YOU ARE WHAT YOU TYPE: LANGUAGE AND GENDER DECEPTION ON THE INTERNET

*"On the Internet, nobody knows you're a dog."**

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* Cartoon by Peter Steiner (1993), published in The New Yorker magazine, Inc.

Abstract

The present study was conducted to examine whether males and females can effectively convey a false gender identity in CMC (computer-mediated communication), and what aspects of their language changed from typical gender-preferential language in attempting to do so. The first hypothesis was that when an individual is attempting to create a false gender identity they will vary obvious, consciously controlled aspects of communication such as topic, rather than gender-preferential linguistic features at the word or clause level. The second hypothesis was that false gender identities would be more extreme than real gender identities, and the third hypothesis was that participants would retain many aspects of their own gender-preferential language while attempting to create a false gender identity. Participants in the control condition were paired up with another same-sex participant and told to send five messages to each other over two weeks. In the experimental condition they were also paired up into same-sex dyads, but were told to convey themselves as the opposite gender without using gender-specific information. Later, experimental participants rated what gender they though their netpal was and how effectively they had deceived their netpal. Messages for both conditions were coded for male-typical, female-typical and neutral topics, as well as for references to emotion, provision of personal information, opinions, self-derogatory comments, insults, compliments, apologies, subordinating conjunctions, modals, intensive adverbs, and adjectives. Results showed that 'pretend' gender identities were more extreme than natural identities in terms of gender-typical topic, and that while experimental participants did manipulate some aspects of gender-preferential language at the word or

clause level, they did not manipulate many, or create a false gender identity particularly

well. Implications and possibilities for further research are discussed.

Contents

The internet has the ability for instant communication with people all over the world through chat rooms and electronic mail (email). This communication medium has been quickly adopted by many people because of speed and ease-of-use. Although email has the advantage of allowing for rapid interaction and exchange of information, it may, however, only provide the recipient with the information the sender wants them to see. This provides the opportunity to 'pretend' to be someone else. A user might, for example, be a male but tell other users that he is a female in order to get more attention (Bruckman, 1993). On the other hand, there is evidence that people can identify the gender of email authors (Thomson & Murachver, in press). This raises the question of how much control senders have over what they convey. In spite of their intent to deceive, they may not be able to simply select aspects of the impression they want to get across to the receiver. If this is the case, readers of an email from a person claiming to be female may be able to evaluate the truth of this claim depending on the language used.

Any face-to-face interaction is not simply an exchange of a string of words. Each person must interpret the visual and aural cues of the other in order to understand important aspects of the conversational context, such as the speaker's membership in a particular social group. Though often not consciously aware of it, we regularly use these cues to make attributions. For example, an attribution of gender. In the absence of visual or aural cues we are reliant on the language a person uses to make these attributions. There is evidence, for example, that in the absence of physical cues, people are able to accurately predict author gender (Mulac & Lundell, 1986; Savicki, Kelley, & Oesterreich, 1999; Thomson & Murachver, in press). Some of the language features that may be used to predict gender are the use of intensive adverbs (McMillan, Clifton, McGrath, & Gale,

1977; Mulac & Lundell, 1986; Mulac, Wiemann, Widenmann, & Gibson, 1988), the number of references to emotion (Mulac, Studley, & Blau, 1990), the number and use of modals and tag questions (McMillan et al., 1977), and the frequency of compliments (Holmes, 1988). The use of minimal responses (Carli, 1990), personal pronouns, oppositions, subordinating conjunctions (Mulac & Lundell, 1986; Thomson & Murachver, in press), and the frequency of questions (Tannen, 1994) also provide the reader with some clues to predict gender.

All of the above features are generally used more by females, or in different ways. For example, females are more likely to ask questions (Tannen, 1994) and use tag questions for a different purpose than males (McMillan et al., 1977). Males, on the other hand, make more references to quantity, provide more opinions and justifiers (Mulac & Lundell, 1986), use more active verbs and judgmental phrases, write more informally, use more rhetorical questions, and more run-on sentences (Mulac, Studley, & Blau, 1990) than females. Male versus female language is generally distinguishable by the pattern of use and frequency of these language features.

McMillan et al. (1977) demonstrated this gender difference in face-to-face group interaction. Their results showed that when a group of males and females attempted to solve a murder mystery in a group environment, the females used a combination of intensifiers ("This experiment is so confusing"), expressions of doubt ("I think I might have…"), tag questions ("I said no, didn't I?") and phrased orders in question form ("Would you please close the door?). Although some of the males also used these variables, they used them less often, resulting in a different overall pattern of language. Specifically, men in this study used modals and tag questions half as often as women did,

used intensifiers six times less often than women, and phrased orders as questions three times less often. Finally, men interrupted women in this study five times more often than women interrupted men.

These gender differences were supported by Mulac and Lundell (1986), who gave students transcribed *spoken* descriptions of the same objects made by males and females of varying ages. These students were able to predict the gender of the writer at a high level of accuracy (85% for transcripts of male speech, 90% for transcripts of female speech) based on the frequency of 17 linguistic variables. The use of these variables was stable across speakers aged from 11 to 69 years, suggesting that any gender-indicative language features develop in childhood and appear to be stable both across time and individuals.

Gender-preferential language has also been found in *written* communication (Mulac, Studley, & Blau, 1990). This is thought to develop in the first years of primary school (Mulac et al., 1990). Mulac et al. (1990) demonstrated a gender difference in a study of the written language of nine-year-old children. Specifically, they examined the language in essays and found that boys used more active verbs and judgmental phrases, wrote more informally, used more rhetorical questions, and more run-on sentences than the girls in the study. The girls wrote more about emotions, used more relative clauses, hedges, and sentence initial adverbs than boys.

