

# Social Presence Reinforcement and Computer-Mediated Communication: The Effect of the Solicitor's Photography on Compliance to a Survey Request Made by E-Mail

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## ABSTRACT

Personal information is scarce in computer-mediated communication. So when information about the sender is attached with an e-mail, this could induce a positive feeling toward the sender. An experiment was carried out where a male and a female student-solicitor, by way of an e-mail, requested a student-subject to participate in a survey. In half of the cases, a digital photograph of the solicitor appeared at the end of the e-mail. Results show that subjects agreed more readily to the request in the experimental condition than in the control condition where no digital photograph was sent with the e-mail. The importance of social information on computer-mediated communication is used to explain such results.

## INTRODUCTION

THE MAIN REPROACH addressed to computer-mediated communication (CMC) systems is the scarcity and poor level of social information transmitted by such systems. CMC users are looking for such information. D'Ambra et al.<sup>1</sup> found that e-mail users evaluated the communication richness of CMC systems by their capacity to transmit social information traditionally transmitted by face-to-face or phone communication. They found that voice-mail or Web-Cam are really appreciated because such systems have the capacity to transmit social information which is absent in classical e-mail communication. Kiesler et al.<sup>2</sup> suggested that, because social information is scarce in CMC, any information transmitted has a more powerful impact on the receiver than with others communication modes where such informa-

tion is transmitted more fully. So, in an e-mail communication between two strangers, social information such as a photograph of the sender could have a positive impact on the receiver. It is known that identification of a solicitor in a postal survey had a positive impact on the subject's response.<sup>3-5</sup> So we could expect that when a solicitation of help was addressed by e-mail, identification of the sender by way of his or her digital photograph could enhance compliance with his or her request.

## MATERIALS AND METHODS

### *Subjects*

The subjects consisted of 169 students (86 females and 83 males) in their first year of management studies at the University of

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Bretagne-Sud in France. These subjects were recruited at the moment of their Internet connection on a free-to-use workstation at the university. The experiment took place after 5:30 p.m. to ensure that the subjects were not in class. Nine subjects (six females and three males) were eliminated from the experiment because they logged out during the time assigned to send the e-mail.

### Procedure

Two electronic addresses, one of a male and one of a female, were created for the occasion, containing the name of a server of another department at the university. Moreover, the e-mails sent to the subjects contained a signature showing that the sender of the e-mail was a student in statistics at the same university. The subjects were randomly allocated to the experimental or to the control condition. Two investigators were used in this experiment. One of them was situated in the same building as the subject and was able to check to see if the subject was connected and if he or she had the corresponding profile. He then transferred the subject's address to his collaborator, who consulted a random allocation list that permitted the allocation of each subject to the experimental or to the control condition. The collaborator then took care of preparing the e-mail. After receiving the electronic address of the target, the collaborator sent to the subject the e-mail containing the request for help. The text used in the two conditions was as follows: *"Hello, I don't want to take advantage, but could you help me? Well, with three of my study friends, we have to perform a statistical analysis of the diet habits of students. For this, we will have to analyze a questionnaire, and we will be evaluated on the analysis of the collected data. Would you accept answering it? Just in case, I attached an HTML form that was given to us and that you will have to send back by clicking on the send button at the end of the form. Thanks in advance."* This request was chosen for the effort it required; a preliminary test showed that 15–20 min were needed to fill out the questionnaire containing 40 questions of the following type: *"How many times per week do you eat fresh vegetables? What type of drink do you normally take with your*

*lunch: beer, wine, soda, fizzy or flat water?"* Such a request also seemed in accordance with the training of the senders, who were supposed to be students in statistics.

In the experimental condition, a digital  $2.5 \times 3$  cm photograph of a face appeared at the end of the message near the sender's signature. A female face was used with the female electronic address, and a male face was used with the male electronic address. The photograph was evaluated in a previous study conducted with 15 students in set of students' digital photographs. Subjects were instructed to evaluate the photograph in terms of physical attractiveness. Two photographs with intermediate attractiveness levels, one for a male solicitor and one for a female solicitor, were selected. In the control condition, the e-mail was the same as in the experimental condition, but no digital photograph was attached.

The return rate of the questionnaire was measured, and a delay of a maximum of 7 days was allowed before declaring a no-response. The response time was also taken into account as a dependent variable.

## RESULTS

Compliance rate to the request (completing the questionnaire and sending it back) and the response time latency were the two dependent variables measured in our experiment. The rates of compliance obtained in the two experimental conditions, according to the subject's gender and the solicitor's gender, are presented in Table 1.

