HUMAN COMMUNICATION RESEARCH

Human Communication Research ISSN 0360-3989

ORIGINAL ARTICLE

Social Identification and Interpersonal Communication in Computer-Mediated Communication: What You Do Versus Who You Are in Virtual Groups

Zuoming Wang[1], Joseph B. Walther[2,3], & Jeffrey T. Hancock[4]

1 Department of Communication Studies, University of North Texas, Denton, TX 76203-5268
2 Department of Communication, Michigan State University, East Lansing, MI 48824-1212
3 Department of Telecommunication, Information Studies & Media, Michigan State University, East Lansing, MI 48824-1212
4 Department of Communication and Faculty of Information Science, Cornell University, Ithaca, NY 14853

This study investigates the influence of interpersonal communication and intergroup identification on members' evaluations of computer-mediated groups. Participants (N = 256) in 64 four-person groups interacted through synchronous computer chat. Subgroup assignments to minimal groups instilled significantly greater in-group versus out-group identification. One member in each group was instructed to exhibit interpersonally likable or dislikable behavior. Analysis revealed that confederates acting likably were more attractive than those acting dislikably regardless of their in-group or out-group status. Further results indicated that interpersonal behavior interacted with subgroup membership on identification shifts following online discussions. Interpersonal dynamics generally provided stronger effects on members in virtual groups than did intergroup dynamics, in contrast to predictions from previous applications of social identification to computer-mediated communication.

doi:10.1111/j.1468-2958.2008.01338.x

Identification dynamics and interpersonal perceptions in computer-mediated groups provide intriguing topics and complicated issues. When communicating with others in online groups, people may interact as individuals or dyads within those groups. They may interact on the basis of subgroup identities or as members of larger social groups or categories. Among the different ways to conceptualize such online interactions, two primary perspectives have guided research. One is an interpersonal/small-group approach (e.g., Cartwright & Zander, 1968), focusing on the effects of

Corresponding author: Zuoming Wang; e-mail: wangz@unt.edu
This research is based on the first author's dissertation, which was directed by the other authors. A previous version of this research was presented at the International Communication Association in Montreal, May 2008.

relational communication among members, as seen in the social information processing (SIP) theory of computer-mediated communication (CMC) (Walther, 1992).[1] Another is a variant of social identity theory (SIT) (Tajfel, 1978) and self-categorization theory (see Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), which has been applied to CMC in the social identity model of deindividuation effects (SIDE) (Reicher, Spears, & Postmes, 1995; Spears, Lea, & Lee, 1990). These two approaches, like the larger paradigms on which they draw, differ in their assumptions about the functions and the processes involved in individuals' perceptions of their groups and other members (Marques, Abrams, & Serodio, 2001). The relational communication approach to groups focuses on the exchange of interpersonal affect (e.g., Lott & Lott, 1965) but may ignore the "broader context of intergroup relations" (Marques et al., 2001, p. 436) in which interactions take place. On the other hand, social identification focuses primarily on intergroup relations but has "typically neglected how social categories deal with emerging deviance" reflected in behavior variations (Marques et al., 2001, p. 436) and interpersonal interaction within small groups (Abrams, Hogg, Hinkle, & Otten, 2005).

To date, research has rarely examined the interplay of the interpersonal factors and intergroup dynamics within the same CMC encounter (cf., Walther, 1997). Some researchers draw sharp distinctions between the fundamental approaches associated with interpersonal and intergroup perspectives, making broad claims that a social identification approach alone has the power to render meaning to findings that were intended to test interpersonal and group effects of CMC (e.g., Postmes & Baym, 2005, p. 230; Spears, Lea, & Postmes, 2001). Comparisons of these potentially conflicting forces deserve empirical grounding in a single study.

That is the intention of the present research, which explored online interactions in terms of how people behave and how they perceive others in virtual groups. It attempted to address questions with respect to both identification and interpersonal stimuli, within the same experimental procedure, on attraction processes. The research draws on interpersonal SIP theory, which posits that relational communication significantly impacts attraction and liking online. It also draws on the SIDE model, which predicts that identification and group membership are the driving forces of online attraction. A number of questions emerge when considering these different approaches. Specifically, does the group effect derived from social identification still hold when there is salient interpersonal behavior? Does the interpersonal effect still hold when there are salient group identifications? The present study investigated these two models simultaneously to examine how well each approach predicted outcomes of online group interactions (attractiveness, prototypicality, and identification with the in-group/out-group), respectively, as well as jointly.

Social identification and SIDE

The SIDE model applies aspects of SIT to computer-mediated settings by focusing on the effects of the visual anonymity CMC involves and its consequences for identification processes online. SIT (Tajfel & Turner, 1986) claims that when social identity

is more salient than personal identity, people see themselves more as part of a group than as individuals, as though partners are equivalent and interchangeable with other in-group members. In-group and out-group categorization exaggerates perceptions of similarity between the self and the other in-group members and magnifies perceived differences between self and out-groups. According to the social identification approach, maximizing the difference between the in-group and the out-group adds to the esteem of the in-group. That is, group members cognitively maximize intergroup differences, assimilate themselves to an in-group prototype, and develop favorable attitudes toward the in-group. Out-group members are liked less and therefore are less influential in decision making. Social identification increases attraction to the in-group, and in the abstract, to its members (Brewer, 1979; Hogg & Abrams, 1988; Tajfel, 1978; Tajfel & Turner, 1979; Turner et al., 1987).

In relation to other SIT approaches, the SIDE model places a premium on the effects of visual anonymity and how it instigates social identification. Even though people exchange messages in CMC, they cannot see each other, and the consequent anonymity of the medium is theorized to block individuating and personalizing information. As a result, SIDE argues, people think and behave in a "deindividuated" or "depersonalized" manner in CMC (Lea & Spears, 1995; Waldzus & Schubert, 2000). "According to SIDE, the relative anonymity associated with mediated communication is crucial for predicting and understanding behaviour in the new computer medium" (Lea, Spears, Watt, & Rogers, 2000, p. 48). Whereas other SIT approaches also consider the meaningfulness or relative fit (meta-contrast ratio) that identification with a group may offer a potential member (see for review Hogg & Tindale, 2005), SIDE suggests that the deindividuation from CMC propels users to identify with a group identity that is salient to them, whether it is an ad hoc activity group or wider social categories. In other research, deindividuation and depersonalization have often been induced by means of visual anonymity manipulations—occluding names and faces—hiding interindividual differences, while dressing people in klan-type robes or nurse uniforms to achieve minimal group distinctions and identifications (e.g., Johnson & Downing, 1979). CMC is assumed to stimulate similar effects: Visual anonymity in CMC occludes intragroup differences (Spears et al., 1990). The lack of visually individuating cues in CMC diverts individuals' attention from idiosyncratic characteristics of group members, depersonalizing perceptions and making people susceptible to identification with whatever group is salient: "the social identity explanation of deindividuation effects … argues that anonymity within a salient group promotes categorization of self and others in terms of the group, thereby enhancing group behavior" (Lea, Spears, & de Groot, 2001, pp. 526–527). In short, SIDE proposes that CMC

> reduces the (inter)personal basis for social comparison, self-awareness, and self-presentation … The anonymity of others means that they tend to be perceived as interchangeable members of the group rather than unique individuals; … perceptions of individual differences among interactants are reduced, leading to

> less individuated impressions and a less interpersonal basis for interaction. (Lea et al., 2001, p. 528)

These effects are predicted to be even more likely when participants are confronted with, or are aware of, in-group/out-group comparisons (Lea et al., 2001; Postmes & Baym, 2005).

Because of CMC users' proclivity toward group identification, experimental SIDE research has often succeeded in triggering group identification (and related outcomes) using surprisingly simple, minimal group inductions. In an early SIDE study, for example, CMC users were led into group identification versus interpersonal orientation merely through the wording of the prediscussion instructions provided to them: In one version, instructions repeated the word "group," and emphasized unity and group uniqueness, whereas the other version repeated "individuals" and stressed diversity (Spears et al., 1990). The elementary manipulations interacted with the (in)visibility of CMC partners, affecting attitudes and attraction. In another study (Postmes & Spears, 2000), participants completed bogus computer-administered questionnaires and were then told (by the computer) that they belonged to "common identity groups" who share a common outlook or unite behind a common goal or they belonged to "common bond groups" who related interpersonally like friends. These ad hoc groups discussed issues of societal interest using synchronous CMC in the presence or absence of members' photographs (theoretically breaking depersonalization). Interaction effects between group type and photos affected congeniality, impression development, and attitude polarization in directions predicted by SIDE. In yet another study, no particular focal identity was induced, but different group norms were instantiated when participants solved scrambled sentence puzzles, the solutions to which merely displayed words connoting pleasant relations or connoting efficiency (Postmes, Spears, Sakhel, & de Groot, 2001). Visually anonymous CMC groups reflected these primed norms in their subsequent online discussions. By similarly simple means, SIDE research shows that CMC users are prone to identify with minimal group inductions when communication conditions involve depersonalization.

Some SIDE studies have attempted to instantiate more robust social category identification as opposed to minimal groups. In one study, participants were asked to rate the attractiveness of a prospective work partner either from one's own or from one's rival university. In-group preferences were exhibited only when no individuating information about prospective partners was offered. However, attraction was greater toward any prospective partner whose personal biographical information, or photograph, was shown (Tanis & Postmes, 2003). Throughout SIDE research, interpersonal information is conceptualized as static, generally visual, or sometimes biographical. Dynamic behaviors serve only to reinforce or magnify salient identities, a position on which SIP theory differs, as detailed below.

