Communicative style and gender differences

in computer-mediated communications

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Abstract

This chapter reports on an experiment that explored how gender interacts with communicative style to affect decisions to participate in computer-mediated communications (e.g., Usenet newsgroups). Although some field studies indicate that style has a differential effect on men and women, the data fails to confirm this hypothesis. However, significant differences were found in interest in topics, as well as effects of style across all subjects, which have implications for the design of future studies on this topic.

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Introduction

In the familiar world of face-to-face communication, gender is one of the most obvious factors that affect perceptions of what people say and do. Unfortunately, it is believed that these perceptions often work to the detriment of women, reducing their influence in many situations. In the world of text-based computer-mediated communication (CMC), such as electronic mail or computer conferencing, there are no visual or auditory cues to indicate a speaker's gender (or indeed, most other personal characteristics). Previous CMC research has suggested that by diminishing the salience of social cues in electronic discourse, the use of CMC should eliminate or at least lessen gender-influenced inequalities (Rice, 1984; Culnan and Markus, 1987; Huber, 1990; Kahn and Brookshire, 1991; Sproull and Kiesler, 1991). In fact, in some situations it is possible for contributors to be anonymous or deliberately ungendered (Bruckman, 1993), which again might be expected to make gender-based discrimination all but impossible.

Unfortunately, other field research suggests that the reduced social cues afforded by computer mediation do not seem to be a panacea for gender inequalities (e.g., Kramarae and Taylor, 1993; Shade, 1993). Herring found two electronic-mail discussion lists she studied to be male-dominated (Herring, 1992a; Herring, et al., 1992); We (1994) reported that of 595 messages posted to two Usenet newsgroups (alt.feminism and soc.women), 480 were from men and only 71 from women (the gender of the sender

could not be determined for the remaining 44 messages). The imbalance in these figures (87% male, 13% female) is striking, even given the under-representation of women in the overall population of Internet users (one estimate suggests women are 36% of Internet users (Quarterman and Carl-Mitchell, 1994)).

It is possible that women are simply not interested in the topics being discussed, although it seems odd that men would be so much more interested in feminism. Evidence suggests, however, that many women (and some men) simply do not feel comfortable participating in these discussions (Herring, 1994). An explanation for such discomfort is that other cues—communicative style, in particular—effectively conveys gender information and potential posters respond to these embedded cues (Herring, 1994).

The purpose of this study was to understand how gender interacts with communicative style to affect participation and thus contribution and influence in CMC settings. Communicative style is defined generally as gender-related differences in the use of language. Understanding the role of gender and antecedents of gender-based inequalities in CMC participation is crucial. CMC is increasingly used in corporate environments; it provides the necessary communications infrastructure for the emerging "virtual corporation". In the future, CMC may also be widespread in public discourse in general, e.g., in the form of on-line "electronic town meetings". It is therefore important to understand how or if communicative style differentially affects women and men's desire to participate in such conversations. As an initial approach, these effects were studied in an experiment, using Usenet newsgroups as a context.

Theoretical background

This research is situated at the intersection of research on gender differences in communicative style and on computer-mediated-communications. This section reviews prior research on both topics and on their intersection, deferring detailed discussions of methods and measures to the next section.

Research on gender and communicative style

In the linguistics literature, there have been numerous studies of language differences between men and women (e.g., Lakoff, 1975; Thorne and Henley, 1975; Tannen, 1990). In her review of this literature, Coates (1993) identified eight characteristics that figure prominently: verbosity, importance of topics (which she includes in her discussion of verbosity), minimal responses, hedges, tag questions, commands, swearing and taboo language, and compliments. For each of these phenomena, prior research has proposed differences between men's and women's communicative styles. Herring (1992a) used a somewhat different set of features, shown in Table 1. It should be noted that these characteristics are tendencies, not absolutes: women do use men's speech and vice versa, but less commonly.

Insert Table 1 about here.

As well as preferring different styles in speaking, some evidence suggests that men and women and more comfortable participating in different types of conversations. Production of and comfort with a style seems not to have been separately studied in face-

to-face conversations, perhaps because talking and listening are so interwoven. However, in a survey of mailing list participants, Herring (1992a) found that while both women and men were intimidated or annoyed by the adversarial tone of the debate (women somewhat more so than men), women both produced less adversarial discourse and avoided participating in discussions dominated by an adversarial style, despite the fact that the women claimed to be very interested in the topic being discussed and to have the required time and computer skills necessary to participate.

