmes & Spears, 1998, for more details).

The meta-analysis examined many possible reasons why deindividuation theory received only weak support. In those studies where self-awareness (the proposed underlying construct) was manipulated, no support for deindividuation theory was found either. Other operationalizations of deindividuation also appeared unsuccessful in heightening antinormative behavior: Neither studies manipulating anonymity toward other ingroup members nor those investigating anonymity toward experimenter or target found any support for deindividuation theory's claims.

There was one strong predictor, however, which did account for a large proportion of the variance in effects. This was the situational norm. The

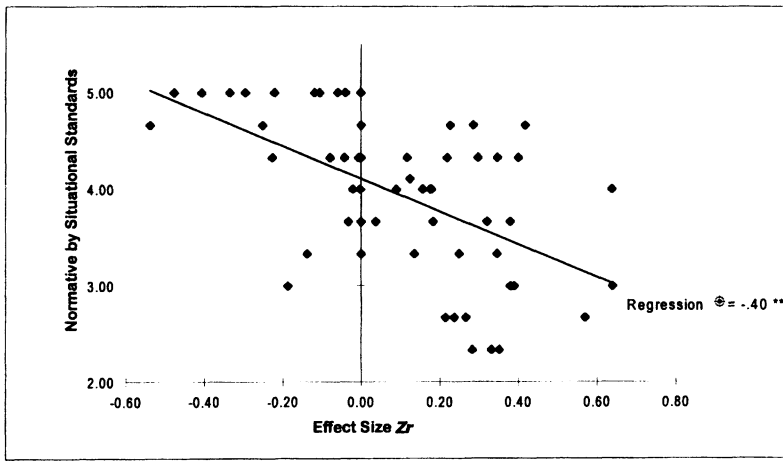


Figure 1. Situational Norms as a Predictor of Effect Sizes of Deindividuation Studies

situational norm (unlike general social norms which were used in these studies by experimenters to predict what is normative or antinormative behavior) is a norm that is specific to the group in the study or to the experimental context. An example of such a norm in the CMC context could be a computing subculture in which “flaming” is seen as good and desirable, whereas this behavior would be seen as rude and undesirable outside of that group. Indeed, many researchers have tended to ignore the influence of local group norms, and consequently defined flaming as antinormative (Lea et al., 1992). Contrary to predictions of deindividuation theory, the meta-analysis revealed that participants who were deindividuated complied more strongly with this situational norm. As is displayed in Figure 1, studies that showed large amounts of antinormative behavior in the deindividuated conditions (studies with a positive effect size) examined behavior that was actually quite normative by situational standards. In contrast, studies that failed to confirm the deindividuation hypothesis examined behavior that was relatively antinormative by local group standards. Thus, on the whole, deindividuation appears to have increased the sensitivity to situational norms and the responsiveness to cues from the environment indicating what would be appropriate and desirable behavior in that particular context. This increased responsiveness to situational norms could be demonstrated in studies where group members were anonymous to each other, as well as in studies that induced deindividuation via other means, such as direct reductions of self-awareness.

Johnson and Downing (1979) conducted a study that, in microcosm, confirms evidence from the meta-analysis. In their experiment, participants were made anonymous to each other by means of masks and overalls reminiscent of the Ku Klux Klan (similar to Zimbardo, 1969) or by means of nurses' uniforms. Although compared to the control condition participants delivered more shocks when dressed in the Ku Klux Klan uniforms, they actually shocked less when dressed as nurses. This finding is more in line with a normative explanation, participants being sensitive to the group identities and normative cues associated with their clothing.

Deindividuation theory cannot readily account for this remarkable phenomenon that anonymous individuals, or individuals submerged in a group, would tend to be more responsive to the group's norms. However, Reicher (1982) predicted precisely this effect on the basis of his analyses of collective behavior from a social identity theory perspective. Reicher's analysis develops the social identity notion that people have multiple layers of self: one's individual identity as well as a range of social identities (Tajfel, 1978; Tajfel & Turner, 1986). He argued that the anonymity in the crowd does not make an individual lose awareness of individual identity, so much as shift from a personal identity to a social identity. This shift to a social identity makes crowd members identify with and see themselves as part of the crowd, and the crowd's norms are adhered to more strongly as a result.