In summary, similar gender differences in language have been found in face-to-face (McMillan et al., 1977), spoken (Mulac & Lundell, 1986), and written communication (Mulac et al., 1990). These differences include the tendency of males to use more justifiers and references to quantity or place more than females do (Mulac &

Lundell, 1986).   Males are also more likely than females to convey their opinions (Thomson & Murachver, in press), and use judgmental phrases, action verbs, grammatical errors, contradictions, and rhetorical questions (Mulac et al., 1990). Females, on the other hand, are more likely to use relative clauses (Mulac et al., 1990), hedges (Mulac et al., 1990), intensive adverbs (McMillan et al., 1977; Mulac & Lundell, 1986; Mulac et al., 1988; Thomson & Murachver, in press), subordinating conjunctions (Mulac & Lundell, 1986), references to emotion (Mulac et al., 1990; Thomson & Murachver, in press), personal pronouns (Mulac & Lundell, 1986), self-derogatory comments, questions, compliments, apologies (Thomson & Murachver, in press) and tag questions (McMillan et al., 1977). Males tend to have a longer mean length of sentences (Mulac & Lundell, 1986; Mulac & Lundell, 1994; Mulac et al., 1990).

Although there is substantial evidence of gender differences in language, these differences are gender-preferential rather than gender-exclusive.   That is, gender-preferential language features are not used solely by one gender, but are used by both men and women (Fitzpatrick, Mulac, & Dindia, 1995; Thomson & Murachver, in press).

In saying this, some features might be more characteristic of one gender than the other. Females may use a higher frequency of hedges than males, for example, or may use them in a different time or context.   Furthermore, not all women use female-preferential features, while some men do, and vice versa. This point is well explained with the analogy of dress differences between the genders. Although females may wear pink slightly more often than males, some females do not wear it at all, and some males do. Thus, just 'wearing pink' is not predictive of gender. With regard to language some individual features (like 'wearing pink') obtain small gender differences (Thomson &

Murachver, in press), but they are by no means definitional of gender in themselves. Instead, there is a strong effect of style, where the combination of variables enables gender prediction (Fitzpatrick et al., 1995; Mulac & Lundell, 1994; Mulac, et al., 1988; Thomson & Murachver, in press). Patterns of use (rather than individual items) are gender-preferential because just as some males wear pink, they may use linguistic variables that are used more often by females. The same applies to females. For example, it would not be unusual for a female to make references to quantity, a variable established by Mulac and Lundell (1994) as predictive of a male writer.

Given that gender-preferential language has been found in written, spoken, and face-to-face communication, it is not surprising that the same gender-preferential language patterns were observed in CMC (Herring, 1993; Herring, 1994; Savicki et al., 1999; Thomson & Murachver, in press; Witmer and Katzman, 1997). Specifically, Thomson and Murachver (in press) found that email messages contained similar patterns of gender-preferential variables as those found in spoken communication (Mulac & Lundell, 1986) and written communication (Mulac et al., 1990). Herring (1994) also noticed this similarity with her discovery that women involved in CMC asked more questions, used more hedges, apologised more and took more of an affective approach to their communication. Men, on the other hand, used stronger language, more put-downs, sarcasm and communicated more often. Females also use more emoticons or graphic accents (GAs) in their communication than males (Witmer & Katzman, 1997). GAs are punctuation symbols that are combined to add expressiveness or emotion to text (for example :-) :-(or ;-)). Witmer and Katzman suggested that this increased use of GAs by females perhaps reflected the gender-preferential trait of females to express emotion.

Despite some evidence of gender-preferential language in CMC (Herring, 1993; Herring, 1994; Savicki et al., 1999; Thomson and Murachver, in press; Witmer & Katzman, 1997), some theorists argue that gender differences are less common in CMC than in other media (Kiesler, Siegel, & McGuire, 1984). This is because CMC is quicker than some traditional methods, does not provide non-verbal cues, is relatively anonymous, has specialised language, and has different rules of etiquette (known as 'netiquette') (Kiesler et al., 1984).

One feature of CMC is that because social cues are lacking, there are fewer cues about gender, location, and status of the author (Sproull & Kiesler, 1986). This is known as the "reduced social cues approach" (RSC) to electronic communication (Spears & Lea, 1992, page 37). Specifically, this approach predicts that the lack of social cues in electronic communication will result in a lesser impact of social norms (Spears & Lea, 1992). Thus, a male or female would be able to successfully create a false gender identity because social cues would be too lacking to indicate otherwise. For example, a female could effectively convince other CMC users that she is a male.

Contrasting with the RSC approach is the Social Identity De-individuation (SIDE) model proposed by Spears and Lea (1992). They argued that although electronic communication does inhibit personal identity cues, there is no evidence to suggest that all other cues are also inhibited by electronic communication. While they admit that subtle cues are likely to be inhibited, information about social categories (such as gender) is often inferred even in the relative absence interpersonal context cues.

The absence of interpersonal information may in fact lead to an *increase* in the salience of categorical information. This is because in CMC there are fewer personal

identity cues, which results in a feeling of de-individuation (Spears & Lea, 1992). If a person in this situation is a member of a social group and this membership is salient, Spears and Lea (1992) argue that it will become even more so. In regard to gender, if an individual's 'maleness' or 'femaleness' is salient in traditional interactions, it will become even more so in CMC. Furthermore, the physical isolation from CMC partners produces a heightened self-awareness and this, in turn, leads to a further increase in salience of group membership. This heightened salience leads to an increase in conformity with the norms of this group. Thus, for a person whose 'femaleness' is salient, the combination of de-individuation and increased self-awareness should lead to an increase in female-typical behaviour. When applied to the issue of gender-preferential language, this result implies that when an individual's gender is a salient group membership, he or she will be more likely to use gender-preferential language, despite the lack of context cues provided by CMC. Related to this finding is the suggestion by Walther (1997) that because context cues are scarce in electronic communication, individuals over-emphasise any cues that are available.

In support of the SIDE model, Spears and Lea (1992) found that in situations of de-individuation where salience of belonging to a group was high, group polarisation was also high. In this experiment participants discussed topics via CMC in either physically isolated (de-individuated) or group environments. Half of the isolated participants were addressed as individuals (low group salience), while the other half were addressed as group members (high group salience). The same division applied to the non-isolated group. De-individuated participants displayed the most extreme (polarised) opinions where high group salience produced a tendency toward the group norm, and low group

salience produced a tendency away from the group norm. When applied to the issue of gender and language, this result implies that if a male's gender is salient (likely if he is attempting to portray himself as a female), his language would display more male-preferential characteristics, than if his gender was not salient.

