Computers in Human Behavior 52 (2015) 550–558

Contents lists available at ScienceDirect

Computers in Human Behavior

journal homepage: www.elsevier.com/locate/comphumbeh

Computer-mediated communication and the reduction of prejudice: A controlled longitudinal field experiment among Jews and Arabs in Israel

Joseph B. Walther [a,*], Elaine Hoter [b], Asmaa Ganayem [c], Miri Shonfeld [d]

[a] Wee Kim Wee School of Communication and Information, Nanyang Technological University, 31 Nanyang Link, 637718, Singapore
[b] Ohalo College of Education, Katzrin, and Talpiot College of Education, Holon, Israel
[c] Al-Qasemi College of Education, Baka al-Gharbiya, Israel
[d] Kibbutzim College of Education, Tel Aviv, Israel

ARTICLE INFO

Article history:
Available online 7 September 2014

Keywords:
Contact hypothesis
Virtual groups
Computer-mediated communication
Prejudice
Social information processing theory
Social identification/deindividuation theory

ABSTRACT

The promise of computer-mediated communication (CMC) to reduce intergroup prejudice has generated mixed results. Theories of CMC yield alternative and mutually exclusive explanations about mechanisms by which CMC fosters relationships online with potential to ameliorate prejudice. This research tests contact-hypothesis predictions and two CMC theories on multicultural, virtual groups who communicated during a yearlong online course focusing on educational technology. Groups included students from the three major Israeli education sectors—religious Jews, secular Jews, and Muslims—who completed pretest and posttest prejudice measures. Two sets of control subjects who did not participate in virtual groups provided comparative data. An interaction of the virtual groups experience × religious/cultural membership affected prejudice toward different religious/cultural target groups, by reducing prejudice toward the respective outgroups for whom the greatest initial enmity existed. Comparisons of virtual group participants to control subjects further support the influence of the online experience. Correlations between prejudice with group identification and with interpersonal measures differentiate which theoretical processes pertained.

1. Introduction

Research on social impacts of Internet communication presents conflicting conclusions regarding the extent to which computer-mediated communication (CMC) facilitates or discourages positive social interaction in a variety of contexts. Ongoing conflicts over CMC's potential to reinforce stereotypes (Epley & Kruger, 2005) or reduce them (Walther, DeAndrea, & Tong, 2010) show that CMC's capacity to affect impressions and relations is not yet well-understood. Nowhere may this capacity be more critical than in the use of CMC to reduce prejudice. Scholarship addressing CMC and prejudice reduction (e.g., Amichai-Hamburger & McKenna, 2006) suggests that the Internet may foster salutary intergroup contact in small, diverse collectives by facilitating a number of conditions associated with Allport's (1954) contact hypothesis. Yet of the few implementations of CMC among Israeli sub-groups in conflict, for example, the results are contradictory (see Amichai-Hamburger, 2012).

In offline settings, abundant evidence supports the contact hypothesis: Interaction among members of oppositional groups stimulates affable interpersonal relations between individual group members, ameliorating stereotyped impressions of others and leading to a reduction of prejudice toward the groups as a whole. Meta-analyses of the hypothesis indicate robust, albeit modest effects (R^2 = .05), and support a number of facilitating conditions associated with the basic contact framework (Pettigrew & Tropp, 2006; Pettigrew & Tropp, 2008). Despite the relatively small effect across studies, observers recently suggested that the contact hypothesis is so strongly established, future research need not demonstrate whether it operates but should focus on how various communicative influences and channels may or may not affect it (Harwood, Hewstone, Amichai-Hamburger, & Tausch, 2012).

These observers identify communication channel, and CMC in particular, as one such factor deserving scrutiny. They note that Pettigrew and Tropp's (2006) meta-analysis excluded tests of extended cross-group friendship precisely because they do not

* Corresponding author. Tel.: +65 6790 4577.
E-mail addresses: jwalther@ntu.edu.sg (J.B. Walther), elaine@ohalo.ac.il (E. Hoter), dr.asmaag@gmail.com (A. Ganayem), Miri.Shonfeld@smbk.ac.il (M. Shonfeld).

http://dx.doi.org/10.1016/j.chb.2014.08.004
0747-5632/

involve face-to-face contact. We still know relatively little about mediated contact's potential effectiveness. Despite positive anecdotal reports from some cases of online intergroup interaction (Hoter, Shonfeld, & Ganayem, 2009; see for review Amichai-Hamburger, 2012), inconsistent results from a few empirical studies do little to settle the question. This may be because few CMC prejudice reduction efforts have focused on specific factors from various CMC theories that explicitly address online relationships, such as group identification or extended time and ongoing interaction.

Not only is the potential of CMC for intergroup prejudice reduction an important practical concern, it serves an important theoretical interest by providing a critical test-bed for the evaluation of alternative theories of CMC. For instance, Amichai-Hamburger and McKenna (2006) have suggested that the social identification/deindividuation, or SIDE model of CMC (see for review Postmes & Baym, 2005) can explain how visually-anonymous CMC groups reduce prejudice online. Other researchers have argued that SIDE involves certain theoretical stipulations that actually prevent its useful application in intergroup reconciliation, and that the social information processing (SIP) theory and hyperpersonal model of CMC can more readily integrate with the intergroup contact hypothesis to effect prejudice reduction through extended online interactions (Walther, 2009a). This study empirically tests not only the practical potential of CMC in prejudice reduction, but also the applicability of these different CMC theories with which to explain the effect.