A 2 (experimental condition)  $\times$  2 (gender of the solicitor)  $\times$  2 (gender of the sender) log-linear analysis was used to analyze our data. Results show a main effect of experimental condition ( $\chi^2(1,160) = 13.29$ ;  $p < 0.001$ ). When a photograph of the sender was attached to the e-mail, subjects complied more favorably with the request (83.8%) than when no photograph appeared (57.5%). A main effect of solicitor's gender was observed ( $\chi^2(1,160) = 6.78$ ;  $p < 0.01$ ). A female solicitor was helped more favorably (80.0%) than a male solicitor (61.3%). A slightly significant effect of subject's gender was also observed ( $\chi^2(1,160) = 3.65$ ;  $p < 0.06$ ).

TABLE 1. PERCENTAGES OF COMPLIANCE IN THE TWO EXPERIMENTAL CONDITIONS ACCORDING TO THE SUBJECT'S GENDER AND THE SOLICITOR'S GENDER<sup>a</sup>

	Photography			No photography		
	Male sender	Female sender	Total	Male sender	Female sender	Total
Male target	80.0	100.0	90.0	55.0	75.0	65.0
Female target	70.0	85.0	77.5	40.0	60.0	50.0
Total	75.0	92.5	83.8	47.5	67.5	57.5

<sup>a</sup>There were 20 subjects in each group.

Male subjects helped the solicitor more often (77.5%) than female subjects did (63.8%). The  $2 \times 2$  interactions showed a positive effect of experimental condition and subject's gender ( $\chi^2(4,160) = 17.84$ ;  $p < 0.002$ ). Post hoc analysis showed that this interaction effect was explained by the effect of the photograph on male subjects. A significant interaction effect was also found between the experimental conditions and the gender of the solicitor ( $\chi^2(4,160) = 21.66$ ;  $p < 0.001$ ): the female-sender was helped more often than the male-sender when her photograph was attached to her e-mail ( $\chi^2(1,160) = 8.31$ ;  $p < 0.005$ ), whereas no difference was found in the no-photograph control condition ( $\chi^2(1,160) = 3.3$ ;  $ns$ ). A slightly significant interaction effect was found between the two gender conditions ( $\chi^2(4,160) = 9.51$ ;  $p < 0.05$ ): a female solicitor was helped more often than a male solicitor when the target was a male ( $\chi^2(1,160) = 3.66$ ;  $p < 0.06$ ), whereas no difference was found between the gender when the subject was a female ( $\chi^2(1,160) = 2.67$ ;  $ns$ ). Lastly, an interaction effect between the three independent variables was found ( $\chi^2(8,160) = 16.34$ ;  $p < 0.04$ ): post hoc analysis showed that this effect was explained by the high rate of compliance of male subjects when the solicitor was a female and when her photograph was attached to the e-mail.

The second dependent variable used in this experiment was the latency time for answering. The mean was initially calculated in minutes. Considering the fact that some subjects waited 3 days before answering, a log transformation of these periods has been made. The mean value of the latency time of 1.94 (SD = 0.76) was found for the experimental condition

against 2.08 (SD = 0.81) for the control situation. Despite appearances, no significant difference was found between these two means ( $t(111) = 0.94$ ;  $ns$ ). No significant difference and no interaction effect was found based on experimental condition and on subject or solicitor gender. It seems that our independent variables have no effect on the subject response time.

## DISCUSSION

Our results showed that in an e-mail communication between two strangers identification of the sender by way of his or her photograph has a positive impact on subject's compliance to his or her request. These findings are congruent with previous studies conducted with postal survey.<sup>5</sup> Results also showed that male subjects helped the solicitor more often than did female subjects, especially when the solicitor was a female. Again, these results are congruent with previous studies on helping behavior<sup>6,7</sup> and confirm traditional sex norms, which require males to be more helpful to females than to males.

Our results suggest that CMC is a good setting in which to test the efficiency of compliance techniques in human behavior. Experimental costs are relatively low, very large samples can be tested, and an experiment can be conducted rapidly. Our experiment shows that, despite the scarcity of social information in CMC, it is possible to create familiarity between two correspondents in an e-mail interaction. It would be interesting for further research to test other factors of familiarity such as given names, information about the

individual, and the Web site of a solicitor, and to test the efficiency of such information with respect to compliance with a request for help.

From a practical perspective, our results show that this form of familiarity in a CMC context could enhance the rate of compliance to a survey request. Zhang<sup>8</sup> found that Internet users showed a certain irritation with these requests and that response rates were lower than with postal survey. In a previous study, we found that an "electronic foot-in-the-door" was a good compliance technique on the Internet.<sup>9</sup> It seems then that the technique of attaching the sender's photograph to his or her e-mail is a good technique of compliance for the Web. This would be a good way to obtain higher response rates on Web surveys and increase sample representativeness. This technique is easy to accomplish and does not significantly increase the cost of the survey.

In the future, these results will need to be replicated in different CMC contexts. Further research could expand the study presented here by examining how e-mail survey response is affected by other factors that influence helping behavior. Various studies have found that attractive people are helped more often than unattractive ones.<sup>10,11</sup> Therefore, it would be interesting to test various levels of facial attractiveness using the technique studied here.

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