In further support of the SIDE model it was found possible to accurately classify email messages by author's gender using a combination of linguistic features (Thomson & Murachver, in press). Even though only small effects for individual feature were observed, a strong effect of style was found. Furthermore, participants were able to use these features to predict author gender with a high level of accuracy. This finding suggests that gender-preferential linguistic variables are adequate to give an indication of author gender in CMC.

A CMC user's ability to detect author gender is useful because as Bruckman (1993) asserted, many men in "Multi-user dungeons"[1] (MUDs) introduce themselves as women because females were receiving more attention in this environment. These men, however, were far more sexually aggressive in their language. Consequently, in this situation the phoney 'females' were discernible. In this example participants were actively role-playing. In other CMC interactions phoney 'females' and 'males' may be less discernible.

Research has shown that males and females have distinguishable linguistic styles when communicating via CMC (Herring, 1993; Herring, 1994; Savicki et al., 1999; Thomson & Murachver, in press; Witmer & Katzman, 1997), and that author gender can be predicted by looking at a combination of gender-preferential linguistic variables

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[1] Virtual electronic environments in which groups or pairs of people interact

(Thomson & Murachver, in press) as well as other cues such as graphic accents (GAs) (Witmer & Katzman, 1997). This is the case when CMC users are not actively creating a false gender identity – the use of these variables may change in a situation where a user is attempting to convey themselves as the opposite gender.

Although gender-preferential linguistic variables can be used by a naïve outsider to judge gender, the use of them in an individual's language is so ingrained that it is probably subconscious. This leads to our first hypothesis:

H₁: When an individual is deliberately attempting to create a false gender identity, they will vary more obvious, consciously controlled aspects of communication such as topic, rather than manipulating gender-preferential features at the word or clause level because they are not consciously aware of their own gender-preferential linguistic features.

This first hypothesis is analogous with the attire and behaviour of drag queens. In deliberately portraying themselves as females, drag queens over-emphasise typically and obviously female features such as make up, while they retain subtle male aspects of behaviour, such as the way they walk. This is because these subtle behaviours have been practised so often that they are subconscious and could not be altered unless he was taught a new method which he practised constantly. With regard to language, it is unlikely that an individual would be taught how to use gender-preferential language to portray themselves as the opposite gender, so it is unlikely that they would know how to do so. Topic of conversation, on the other hand, is expected to be used as a tool of

deception in creating a false gender identity because it is commonly accepted that males and females talk about different things. For example, Kipers (1987) observed 470 conversations in a school staff room, spanning forty-three topics and noted that females talked the most about their home and family, including their children, their grocery shopping and their housework. Females also talked more than males about their personal and family finances and about social issues such as child abuse or divorce. Males talked more than females about recreation activities such as sailing and work topics such as school field trips. In a study with similar findings, Johnson and Aries (1983) observed that female adolescents talked more about family activities and problems, personal problems, intimate relationships, and secrets than males did. The boys were least likely to discuss family activities and were most likely to discuss hobbies and sports. Aries and Johnson (1983) replicated this result with the additional finding that females talk more about shared activities.

It is expected that most participants in the present study will not know how to use language to create a false gender identity, so will carry to the extreme any gender-typical features they identify. This leads to our second hypothesis:

H_2: That false gender identities will be more extreme than natural gender identities, as participants look for ways to make themselves appear 'male' or 'female'.

The use of these stereotypes may be so marked that it has the opposite effect and essentially 'gives the game away'. The third hypothesis is am extension of the first and second:

H₃: That participants will retain many aspects of their own gender-preferential language while they create a false gender identity. To carry on the analogy, a drag queen may wear make up and a dress but still walk like a male.

Method

Participants

Forty-two participants were recruited for the control condition, the data of which thirty-one are included in analyses. Data from the eleven participants not included were omitted because these participants sent less than three email messages to their netpal or their raw data had been lost. Fifty-two participants were recruited for the experimental condition, with the data of two participant not included because one sent less than three messages and the other's data was wiped. In total there were eight-one participants across both conditions, including forty-seven females and thirty-four males. The control group included eighteen females with a mean age of 18.8 years (*SD* = 1.3), and thirteen males with a mean age of 20.8 years (*SD* = 4.8). The experimental condition included twenty-nine females with a mean age of 19.8 years (*SD* = 5.6) and twenty-one males with a mean age of 22.6 years (*SD* = 5.1). Sixty-eight participants were undergraduate psychology students at the University of Otago. These students volunteered for the study in order to gain credits towards their final grade in a first year psychology course. The remaining thirteen participants were recruited through a student employment service and received money towards their travel expenses on their completion of the procedure. All participants were fluent in English.

Procedure

Participants in the experimental condition were informed that the present experiment was being conducted to examine whether people could effectively convey themselves as the opposite gender in CMC and, in doing so, what aspects of their language changed from typical male or female styles (see Appendix A for information sheet and consent form). After informed consent was obtained, participants were given a list of "Email do's and don'ts" (see Appendix B). This list gave general instructions for what participants should and should not write in emails. It also included their username and password required to log on to IBM compatible computers attached to the psychology department network. Each of these usernames was intended to be gender-neutral.[2] Thirdly, for the participant's reference the username of the their netpal and the name and phone number of the experimenter were written on the sheet. All participants were randomly assigned same-sex netpals with the constraint that participants were not paired up with someone they knew.

The experimenter went through the instructions sheet with the participant, ensuring that all instructions were clearly understood, then told them to bring it with them when they came to check or send email. Following this, participants were taught how to log on to the network, start the email program, check for new mail, open new mail, and write new messages. To ensure that participants understood how to do this, they were required to perform each step as the experimenter gave them instructions. They were instructed not to delete any new mail and reminded to send at least five messages over the

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[2] For example: star, timon, starfish, moro, or badger.

following two weeks. At this point they were given the option of sending a message to their netpal. Once they had done this, or claimed to be comfortable with the procedure, they were shown how to log off and restart the computer.