To summarize, this literature suggests that women and men produce and prefer different **communicative styles** both in verbal and computer-mediated communications.

Research on CMC and equality of participation

As mentioned above, the CMC literature suggests that the use of CMC promotes more equal exchanges by de-emphasizing social context cues or by permitting anonymity. As well, Hiltz and Turoff (1993) hypothesized that in CMC it will be less likely that a single dominant individual will emerge and that there are more likely to be multiple leaders because one person's response, however quickly offered, does not preclude the responses of others. In a pilot study, they found that equality of participation overall was higher in CMC groups than face-to-face.

Selfe and Meyer (1991) report on "Megabyte University", an electronic group for English composition teachers to discuss the use of computer technology in the classroom. They found that men and higher status individuals contributed significantly more messages and words, introduced more topics and disagreed with others more often. No

significant differences in politeness of messages was reported. Interestingly, these differences did not disappear when subjects could post pseudonymously, although there was some evidence that the option of pseudonyms prompted some individuals to start posting.

Berdahl and Craig (1996) report on a study of 3–4 person groups meeting either face-to-face (FTF) or using a synchronous CMC system. Groups were either all male or female or had one "solo" of a different gender. Comparing self-reported levels of participation, they found that CMC groups initially were less equal than FTF groups, but the conditions converged by the end of 7 weeks. This finding highlights the danger of studying initial uses of CMC systems. Contrary to their expectations, solo males in computer groups had more influence on an essay task than non-solos did, and this ratio was significantly greater than the ratio for solo females. Interestingly, although some differences were found in levels of task participation in different conditions, these did not translate into significant differences in task influence.

To summarize, the CMC literature and studies are equivocal; some suggest that the use of CMC allows **more equal levels of participation and influence**, others, that the use of CMC can leave differences in perceived contribution and influence.

Research on communicative style and CMC

Finally, there are several studies on the use of CMC that address communicative style differences. Sproull and Kiesler (1986) studied the use of electronic mail in a large corporation. They report that electronic mail messages exhibited uninhibited behaviour,

such as "flaming" or flouting of social conventions, which they attributed to lessened social context cues (p. 1508). Interestingly, Sproull and Kiesler also reported that women posted significantly fewer messages (955 vs. 293) which were significantly shorter in length (p. 1504), although they did not attempt to explain this difference.

Herring has investigated gender and communicative style on several electronic mailing lists: the Linguist discussion list (Herring, 1992b), Megabyte University (Herring, et al., 1992) and in 9 discussion groups (Herring, in press-a). In all three studies, she and her colleagues found two distinct styles of postings, which she called "adversarial" and "supportive/attenuated". She notes that men and women use both styles, but that men tend towards adversarial and women towards supportive/ attenuated and the extremes of each are used "almost exclusively by one gender and not the other" (Herring, in press-a). In the remainder of this paper, these will be referred to as M- and F-styles, respectively. Since the characteristics of flaming and M-style speech overlap to some extent, Sproull and Kiesler's finding suggests that electronic communications may be more likely to be M-style.

To summarize, this literature suggests that gender difference in **communicative style** and **level of participation and contribution** are found in CMC as well as in face-to-face communication.

Hypotheses and variables

Based on the prior work summarized above, and especially Herring (1992a; 1992b), it was hypothesized that in the context of text-based computer conferencing,

gender will affect level of participation through the intervention of gender-specific communicative style. The rest of this section discusses the choice of theoretical concepts and presents specific hypotheses.

Prior research has used various outcome measures for gender equality, such as contribution or influence. This study will focus on **participation**. Simple participation is important because women maybe systematically deciding not to participate in CMC. For example, Truong (1993) reports cases of women feeling harassed to the point of dropping out of on-line discussions. In other words, participation is a necessary precondition for contributing to or influencing a group.

It is hypothesized that there will be a link between **communicative style** and **participation**: women will be less likely to participate in a discussion with a heavily M-style and, conversely, men will be less likely to participate in a discussion with a heavily F-style. If this pattern is seen, it can be inferred that communicative style does indeed differentially affect individuals' choices whether or not to participate in a particular conference above and beyond the influence of topic.