The SIDE Model

Reicher's ideas about the transition from individual to social identity due to anonymity have been the impetus for the line of research and the development of a model of interaction via computers reviewed in the present article, namely the SIDE model (Lea & Spears, 1991; Postmes, 1997; Reicher, Spears, & Postmes, 1995; Spears & Lea, 1992, 1994). This framework argues that factors that have traditionally been identified as causing deindividuation—such as the combination of anonymity and group immersion (Zimbardo, 1969) or interaction via a computer network (e.g., Hiltz et al., 1989; Jessup et al., 1990)—can actually reinforce group salience and conformity to group norms, and thereby strengthen the impact of a variety of social boundaries. Moreover, the SIDE model predicts conformity to norms associated with the specific social identity of the group, rather than conformity to any general norms. The ability to influence the salience of a particular identity is referred to as the cognitive aspect of SIDE (Reicher et al., 1995; Spears & Lea, 1994), and this aspect forms the main focus of our research within CMC. However, the SIDE model also delineates a second strategic dimension to behavior, which refers to the ability afforded by prevailing conditions to express oneself

or behave in ways in line with a salient identity. For example, behavior in line with a group identity may transgress the norms of a particular outgroup, and so we may only feel free to behave in this way under conditions of anonymity (Reicher & Levine, 1994; Reicher et al., 1995). In this sense, the anonymity associated with CMC may be liberating, but as argued below, this is not a freedom that is necessarily used to cross social boundaries.

The cognitive aspect of the SIDE model proposes that contexts in which individuating information is relatively scarce (i.e., a situation where individualization of others and oneself is hindered) will heighten people's sensitivity to salient social norms. The fundamental processes assumed by SIDE to account for the effects of anonymity on normative behavior in CMC are depersonalized perceptions of self and others (Turner, 1987). Depersonalization refers to the tendency to perceive the self and others not as individuals with a range of idiosyncratic characteristics and ways of behaving, but as representatives of social groups or wider social categories that are made salient during interaction. Anonymity can often provide conditions which contribute to depersonalization. As applied to CMC, the relative visual anonymity associated with this medium provides a context in which individual differences between group members are less salient. Due to this relative anonymity, the salience of group members' social identity is likely to be accentuated when they identify with the available social identity to some degree (Spears & Lea, 1992). In terms of self-categorization theory, instead of defining the situation in interpersonal terms (*me vs. other*), the self and communication partners are more likely to be included in a shared social category (*we*), leading to a focus on shared similarity rather than difference (Turner, 1985).

These ideas have some paradoxical implications for social influence in CMC, at least in relation to the orthodox image of this medium. According to this line of thought, CMC is not necessarily the impersonal and businesslike medium it is so often portrayed to be. Rather, the medium can be perceived as a socially rich environment in which available cues to a shared social identity gain great weight due to the absence of individuating information (Spears & Lea, 1992). Under such circumstances, the CMC medium can be highly socially engaging (Lea & Spears, 1995; Myers, 1987; Rice & Love, 1987) with the potential to become quite intimate or "hyper-personal" (Walther, 1996). Phenomena such as cyberlove, electronic communities, and other examples of virtual togetherness support these claims. However, in theoretical terms, a more systematic program of research has been developed over recent years to investigate more precisely when and how mediated interaction may become a forum for social phenomena that may even be stronger than in "real" (i.e., face-to-face) groups.

Studies investigating the propositions of the SIDE model generally examine the effect of deindividuation in computer-mediated groups by manipulating levels of the identifiability-anonymity continuum. These studies focus mostly on the effects of visual anonymity, which is sometimes an important feature of CMC, although by no means an essential and undisputed characteristic of this medium (Hayne & Rice, 1997). As we have seen, according to the SIDE model, the predicted effect of such relative anonymity is to foster a sense of cohesion and attachment to those with whom one interacts, when the lack of individuation within the group contributes to the salience of the prevalent social identity. Thus, it is assumed that CMC in a deindividuated setting will (under some circumstances) render group members more susceptible to the influence of norms, social attraction to group members, stereotypes, and ingroup favoritism. The studies conducted on the SIDE model over the last decade have investigated many of these aspects of group life, and we now examine the central findings for these various domains, with particular reference to their consequences for the social boundaries around and between groups.