Each email sent by participants was automatically forwarded to the experimenter, who kept a tally of how many messages had been sent. Once participants had sent five messages, they filled in a questionnaire (see Appendix C) and were given a debriefing sheet (see Appendix D).

Participants in the control condition were informed that the present experiment was being conducted to examine how people communicate using computers. Once informed consent had been obtained (see Appendix E for information sheet and consent form) they were given a username and password which allowed them to access the psychology network in the same manner as experimental participants. They were instructed to send at least six messages to their netpal over the following two weeks and were shown how to use the computer and email program in a similar manner to experimental participants. As in the experimental condition, netpals were assigned randomly given the constraint that all dyads were same-sex (see Thomson, 2000 for further detail).

Coding

Each message was coded for twelve linguistic variables, including (1) references to emotion (e.g., "talk about being gutted") , (2) requests for information (e.g., "what did you get up to this weekend?" , (3) personal information (e.g., "I just love getting on the

dance floor"), (4) opinions (e.g., "some questions were terribly dumb"), (5) self-derogatory comments (e.g., "to tell you the truth I'm not that brainy"), (6) insults (e.g., "you are such a lazy drunken slob of a university student"), (7) compliments to their netpal (e.g., "I'm sure you will do fine with exams"), (8) apologies (e.g., "sorry about the lack of replies"), (9) subordinating conjunctions (e.g., "our rugby team isn't too bad is it, *although* a bit of a shocking loss at the weekend"), (10) modals or hedges (e.g., "I'm *really* only doing this for interest"), and (11) intensive adverbs (e.g., "it is *really* nice"), (12) adjectives (e.g., "I've got two *great*, *fantastic*, *wonderful* sisters"). The number of times each of these variables was used by a participant was counted and divided by the total word count for that participant. This value was then multiplied by one hundred to give the proportion of each variable per hundred words. The total number of messages sent by each participant was also counted.

Messages were also coded for topic, where topics of discussion in messages were coded as either male, female or neutral. In order to code for this, a questionnaire was filled in by thirteen fourth year students, which asked them to rate topics of conversation in terms of gender-typicality. The results of this questionnaire provided a scale for coders to use in judging topic as male, female or neutral.

Two raters coded twenty-five percent of the messages independently. Inter-observer reliabilities (alphas) for language characteristics ranged from 0.67 to 1.0, with references to emotion = 0.74, requests for information = 0.95, personal information = 0.67, opinions = 0.9, self-derogatory statements = 0.78, insults = 0.68, compliments = 0.75, apologies = 1.0, subordinating conjunctions = 0.78, hedges or modals = 0.68, intensive adverbs = 0.68, and adjectives = 0.88. Reliabilities for stereotypic topic ranged

from 0.95 to 1.0, with experimental condition male topics = 0.99, experimental condition

neutral topics = 0.97, experimental condition female topics = 1.0, control condition male

topics = 1.0, control condition neutral topics = 0.99, and control condition female topics =

0.95.

Results

The mean number of messages sent by each participant, the total number of words in each message, and the number of typically male, female, and neutral topics mentioned in each message were calculated for both male and female participants. Female participants sent between five and six messages to their netpal ($M = 5.49$, $SD = 1.88$) and wrote about five hundred words in total ($M = 531.64$, $SD = 333.96$). Male participants also sent between five and six messages to their netpals ($M = 5.53$, $SD = 1.93$) but wrote more than females ($M = 626.38$, $SD = 270.67$). An independent samples t-test showed this difference to be not statistically significant.

The frequencies of male-typical, female-typical, and neutral topics per message were calculated by dividing the total number of each topic type mentioned by each participant by the total number of words sent by that participant. This number was then multiplied by one hundred, resulting in three frequency scores per hundred words (male-typical, female-typical, and neutral) for each participant. The means and standard errors for these scores are presented in Table 1.

A multivariate analysis of variance (MANOVA) with experiment condition and gender as the between-subjects factors for topics was carried out. This analysis showed significant main effects for both experiment condition ($F (3,75) = 2.72$, $p<.05$), and gender ($F (3,75) = 3.38$, $p<.05$), as well as a significant interaction between the two ($F (3,75) = 6.27$, $p<.001$). Participants in the experiment condition mentioned significantly fewer neutral topics than participants in the control condition ($F (1,77) = 7.45$, $p<.05$). It

was also found that on average across conditions male participants mentioned more female topics than female participants did (F (1,77) = 5.99, $p<.05$).

Table 1
Mean Frequencies (and Standard Errors) per 100 Words of Gender-typical and Neutral Topics from Male and Female Participants

| | Control condition | | Experimental condition | |
	Male	Female	Male	Female
Topic				
Male	0.19 (0.08)	0.05 (0.07)	0.03 (0.07)	0.40 (0.06)
Neutral	4.00 (0.38)	0.96 (0.32)	2.70 (0.30)	3.52 (0.25)
Female	0.17 (0.06)	0.13 (0.05)	0.28 (0.05)	0.05 (0.04)

Two univariate interactions were involved in the gender by condition interaction. The first of these had male topic as the dependent variable. Specifically, this effect showed that control condition female participants mentioned fewer typically male topics than control males did (F (1,29) = 4.92, $p<.05$). On the other hand, female participants in the experimental condition mentioned more male topics than males did (F (1,48) = 12.58, $p<.001$). This interaction is illustrated in Figure 1.