As these examples indicate, one of the outcomes of depersonalized CMC has been attraction, which has also been a focus of SIP research. Although the two approaches

differ in their conceptualizations of the basis of attraction, they converge in their ultimate predictions of how members of a group may rate one another's attractiveness. The social identification tradition on which SIDE is based argues that *social attraction* differs from *interpersonal attraction*. Social attraction, according to Hogg and Hardie (1991; see also Prentice, Miller, & Lightdale, 1994) is depersonalized and reflects attraction to an abstract group prototype or stereotype. In contrast, according to Hogg and Turner (1985), interpersonal attraction in groups reflects the affinity between individual group members. The social identity approach focuses on attachment *to a group as a whole*, which is independent of the interpersonal attachment between single-group dyads. According to SIDE, depersonalization due to CMC promotes this form of attraction (Lea et al., 2001). At the same time, SIDE theorists argue that social attraction leads to *attributions* of liking for in-group members (Reicher et al., 1995). Over the Internet, attraction toward others derived from abstract social categorical factors may be projected on another individual, which is how SIDE accounts for Internet romances (Lea & Spears, 1995). Given the potential for attraction to respond to interpersonal, social, or both antecedents in CMC, attraction is a useful construct to examine in a setting featuring variations in interpersonal and intergroup stimuli. The following hypothesis about the main effect of the in-group/out-group status on attraction is proposed:

H1: The attractiveness of participants depends on their intergroup membership. In-group members are evaluated as more attractive than out-group members.

Interpersonal relations and SIP

As indicated above, interpersonal dynamics suggest a different basis of attraction that may obtain among group members. In the realm of CMC, the SIP theory offers an interpersonally based framework for the development of attraction. SIP posits that CMC can convey affective information and relational communication, despite the reduced availability of nonverbal cues. Online communicators with sufficient motivation adapt their messages to generate and detect interpersonal impressions, to signal affective information, and to affect the (de-)escalation of intimacy (Walther, 1992). As such, affective states and perceptions of attractiveness in online groups accrue on the basis of interpersonal communication behaviors.

SIP differs from SIDE in SIP's focus on the transformation of interpersonal expressions. According to SIP, expressions that may take the form of nonverbal communication offline are expressed as other cues in CMC behavior. Whereas SIDE argues that text-based CMC occludes (inter)personal cues, and equates interpersonal information primarily with cues conveyed through physical appearance, SIP contends that CMC users adapt their expressions of self and their relational cues primarily into language, as well as through other "native" CMC behaviors such as timing and typography. Even when visually anonymous, SIP assumes, CMC users are able to generate and manage interpersonal impressions, not only group-based effects, through interactive communication.

Research has explored a variety of linguistic cues and their effects on relational judgments and affect in CMC. These include the use of shared jargon (McGrath & Hollingshead, 1994), conventionalized expressions including emoticons (Lea & Spears, 1992, Study 1; Walther & D'Addario, 2001) and abbreviations (Peña & Hancock, 2006; Wright, Breidenbach, & Boria, 2002). CMC linguistic cues affect emotions, moods, humor, sarcasm, and irony (Hancock, 2004; Hancock, Landrigan, & Silver, 2007). In addition to groups, these effects have been observed in gaming dyads (e.g., Peña & Hancock, 2006) and romantic settings (e.g., Gibbs, Ellison, & Heino, 2006). A study by Walther, Loh, and Granka (2005) examined the transferability of basic interpersonal affinity/disaffinity cues between nonverbal communication face-to-face (FtF) and verbal communication in CMC. Unacquainted dyads convened either FtF or using CMC chat. Experimenters asked one of the participants in each dyad to enact either liking or disliking behavior during their subsequent discussion of a social dilemma. From recordings of those discussions, researchers identified spontaneous interpersonal affinity and disaffinity cues in both settings. Verbal cues in the CMC environment showed as robust an effect in the expression of affection online, consistent with SIP theory predictions, as did vocalic and kinesic cues, combined, in the expression of FtF affection offline. Consistent with these findings and the theory they reflect, the following hypothesis is raised:

H2: The attractiveness of participants depends on their interpersonal behavior. Group members who act likably are evaluated more attractive than those who act dislikably.

Interplay of the interpersonal behaviors and group identification: The black sheep effect

In addition to the main effects predicted by intergroup and interpersonal factors, certain interaction effects may occur in CMC groups on the basis of other approaches to interpersonal variations and intergroup identification beyond SIDE and SIP. One important body of literature that speaks to some of these effects offline—the effect of dislikable acts committed by an in-group member and likable acts by an out-group member—is research on the black sheep effect. The black sheep effect is that which occurs when a member of an in-group behaves in a manner that deviates from norms (Marques & Paez, 1994). Many black sheep effect studies focus on interpersonal behavior or characteristics, about which people make affective judgments. Traditional black sheep effect studies generally manipulate two variables: group membership (in-group vs. out-group) and a value dimension (likable vs. dislikable individuals). Results suggest that (a) likable in-group members are judged more positively than are similarly likable out-group members. However, (b) dislikable in-group members are evaluatively downgraded in relation not only to likable in-group members but also to out-group members. In other words, there is an interaction between the group membership and the individual behavioral (dis)likeability, with dislikable in-group members evaluated the most negatively (Marques, Yzerbyt, & Leyens, 1988). The black sheep effect illustrates how the perception of an

individual within an intergroup context frames the interpretation of deviant acts (Marques et al., 2001).

There are two types of black sheep deviants in the literature: Black sheep that violate generic prescriptive norms and black sheep that violate the group-specific norms. Generic norms apply equally to all groups and to their members, regardless of group membership. As Marques et al. (2001) put it: "These norms thus do not function as criterion attributes for defining group membership, as is the case of other norms. They correspond more to societal norms … because they involve generic values and standards of conduct" (p. 437). They further suggest that an interaction can occur between a violation of the generic norm and the group membership in that "individuals' judge[ment of] others who uphold or breach generic norms may also be affected by the group membership of the target" (p. 437). The derogation of the in-group member who violates the generic norm is caused by the mechanism that people "expect in-group members to display socially desirable characteristics and behavior and perceive socially undesirable in-group members as deviating from the group prototype" (p. 438). As Marques et al. (2001) point out, most black sheep effect studies that presented descriptions of actors and activities to raters "manipulated the attractiveness of the deviant group members directly [or] through manipulation of norm-related behavior" (p. 438). Both dislikeability and violation of group-specific norms result in more negative evaluations (Bown & Abrams, 2003). Thus, the following two hypotheses are raised:

H3: Group members evaluate an in-group member acting likably as more attractive than out-group members acting likably.

H4: Group members evaluate an in-group member acting dislikably as less attractive than out-group members acting dislikably.

Although research on the black sheep effect addresses some of the interplay of interpersonal behavior and intergroup dynamics, a problem exists in its manipulation of dislikable behavior. The research tends to use descriptions and rarely involves social interaction among the observers and the target(s). Others' impressions and evaluations of black sheep are often gauged by having people read textual descriptions about the target, unaccompanied by communication with the target, e.g., labeling the targets as "likable/unlikable" (Marques, Abrams, Paez, & Martinez-Taboada, 1998), or presenting socially desirable/undesirable description of the targets (Castano, Paladino, Coull, & Yzerbyt, 2002; Marques, Robalo, & Rocha, 1992).

Whereas black sheep effect studies have not included interactive communication, neither have they considered interactivity as a factor that moderates the effect. It nonetheless remains the body of research that offers the most clear theoretical approach to the question of how members of a group relate to a dislikable in-group member. The present study does not empirically compare interacting versus noninteracting groups, which would help untangle these concerns. But given that social identification processes have been shown to adhere in interactive CMC groups (e.g., Lea et al., 2001; Postmes, Spears, & Lea, 2002), a deviant member should continue to arouse this effect.

Prototypicality

The analysis at this point returns to the issue of attraction in CMC, highlighting SIDE's focus on prototypicality as a basis for attraction (Lea et al., 2001). The previous hypotheses related to attraction-specified main effects, whereas the issue of prototypicality offers more nuanced interaction effects involving intergroup dynamics and interpersonal behavior. The role of prototypicality is central to the social identification approach to attraction, that is, depersonalized social attraction as opposed to interpersonally based attraction (see Hogg, 1987, 1992, 1993). Social attraction is projected on another group member based on group prototypicality. The relative predominance of social versus interpersonal attraction is said to be determined, in online groups as elsewhere, by whether the group identity or the personal identity is salient (Reicher et al., 1995).

A prototype is "an integrated abstract representation of specific stereotypical/normative characteristics which define the ingroup in the salient ingroup-outgroup comparative context" (Hogg, 1992, p. 94). Perceived prototypicality of other in-group members positively influences the attractiveness of specific individual persons (Turner, 1987). Moreover, the perceived in-group prototypicality of members is more strongly associated with liking and popularity when group identity is salient than when personal identity is salient (Hogg & Hardie, 1991). Hogg, Hardie, and Reynolds (1995) argued that attraction in salient groups is based on perceived prototypicality and further linked it to an underlying process of self-categorization. In this manner, Hogg et al. argue that depersonalization transforms the basis of liking from idiosyncrasy into prototypicality. Given that in-group prototypes are relatively positive in general, the accentuation of perceived prototypicality of another in-group member may render that person prototypically likable. Hogg et al. further claimed that

> since self-categorization satisfies a need for clear and distinct group boundaries, the group and its members are imbued with positive valence; … positive self-sentiment based on prototypical self-perception may be extended to fellow group members (who are perceived as categorical extensions of self) and manifested as depersonalized attraction, or it may simply elevate mood that it is expressed as liking for others. (p. 161)

Therefore, more prototypical group members tend to be liked more.