Usenet News

Usenet News was chosen as the context for our study. Usenet News is a distributed world-wide computer conferencing system organized into a hierarchy of "newsgroups" on a diversity of topics, including computer systems, social issues, hobbies and current events. Users create messages and post them to a particular newsgroup or newsgroups, where they can be read and replied to by any one who chooses to read that

newsgroup. (In this respect, Usenet News acts somewhat like an electronic mail mailing list to which anyone can subscribe.) For example, a user might ask a question of the list or state a position in an argument. In response, other users might post public answers, statements of support or rebuttals.

Usenet newsgroups are a particularly appropriate context for this experiment (and for more in depth follow-on studies) for several reasons:

- Data are easily and inexpensively accessible. Popular newsgroups have hundreds of postings a week, making it feasible to collect large volumes of data. (It is estimated that a total of 127,000 messages are posted each day.)

- There are newsgroups on a wide range of topics (recent listings included 1720 official newsgroups and another 3516 on "alternative" topics). It should therefore be possible to find newsgroups with a range of theoretically interesting characteristics.

- Usenet News is available to many users, from many organizations. It is estimated that Usenet News is read by on the order of 10 million people on approximately 330,000 host computers. This diversity has several advantages. First, contributors are unlikely to communicate in other settings, so the public messages provide a nearly complete record of a newsgroup's discussion. Second, possible effects of corporate cultures are effectively randomized, giving the study wider applicability. Finally, the absence of a corporate framework reduces possible confounds from interpersonal power differences.

- The exchange of messages more closely parallels a conversation, as opposed to the publishing model of the World-Wide Web.

In a sense, Usenet News is a model for a community-wide public discourse system. However, these findings should also be applicable to corporations, who are increasingly using CMC systems to assemble teams composed of individuals from different divisions, regions or even companies, who may not otherwise interact.

Experimental design

This study attempts to answer the question, does communicative style differentially affect men's and women's interest in participating in a newsgroup? This question was addressed experimentally by administering questionnaires asking subjects to rate their interest in participating in newsgroups with messages of different communicative styles. Because individual and gender differences in interest in the topic of newsgroups could confound our results, our design controlled for interest in topic.

Instruments

The experiment was run twice (as explained below), both times administering two questionnaires. The first questionnaire measured interest in participation in 48 newsgroups to be able to control for differences in initial interest. For each message, subjects were simply asked to report on a 7-point scale how interested they would be in participating in a newsgroup on the topic, where 1 meant "Not at all interested in reading a newsgroup on this topic" and 7 meant "Certain to read a newsgroup on this topic".

Unfortunately, space considerations restricted the measure to this single question. Subjects were also asked to report their gender, as well as other demographic data, including age, school, school year and level of use of Usenet.

To determine subjects' reactions to messages of different communicative styles, a second questionnaire was administered approximately two weeks after the first questionnaire. This questionnaire presented sample Usenet messages with different communicative styles. For each message, subject were asked to report on the same 7-point scale how interested they would be in participating in a newsgroup with messages like the one presented. As well, they were asked to say why they responded as they did.

To develop the second questionnaire, newsgroups of high interest were identified from the first questionnaire. From each, representative messages of F- and M-style were selected. Messages were edited to remove cues to the gender or affiliation of the poster, the name of the newsgroup, and in some cases, for length or to make the style more extreme. Responses to the two questionnaires were linked by having subjects write an identifying word or two on both questionnaires.

Subjects

The questionnaires were administered to undergraduate students in an introductory information systems class. For the first questionnaire, a total of 126 responses were received, 73 from men and 53 from women. For the second, 49 usable responses were received for the first pass, 28 from men and 21 from women and 35 for the second, 20 from women and 15 from men. Because this was an exploratory study, the

effect sizes were not known in advance, making it impossible to calculate the necessary sample size. As it turns out, the size of the effect is small and so the power of some tests is low.

Results

First questionnaire

The results of the first questionnaire from both passes combined are shown in Table 2. The average rating for all topics was approximately the same for men and women, 3.26 and 3.22 out of 7, respectively. However, women and men differed in their evaluations of numerous topics, mostly in stereotypical ways. Men's and women's responses were compared using the Mann-Whitney U—Wilcoxon Rank Sum W test.

Insert Table 2 about here

The interests of business undergraduates were also compared to those of other students. These interests differed significantly for only four topics. In other words, men and women's interests differed more than those of students in different degree programs.