Figure 1. The mean frequencies of male topics per 100 words mentioned by male and female participants in the control and experimental conditions

The second univariate interaction involved in the gender by condition interaction had female topic as the dependent variable. Although this effect was a non-significant trend (F (1,77) = 3.00, p=.09), the means were as predicted. Planned comparisons revealed that control condition males did not use significantly more female topics than control condition females, but that experimental condition male participants used more female topics than female participants (F (1,48) = 13.34, p<.001). This trend is displayed in Figure 2.
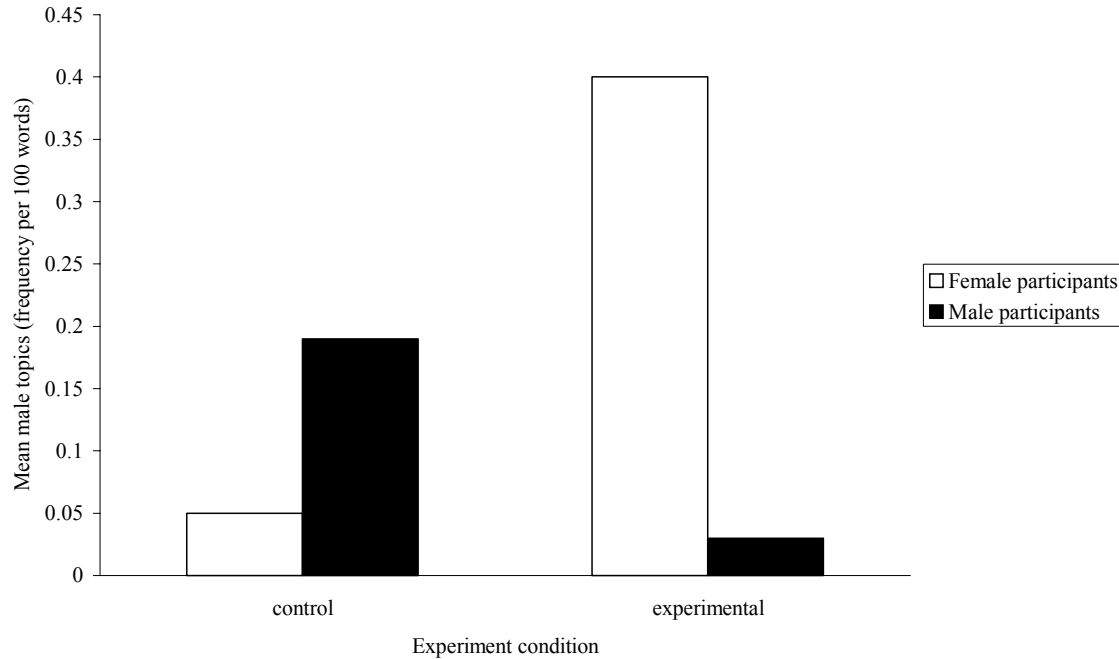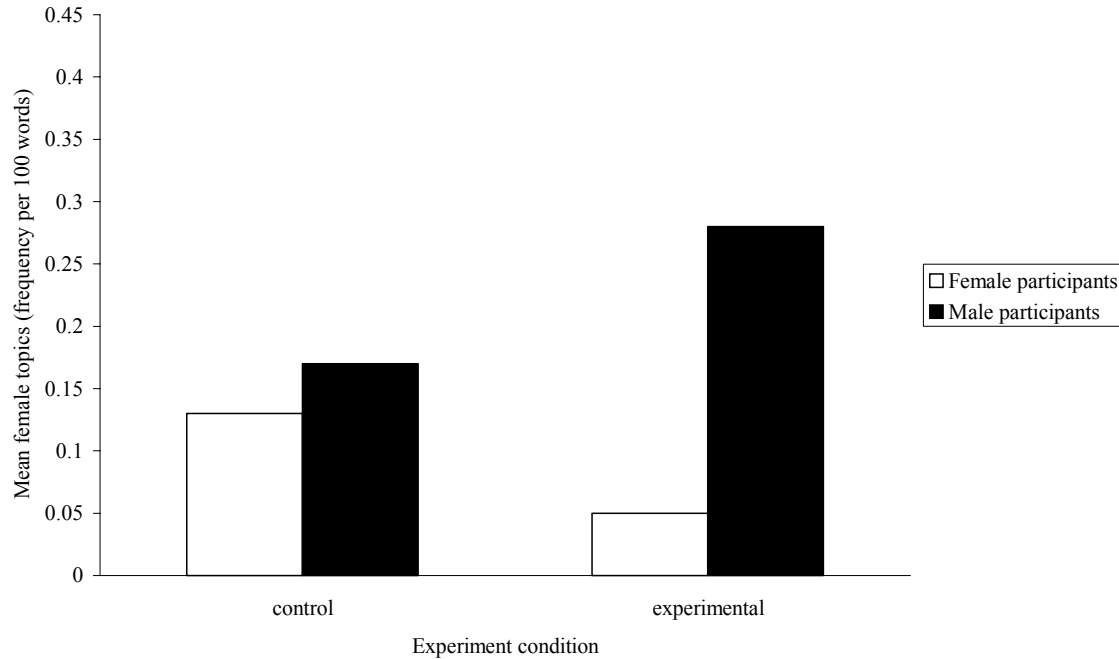
Figure 2. The mean frequencies of female topics per 100 words mentioned by male and female participants in the control and experimental conditions

The language styles used by participants were then examined by calculating frequency per 100 words of each language feature. These frequencies were analysed using a MANOVA with experiment condition and participant gender as the between-subjects factors. The analysis revealed main effects of experiment condition (F (12,66) = 6.42, $p<.001$), and gender (F (12,66) = 4.00, $p<.001$), and an interaction between gender and condition (F (12,66) = 3.70, $p<.001$). Univariate analyses revealed that control condition participants referred more to emotion than experimental condition participants did (F (1, 77) = 8.12, $p<.05$), while experimental condition participants provided more personal information (F (1,77) = 22.73, $p<.001$) and opinions (F (1,77) = 24.93, $p<.001$). Experimental condition participants also used more modals (M = 1.40, SE = 0.10, F (1,77) = 31.80, $p<.001$) and adjectives (M = 3.00. SE = 0.26, F (1,77) = 11.38, $p<.001$), and insulted their netpals more than control participants did (M = 0.03, SE = 0.01, F

(1,77) = 4.89, $p<.05$). Across conditions, female participants referred more to emotion (F (1,77) = 13.23, $p<.001$), provided more personal information (F (1,77) = 20.05, $p<.001$), and used more self-derogatory comments (F (1,77) = 4.32, $p<.05$), modals (F (1,77) = 10.24, $p<.05$), and intensive adverbs (F (1,77) = 6.40, $p<.01$) than male participants. Male participants on the other hand insulted their netpals more than female participants did (F (1,77) = 4.89, $p<.05$).