*Social Influence and Intragroup Processes:
Some SIDE Effects of Group Boundaries*

As explained above, in deindividuation experiments, the manipulations of anonymity may have enhanced susceptibility to situational group norms rather than undermined social influence. On the basis of this finding, one may expect that the normative influence in computer-mediated interaction is strong under the relatively deindividuated conditions of visually anonymous CMC to the extent that contributions are relatively difficult to individuate. This expectation has indeed been confirmed in a series of studies. In the first study in this tradition, Spears, Lea, and Lee (1990) conducted an experiment in which students discussed a range of topics via a simple text-based synchronous CMC system. The participants were either separated from each other such that group members were relatively anonymous and difficult to individuate, or they were co-present in the same room and thus able to have visual contact with each other. In addition, these participants were either made aware of their shared social identity as members of a distinct group, or they were addressed as individuals throughout the experiment. In line with expectations, participants showed shifts in the direction of group norms when their shared social identity was made salient and when they were isolated (and thus anonymous), and shifts away from the group norms when their individual identity was salient when isolated.

Thus, deindividuated CMC appears to foster a stronger influence of group norms when social identity is salient and a weaker influence when social identity is not salient. This first finding was corroborated in a study in which group norms were experimentally induced. Using an experimental "priming" method (see Srull & Wyer, 1979), prosocial or efficiency-oriented behavior was activated in groups of students (Postmes, Spears, Sakhel, & de Groot, 1998). This was accomplished by providing students with a set of scrambled sentences that they had to form into grammatical ones. In the prosocial condition, these comprised examples of prosocial behavior, whereas in the efficiency-oriented condition, they implicated efficiency-related behaviors. This kind of task has been demonstrated to have an effect on individual's judgments and behavior (Bargh, Chen, & Burrows, 1996; Dijksterhuis et al., in press). The assumption was that if group members show a tendency for this behavior, as primed, a group norm would not take long to establish.

The group was then asked to solve a dilemma by communicating via a CMC system. During the interaction, they were either unidentifiable or visually identifiable (their picture and that of other group members was displayed on the screen). As expected, the behavior that was induced had a strong impact on the style of interaction and the decisions made when group members were unidentifiable. When they were identifiable by means of portrait pictures, in contrast, they did not comply with the experimentally induced norm.

A follow-up experiment replicated this finding (Postmes et al., 1998, Study 2). Moreover, this study showed that participants indeed inferred the experimental norm from their interaction: Afterward, they saw their group as more efficiency-oriented when anonymous than when identifiable. The study also demonstrated that this process of establishing group norms occurs through interaction. Only half the participants in a group were primed with the group norm, but the other half of the group who were neutrally primed complied just as much with the norm as those who were primed (i.e., more so in the anonymous than in the identifiable condition), demonstrating that interaction serves to communicate and bolster group norms.

The strength of social norms in CMC was further demonstrated in a recent study that directly compared unidentified CMC, identified CMC, and face-to-face decision-making groups (Postmes & Spears, 1997). In this case, the decisions were concerned with the selection of candidates for a faculty position in a paradigm designed to investigate impediments to the exchange and use of nonshared information (Stasser & Titus, 1985). Participants had to discuss which candidate to choose, after being individually given incomplete descriptions of candidates, which could be made complete by pooling

all relevant information within the group. As expected, participants initially made the “wrong” decisions but, after group discussion, things became better.⁶

The conditions under which discussion occurred were varied across groups, however. First, we tried to influence the group norms. It was predicted that, particularly in those groups with a norm to achieve consensus, a poor decision would be made, because these groups would value unshared information less than shared information (see also Janis, 1982). In contrast, in groups in which a critical atmosphere reigned, dissent should be tolerated and even become normative. We reasoned that, especially in these groups, the unshared information critical to reach a good decision would be valued highly and taken into account. To activate these group norms, the groups had to conduct a prior task which was pretested and known to foster either a critical group norm (reaching consensus about a political issue) or a more consensual and collaborative atmosphere (collaborating in making a poster out of pictures from glossy magazines).