Second questionnaire, first pass

Based on these results, ten of the most popular groups were selected (indicated by the 4s in Table 2) taking care to select the most popular groups for each gender. A

second questionnaire was created (as described above) by selecting one message of each style from each group.

To determine how communicative style affected subjects' interests in participating, the difference between the initial reported interest in each topic and the interest after seeing a message of each style was calculated, giving two new variables for each of the ten newsgroups; the average change for men and women for each style is plotted in Figure 1. These variables indicate how much reported interest changed after seeing a message of each style. Using SPSS, a repeated measures analysis of variance was performed on these 20 variables, representing ten levels of TOPIC and 2 levels of STYLE within subjects, with GENDER as a between-subjects variable. Table 3 shows the significance of the factors and the reported power of the tests at an alpha level of 0.05.

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Insert Figure 1 and Table 3
about here

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It had been hypothesized that women and men would react differently to messages of different styles, that is, that the interaction between GENDER and STYLE would be significant. As Table 3 shows, every variable and interaction was significant or nearly significant with reasonable power, except for this interaction. In other words, for these ten groups, subjects' change in reported interest were significantly different:

- for different topics (TOPIC); and

- for message of different styles (STYLE)—on average, interest dropped by 0.82 after seeing M-style messages and by 0.44 after seeing F-style messages—and

- these differences differed (TOPIC by STYLE).

As well, men's and women's changes in reported interest were significantly different:

- on average (GENDER)—men's interest dropped by 0.43 on average while women's dropped by 0.84—but

- **not** for messages of different style (GENDER by STYLE was not significant).

However, note the low power for the non-significant results, meaning that we can not be very confident of our decision not to reject the null hypothesis.

Second questionnaire, second trial

While these results are interesting, and confirm that men and women react differently to different topics, they offer no support for our main hypothesis. It was thought that hese results might have been due to the difference in interest in topic overwhelming differences in reactions to messages of different styles. Therefore, the experiment was rerun with a new pool of subjects. On this trial, the second questionnaire included messages from three newsgroups (indicated by the 6s in Table 2) for which the difference between women and men's interests was non-significant. Two messages of each style were selected for each newsgroup, for a total of twelve messages.

The results of the analysis of these two questionnaires is shown in Table 4 and plotted in Figure 2. Again, the difference between the initial reported interest in each topic and the interest after seeing a message of each style was calculated. A repeated measures analysis of variance on these 12 variables, representing 3 levels of TOPIC, 2 levels of STYLE and 2 levels of a dummy variable TRIAL within subjects with GENDER as a between-subjects variable. Assignment of the pairs of messages of the same style

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from the same newsgroup to a TRIAL condition was arbitrary and the variable and its interaction terms were expected to be non-significant.

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Insert Figure 2 and Table 4
about here

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For these newsgroups, subjects' change in reported interest was significantly different:

- for different messages (TOPIC by TRIAL) even within the same topic; and

- for message of different styles (STYLE)— on average, interest dropped by 0.40 after seeing M-style messages but remained about the same after seeing F-style messages (interestingly, while the levels are different than in the first pass, the difference between them is about the same)—and

- these differences differed (TOPIC by STYLE and TOPIC by TRIAL by STYLE).

In this case, however, GENDER and most of the interaction terms including GENDER were not significant, reflecting our choice of groups with non-significant gender differences. The exception is GENDER by TOPIC by TRIAL by STYLE; again, women and men differed in their reactions to messages of different styles differently for different topics. Unfortunately, GENDER by STYLE was again non-significant, indicating that women and men again did not differ significantly in their reactions to messages of different styles overall.

Analysis of qualitative data

As well as the quantitative data, the open-ended responses (where subjects described why they rated their interest in participating) were qualitatively analyzed. For this purpose, the responses to both sets of questionnaires were pooled. Responses were transcribed into Q.S.R.'s NUD•IST package for analysis and coded for the sex of the respondent, style of the message, newsgroup, and explanation for rating (interest in topic, utility of information, understandability and message style). Some example responses are given in Table 5; 196 responses were coded, 84 from 8 men and 112 from 13 women.