Means and standard errors involved in the gender by condition interaction are displayed below in Table 2.

Table 2
Mean Frequencies (and Standard Errors) per 100 Words of References to Emotion, Insults, Apologies, Intensive Adverbs, and Adjectives

	Control condition		Experimental condition	
	Male	Female	Male	Female
Language feature				
References to emotion	0.26 (0.13)	0.97 (0.11)	0.26 (0.11)	0.35 (0.09)
Insults	0.06 (0.02)	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)
Apologies	0.06 (0.13)	0.53 (0.11)	0.15 (0.10)	0.09 (0.09)
Intensifiers	0.77 (0.20)	1.58 (0.17)	1.27 (0.16)	1.30 (0.13)
Adjectives	03.22 (0.40)	2.76 (0.34)	3.65 (0.32)	4.60 (0.27)

Five univariate interactions were involved in the gender by condition interaction Firstly, more references to emotion were made by female participants in the control condition than male participants (F (1,77) = 7.76, $p<.05$), but there was no gender difference in the experimental condition. Secondly, control condition females used more intensive adverbs (F (1,77) = 5.30, $p<.05$) than male participants, but there was no such difference in the experimental condition.   Thirdly, female participants in the control condition apologised more than male participants (F (1,77) = 5.59, $p<.05$), but in the

experimental condition this gender difference reversed, with males apologising more than females. A fourth univariate interaction was that male participants in the control condition used more adjectives (F (1,77) = 4.48, $p<.05$) than females, but that this gender difference reversed in the experimental condition. Finally, male participants in the control condition insulted their netpals more than females (F (1,77) = 7.51, $p<.05$), but in the experimental condition females insulted their netpals more than males..

To examine how well gender could be predicted in the two conditions based on the use of language features, discriminant analyses were carried out. For the control condition, male and female participants could be accurately differentiated (94.4% of female participants and 100% of male participants) on the basis of their use of the twelve linguistic variables, Wilks' Lambda = 0.199, Chi-square = 37.13, $p<0.001$. Experimental condition participants could not be differentiated (69% of females and 90.5% of males) on the basis of their use of the linguistic variables, Wilks' Lambda = 0.637, Chi-square = 18.91, $p = 0.09$. The correlations of each of the twelve variables with the discriminant function for both control and experimental conditions are displayed in Table 3.

Table 3

Structure Matrix of Discriminant Analysis to be Predictive of Gender for Control and Experimental Conditions

Language feature	Correlation with Discriminant Function	
	Control condition	Experimental condition
References to emotion	-0.28	0.19
Requests for information	-0.05	0.47
Personal information	-0.28	0.56
Opinions	0.12	0.21
Self-derogatory comments	-0.14	0.20
Insults	0.19	0.23
Compliments	-0.08	0.19
Apologies	-0.16	-0.23
Subordinating conjunctions	-0.05	0.20
Modals	-0.28	0.45
Intensive adverbs	-0.23	0.04
Adjectives	0.07	0.48

To examine how participants changed their style across conditions, the data for female and male participants were analysed separately using a MANOVA with experimental condition as the between-subjects factor. Analysis of the data of female participants revealed a main effect of condition (F (12,34) = 6.82, $p<.001$), where female participants in the control condition apologised (F (1,45) = 12.68, $p<.001$) and referred to emotion (F (1,45) = 5.65, $p<.05$) significantly more often than female participants in the experimental condition. Female participants in the experimental condition provided more personal information (F (1,45) = 4.99, $p<.05$) and opinions (F (1,45) = 26.43, $p<.001$), and used more modals (F (1,45) = 15.95, $p<.001$) and adjectives (F (1,45) = 16.28, $p<.001$) than female participants in the control condition.

A MANOVA conducted on male participant data (again with experiment condition as the between-subjects factor) showed that, like females, male participants

differed significantly on the use on certain variables between conditions (F (12,21) = 4.68, $p<.001$). Specifically, male participants in the experimental condition offered more personal information (F (1,32) = 25.61, $p<.001$) and opinions (F (1,32) = 4.68, $p<.05$), and used more modals (F (1,32) = 21.26, $p<.001$) and intensive adverbs (F (1,32) = 5.74, $p<.05$) than male participants in the control condition did. Males in the control condition insulted their netpals significantly less often than males in the experimental condition (F (1,32) = 4.78, $p<.05$).

It was then examined if the language used by real male and female participants was different to that used by 'pretend' male and female participants. MANOVA analysis of the twelve linguistic variables showed a main effect of condition for participants portraying a false female identity (F (11,27) = 7.63, $p<.001$), where 'pretend' females used significantly more adjectives (F (1,37) = 4.13, $p<.05$) and modals (F (1,37) = 4.40, $p<.05$), and also provided more opinions (F (1,37) = 42.80, $p<.001$) than real females did. 'Pretend' females also referred to emotion less (F (1,37) = 15.18, $p<.001$) than real females. Means and standard errors for real female versus 'pretend' female participants are displayed in Table 4.

Table 4
Means (and Standard Errors) for References to Emotion, Opinions, Modals, and Adjectives by Real versus 'Pretend' Females

	Real females	'Pretend' females
Language feature		
References to emotion	0.97 (0.14)	0.26 (0.13)
Opinions	0.46 (0.11)	1.46 (0.10)
Modals	0.70 (0.14)	1.11 (0.13)
Adjectives	2.76 (0.32)	3.65 (0.30

A MANOVA conducted on the data of participants portraying a male gender role (real males and 'pretend' males) showed a main effect of experiment condition (F (12,29) = 6.28, $p<.001$), where 'pretend' males used more modals (F (1,40) = 29.53, $p<.001$), intensive adverbs (F (1,40) = 7.65, $p<.05$), and adjectives (F (1,40) = 7.29, $p<.05$) than real males did. 'Pretend' males also provided more personal information (F (1,40) = 53.10, $p<.001$) and opinions (F (1,40) = 6.05, $p<.05$) than real males and insulted their netpals less (F (1,40) = 4.88, $p<.05$). The means and standard errors for these language variables are displayed in Table 5.