Group identification and prototypicality interact to affect intragroup evaluations: Members who identify strongly with their group evaluate in-group members according to how well they fit the group's prototype. In Schmitt and Branscombe's (2001) research, when told that some group members were not prototypical of the in-group, members felt threatened, and this threat encouraged them to increase their use of prototypicality as a standard for evaluating in-group members. Hogg and Hardie (1991) found that group members who identified more strongly with their team employed prototypicality as the basis for attraction to others. In Hogg et al.'s (1995) research, prototypicality accounted for the effect of identification on the target's attractiveness ratings.

Target prototypicality predicts liking when the group identity is salient but not when personal identity is prominent, according to Hogg et al. (1995). As Schmitt and Branscombe (2001) put it, "when self-categorized at the group level, group members are attracted to other in-group members not because of interpersonal idiosyncratic preferences but rather because they perceive other in-group members as being similar to a common in-group prototype" (p. 511). That is, when group identity is salient, group membership and behavioral (dis)likeability will interact with each other and jointly influence perceived prototypicality. Based on the preceding rationale, the following hypotheses are raised:

H5: A group member acting likably is evaluated as more prototypical when he/she is from the in-group than from the out-group.

H6: A group member acting dislikably is evaluated as more prototypical when he/she is from the out-group than from the in-group.

Identification and reclassification

When in-group members engage in dislikable behaviors, it could provoke two distinct types of reclassification, namely, target derogation (as seen in the black sheep dynamics) or group disidentification (Eidelman & Biernat, 2003). Group disidentification describes how members' identification with the group changes when deviance is present: Reducing self's identification with the group to distance self from the unfavorable in-group member. To date, very little research has directly examined which form of reclassification occurs when in-group members engage in dislikable behavior. The potential for such behavior to trigger different evaluative responses is complicated by whether it comes from "within or without," that is, from among in-group partners or from out-group members. Once again, SIDE suggests that the question is more prescient in virtual teams, where social identification with minimal groups should be magnified due to deindividuation.

SIDE does not, however, tackle the interplay of nonconforming behavior and intergroup membership (i.e., a deviant's in-group vs. out-group status relative to the observer). Drawing on self-categorization and SIT, SIDE proposes that when people categorize themselves as members of a group, they also identify with that group and associate themselves with its salient attributes and norms (Postmes et al., 2001). When in-group members depart from a group-based norm and engage in interpersonal behavior, will that individuate those members, thereby reducing identification with the group and fostering the reclassification? Although not addressing deindividuation due to CMC, McGarty, Turner, Hogg, David, and Wetherell (1992) suggest that when people are deindividuated, they tend to categorize partners who disagree with them as part of a psychological out-group. The categorization of self and others is not static and can be generated on the spot during the interactions. For instance, Eidelman and Biernat (2003) examined the derogation of dislikable in-group members from an interpersonal perspective and found that participants chose to either devalue the dislikable target or disidentify with the group. Group

disidentification creates distance from an unfavorable target. Consistent with this assumption, Cooper and Jones (1969) found that when facing an obnoxious similar in-group member, participants changed their opinions in a divergent direction to distance themselves. All these findings suggest that when the in-group members depart from the group norm and start acting uniquely on an interpersonal basis, a reclassification process may be activated as other members in the group disidentify with the group.

It is reasonable to speculate that when an in-group member is no longer prototypical due to his/her interpersonal behavior, this threatens the identification of other members with the group, resulting in a distancing strategy. That is, the threatened group members attempt to weaken the psychological link between themselves and similar but unfavorable others by disidentifying with the group. Therefore, the following hypothesis is raised:

H7: Identification with the in-group is higher when the in-group member acts likably than when the in-group member acts dislikably.

The way that participants evaluate group members who uphold or violate social norms (e.g., acting dislikably) may be affected by the intergroup membership of the member. When out-group members act dislikably, they actually increase the distinctiveness between in-group and out-group (Marques et al., 2001). By derogating the dislikable out-group members, in-group members assert their own endorsement of the in-group norm and in-group identity (Marques et al., 1998, Experiment 2). In this sense, the dislikable out-group members reinforce the in-group uniformity in support of its norms. Based on that, H8 was advanced.

H8: Identification with the in-group is higher when an out-group member acts dislikably than when an out-group member acts likably.

As discussed previously, the distancing strategy by which an in-group member shifts his or her group identification away from the in-group also applies insofar as it may predict greater identification with a more desirable out-group. H9 reflects that this shift may be triggered by likable behavior emanating from an out-group member.

H9: Identification with the out-group is higher when an out-group member acts likably than when an out-group member acts dislikably.

The black sheep effect literature suggests that when an in-group deviant is present, members employ a distancing strategy that can weaken the link between the self and a threatening entity. This approach may take many forms (Eidelman & Biernat, 2003). If out-group members exhibit desirable behavior that is consistent with prescriptive social norms more than an in-group member does, it is reasonable to project that meta-contrast dynamics change, such that a dislikable in-group partner may stimulate positive reactions toward the out-group. By increasing identification with the out-group, equilibrium is restored. Although this is plausible, previous research on the black sheep effect has not considered this possibility, most likely

because its methods involved static, textual descriptions of abstract out-groups rather than interacting parties whose observable behavior is more desirable than the black sheep's. Therefore, a research question was raised:

RQ1: Does out-group identification increase when an in-group member acts dislikably compared to when an in-group member acts likably?

To explore the psychological mechanisms underlying group dynamics and interpersonal perceptions in CMC, an experiment was conducted to examine the main predictions derived from social identification and interpersonal approaches to CMC in a spontaneous group discussion setting. More specifically, it investigated whether a directly manipulated identity, coupled with likable/dislikable interpersonal behavior of in-group and/or out-group members, individuates the group member, triggers a reclassification of the group member, and thereby affects evaluation of the target.

Method

Research design

A 2 (in-group vs. out-group) × 2 (likable vs. dislikable behavior) factorial experiment was designed to examine how likable/dislikable acts within a salient subgroup identity affect interpersonal perceptions and group interactions.

Participants

Student participants ($N = 256$) were recruited from several classes in communication at a large university in the northeastern United States for a "virtual interactions" experiment by offering either partial credit or a monetary incentive for their participation. The age of participants ranged from 18 to 34 years ($M = 21.32$, $SD = 2.78$), 47% of participants were male, and 53% of them were female. The sample consisted of 11% freshmen, 21.3% sophomore, 26% junior, 28.7% senior, and 13% graduate students. Participants were all familiar with the use of computers.

Procedures

A few days before the start of the investigation, the participants were recruited at various classes in communication for an experiment claiming to examine decision-making behavior online. On the day of the experiment, upon arrival, participants were placed in a public computing laboratory equipped with multiple networked desktops. Each experiment session accommodated 8–24 participants. Each group was comprised of four participants. Although multiple groups were conducted simultaneously, participants were scattered throughout the lab, and members of the same group were deliberately seated away from each other, preventing them from accidentally discovering who their group members were. Participants were directed not to talk with each other throughout the experiment and not to ask where their other group members sat during the online communication. Although sessions

were run simultaneously, each participant's computer displayed only comments for his or her own four-person decision-making group.

Assignment to the subgroups

The social identification manipulation procedure was similar to the minimal group paradigm that involves categorizing people into groups according to some ostensible criterion (e.g., Brewer, 1979; Mullen, Brown, & Smith, 1992; Mummendey, 1995). When the participants signed up for the experiment, they were asked to provide the month that they were born. Subsequently, they were led to believe that, based on their birth month, according to the Egyptian Zodiac, they were categorized either as a "sphinx" or "pyramid," as were other participants. Sphinx members were led to believe that such people process information intellectually, and pyramid members were led to believe that they process information emotionally. Specifically, they received instructions such as: "Based on the birthday information you provided when you signed up for this study, you were born under the sign of sphinx. As we know, these people tend to process information intellectually. Thus you belong to the SPHINX team. You have been assigned to a four-person group for your discussion. Your group consists of two teams: the sphinx team (your team) and the pyramid team who tends to process information emotionally."

In reality, the experimenter did not use the birth month information as a basis for the subgroup categorization but randomly assigned the participants to one of the two subgroups. The member's screen name and the icon of a sphinx or pyramid were printed on the instructions, as well as displayed as a logo for members on the conversation window of the CMC system. Thus, four-person decision-making groups were formed with two sphinx members and two pyramid members in each group. Each member was aware that in the four-person decision-making group, there was another member who shared the same subgroup type with him/her, and there were two other members in the group who belonged to the other subgroup type.

CMC system

The Windows Live Messenger system was used for the online discussion. It is a free instant messaging system distributed by Microsoft for computers running the Windows operating system that allows users to communicate online in real time. Users log in the Windows Live Messenger by entering their screen name and password. Screen names were comprised of the subgroup name plus a number. For example, sphinx members were assigned the word "sphinx" followed by 1 or 2, respectively. Participants remained otherwise anonymous during the experiment. Once they logged in, a conversation window appeared on the computer screen. This window displays the screen names of those who are online currently, the screen name and a logo (sphinx or pyramid) for each participant, and a box where conversants type their messages. The system displays messages by every conversant instantly on the conversation window of every member who has logged in. Additionally, it automatically records and stores the conversation transcript on each computer.