Insert Table 5 about here

There was considerable variation in explanations from subject to subject. Some subjects appeared to rate newsgroups primarily on their interest in the topic (e.g., they said they would read if they found the general or specific topic interesting), others appeared to rely primarily on utility (e.g., they would read if they needed that type of information at the moment and not otherwise), and still others seemed to take a wider variety of factors into account, preferring to read groups that were pleasurable to read as well as informative or interesting. Women were twice as likely to complain that a group was too technical or that they did not understand the message as men (23 percent of women's explanations vs. 10 percent of men's explanations), regardless of the style of the message.

Table 6 shows the number of responses that commented on the style of the message. Negative comments are more common for M-style messages than for F-style

messages, although both are relatively rare. Interestingly, in these cases, when the men commented negatively on the style of these M-style messages, they did not comment on how mean people were or how strong their opinions. Instead, they picked out features traditionally associated with *women's speech* to criticize (gossip, too personal, irrelevant).

Insert Table 6 about here

Discussion

The first result is that **men and women differ in their reported interest in many topics**. Therefore, differences in the number of women and men participating in a particular forum might be due to *a priori* differences in interest in the topic(s) being discussed. Any study of participation differences must therefore take this possibility into account.

The second result is that the **communicative style of a message does have an effect on interest in participation**. Both women and men were significantly less interested in participating after reading messages of M-style than after F-style, as shown in Figure 3. However, contrary to expectations and to the findings of past field studies, these **men and women did not differ significantly in their reactions to these styles**. However, the qualitative data show women are more likely to comment negatively on the style of M-style messages, although these comments are still rare.

Conclusion

In conclusion, this study makes a modest contribution to knowledge about the antecedents of gender inequalities in participation in systems like Usenet news. No studies seem to have experimentally tested the assumption that women and men respond differently to the communicative style of messages in CMC and we found no support for this hypothesis with this data.

Of course, this simple experiment is hardly the last word on this subject. The reliability of the initial topic measure might be improved by asking subjects to commit to reading groups on certain topics, rather than simply stating interest. The effects of differences in interest in specific message subjects can be averaged out by having subjects react to many messages rather than one or two.

Future studies should move beyond participation to examine other measures, such as influence (e.g., Berdahl and Craig, 1996). For example, it would be interesting to observe the response to messages that contrast with the dominant style of a newsgroup (it is expected that F-style messages will be less influential in primarily M-style newsgroups) and the strategies of posters in opposite gender newsgroups (Herring (in press-b) suggested that, "members of the minority gender on each list shift their style in the direction of majority gender norms"). These question could even be approached through an intervention in a CMC system, e.g., by posting messages of a particular style and observing the reaction or by setting norms for participation in a newsgroup in an attempt to promote more equal interaction. Such a test would provide the most concrete advice

for those introducing and managing communications systems on maintaining gender

equality.

Acknowledgments

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Tables and Figures

Table 1. Characteristics of adversarial and supportive/attenuated communicative styles

(from Herring, 1992a).

Adversarial	Supportive/attenuated
strong assertions	attenuated assertions
self-promotion	apologies
presuppositions	explicit justifications
rhetorical questions	true questions
authoritative tone	personal tone
challenges others	supports others
humor/irony	

Table 2. Comparison of interest in newsgroups topics by men (N=73) and women (N=53) and by business (N=65) and non-business (N=61) students on a 7-point scale, and signficance of difference from Mann-Whitney U — Wilcoxon Rank Sum W Test