After the group norm induction, groups sat down to discuss candidate selection. Some interacted face-to-face. Those who interacted via CMC were either isolated in separate cubicles and only identified by a code number, rendering them relatively anonymous during the interaction, or they were co-present in the same room rendering them relatively identifiable. Results displayed in Figure 2 indicated, first, that the face-to-face groups overall made more correct choices than the computer-mediated groups. This appears to be due to the greater quantity of information exchanged in the verbal interaction compared to the typed interaction. More characteristics were shared in face-to-face groups, and consequently, better decisions were made. However, this effect was moderated by the group norm. In isolated CMC groups and in the face-to-face condition, group norms had their predicted effect: Critical norms improved the quality of group performance compared to consensual norms. Moreover, the participants in these conditions valued the unshared information more than the shared information when they were in the critical norm condition, but not in the consensus norm condition. Thus, we can conclude that groups conformed to group norms as expected in the isolated CMC and face-to-face conditions.

In contrast, the participants in the co-present CMC conditions did not conform to the group norm, and showed even a slight reverse tendency. Their decisions were not improved when the group had a critical norm, and they valued unshared information no more than when they had a consensus norm. It appeared that despite the co-presence of group members, and the relative abundance of visual and social cues, the co-present CMC groups experienced

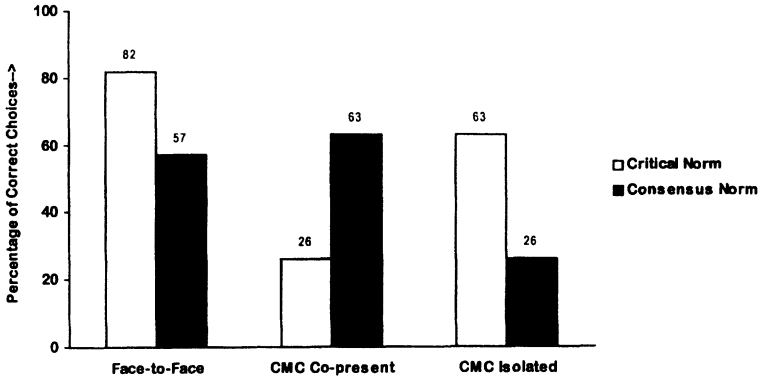


Figure 2. Quality of Group Decisions in Face-to-Face, Co-Present Computer-Mediated Communication (CMC), and Isolated CMC Conditions

less normative influence than the isolated CMC members did. However, because the group norms had less impact in co-present CMC groups than in face-to-face groups, we can also conclude that these effects are not merely due to the presence or absence of social cues, but rather to the interaction between social cues and the medium. CMC interaction seems to have a particularly strong effect in producing normative influence in anonymous settings compared to identifiable settings. In the verbal face-to-face setting, other routes for social and normative influence may be available, such as are known to exist in the influence in small groups based on interpersonal attraction or common bonds (e.g., Moreland & Levine, 1982).

What, then, may we conclude from these findings with respect to the social boundaries that define groups and their norms? First and foremost, far from providing a context in which individuals are freed from the pull of the group and can follow their "own" interests and agendas, visually anonymous CMC seems, if anything, to strengthen conformity to group norms. The notion that CMC liberates us from the bounds and boundaries of the group tends to assume that this freedom is an ideal to which independent individuals might strive. According to this view, normative influence is regarded as social pressure to comply to avoid the opprobrium or sanction of the group (Deutsch & Gerard, 1955). However, conformity to the group does not have to be viewed in these negative and individualistic terms, but can be seen as the willing expression of a group identity (Spears & Lea, 1994; Turner, 1991). The