Online discussion task

The experimenter explained that the aim of the experiment was to analyze the decision-making process of groups that use instant messaging as the communication channel. The participants were presented with a modification of a decision-making task that has been used in several other online group discussion studies, originally developed by Valacich, Mennecke, Wheeler, and Wachter (1993; reported in Mennecke, Valacich, & Wheeler, 2000). The task was about allocating New York State budget resources to four competing programs based on certain criteria. Participants were asked to work with others to make recommendations regarding which programs to fund. They were asked to evaluate the competing requests for funding and make judgments about their relative merits and use that as the rationale for their choice. They were informed that the decision-making group must reach a consensus as a whole at the end of the discussion. All participants were provided the same information. The task itself had no clear superior answer and involved value comparisons. It required participants to present arguments, deliberate on the pros and cons of each competing program, and try to persuade each other. Information about the four programs provided in the task was sufficient enough to generate different preferences and divergent opinions but not too much to overwhelm the participants.

Participants were given 45 minutes to discuss the task with each other online and to agree upon one of the alternative solutions. On average, it took 35 minutes for the decision-making groups to complete the task, and all groups finished within 45 minutes. At the end of the discussion, members voted on the decision, and everyone provided verbal agreement (e.g., "I agree," "Sounds good," "Fine with me"), which concluded the discussion and signified that they had reached consensus.

Likeability/dislikeability manipulation

One of the four members in each decision-making group was randomly assigned the role of confederate who displayed likable/dislikable acts. The instruction to the confederates at the beginning of the study included additional information, asking them to express either likeability or dislikeability toward their partner throughout the entire experiment. Instructions were similar to those of Walther et al. (2005), which were adapted partly from those used by Burgoon and Hale (1988) to generate immediacy, and from Scheerhorn (1991–1992) to generate liking/disliking toward an imagined partner. The instructions for the likeability/dislikeability manipulations were as follows:

> *Act likably.*
> Imagine that shortly into your discussion, you realize that you really like this group and care very much that the group likes you too. In fact, you find that you would like to get to know this group better. Make your interaction style one that would lead the group members to form a positive impression of you. Make yourself as friendly to the group members as you can without making it obvious that this is what you are doing. So increase your liking and involvement with the group members throughout the discussion.

Act dislikably.
Imagine that shortly into your discussion, you realize that you are disgusted with this group and no longer care what the group thinks of you. In fact, you would not like talk to this group again. Make your interaction style one that would lead the group members to form a negative impression of you. Make yourself as unfriendly to the group members as you can without making it obvious that this is what you are doing. So decrease your liking and involvement with the other group members throughout the discussion.

Measures

The experimenter provided participants with posttest questionnaires that asked them to assess their impressions of all group members and their respective subgroups. Once all the participants completed the questionnaires, they were debriefed and dismissed. The measures were all presented as 7-interval Likert-type scales. They included individual prototypicality, a 2-item scale adapted from Castano et al. (2002); questions were: "How well does this person fit into your team category? (e.g., Sphinx vs. Pyramid)" and "How typical is this person of your team category? (e.g., Sphinx vs. Pyramid)." Identification with the in-group and out-group were measured using 3-item scales adapted from Doosje, Ellemers, and Spears (1995). The scale items were: "I identify myself with the sphinx team," "I see myself as a member of the sphinx team," and "I feel connected to the sphinx team." (The same questions were repeated for the pyramid subgroup.) Additional measures included McCroskey and McCain's (1974) interpersonal attraction scales, including task attraction (5 items, such as "If I was taking part in another project like this, I would like to do it with him/her." "If I wanted to get things done, I could probably depend on him/her") and social attraction (6 items, for example, "I think he/she could be a friend of mine." "I would like to have a friendly chat with him/her"). All individual-level measures were administered repeatedly for all three other members (but not for one's self) in the group.

Reliability analyses employed each subject's ratings of only one other group member (out of three).[2] All scales yielded high reliability. Cronbach $\alpha = .93$ for individual prototypicality ($n = 254$), $\alpha = .90$ for the task attraction scale ($n = 251$), and .84 for the social attraction scale ($n = 248$). The identification with the in-group scale was highly reliable ($\alpha = .92$, $n = 252$), as well as the identification with the out-group scale ($\alpha = .93$, $n = 252$).The difference in n reflects missing data for each scale.

Manipulation check for likeability/dislikeability

A research assistant, who was uninformed about the condition to which each confederate was assigned, read the entire transcript of each confederate's contribution to the discussions. The assistant classified each confederate as reflecting either a "likable" or "dislikable" demeanor. The consistency between the assigned condition and the assistant's interpretation of the confederates' verbal statements achieved 100% consistency.

Manipulation check for identification

The present study created the two subgroups (sphinx vs. pyramid) based on arbitrary criteria following the principle of the minimal group paradigm. To identify whether the manipulation was successful, participants completed scales that assessed the degree they identified with their respective in-group and out-group. Scales were administered twice, once worded to reflect sphinx and the other for pyramid. Analysis took into account which subgroup (sphinx vs. pyramid) a participant had been assigned to in order to derive in-group versus out-group identification. Confederates' scores were excluded from the following analyses.

Identification with the in-group ($M = 4.02$, $SD = 1.90$) was significantly greater than with the out-group ($M = 2.74$, $SD = 1.53$), according to a multilevel modeling analysis, $F(1, 63) = 64.90$, $p < .001$, $\eta^2 = .24$. The manipulation of intergroup identification was effective. Moreover, the differences in identification for one's in-group and out-group were equivalent for both the sphinx and the pyramid subgroups. Whether a participant was a sphinx or pyramid member did not affect how one identified with one's in- and out-group, $F(1, 529) = .00$, $p = .99$.

Results

Hypotheses testing

In the present study, the data reflected a hierarchical structure with multiple levels. Individuals were nested within groups, warranting caution related to the nonindependence of observations. Therefore, multilevel mixed model analysis was used for hypothesis testing. The advantage of multilevel modeling is that it addresses nonindependence of observations (and residuals) and estimates effects of predictors at the group level simultaneously with unobserved group-level variability. That is, mixed model analysis accounts for variability at each level of data and estimates both fixed factors and random factors for individuals nested within groups (Kenny, Kashy, & Bolger, 1998). For each hypothesis test, the main effect and all possible interactions among hypothesized variables and other relevant variables were included in the first run of the mixed model on data excluding the confederates. If interaction terms failed to reach significance, nonsignificant interactions were removed. This procedure was repeated until only significant interactions and main effects remained. Effect sizes were estimated using procedures described by Hayes (2006).

Effect of intergroup membership on attractiveness

H1 predicted that in-group members are more attractive than out-group members. The first analysis was a saturated omnibus test including all possible interactions between variables: confederate demeanor (acting dislikably vs. acting likably), subgroup (sphinx vs. pyramid), and intergroup membership (in-group vs. out-group status of the target with respect to the rater). The analysis was performed on social attractiveness, followed by task attractiveness. No three-way or two-way interactions

were significant. Analysis examining the main effect of in-group versus out-group membership on social attractiveness showed no significant difference, $F(1, 509) = 1.60$, $p = .21$, $M_{\text{in-group}} = 4.74$, $SE = .09$ and $M_{\text{out-group}} = 4.63$, $SE = .07$. The analysis on task attractiveness yielded similar results, $F(1, 509) = .08$, $p = .78$, $M_{\text{in-group}} = 4.74$, $SE = .10$, and $M_{\text{out-group}} = 4.76$, $SE = .07$. Therefore, H1 was not supported. Being an in-group member versus being an out-group member did not affect the attractiveness of the participants.

Effect of interpersonal behavior on attractiveness

H2 predicted a main effect of interpersonal behavior (acting likably vs. dislikably) on attractiveness regardless of intergroup membership. Results revealed a significant effect of confederate demeanor on social attractiveness, $F(1, 62) = 35.16$, $p < .001$, $\eta^2 = .27$. Confederates acting dislikably received lower ratings ($M = 3.34$, $SE = .18$) than those acting likably ($M = 4.80$, $SE = .18$). Similar results were obtained for task attractiveness, $F(1, 61) = 34.81$, $p < .001$, $\eta^2 = .35$, with $M = 3.36$, $SE = .19$ for dislikable confederates, and $M = 4.89$, $SE = .19$ for likable confederates. H2 was supported.

Interaction between interpersonal behavior and intergroup membership

H3 predicted that group members acting likably are more attractive when they are from the in-group than from the out-group. H4 proposed that a group member acting dislikably is less attractive when he/she is from the in-group than from the out-group. Hypotheses 3 and 4 were parallel to each other in the way that the former focuses only on the confederates who acted likably, whereas the latter examines only the confederates who acted dislikably. These two hypotheses combined together suggest an interaction between confederate demeanor and the intergroup membership on attractiveness ratings.

Mixed model analysis revealed no effects on social attractiveness. The interaction term was not significant, $F(1, 125) = .02$, $p = .90$. Pairwise comparisons were conducted to test specific predictions. Among confederates acting likably, in-group versus out-group membership was not significant $F(1, 125) = .06$, $p = .80$, $M_{\text{in-group}} = 4.83$, $SE = .23$ and $M_{\text{out-group}} = 4.77$, $SE = .19$. Likewise, there was no difference between dislikable confederates due to in-group versus out-group membership, $F(1, 125) = .01$, $p = .94$, $M_{\text{in-group}} = 3.34$, $SE = .23$ and $M_{\text{out-group}} = 3.33$, $SE = .19$.

Similarly, the interaction of intergroup membership by confederate demeanor was not significant on task attractiveness, $F(1, 125) = .93$, $p = .34$. Likable confederates were no different whether they were in-group members, $M_{\text{in-group}} = 4.95$, $SE = .24$, or out-group members, $M_{\text{out-group}} = 4.88$, $SE = .20$, $F(1, 125) = .08$, $p = .77$. Dislikable in-group confederates, $M_{\text{in-group}} = 3.21$, $SE = .24$, did not differ from dislikable out-group confederates, $M_{\text{out-group}} = 3.46$, $SE = .20$, $F(1, 125) = 1.15$, $p = .29$. Neither H3 nor H4 was supported.