Topic	Overall	Male	Female		Business	Non-	
4 Travel in Europe.	4.88	4.34	5.60	**	4.83	4.93	
Postings of resumes and "situations wanted"	4.80	4.24	5.57	**	4.57	5.05	
4 NBC's comedy Friends.	4.78	4.48	5.19	*	5.20	4.33	*
4 College, college activities, campus life	4.63	4.25	5.15	**	4.77	4.48	
6 The TV show Seinfeld.	4.54	4.73	4.27		4.77	4.28	
4 Airline travel around the world.	4.53	4.04	5.21	**	4.48	4.59	
4 Jokes and the like.	4.47	4.38	4.58		4.42	4.52	
4 Basketball on the collegiate level.	4.38	4.70	3.94	*	4.37	4.39	
6 Laptop (portable) computers.	4.27	4.26	4.28		4.05	4.51	
4 US-style college football.	4.22	4.71	3.55	**	4.40	4.03	
Forum for sharing information about stocks	4.18	4.47	3.77		3.95	4.41	
6 Interactive multimedia technologies of all kinds	4.10	4.07	4.13		3.85	4.37	
4 Food, cooking, cookbooks, and recipes.	3.87	3.36	4.57	**	3.82	3.92	
4 Backpacking and activities in the great outdoors	3.85	3.90	3.79		3.59	4.13	
Beer.	3.80	3.97	3.57		3.92	3.67	
4 Q & A for users new to the Usenet.	3.59	3.32	3.98		3.25	3.95	*
Books of all genres, and the publishing	3.55	3.36	3.81		3.51	3.60	
Driving automobiles.	3.48	3.49	3.47		3.48	3.48	
MS Windows issues in general.	3.47	3.39	3.58		3.29	3.66	
The TV show The Simpsons.	3.43	3.73	3.02		3.31	3.56	
Arcade-style games on PCs.	3.23	3.41	2.98		3.00	3.48	
Ice hockey.	3.21	3.58	2.70	*	3.40	3.00	
All aspects of golfing.	3.11	3.67	2.34	**	3.43	2.77	*
Pets, pet care, and household animals in general	3.09	2.83	3.44		3.17	3.00	
The TV show Melrose Place.	3.09	2.48	3.92	**	3.37	2.79	

Topic	Overall	Male	Female		Business	Non-	
Macintosh applications.	3.02	3.16	2.81		2.31	3.75	**
Classical music.	2.99	2.93	3.07		2.95	3.02	
Children, their behavior and activities.	2.87	2.44	3.45	**	2.78	2.95	
The band REM.	2.87	2.60	3.23		3.08	2.64	
Baseball.	2.86	3.25	2.34	*	2.88	2.85	
Collectors of many things.	2.81	2.93	2.64		2.92	2.69	
Writing in all of its forms.	2.70	2.36	3.17	**	2.55	2.85	
Movies with a cult following.	2.70	2.97	2.32		2.58	2.82	
Soccer (association football).	2.63	2.90	2.26		2.80	2.45	
Discussion and hints on board games.	2.60	2.66	2.53		2.49	2.72	
Hobbyists interested in scuba diving.	2.53	2.68	2.32		2.49	2.57	
Written science fiction and fantasy.	2.53	2.81	2.15	*	2.45	2.62	
For the posting of poems.	2.53	2.33	2.81		2.34	2.73	
All Sega video game systems and software	2.47	2.85	1.94	*	2.26	2.69	
The TV show X-Files.	2.42	2.62	2.13		2.27	2.57	
Rotisserie (fantasy) baseball play.	2.36	2.92	1.58	**	2.43	2.28	
Japanese animation.	2.31	2.36	2.25		2.23	2.39	
The band Phish.	2.25	2.23	2.26		2.18	2.31	
A group for (Grateful) Dead-heads.	2.16	2.38	1.85		2.15	2.16	
Buying, selling & reviewing items for cycling	2.04	2.22	1.79		2.11	1.97	
Motorcycles and related products and law	2.02	2.19	1.79		1.92	2.13	
The singer Tori Amos.	1.96	1.89	2.06		2.05	1.87	
The sport of cricket.	1.62	1.79	1.38		1.77	1.46	