evidence confirms the proposition of the SIDE model that the absence of individual cues enhances awareness of the group dimensions of identity and interaction, and reliance on related norms and standards. Moreover, the greater freedom and uncertainties of mediated interaction may actually exacerbate these social influence effects. Conversely, it seems that when people are able to differentiate individually each person with whom they interact electronically, they are more inclined to set themselves apart from the group and comply less with the group norms. It seems that it is precisely the identifiable and co-present individuals who are motivated to assert their individual identity as distinct from the group (although Spears et al., 1990, demonstrate most divergence from the group when individual identity is salient in anonymous CMC). Paradoxically, then, the conditions that allow most freedom are actually those in which the influence of social boundaries is apparently felt strongest. We argue that this is because influence comes partly from within; the group is not only external to but also an internal dimension of self. In the following section, we examine the processes associated with this social self in more detail.

To summarize, although CMC may provide the freedom to traverse social boundaries, this does not mean that people routinely use this freedom to escape the pull of the group. Anonymous CMC may be quite socially conservative, in that it can operate to reinforce group boundaries and keep people within them, especially when there are clear norms and cues to group identity available. This is, of course, not to deny that people can use the relative anonymity associated with CMC to resist the group. However, conscious rejection of the group refers more generally to (out)groups with which people do not identify, as is described by the strategic aspect of the SIDE model (rather than the cognitive dimension considered thus far): Anonymity may enable resistance compared to identifiable conditions where the (out)group cannot so easily be spurned (Reicher et al., 1995). Once again, however, this analysis suggests that anonymity in CMC may function to reinforce boundaries between groups, rather than to break them down.

Reinforcing the Boundaries:

From Ingroup Attraction to Intergroup Differentiation

In the previous section, we examined the effect of anonymity in CMC in producing social influence and conformity to group norms. In this section, the cognitive aspects of the SIDE model are further elaborated to specify the processes underlying the tendency of anonymity to enhance attraction to the ingroup and rejection of the outgroup, which together help to constitute

and reinforce the impact of social boundaries within CMC. The role of the strategic dimension of SIDE in exacerbating these effects is then briefly addressed.

As indicated, the effect of anonymity and decreased individuation is that members of the ingroup are depersonalized and that they are therefore seen as representatives of their group rather than as individuals. We argue that the depersonalization of ingroup members in itself is sufficient to heighten the salience of the social dimension of the intragroup interaction, and thereby of social identity and group norms. Heightened attraction to the ingroup is a consequence of increased salience (Hogg, 1992). Moreover, when depersonalization occurs in an intergroup context, members of the outgroup as well as the ingroup are both treated as stereotypical group members. This implies that anonymity and the associated inability to individuate may contribute to the transformation of interaction between members of different groups from an interpersonal encounter to an intergroup encounter (Tajfel, 1978). Associated with such intergroup encounters are increases in stereotyping and ingroup bias. Therefore, rejection of the outgroup may result from anonymity in intergroup encounters.

A number of our studies have sought to delineate these social identity processes and the role anonymity plays in them. For example, in some of our studies of normative behavior we have taken measures of social identification and found that anonymity raises social identification with the group (e.g., Postmes et al., 1998). We have also found that anonymity under salient group conditions raises the tendency for group members to rate the group and the content of communication they produce as more attractive (Lea & Spears, 1992). Lea, Spears, and de Groot (1998) used structural equation modeling to examine the processes involved in creating attraction to the group. Groups of participants interacted in a simulated study of international Internet communications using a text conferencing system which, in a visually identifiable condition, was supplemented by real-time video communication. It was found that anonymity increased participants' tendency to categorize themselves as part of the group which, in turn, increased group attraction.

It is a small step from identification with, and attraction to, the ingroup, to a more generalized favoritism toward ingroup performance and products. Waldzus, Schubert, and Frindte (1997) investigated this process in a study of Internet groups. They manipulated the design of web pages so as to increase the salience of a transient small group to which subjects had been assigned to perform a task. Participants then had to judge products made by members of their own group and by members of other groups. During these ratings,

people were either treated consistently as individuals and thereby individuated, or they were treated as group members and hence deindividuated. When group members had a salient social identity and were deindividuated, they showed very strong ingroup favoritism, and more favoritism than when individual identity was salient or when group members were identifiable (see Spears, 1995, for similar findings in a non-CMC paradigm).