Table 5
Means (and Standard Errors) for Provision of Personal Information, Opinions, Insults, Intensive Adverbs, and Adjectives by Real versus 'Pretend' Males

	Real males	'Pretend' males
Language feature		
Personal information	1.00 (0.28)	3.41 (0.18)
Opinions	0.87 (0.27)	1.68 (0.18)
Insults	0.06 (0.02)	0.01 (0.14)
Intensive adverbs	0.77 (0.16)	1.30 (0.11)
Adjectives	3.23 (0.42)	4.60 (0.29)

Finally, ratings were obtained from experimental condition participants at the time of their debriefing (see Appendix C). The mean score for predicted netpal gender, and the mean score for how well participants thought they had done in adopting a false gender identity were calculated for both female and male participants. The data for only twenty-five females and eighteen males were included because the remaining seven participants did not complete their debriefing. Females were slightly deceived by their netpals (M = 3.80, SE = 0.38, where 1 was definitely male and 7 was definitely female), as were males (M = 4.33, SE = 0.42), but a t-test revealed there was no significant gender difference.

Males thought they were generally effective at portraying themselves as the opposite gender (*M* = 3.33, *SE* = 0.30, where 1 was very effective and 7 was not effective), as did females (*M* = 3.88, *SE* = 0.25). A t-test showed that there was no gender difference on this measure.

Discussion

Results showed that both male and female participants were using gender-typical topics as tools for creating a false gender identity. Overall, males mentioned more female topics than females did. This result was most likely driven by the fact that males in the experimental condition included a great number of female topics in their communication.

The inclusion of gender-typical topics may have been at the expense of neutral topics, as less neutral topics were mentioned in the experimental condition than in the control condition. In other words, participants in the experimental condition were spending less time talking about neutral topics because they were so intent on creating a false gender identity through the use of gender-typical topics.

The third finding with regard to topic was the gender by condition interaction. This had two parts. Firstly, males in the control condition mentioned more typically male topics than females did, but in the experimental condition the gender difference reversed. This finding suggests that males in the experimental condition were minimising male-typical topics in an attempt to portray themselves as females. This result also suggests that females were maximising their use of male-typical topics in an attempt to portray themselves as males. Secondly, females in the experimental group used female-typical

topics significantly less than males, implying that they were minimising their 'femaleness' in an effort to make themselves sound more male. Males in the experimental group used female-typical topics more than females, again suggesting that they were using topic as a tool for gender deception. For example, one male in the experimental condition stated "I find Swiss balls are great for targeting those problem areas," while females in the experimental condition often talked about rugby practice and drinking beer with their "mates" or "bro's".

These findings are in support of part of the first hypothesis that an individual will vary obvious aspects of communication such as topic when deliberately attempting to create a false gender identity.

Neither females nor males were very effectively deceived by their netpals (males gave a mean rating of 3.80 and females gave a mean rating of 4.33 where 1 was definitely female and 7 was definitely male). Given that participants appear to be using topic as a tool for deception, this result suggests that they used them to the extent that they 'gave the game away.' Indeed, at their debriefing session many participants commented that their netpal seemed 'too male to actually be male' or 'too female to actually be female,' with some participants saying "a real male/female would never say that." This finding is in support of the second hypothesis that false gender identities will be more extreme than natural gender identities, as participants look for ways to make themselves appear 'male' or 'female'.

The finding that participants considered themselves to be generally effective in creating a false gender identity, indicates that they did not seem to be aware that they were carrying their use of topics too far.

Analysis of the twelve linguistic variables showed that females made more references to emotion, provided more personal information, made more self-derogatory comments, and used more modals and intensive adverbs. These results replicate those of previous studies (McMillan et al., 1977; Mulac & Lundell, 1986; Mulac et al., 1990; Mulac et al., 1988; Thomson & Murachver, in press). The finding that males insulted their netpals more than females is also in support of previous research (Herring, 1994).

Control condition females made more references to emotion and used more intensive adverbs than males, but in the experimental condition no gender difference was observed. Means obtained suggest that females had some explicit or implicit understanding that these features were feminine so were able to manipulate them in order to portray themselves as males. This explanation accounts for their use decreased from the control to the experimental conditions and refutes part of the first hypothesis that participants would not be aware of their gender-preferential linguistic features so would not vary them.

Furthermore, females in the control condition apologised more than males, but females in the experimental condition apologised less than males and less than their control counterparts. This finding implies that, again, experimental group participants recognised that females apologise more (Thomson & Murachver, in press), and so manipulated this aspect of their gender-preferential language in order to sound more male. This also appeared to happen with insults and adjectives, where males used both features more than females in the control, but less than females in the experimental condition.

Despite the fact that male and female participants altered their language at the word and clause level when adopting a false gender identity, their language was not systematic in its difference from natural gender-preferential language. This was indicated by the finding that less experimental participants could be classified according to their language than control participants could. Specifically, 'pretend' females used more adjectives and modals, provided more opinions and referred less to emotion than real females. With the exception of modals, all of these variables are used more often by males, suggesting that male participants were unaware of some male-preferential language features they were using.

Likewise, 'pretend' males differed from real males for the most part by including more female-preferential features such as personal information, intensive adverbs and less insults than real males. Thus, data from the present study are in support of the hypothesis that participants would retain many aspects of their gender-preferential language while attempting to portray themselves as the opposite gender.