Note: *   ratings significantly different, p < 5%

           **   ratings significantly different, p < 1%

           4   included on survey 1
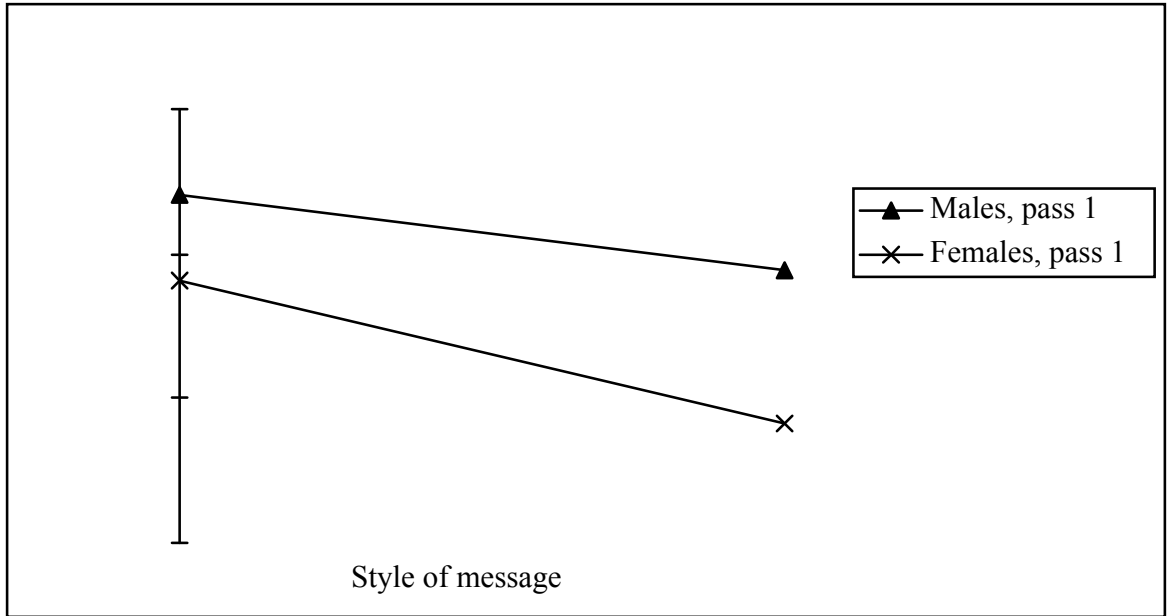
           6   included on survey 2

Figure 1. Average change in reported interest in participating in a newsgroup after seeing messages of different styles, by gender of subject, for pass 1.

Table 3. Results of a repeated measures analysis of variance showing effects of TOPIC, GENDER and STYLE on difference in reported interest initially and after seeing messages, on first pass (N=42).

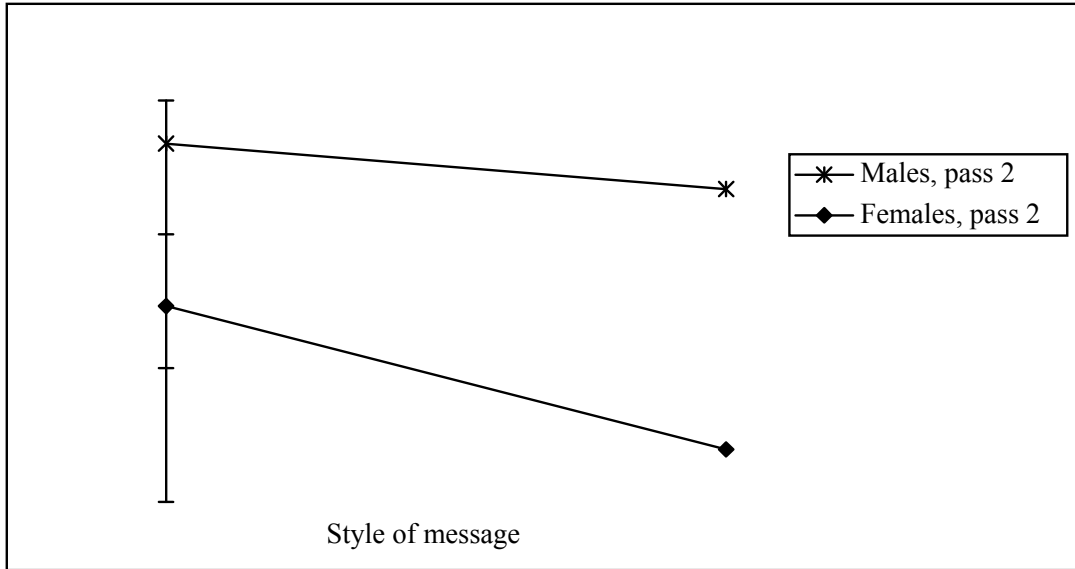| Variable	Multivariate F	Significance	Power at .05
GENDER	5.32	2.6%	0.614
TOPIC	19.376	0.0%	1.00
GENDER by TOPIC	2.09	5.7%	0.78
STYLE	14.36	0.0%	0.959
GENDER by STYLE	0.33	57%	0.053
TOPIC by STYLE	5.733	0.0%	1.00
GENDER by TOPIC by STYLE	2.105	5.6%	0.78

Figure 2. Average change in reported interest in participating in a newsgroup after seeing messages of different styles, by gender of subject, for pass 2.

Table 4. Results of a repeated measures analysis of variance showing effects of GENDER, TOPIC, STYLE and TRIAL on difference in reported interest initially and after seeing messages, on second pass (N=33).