Further research shows that anonymous CMC between groups may provoke more than ingroup favoritism in allocating trivial rewards, and even produce outgroup hostility. In an intergroup study where psychology students interacted via a CMC system with sociology or business students, the psychology students reported a more negative impression of the outgroup as unkind, unsympathetic, and unpleasant after interaction when they were anonymous, and a more favorable impression when the outgroup members were made visible by means of still photos displayed on the conferencing screen (Postmes, 1997, Study 4.2).⁷ This tendency to denigrate the outgroup was not, as one might expect, determined by the content of the interactions. In fact, no actual interaction occurred: The computer simulated the exchange of a number of rounds of arguments, which were identical in all cases. Thus, anonymity was the determinant of increased intergroup animosity, irrespective of the content of interaction.

Whereas results of studies suggest that anonymity produces a simple and reliable effect of attraction and ingroup bias in local, *in vivo* groups, these effects become more complex where wider social categories such as gender or nationality are concerned. An important reason is that visual cues may serve not only to individuate members of real-life categories, but also to identify them as belonging to those categories. This effect is obvious in the case of gender: Seeing a photo of another can instantly communicate gender as well as individuality, and therefore knowing that one is visually identifiable to others can promote stereotypical perceptions of the self (self-categorization) and behavior consonant with that gender, or can promote stereotypical perceptions of the other (stereotyping).

This effect of identifiability to expose and potentially make salient the category group membership while simultaneously individuating communicators introduces a risk that visual anonymity confounds two processes which have opposite effects for similar theoretical reasons, one making the categorization more salient and the other less. Therefore, some studies investigating the SIDE model in the case of real-life social categories have been conducted using different operationalizations of individuation in groups. These studies carefully avoid revealing category membership, thereby ensuring group salience was lowered. For example, Postmes (1997, Study 6)

instructed group members to discuss a number of topics under conditions in which gender stereotypes were or were not activated during interaction. In addition, group members were rendered anonymous because they were identified by code numbers only, or else they were individuated by exchanging brief autobiographies that included various pieces of personal information (though not gender).

An analysis of the content of discussion revealed that, on the whole, men made more dominant statements during the interaction than women. This difference was especially marked when stereotypes were activated and when they were deindividuated by means of anonymity, but less accentuated when they were individuated by autobiographical information, or when stereotypes were not activated. Moreover, a postexperimental questionnaire revealed that people had a much more stereotyped perception of those with whom they interacted when they were deindividuated and when stereotypes were activated.

Given that accurate gender information about other group members was not discernible to participants even under individuated conditions, the effects cannot be due to a simple process of activating stereotypical behavior in response to the known gender of other participants. Rather, these effects are explicable by reference to the SIDE process of anonymity promoting self-categorization. Thus, when group members were anonymous and gender was activated, they tended to perceive themselves more in terms of their gender membership and less as individuals, and this, in turn, influenced their interactions. A follow-up study further investigated this possibility (Brouwer, Kawakami, Rojahn, & Postmes, 1997). Groups of 4 participants (2 men and 2 women) interacted on a gender-sensitive issue for 30 minutes via CMC. Afterward, the extent to which participants applied gender stereotypes to themselves was assessed by means of a Dutch adaptation of the Bem Sex Role Inventory (Rojahn, 1996). Results indicated that those who had interacted anonymously self-reported more gender-typical behavior and traits, compared to those who were identifiable during the interaction.

The potentially dualistic effects of visual identifiability to undermine intergroup differences while accentuating group memberships may also occur for other categorizations, such as those based on race or nationality. Lea et al. (1998) found evidence that an identifiability manipulation in the context of group interaction across national boundaries simultaneously heightened salience of a visually distinctive social category in its members, while diminishing the influence of a local group identity without visual distinctiveness. Although visibility promoted self-categorization at the social categorical level of British nationality, anonymity promoted self-

categorization in terms of the *in vivo* group. In other words, knowing that one “looked British” to other group members was sufficient to engender British identity in the interactions. However, it should be noted that local identifications appeared to have greater power than wider social category identifications: The effect of national identification on perceptions of the self was suppressed by the more powerful antagonistic effect of visual anonymity in promoting identification in terms of the local interacting group.