Like H3 and H4, H5 and H6 were also parallel to each other. H5 predicted that a group member acting likably is more prototypical when he/she is from the

in-group than from the out-group. H6 predicted that a group member acting dislikably is evaluated as more prototypical when he/she is from the out-group than from the in-group. Together these predictions suggest an interaction between intergroup membership and confederate demeanor on prototypicality. Mixed model analysis revealed no significant interaction, $F(1, 124) = 1.11$, $p = .30$. Pairwise tests revealed no in-group/out-group effect among confederates acting likably, either $F(1, 124) = .28$, $p = .60$, $M_{\text{in-group}} = 4.42$, $SE = .29$, and $M_{\text{out-group}} = 4.24$, $SE = .22$. Prototypicality was no different between dislikable in-group confederates and dislikable out-group confederates, $F(1, 124) = .92$, $p = .34$, $M_{\text{in-group}} = 3.95$, $SE = .29$, and $M_{\text{out-group}} = 4.27$, $SE = .22$. These results directly tested H5 and H6, which were not supported.

An unanticipated disordinal interaction between confederates' subgroup membership (sphinx vs. pyramid) and confederates' demeanor affected prototypicality ratings, $F(1, 60) = 5.22$, $p = .03$, $\eta^2 = .04$. Pairwise probes of this interaction revealed that a sphinx confederate acting dislikably was rated less prototypical of his/her category ($M = 3.72$, $SE = .27$) than when a sphinx acted likably ($M = 4.48$, $SE = .27$). For pyramid confederates, the trend was reverse: Pyramid confederates acting dislikably were rated more prototypical ($M = 4.59$, $SE = .27$) than those acting likably ($M = 4.11$, $SE = .28$). Recall that the intergroup induction described those born under the sign of the pyramid as individuals who process information emotionally, whereas sphinxes process information intellectually; the induction described both of these types to all participants. The exhibition of dislikable versus likable acts violates societal norms (Marques et al., 2001), as discussed above in relation to the black sheep effect, but it is possible that we expect emotional people not to withhold negative affect. If this is so, dislikable behavior may have been experienced as prototypically emotional when exhibited by a normatively emotional pyramid, but dislikable behavior may have been seen as atypical for sphinxes, who were expected to be relatively less emotional. These interpretations are consistent with the activation of norms in other research on visually anonymous CMC groups, where norms were aroused due to very minimal and indirect preinteraction priming (e.g., Postmes et al., 2001) or due to specific preinteraction inductions describing the members' normative character (e.g., Postmes & Spears, 2000).

Despite this significant interaction, there were no significant main effects on prototypicality due to the in-group/out-group membership of the confederate, $F(1, 126) = .10$, $p = .76$, or due to confederate demeanor, $F(1, 60) = .26$, $p = .60$. Although H5 and H6 were not supported and the intergroup dynamics did not obtain, this significant interaction further indicated that the group identity induction had been successful and generated different prototype norms for both categories (sphinx vs. pyramid).

Reclassification

Several hypotheses predicted that there are effects on members' intergroup identification that result from an in-group versus out-group deviant acting in a likable or

dislikable manner. H7 predicted greater in-group identification when an in-group confederate acts likably than when an in-group confederate acts dislikably. Also with regard to in-group identification, H8 predicted greater in-group identification when an out-group confederate acts dislikably than when an out-group member acts likably. H9 focused on out-group identification: Out-group identification is greater when an out-group confederates act likably than when an out-group confederate act dislikably. These three hypotheses suggested possible interaction effects of confederates' intergroup membership and demeanor on in-group and on out-group identification.

With respect to in-group identification, mixed model analysis revealed a confederate demeanor by intergroup membership interaction, $F(1, 124) = 6.31$, $p = .01$, $\eta^2 = .32$. The pairwise comparisons revealed that for members who had an in-group confederate, identification with the in-group was significantly higher when the in-group confederate acted likably ($M = 4.50$, $SE = .33$) than when the in-group confederate acted dislikably ($M = 3.14$, $SE = .33$). The difference was significant in the in-group condition, $F(1, 181) = 8.14$, $p = .005$, $\eta^2 = .38$ (supporting H7), but not in the out-group condition, $F(1, 120) = .09$, $p = .77$. For members who had an out-group confederate, their identification with the in-group did not differ when the out-group confederate acted likably ($M = 4.07$, $SE = .24$) or when the out-group confederate acted dislikably ($M = 4.17$, $SE = .24$). Overall, the interaction suggested that identification with the in-group depended upon whether the confederate acted dislikably or likably but only when this confederate came from the participant's in-group rather than out-group.

With respect to out-group identification, H9 predicted greater out-group identification when out-group confederates act likably than when out-group confederates act dislikably. An interaction occurred between confederate demeanor and the intergroup membership of the confederate, $F(1, 182) = 4.35$, $p = .04$, $\eta^2 = .33$. Pairwise comparisons revealed that the specific effect was confined among members who had a dislikable confederate. When a dislikable confederate was in the same subgroup with the rater, raters identified with the out-group more strongly ($M = 3.27$, $SE = .28$) than when the dislikable confederate was an out-group member ($M = 2.49$, $SE = .20$), $F(1, 182) = 5.19$, $p = .02$, $\eta^2 = .35$, which addressed RQ1. There was no pairwise effect on out-group identification when the confederate was likable, regardless of confederates' in-group or out-group membership, $F(1, 182) = .45$, $p = .50$, with $M_{\text{in-group}} = 2.62$, $SE = .28$, and $M_{\text{out-group}} = 2.84$, $SE = .20$.

With respect to H9, there was no main effect of out-group confederates' likable or dislikable demeanor on participants' out-group identification, $F(1, 182) = 1.63$, $p = .21$. H9 was not supported. Thus, although the hypothesis specified differential effects for out-group members who acted likably or dislikably, out-group identification decreased when a same subgroup member exhibited dislikable interpersonal behavior, which seemed to repel a member toward identification with the other subgroup.

Discussion

Interpersonal and intergroup perspectives have each been applied to understanding how people relate in CMC, although they differ in their fundamental assumptions about what drives evaluations. The interpersonally based SIP theory posits that when communicators have sufficient motivation and CMC occludes nonverbal cues, users adapt remaining communicative cues such as language and textual displays to the processes of relational management. In this manner, people achieve affinity or disaffinity in the reduced cues CMC environment (Walther, 1992). The intergroup SIDE model claims that CMC depersonalizes interactants, leading to accentuated intergroup differences and exaggerated similarity among subgroup members. Social identification is the essence of intergroup dynamics, which grounds evaluative processes that should favor in-group members over out-group members on trust, liking, and attraction (e.g., Spears & Lea, 1992).

In the present study, participants engaged in a group discussion with a subgroup identity of their own (sphinx vs. pyramid) and were also aware of the intergroup distinction of their communicative partners in a different subgroup, generating significant in-group versus out-group identifications. One member of each decision-making group departed from the norm and enacted interpersonal behavior by either acting likably or dislikably. Results indicated that dislikable confederates were less attractive than the likable confederates, consistent with SIP hypotheses, regardless of their intergroup membership, that is, regardless of whether they were in-group or out-group members with respect to the rater. With both interpersonal behavior and intergroup categories being salient, interpersonal behavior accounted for attraction in CMC. The study did not detect predicted interaction effects between interpersonal demeanor and intergroup membership on attraction. Contrary to SIDE predictions about the effects of intergroup identification in CMC, in-group members and out-group members did not differ on attractiveness ratings. Similarly, hypotheses predicted greater prototypicality ratings for likable in-group confederates and dislikable out-group confederates. Instead, significant effects were obtained due to the interaction between interpersonal behavior and subgroups' ostensible character, not due to the intergroup factors.

Some readers might question whether the failure of H1, which predicted greater in-group versus out-group attraction, suggests that the basic manipulation of group identification was not adequate in this study. Several findings, however, dispel this concern. First, the manipulation check revealed that participants did report different levels of identification with in-group versus out-group partners. Moreover, significant interactions were obtained between subgroup membership (sphinx vs. pyramid) and other factors (e.g., confederate demeanor). For instance, a sphinx confederate acting dislikably was rated less prototypical of his/her category than a sphinx confederate acting likably; in contrast, pyramid confederates acting dislikably were rated more prototypical than those acting likably. These findings provided additional evidence that the group identity induction was successful. Despite these findings,

in-group/out-group identification did not drive participants' evaluations of confederates' attractiveness, and neither did the intergroup aspect interact with interpersonal effects.

This study raises questions about black sheep effect research. The black sheep effect pertains to the evaluation of likable and dislikable in-group and out-group members. Whereas likable in-group members are more favored than the likable out-group members, the black sheep effect holds that dislikable in-group members are derogated more severely than the out-group. Essentially, the black sheep effect is an interaction between interpersonal likeability and intergroup membership. Failing to detect this interaction on the attractiveness ratings in our study raises a question with regard to the robustness of the black sheep effect when interactive communication with the target occurs. Prior black sheep effect studies have not involved actual interactions with the target. Rather, participants are provided limited information about the targets they evaluate, which usually contains two major descriptive pieces: group membership (in-group vs. out-group) and descriptions of targets as likable or dislikable. The present study involved interactive communication among observers and the potential black sheep, and results did not support the interaction of intergroup identity by (dis)likable qualities. Future research must explore whether moving from mere descriptions to actual interactions causes people to focus more on the actual behavior of their communicative partners rather than their group membership. At the same time, the present study featured in-groups of only two members, groups with potentially little "holding power" when one member deviated. Future research should explore additional questions about the size of the group against which an individual deviates, when the in-group is concrete and not an abstraction.