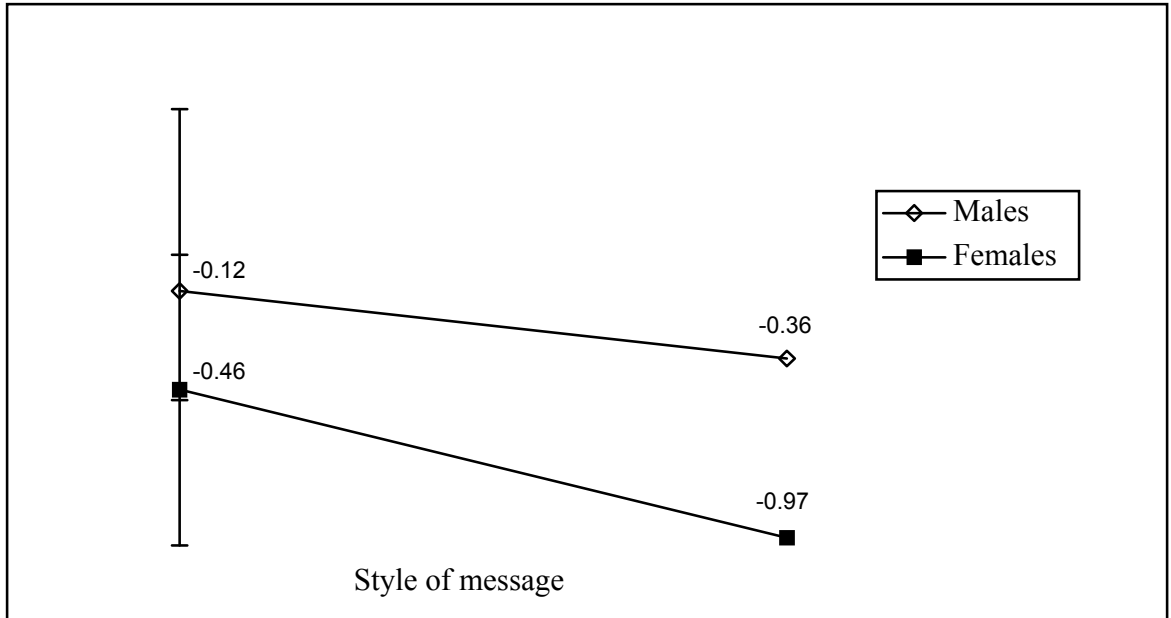| Variable	Multivariate F	Significance	Power at .05
GENDER	2.12	15.5%	0.292
TOPIC	2.00	15.2%	0.38
GENDER by TOPIC	2.03	14.9%	0.39
STYLE	10.08	0.3%	0.867
GENDER by STYLE	2.19	14.9%	0.300
TRIAL	0.35	56.1%	0.061
GENDER by TRIAL	0.25	61.9%	0.055
TOPIC by STYLE	4.05	2.7%	0.68
GENDER by TOPIC by STYLE	1.35	27.4%	0.27
TOPIC by TRIAL	3.48	4.3%	0.61
GENDER by TOPIC by TRIAL	0.133	87.6%	0.07
TRIAL by STYLE	0.18	67.5%	0.055
GENDER by TRIAL by STYLE	0.07	79.1%	0.049
TOPIC by TRIAL by STYLE	5.53	0.9%	0.82
GENDER by TOPIC by TRIAL by STYLE	3.47	4.4%	0.61

Figure 3. Average change in reported interest in participating in a newsgroup after seeing messages of different styles, by gender of subject, for both passes combined.

Table 5. Examples of explanations for ratings of interest in a newsgroup

from men and women.

Examples by women:

"people are not very nice"

"Although I like the topic, I don't like the writing style"

"I'm not interested in reading about other's strong opinions"

Examples by men:

"Too much gossip"

"like the idea but comments too personal & irrelevant"

Table 6. Count of positive (+) and negative (–) responses to M- and F-style messages by women and men.

		M- style (7)	F- style (7)
men (8)	-	7% (3/41)	2% (1/43)
	+	2% (1/41)	0
women (13)	-	17% (9/54)	3% (2/58)
	+	2% (1/54)	2% (1/58)

Negative comments on style of M-style messages are more common than negative comments on the style of F-style messages.