In sum, there is accumulating evidence that anonymity can produce stereotypical behavior by depersonalizing perceptions of the self, in addition to promoting responses to depersonalized others along group stereotypical lines. However, there is a caveat to this conclusion that the effects of anonymity depend upon the way in which anonymity is operationalized. It appears to be too simplistic and mechanistic to assume that identifiability will always cause individuation, and that anonymity will necessarily produce depersonalization (at least in the intergroup context). Rather, the effects of identifiability and anonymity have to be assessed in the context in which they occur to understand and predict their possible effects on the individuation of ingroup and outgroup members. Therefore, it appears that the impact of intergroup boundaries is not so much a result of variance along the anonymity-identifiability continuum, as it is of the degree to which members of ingroup and outgroup are individuated or depersonalized. Although these two dimensions overlap most of the time, we have begun to unravel situations in intergroup encounters where identifiability rather than anonymity can cue social categorization and facilitate depersonalization.

Once again, we have concentrated here on the cognitive aspects of the SIDE model that govern the salience of important social identities. However, the strategic aspects of the SIDE model that refer to conditions under which people feel more or less empowered to express their social identities are an important feature of intergroup contexts, especially where status and power differentials are concerned (Reicher et al., 1995; Spears & Lea, 1994). In the area of CMC, there have to date been few, if any, published studies addressing this side of the SIDE model. Suffice to say here that this is an interesting new area of research that has been neglected for too long. For example, Reicher and Levine's (1994) work would suggest that although anonymity of the outgroup may serve to reinforce intergroup boundaries for cognitive reasons, anonymity to the outgroup provides the conditions for collective resistance to outgroup pressure, a strategic effect (see Reicher et al., 1995). Although these effects may serve to reinforce the social boundaries between these groups, the resistance to outgroup may be liberating at the group level.

General Discussion

This review of research around the SIDE model is not intended to leave the impression that technology is neutral and that differences between CMC and face-to-face interaction are few (cf. Straus, 1996). If anything, our studies show that configurations of technology are influential and do implicate social processes, by largely accentuating the influence of existing social boundaries that are also encountered in the real world, and potentially by erecting new ones. Together, these studies show that social divisions that are imposed from the outside, as well as internalized boundaries such as the social norms of groups with which one identifies, are not necessarily eliminated by the equalizing powers of the "universal" medium. It is not denied that a medium such as the computer has the potential to render communicators socially clueless in a clueless environment (Kiesler & Sproull, 1992) and without ideas as to what the social characteristics of their audiences are. It is also not denied that this gives people freedom to enact new identities and to liberate themselves from the limitations that reality, identity, expectations, or conventions may impose (Turkle, 1996). Yet, it is questionable that because of this potential people will always try to free themselves from these social constraints. As our results show, providing the opportunity for freedom from social influences does not mean people will always choose to liberate themselves from these influences. To assume otherwise is to predefine freedom in primarily individual terms and to underestimate the group as a preferred level of self-definition and source of social validation. Cyberspace may provide the ideal opportunity to create a new virtual society, but if people fall back on the tried and trusted categories of the old world and actively carry over the constraints of their own everyday identities, this new world will rapidly resemble the old one.

We also hope to have provided empirical weight to the proposition that the very factors that are traditionally heralded as liberators from social boundaries (such as anonymity, isolation, and the ability to assume a new or false identity) may ironically have the opposite effect of reinforcing a number of social boundaries: attraction and commitment to the group, conformity to group norms, stereotyping, and ethnocentrism. It is important to stress that this research has been conducted largely in contexts in which social identity is salient, and shared social norms are readily available or even directly activated. The SIDE model suggests that under such conditions, a deindividuating encounter in a group may divert attention away from the individual level of interaction and focus attention on the social level, thereby emphasizing the social boundaries of ingroup and outgroup. However, when group members

do not identify strongly with their group, there will be no need for them to respect the group's boundaries, and hence, deindividuation should not increase social influence (Spears et al., 1990). In fact, in such groups, social influence (at least in the short run) may be weaker when people are unidentifiable, because when the group has no appeal for its members, the cover of anonymity may be used for disengagement and even desertion. Alternatively, in a group composed of individuals (rather than group members) social influence may indeed be based on a process of getting to know one another (e.g., Walther, 1995), and identifiability may be helpful in this respect.