This research is also distinctive from many other contact hypothesis studies in other respects. First, the members' constituencies included three religious/cultural affiliations, whereas most research on intergroup encounters involves only two social subgroups. Second, participants' discussions were not deliberately focused on political conflict or intercultural differences (although they were free to do so incidentally; see Wojcieszak & Mutz, 2009); their interactions took place in the context of an online course in which they collaborated on educational technology assignments. Third, the contact period was extensive, facilitating longitudinal analysis. Whereas the clearest demonstration of prejudice reduction should exhibit changes between pre-contact and post-contact attitudes, most contact hypothesis research employs only cross-sectional surveys or one-shot experiments, to which the present study is an exception. Fourth, the study also included a post-test control group to strengthen its causal claims and increase its immunity to validity threats that accompany many longitudinal studies.

This quasi-experimental study involved Israelis from three different religious/cultural sectors—religious Jews, secular Jews, and Arab Muslims—working with one another in small groups via web-based computer conferencing over the course of an academic year. The findings indicate reduction in prejudice regarding the cultural outgroups toward which individuals' initial attitudes were initially most unfavorable, lending general support to CMC's potential for actuating Allport's (1954) contact hypothesis. The article concludes with a discussion of the potential disruption of the study by societal events, methodological limitations, and observations on the nature of CMC research.

1.1. Intergroup contact

Israel is home to a diverse and divided citizenry. Its major groups include Arabs (20.3%), Christians (4.2%), and a Jewish majority (75.5%). The Jewish population is, itself, comprised of different sects and subsets (Shonfeld, Hoter, & Ganayem, 2012), among whom differences and tensions between religious Jews and secular Jews are widely recognized (Ravitzky, 2000). Intercultural and political enmity among all of these groups is based upon stereotypes and reinforced by relative segregation of groups from one another. As a result, "Secular Jews (are) anxious about collaborating with both orthodox Jewish students and Arab students, who look different and espouse different religious beliefs" (Hoter et al., 2009, n.p.). The construction of the educational system institutionalizes this separatism. Israeli state education is divided into three distinctive sectors, administered separately, which reflect different ethnic and religious affiliations: secular Jewish, religious Jewish, and the Arab sectors (IMPACT-SE, 2000). "Consequently...students from different educational streams seldom have the opportunity to meet or interact. As a result, in this conflict-ridden society, in which daily occurrences and events often serve to further divide rather than to unite, mutual stereotypes are reinforced" (Hoter, Shonfeld, & Ganayem, 2012, p. 16).

Numerous encounters designed to reduce prejudice among these groups exist (see Maoz, 2011), and most of these efforts draw on Allport's (1954) contact hypothesis framework: Because prejudice against groups other than one's own is based on stereotypes about those groups, the framework argues, contact among members of different groups stimulates interpersonal relationships between group members. Interpersonal contact facilitates information exchange about individual participants and knowledge about them, leading to more accurate and favorable impressions of specific outgroup members (see for review Stephan & Stephan, 1984), dissipation of stereotypes, and a reduction of prejudice toward the outgroup as a whole. Meta-analyses conclude that intergroup contact reduces prejudice, and they further support a number of conditions proposed by Allport (1954) that enhance the effect (e.g., equal status in encounters, common goals, and institutional support; Pettigrew & Tropp, 2006, 2008). The viability of intergroup contact in CMC interaction, however, remains debatable.

1.2. Online contact

Arguments both for and against the use of CMC in intergroup contact appear in the literature. On the optimistic side, CMC offers certain logistical and psychological advantages over face-to-face (FtF) interaction. Logistically, CMC may facilitate contact between conflicting groups who frequently avoid FtF interaction, and for whom institutional, geopolitical, and informal divides reduce FtF contact. Equal status in FtF contact is inhibited by culturally-proscribed dress and the unavailability of acceptable food in another group's locales (Amichai-Hamburger & McKenna, 2006). Psychologically, individuals often experience anxiety in FtF meetings with outgroup members (Stephan & Stephan, 1984). The use of CMC can reduce these logistical and psychological difficulties. Individuals from different sectors can meet online from the comfort of their own locales, and CMC masks the visual cues that connote disparate group memberships in FtF interaction. In light of these factors, researchers have suggested that Internet-based communication might facilitate intergroup contact even more successfully than FtF contact. A general hypothesis reflecting these contentions states,

H1. *Participation in multicultural virtual groups causes a reduction in individuals' prejudice over time toward the religious/cultural outgroups that their small group partners represent.*

On the pessimistic side, contact hypothesis research has generally assumed that intergroup encounters might occur through direct FtF interaction. Aronson and Patnoe (1997) asserted that the positive socioemotional communication that facilitates cooperation requires FtF communication. Early CMC research mirrored the assumption that the medium's lack of nonverbal cues occludes socioemotional content (see Rice & Love, 1987), a notion that still emerges in the literature today (e.g., Sprecher, 2014).