Although intergroup identifications were not a significant cause of perceptions, they were affected by behaviors of others. Results revealed that group members' interpersonal actions, acting likably or dislikably, activated the reclassification process. Intergroup membership interacted with the interpersonal demeanor and produced a joint effect on both the identification with the in-group and the identification with the out-group. That is, identification ratings depended not only upon whether the confederate acted dislikably or likably but also on whether the actor came from the participant's in-group or out-group. Having a dislikable in-group confederate significantly reduced the other group member's identification with the in-group, whereas having a dislikable out-group confederate did not elevate the group members' identification with the in-group. Similarly, having a likable in-group confederate boosted group members' identification with the in-group, whereas this identification rating was not altered when a likable confederate from the out-group was present. By reducing identification with the in-group, participants disconnected their psychological bond with the dislikable in-group confederate. Future research would do well to continue to explore bottom-up effects of interpersonal behavior on group identifications in CMC, recognizing that the former may drive the latter.

Future research

There are several methodological challenges facing small groups researchers, pertaining to measures that truly discern among interpersonal and group attraction (see for review Wang, 2007), as well as discerning content versus outcome perceptions of group discussions. The analyses in this article focused on the interpersonal and intergroup levels of perceptions. At times, SIDE research has examined identification with a group as a whole rather than subgroup/intergroup identifications (e.g., Spears & Lea, 1992). Future research may benefit by incorporating these levels of analysis when hypotheses warrant it. In terms of behavioral data, the content of discussions is an obvious next step to see how it reflects strategic and reciprocal interactions. Content analysis needs to be conducted to explore reciprocity and relational dynamics, as well as indicators of identification or disaffiliation, in the language of participants interacting online.

Although intergroup factors were the focus of the present study, unanticipated interaction effects suggest that the perceived character of the groups aroused different expectations of normative behavior. Although the nature of the groups was not intended to instigate qualitative connotations, they appeared to arouse certain kinds of normative expectations. The characterizations of sphinx and pyramid zodiac signs—the artificial minimal group differences in this study—were enhanced with descriptions that sphinxes process information intellectually, whereas pyramids process information emotionally. Analyses of an interaction between subgroup type and confederate behavior on perceived prototypicality suggest that the pyramid and sphinx categorizations provided the basis for an expectancy violation when an unemotional sphinx acted dislikably and an emotional pyramid acted likably. The emergence of norms in CMC based on a priori prompts has been documented in previous SIDE studies (e.g., Lee, 2006; Postmes et al., 2001), and responses to deviation from online norms has been examined in other kinds of studies (e.g., McLaughlin, Osborne, & Smith, 1995). These kinds of episodes, conceptualized as group norms and interpersonal deviations, deserve further investigation.

The present research suggests that further work is needed in examining the types of group identifications that may or may not be at play in interacting groups online or offline. Whether the patterns obtained here would replicate in research that employs more meaningful in-group and out-group identifications strongly deserves future examination. The use of the sphinx/pyramid distinction in the present study was based on the minimal group paradigm, guided by the simple, successful inductions employed in previous SIDE research. As mentioned before, other approaches to SIT tend to examine more robust social category memberships or groups with different histories or meaningful fit. Some previous CMC studies have involved participants from extant social groups in order to arouse salient intergroup identifications (e.g., different genders, contrasting nationalities, rival universities, different majors; Lea et al., 2001; Postmes & Spears, 2002; Tanis & Postmes, 2003; Wigboldus, Spears, & Semin, 2005), although these studies have generally failed to obtain

predicted effects. Frequently, such studies have improved results by eliminating interactive communication among participants and using prescripted messages in order, presumably, to prevent the interpersonal messages that spontaneous communication may entail. Meanwhile, SIP research has argued that CMC participants' history together is one factor leading to relational development (Walther & Burgoon, 1992), but it has not examined the effect of history on group identification as part of the process (cf., Rogers & Lea, 2004).

It remains to be seen how interpersonal dynamics would offset, interact, or succumb to more robust social identifications. Greater historical and meaningful differences between online subgroups, such as interethnic distinctions, may yet interact with interpersonal behavior along the lines that this study originally hypothesized. Indeed, such questions are ripe for exploration among online discussions involving Israeli Jews and Palestinians (Ellis & Moaz, 2007; see Mollov, 2006) as well as other potentially distinctive groups. The intersections of interpersonal and intergroup dynamics as manifested through communication provide a rich avenue for research in a variety of settings (see Harwood, Giles, & Palomares, 2005), and how CMC accentuates these dynamics may provide an especially potent inroad.

Acknowledgments

The authors express their gratitude to Professor Jake Harwood and the two anonymous reviewers for their valuable feedback in the development of this article.

Notes

1 This research refers primarily to Walther's (1992) SIP theory of CMC, in which social information processing refers to the exchange and interpretation of information about social actors via CMC. Other theories, some of them older, also use the term "social information processing." The most notable may be Salancik and Pfeffer's (1978), in which the term refers to the information about objects or processes that social actors exchange, which influences their perceptions and attitudes, which was later applied to the social influence of media acceptance and use (Fulk, Steinfield, Schmitz, & Power, 1987).

2 One member was selected randomly. Calculating reliability based on each participant's rating of only one other group member was a conservative approach because the more observations included in the calculation, the more inflated the reliability score would be. By evaluating scale reliability based on each participant's assessment of only one other, reliability was not inflated by repeated administration per subject. This approach has been used for similar scales in research of this nature before (e.g., Walther & Burgoon, 1992).

References

Abrams, D., Hogg, M. A., Hinkle, S., & Otten, S. (2005). The social identity perspective on small groups. In M. S. Poole & A. B. Hollingshead (Eds.), *Theories of small groups: Interdisciplinary perspectives* (pp. 99–137). Thousand Oaks, CA: Sage.

Bown, N., & Abrams, D. (2003). Despicability in the workplace: Effects of behavioral deviance and unikeability on the evaluation of in-group and out-group members. *Journal of Applied Social Psychology*, **33**, 2413–2426.

Brewer, M. B. (1979). Ingroup bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin*, **86**, 381–388.

Burgoon, J. K., & Hale, J. L. (1988). Nonverbal expectancy violations: Model elaboration and application to immediacy behaviors. *Communication Monographs*, **55**, 58–79.

Cartwright, D., & Zander, A. (1968). *Group dynamics*. London: Tavistock.

Castano, E., Paladino, M., Coull, A., & Yzerbyt, Y. (2002). Protecting the ingroup stereotype: Ingroup identification and the management of deviant ingroup members. *British Journal of Social Psychology*, **41**, 365–385.

Cooper, J., & Jones, E. E. (1969). Opinion divergence as a strategy to avoid being miscast. *Journal of Personality and Social Psychology*, **13**, 23–30.

Doosje, B., Ellemers, N., & Spears, R. (1995). Perceived intragroup variability as a function of group status and identification. *Journal of Experimental Social Psychology*, **31**, 410–436.

Eidelman, S., & Biernat, M. (2003). Derogating black sheep: Individual or group protection. *Journal of Experimental Social Psychology*, **39**, 602–609.

Ellis, D. G., & Moaz, I. (2007). Online argument between Israeli Jews and Palestinians. *Human Communication Research*, **33**, 291–309.

Fulk, J., Steinfield, C. W., Schmitz, J., & Power, J. G. (1987). A social information processing model of media use in organizations. *Communication Research*, **14**, 529–552.

Gibbs, J., Ellison, N., & Heino, R. (2006). Self-presentation in online personals: The role of anticipated future interaction, self-disclosure, and perceived success in Internet dating. *Communication Research*, **33**, 152–177.

Hancock, J. T. (2004). Verbal irony use in computer-mediated communication: The role of coordination devices. *Discourse Processes*, **31**, 91–110.

Hancock, J. T., Landrigan, C., & Silver, C. (2007). Expressing emotion in text. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI 2007) (pp. 929–932). New York: Association for Computing Machinery.

Harwood, J., Giles, H., & Palomares, N. (2005). Intergroup theory and communication processes. In J. Harwood & H. Giles (Eds.), *Intergroup communication: Multiple perspectives* (pp. 1–20). New York: Peter Lang.

Hayes, A. F. (2006). A primer on multilevel modeling. *Human Communication Research*, **32**, 385–410.

Hogg, M. A. (1987). Social identity and group cohesiveness. In J. C. Turner, M. A. Hogg, P. J. Oakes, S. D. Reicher, & M. S. Wetherell (Eds.) *Rediscovering the social group: A self-categorization theory* (pp. 89–116). Oxford and New York: Blackwell.

Hogg, M. A. (1992). *The social psychology of group cohesiveness: From attraction to social identity*. Hemel Hempstead, UK: Harvester Wheatsheaf.

Hogg, M. A. (1993). Group cohesiveness: A critical review and some new directions. *European Review of Social Psychology*, **4**, 85–111.

Hogg, M. A., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations*. New York: Routledge, Chapman & Hall.

Hogg, M. A., & Hardie, E. A. (1991). Social attraction, personal attraction, and self-categorization: A field study. *Personality and Social Psychology Bulletin*, **17**, 175–180.

Hogg, M. A., Hardie, E., & Reynolds, K. (1995). Prototypical similarity, self-categorization, and depersonalized attraction: A perspective on group cohesiveness. *European Journal of Social Psychology*, **25**, 159–177.