The results of this experimental research are limited with respect to their power to generalize to situations and populations outside of the laboratory, and many important questions remain to be investigated. A limit to the ecological validity of this research may be that applications used in this research are not generally found in organizations, or that the specific types of anonymity created in our research are not generally found in "real life" on the Internet. Thus, the theory needs to be taken into more realistic contexts of use to assess its use in the field.

Notwithstanding these caveats, this work does have some implications for the use of CMC in organizations or by individuals. Because this research uses specific social applications of CMC (i.e., when groups do not have some pre-existence and prior knowledge of group members), our findings can be generalized to those contexts. For example, large (networked) organizations increasingly rely on ad hoc project teams that do not have a common history beyond their recognition of working for the same company (e.g., Fulk & DeSanctis, 1995). According to our analysis, this type of group is susceptible to produce the kinds of accentuation of group boundaries (in this case, corporate norms or culture) if there is relatively little individuation within the group, and CMC could contribute to this goal. In the realm of intergroup encounters, boundaries are accentuated under the same conditions, but especially if they are relatively strong and well established. Thus, in interorganizational meetings or negotiations, potential conflict can be avoided by ensuring that members from each organization are individuated, and consequently, are not treated only as representatives of their company. As the examples make clear, however, the effects of individuation of group members can be positive or negative depending on the nature of the group interaction. This reflects the more general implication of our research that characteristics of communication technology interact with characteristics of the social context to produce a variety of effects.

In conclusion, the results of our research on the SIDE model so far seem to suggest that a lack of individuation of communicators in CMC may amplify

social influence precisely because those contexts which allow the greatest liberty are contexts stripped of cues to individual identity. Social relations, norms, stereotypes, and so forth are not simply imposed on us from the outside; rather, they make up an essential part of who we are: The social self resides in the individual (Tajfel, 1978; Turner, 1982, 1987). For this reason, people will not necessarily liberate themselves from the social boundaries at the first opportunity, especially where these boundaries serve important identity-related functions. In CMC, as in other more direct media, people will use these identities and the boundaries they build to interpret the social environment and guide their behavior in it. Only when these identities themselves motivate the move beyond particular social boundaries is CMC likely to be used to facilitate this process. However, the many possibilities provided by this universal communication medium do provide a tool for such social change. CMC, therefore, provides a resource that may help us to redraw the boundaries for groups, as well as individuals, without prescribing what form this will take. This is ultimately the task of the social agents who use it.

Notes

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2. Computer-mediated communication (CMC) is an umbrella term which, when taken literally, could describe any form of interaction via the computer. In practice, it has come to be a description of text-based interaction between users who are usually dispersed in space or time. Examples are synchronous chat applications for dyads or groups, e-mail, and bulletin board systems.

3. It is even questionable whether the computer is adequately described as a communication *medium*: Strictly speaking, the software is as much the medium as the computer. Applying terminology such as medium to CMC tends to obscure that this feature means that the computer is really host to what would be several communication media in the classical sense of the word.

4. Absolute anonymity is actually a rarity in CMC, and indeed in the studies reviewed. It is, therefore, more correct to refer to relative identifiability or unidentifiability of individuals or individual contributions, on a continuum from absolute anonymity to identifiability.

5. Some have claimed that the technologically determinist views, as described here, of fixed effects of CMC are not very productive. Although that may be true, these theories still dominate the CMC literature to a large extent, and these theories perpetually stimulate research and novel theorizing (Walther, 1996).

6. A special procedure was used to ensure that people exchanged the characteristics of each candidate because previous research showed that groups are not particularly well equipped to do so.

7. In this study, participants were always identified by a group label plus a personal number (i.e., p4 for psychology student number four). In the individuated condition, this number was augmented by a personal portrait picture of each discussant displayed on the screen.

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