Hogg, M. A., & Tindale, R. S. (2005). Social identity, influence, and communication in small groups. In J. Harwood & H. Giles (Eds.), *Intergroup communication: Multiple perspectives* (pp. 141–164). New York: Peter Lang.

Hogg, M. A., & Turner, J. C. (1985). Interpersonal attraction, social identity and psychological group formation. *European Journal of Social Psychology*, **15**, 51–66.

Johnson, R. D., & Downing, L. L. (1979). Deindividuation and the valence of cues: Effects on prosocial and antisocial behavior. *Journal of Personality and Social Psychology*, **37**, 1532–1538.

Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., pp. 233–265). Boston: McGraw-Hill.

Lea, M., & Spears, R. (1992). Paralanguage and social perception in computer-mediated communication. *Journal of Organizational Computing*, **2**, 321–341.

Lea, M., & Spears, R. (1995). Love at first byte? Building personal relationships over computer networks. In J. T. Wood & S. Duck (Eds.), *Understudied relationships: Off the beaten track* (pp. 197–233). Thousand Oaks, CA: Sage.

Lea, M., Spears, R., & de Groot, D. (2001). Knowing me, knowing you: Anonymity effects on group polarization in CMC within groups. *Personality and Social Psychology Bulletin*, **27**, 526–537.

Lea, M., Spears, R., Watt, S. E., & Rogers, P. (2000). The InSIDE story: Social psychological processes affecting on-line groups. In T. Postmes, M. Lea, R. Spears, & S. Reicher (Eds.), *SIDE issues centre stage: Recent developments in studies of de-individuation in groups* (pp. 47–62). Amsterdam: KNAW.

Lee, E. -J. (2006). When and how does depersonalization increase conformity to group norms in computer-mediated communication? *Communication Research*, **33**, 423–447.

Lott, A. J., & Lott, B. E. (1965). Group cohesiveness as interpersonal attraction. *Psychological Bulletin*, **64**, 259–309.

Marques, J., Abrams, D., & Serodio, R. (2001). Being better by being right: Subjective group dynamics and derogation of in-group deviants when generic norms are undermined. *Journal of Personality and Social Psychology*, **81**, 436–447.

Marques, J., Yzerbyt, V., & Leyens, J. (1988). The "black sheep effect": Extremity of judgments towards ingroup members as a function of group identification. *European Journal of Social Psychology*, **18**, 1–16.

Marques, J. M., Abrams, D., Paez, D., & Martinez-Taboada, C. (1998). The role of categorization and in-group norms in judgments of groups and their members. *Journal of Personality and Social Psychology*, **75**, 976–988.

Marques, J. M., & Paez, D. (1994). The black sheep effect: Social categorisation, rejection of ingroup deviates, and perception of group variability. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 5, pp. 37–68). Chichester, UK: Wiley.

Marques, J. M., Robalo, E. M., & Rocha, S. A. (1992). Ingroup bias and the "black sheep" effect: Assessing the impact of social identification and perceived variability on group judgments. *European Journal of Social Psychology*, **22**, 331–352.

McCroskey, J., & McCain, T. (1974). The measurement of interpersonal attraction. *Speech Monographs*, **41**, 261–266.

McGarty, C., Turner, J. C., Hogg, M. A., David, B., & Wetherell, M. S. (1992). Group polarization as conformity to the prototypical group member. *British Journal of Social Psychology*, **31**, 1–20.

McGrath, J. E., & Hollingshead, A. B. (1994). *Groups interacting with technology: Ideas, evidence, issues, and an agenda*. Thousand Oaks, CA: Sage.

McLaughlin, M. L., Osborne, K. K., & Smith, C. B. (1995). Standards of conduct on Usenet. In S. G. Jones (Ed.), *Cybersociety: Computer-mediated communication and community* (pp. 90–111). Thousand Oaks, CA: Sage.

Mennecke, B. E., Valacich, J. S., & Wheeler, B. C. (2000). The effects of media and task on user performance: A test of the task-media fit hypothesis. *Group Decision and Negotiation*, **9**, 507–529.

Mollov, B. (2006, June). *Results of Israeli and Palestinian student interactions in CMC: An analysis of attitude changes toward conflicting parties*. Paper presented at the annual meeting of the International Communication Association, Dresden, Germany.

Mullen, B., Brown, R., & Smith, C. (1992). In-group bias as a function of salience, relevance and status: An integration. *European Journal of Social Psychology*, **22**, 103–122.

Mummendey, A. (1995). Positive distinctiveness and social discrimination: An old couple living in divorce. *European Journal of Social Psychology*, **25**, 657–670.

Peña, J., & Hancock, J. (2006). An analysis of socioemotional and task communication in online multiplayer video games. *Communication Research*, **33**, 92–109.

Postmes, T., & Baym, N. (2005). Intergroup dimensions of Internet. In J. Harwood & H. Giles (Eds.), *Intergroup communication: Multiple perspectives* (pp. 213–238). New York: Peter Lang.

Postmes, T., & Spears, R. (2000). Refining the cognitive redefinition of the group: Deindividuation effects in common bond vs. common identity groups. In T. Postmes, M. Lea, R. Spears, & S. Reicher (Eds.), *SIDE issues centre stage: Recent developments in studies of de-individuation in groups* (pp. 63–77). Amsterdam: KNAW.

Postmes, T., & Spears, R. (2002). Behavior online: Does anonymous computer communication reduce gender inequality? *Personality and Social Psychology Bulletin*, **28**, 1073–1083.

Postmes, T., Spears, R., & Lea, M. (2002). Inter-group differentiation in computer-mediated communication: Effects of depersonalization. *Group Dynamics*, **6**, 3–16.

Postmes, T., Spears, R., Sakhel, K., & de Groot, D. (2001). Social influence in computer-mediated communication: The effects of anonymity on group behavior. *Personality and Social Psychology Bulletin*, **27**, 1243–1254.

Prentice, D. A., Miller, D. T., & Lightdale, J. R. (1994). Asymmetries in attachments to groups and to their members: Distinguishing between common-identity and common-bond groups. *Personality and Social Psychology Bulletin*, **20**, 484–493.

Reicher, S., Spears, R., & Postmes, T. (1995). A social identity model of deindividuation phenomena. *European Review of Social Psychology*, **6**, 161–198.

Rogers, P., & Lea, M. (2004). Cohesion in online groups. In K. Morgan, C. A. Brebbia, J. Sanchez, & A. Voiskounsky (Eds), *Human perspectives in the Internet society: Culture, psychology and gender* (pp. 115–124). Southampton, UK: WIT Press.

Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, **23**, 224–253.

Scheerhorn, D. R. (1991–1992). Politeness in decision-making. *Research on Language and Social Interaction*, **25**, 253–273.

Schmitt, M., & Branscombe, N. (2001). The good, the bad, and the many: Threats to one's prototypicality and evaluations of fellow in-group members. *Journal of Experimental Social Psychology*, **37**, 510–517.

Spears, R., & Lea, M. (1992). Social influence and the influence of the "social" in computer-mediated communication. In M. Lea (Ed.), *Contexts of computer-mediated communication* (pp. 30–65). London: Harvester Wheatsheaf.

Spears, R., Lea, M., & Lee, S. (1990). De-individuation and group polarization in computer-mediated communication. *British Journal of Social Psychology*, **29**, 121–134.

Spears, R., Lea, M., & Postmes, T. (2001). Social psychological theories of computer-mediated communication: Social pain or social gain. In H. Giles & P. Robinson (Eds.), *New handbook of language and social psychology* (pp. 601–624). Chichester, UK: John Wiley & Sons.

Tajfel, H. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. London: Academic Press.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks/Cole.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup relations. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago: Nelson-Hall.

Tanis, M., & Postmes, T. (2003). Social cues and impression formation in CMC. *Journal of Communication*, **23**, 676–693.

Turner, J. C. (1987). The analysis of social influence. In J. C. Turner, M. A. Hogg, P. J. Oakes, S. D. Reicher, & M. S. Wetherell (Eds.), *Rediscovering the social group: A self-categorization theory* (pp. 68–88). Oxford, UK: Basil Blackwell.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, UK: Blackwell.

Valacich, J. S., Mennecke, B. E., Wheeler, B. C., & Wachter, R. (1993). Legislative dilemma. In B. Wheeler & B. Mennecke (Eds.), *ISWorld net research task repository*. Retrieved July 25, 2003, from http://kelley.iu.edu/bwheeler/ISWorld/index.cfm

Waldzus, S., & Schubert, T. (2000). Group norm and category norm in anonymous situations: Two sources of social influence. In T. Postmes, M. Lea, R. Spears, & S. Reicher (Eds.), *SIDE issues centre stage: Recent developments in studies of de-individuation in groups* (pp. 31–45). Amsterdam: KNAW.

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, **19**, 52–90.

Walther, J. B. (1997). Group and interpersonal effects in international computer-mediated collaboration. *Human Communication Research*, **23**, 342–369.

Walther, J. B., & Burgoon, J. K. (1992). Relational communication in computer-mediated interaction. *Human Communication Research*, **19**, 50–88.

Walther, J. B., & D'Addario, K. P. (2001). The impact of emoticons on message interpretation in computer-mediated communication. *Social Science Computer Review*, **19**, 324–347.

Walther, J. B., Loh, T., & Granka, L. (2005). Let me count the ways: The interchange of verbal and nonverbal cues in computer-mediated and face-to-face affinity. *Journal of Language and Social Psychology*, **24**, 36–65.

Wang, Z. (2007, November). *The assessment of interpersonal attraction and group identification in virtual groups*. Paper presented at the annual meeting of the National Communication Association. Chicago.

Wigboldus, D. H. J., Spears, R., & Semin, G. R. (2005). When do we communicate stereotypes? Influence of the social context on the linguistic expectancy bias. *Group Processes & Intergroup Relations*, **8**, 215–230.

Wright, T., Breidenbach, P., & Boria, E. (2002). Creative player actions in FPS on-line video games: Playing Counter-Strike. *Game Studies: The International Journal of Computer Game Research*, **2**(2). Retrieved March 15, 2007, from http://www.gamestudies.org/0202/wright/

L'identification sociale et la communication interpersonnelle dans la communication par ordinateur : Ce que vous faites et qui vous êtes dans les groupes virtuels

Zuoming Wang, Department of Communication Studies, University of North Texas , 309E GAB, PO BOX 305268, Denton TX, 76203-5268 USA, Tel: 940-565-4283. Fax: 940-565-3630. Email: wangz@unt.edu

Joseph B. Walther, Department of Communication, Department of Telecommunication, Information Studies & Media, Michigan State University, 473 Communication Arts Bldg., East Lansing MI 48824-1212 USA, Tel: 517-355-3470. Fax: 517-432-1192. Email: jwalther@msu.edu

Jeffrey T. Hancock, Department of Communication and Faculty of Information Science, Cornell University, 320 Kennedy Hall, Ithaca NY 14853 USA, Tel: 607-255-4452. Fax: 607-254-1322 Email: jth34@cornell.edu

Résumé

Cette étude examine l'influence de la communication interpersonnelle et de l'identification intergroupe sur les évaluations que font les membres des groupes électroniques. Les participants (N = 256), divisés en 64 groupes de quatre personnes, ont interagi par le biais de clavardage (conversation électronique) en temps réel. L'assignation à des sous-groupes a produit une identification intragroupe beaucoup plus grande qu'une identification hors-groupe. Des instructions furent données à un membre de chaque groupe d'afficher des comportements interpersonnels agréables ou désagréables. L'analyse révèle que les collaborateurs agissant de façon agréable étaient plus attrayants que ceux agissant de façon désagréable et ce, indépendamment de leur statut intragroupe ou hors-groupe. Des résultats supplémentaires indiquent que le comportement interpersonnel et l'appartenance au sous-groupe ont joué sur les changements d'identification qui ont suivi les discussions en ligne. La dynamique interpersonnelle a généralement eu des effets plus forts sur les membres des groupes virtuels que la dynamique intergroupe, contrairement aux prédictions des applications précédentes de l'identification sociale à la communication par ordinateur.

Soziale Identifikation und interpersonale Kommunikation in computervermittelter Kommunikation: Was du machst vs. Wer du bist in virtuellen Gruppen

Zuoming Wang, Department of Communication Studies, University of North Texas, 309E GAB, PO BOX 305268, Denton TX, 76203-5268 USA, Tel: 940-565-4283. Fax: 940-565-3630. Email: wangz@unt.edu

Joseph B. Walther, Department of Communication, Department of Telecommunication, Information Studies & Media, Michigan State University, 473 Communication Arts Bldg., East Lansing MI 48824-1212 USA, Tel: 517-355-3470. Fax: 517-432-1192. Email: jwalther@msu.edu

Jeffrey T. Hancock
Department of Communication and Faculty of Information Science, Cornell University, 320 Kennedy Hall, Ithaca NY 14853 USA, Tel: 607-255-4452. Fax: 607-254-1322 Email: jth34@cornell.edu

Diese Studie untersucht den Einfluss von interpersonaler Kommunikation und Gruppenidentifikation auf die Bewertung von computervermittelten Gruppen durch ihre Mitglieder. Die Teilnehmer (N = 256) in 64 4-Personen Gruppen interagierten in synchronen Computer-Chats. Gruppenaufgaben für Untergruppen bewirkte signifikant stärkere Identifikation in der Gruppe und nach außen. In jeder Gruppe wurde ein Teilnehmer instruiert, interpersonal angenehmes oder unangenehmes Verhalten an den Tag zu legen. Die Analyse zeigte, dass die instruierten Teilnehmer, die angenehm agierten, attraktiver wahrgenommen wurden, als die, die die unangenehm agierten, unabhängig von ihrem Status in oder außerhalb der Gruppe. Weitere Ergebnisse zeigen, dass interpersonales Verhaltes mit der Mitgliedschaft in Untergruppen bezüglich der Identifikationsverschiebung auf Online-Diskussionen folgend interagierte. Im Gegensatz zu Annahmen aus früheren Anwendungen sozialer Identifikation auf computervermittelte Kommunikation, zeigten interpersonale Dynamiken allgemein stärkere Effekte auf die Mitglieder in virtuellen Gruppen als auf die Gruppendynamik.

La identificación Social y la Comunicación Interpersonal en la Comunicación Mediada por la Computadora: Lo Que Haces Versus Quién Eres en los Grupos Virtuales

Zuming Wang, Department of Communication Studies, University of North Texas
Joseph B. Walther, Department of Communication, Department of Telecommunication, Information Studies & Media, Michigan State University
Jeffrey T. Hancock, Department of Communication and Faculty of Information Science, Cornell University

Resumen

Este estudio investiga la influencia de la comunicación interpersonal y la identificación intergrupal en las evaluaciones de los miembros de grupos mediados por la computadora. Los participantes (N = 256) en 64 grupos de 4 personas interactuaron asincrónicamente a través de la computadora en un salón de charla. Las tareas de subgrupos para grupos mínimos inculcaron una identificación significativamente mayor con el grupo de pertenencia versus el grupo excluyente. Un miembro de cada grupo fue instruido para exhibir comportamientos interpersonales agradables y desagradables. El análisis reveló que los miembros de los grupos que actuaban en forma agradable fueron más atractivos que los que actuaban en forma desagradable a pesar de su estatus de grupo de pertenencia o excluyente. Más resultados indicaron que el comportamiento interpersonal interactuó con la membrecía del subgrupo en los cambios de identificación que siguieron a las discusiones online. Las dinámicas interpersonales proveyeron generalmente de efectos más fuertes sobre los miembros de grupos virtuales que sobre las dinámicas intergrupales, en contraste con las predicciones de previas aplicaciones de la identificación social de la comunicación mediada por la computadora.

电脑中介传播中的社会识别和人际传播：虚拟群体中的“你做什么”相比“你是谁”

Zuoming Wang

北德克萨斯大学

Joseph B. Walther

密歇根州立大学

Jeffrey T. Hancock

康奈尔大学

本研究调查了人际传播和群际识别对电脑中介群体中成员之评价的影响。256 名实验参与者（共 64 组，每组 4 人）通过即时聊天工具在电脑上互相交流。亚群体中最小小组的分配产生了更多的群体内外识别。每组有一名成员按指示展示人际层面上喜欢或不喜欢的行为。分析显示： 无论他们具有群体内还是群体外的身份，投其所好的伙伴比那些不投其所好的伙伴更有吸引力。进一步的分析表明：网上交谈之后，人际行为和亚群体成员互相作用，推动身份识别的变幻。比之群体间的活力机制，人与人之间的活力机制总的来说对虚拟群体中的成员具有更强的影响。这个结论有悖于先前将社会识别运用于电脑辅助传播之研究所做出的预测。

컴퓨터매개 커뮤니케이션에서의 사회적 동일성과 개인간 커뮤니케이션: 가상적 집단들내에서 네가 무엇을 하느냐와 너는 누가인가의 대한 연구

Zuoming Wang, Department of Communication Studies,
University of North Texas

309E GAB, PO BOX 305268, Denton TX, 76203-5268 USA, Tel: 940-565-4283.
Fax: 940-565-3630. Email: wangz@unt.edu

Joseph B. Walther, Department of Communication, Department of Telecommunication, Information Studies & Media

Michigan State University, 473 Communication Arts Bldg.,
East Lansing MI 48824-1212 USA
Tel: 517-355-3470. Fax: 517-432-1192. Email: jwalther@msu.edu

Jeffrey T. Hancock, Department of Communication and Faculty of Information Science, Cornell University

320 Kennedy Hall, Ithaca NY 14853 USA, Tel: 607-255-4452.
Fax: 607-254-1322 Email: jth34@cornell.edu

요약

본 연구는 컴퓨터 매개 집단들의 구성원들의 평가들에 있어 개인간 커뮤니케이션과 집단상호간의 동질성의 영향에 관한 연구이다. 64명씩 4개 그룹으로 나뉘어진 256명의 참여자들에 동시에 컴퓨터 대화를 통해 상호작용케 하였다. 최소집단들에 대한 산하집단할당들은 주요한 정도로 집단내 대 집단밖 동질성을 주입시켰다. 각 집단내에서 한명씩이 개인상호간 호감이 가는 그리고 호감이 가지 않는 행위들을 보여주도록 하였다. 분석은 그들의 집단내 또는 집단밖 위치에 관계없이 호감을 가질 것같은 행위들이 비호감적인 행위들에 비해 더 큰 정도로 매력적인 것으로 나타났다. 추가적 결과들은 개인상호간 행위는 온라인 토론의 흐름에 따른 동일성이라는 측면에서 산하집단 구성원들과 상호작용하는 것으로 나타났다. 개인상호간 역학성들은 컴퓨터 매개 커뮤니케이션에 대한 사회적 동일성의 이전 응용들과는 다르게, 가상적인 집단들내에서의 구성원들에게 더욱 강력한 효과를 나타내는 것으로 밝혀졌다.