In summary, participants appeared to use gender-typical topics as a tool for portraying a false gender identity, and that they did so at the expense of neutral topics. This leads to the conclusion that 'pretend' gender identities were more extreme than real gender identities. This conclusion is also supported by the finding that participants were often not deceived by their netpals because their use of gender-typical topics was too extreme. With regard to language, some gender-preferential features were manipulated, thus partially refuting the prediction that males and females would not alter their gender-preferential language features at the word or clause level when adopting a false gender identity. This refutation was only partial because of the remaining difference between the

language of 'pretend' and real genders, caused by stable gender-preferential language features. The finding that some features remained stable provides evidence to suggest that while some features that may be more noticeably male or female (such as the number of apologies) and can be manipulated in adopting a false gender identity, other features that are less recognised remain stable. For example, males in the experimental condition provided more opinions than males in the control condition, implying that they were not aware that provision of opinions is a feature of male-preferential language (Mulac & Lundell, 1986; Thomson & Murachver, in press). This last point is in support of the third hypothesis that participants would retain many aspects of their own gender-preferential language while they create a false gender identity.

In order to extend this finding it may be of interest to have participants rate the language features as male, female, or neutral. This would provide clarification as to which features are commonly recognised as male, and which are recognised as female. For example, males in the experimental group used more adjectives than females. This may be because the use of adjectives is a feature of male-preferential language (Thomson & Murachver, in press) that remained stable. Alternatively, it may be because the use of adjectives is generally considered a female trait. Conducting such a survey would help to clarify points such as these.

Another possible extension of the present study would be to compile a list of all topics mentioned and have participants rate them as male, female or neutral. Topics were coded for gender-typicality by the researchers compiling a long list of topics that could possibly be mentioned. These topics were then rated for gender-typicality by a sample of fourth year students, providing a coding mechanism for the researchers. Many topics that

were not included on the coding sheet were mentioned in communication, thus, if time allowed, it would be useful to have new participants rate all topics then re-code with this more comprehensive topic list.

The findings of the present study carry implications for both theory and practice. Firstly, many of the gender differences found in the control condition and in general across conditions support previous research. For example, research has found that females use more intensive adverbs (McMillan et al., 1977; Mulac & Lundell, 1986; Mulac et al., 1988; Thomson & Murachver, in press), refer more to emotion (Mulac et al., 1990; Thomson & Murachver, in press), provide more personal information (Thomson & Murachver, in press), make more self-derogatory comments (Thomson & Murachver, in press), use more modals or hedges (McMillan et al., 1977; Mulac et al., 1990), and apologise (Thomson & Murachver, in press) more than males. Males have been found to use more insults (Herring, 1994; Thomson & Murachver, in press) and adjectives (Thomson & Murachver, in press) than females. All of these results were replicated in the present study.

A second finding of theoretical importance is that participants in the experimental condition were not entirely deceived by their netpals. This finding provides strong support for research which suggests that people can accurately predict gender even in the absence of context cues (Mulac & Lundell, 1986; Savicki et al., 1999; Thomson & Murachver, in press,). In the present study, not only were there no context cues such as provision of names and gender-specific information, participants were actively trying to deceive their netpals. In the face of all this, participants were still not convincingly deceived. This may be because experimental participants were not systematic in their

variations of gender-preferential language. The fact that participants varied some aspects of gender-preferential language but not others, combined with the fact that experimental participants used gender-typical topics to the extreme, may have given their netpals clues as to their true gender.

A third finding of theoretical importance is that false gender identities were more extreme in terms of topic than real gender identities. This result ties in with Spears and Lea's (1992) finding that in situations of de-individuation, if group salience is high, there will be a strong tendency towards group behaviour. In the present study participants in the experimental group would have had high group salience because they were actively trying to portray another group identity. Thus, they tended towards what they perceived to be the norm for their false gender identity. It is possibly the case that this tendency towards the perceived norm caused the exaggerated use of female and male topics in the experimental condition, as participants tried to imitate the other gender. One would expect this to happen when participants had not often portrayed themselves as the opposite gender. That is, they were asked to play a role they had not played before so were unable to create a natural false identity, resulting in a caricature.

Of practical importance is the finding that participants were not entirely deceived by their netpals in the experimental condition. Indeed, 69% of females and 91% of males could still be accurately classified into their gender groups based on their use of gender-preferential language features. This result implies that people are not able to manipulate all or even many of their gender-preferential language features, even in situations where they are actively trying to portray a false gender identity. If this is the case, then CMC users who were concerned about the possibility of being deceived about a communicant's

gender could be provided with some information about gender-preferential language and which features to look out for. It would be important to stress that a pattern of features are indicative of gender, rather than individual features, but such education could provide CMC users with some confidence that they can predict the gender of their communicant.

The present study had a number of limitations. Firstly, most participants were 100-level psychology students, raising the question of how applicable results are to the rest of the population. Most students had some experience with email, but it may be of further interest to examine the effectiveness of the current participants' deception with the deceptive ability of people who spend a large amount of time on the internet, such as computer science students or web-page designers. It may be the case that people with more internet experience are more able to deceive than people with less experience. This may be because they themselves have attempted to deceive others before. It would also be of interest to see how common users attempted to deceive, they may vary more language features, or they may vary aspects of netiquette – a result we would not expect in novice users. Furthermore, participants in the present study interacted as dyads. It may be of interest to examine whether participants in a group situation (such as a chat room) were more or less deceived by netpals than were participants in the present study.

A second limitation of the present study was the fact that control participants did not rate the gender of their netpal. While research shows that people are able to accurately classify the gender of their netpal (Thomson & Murachver, in press), and discriminant analysis of control data showed that they could be accurately classified into groups, it would have been useful to get actual ratings from participants, in order to compare them with the ratings of experimental condition participants.

In conclusion, the present study found that false gender identities are more extreme than real gender identities in terms of topic and that participants were not especially deceived by their netpals. Also, though experimental condition participants did manage to vary some aspects of their gender-preferential language, they were not especially good at creating a false gender identity through language at the word or clause level. This is because some aspects of their gender-preferential language remained stable and because there was a significant difference between the language of real gender identities and 'pretend' gender identities. From the results of the present study it appears that in terms of many gender-preferential language features at the word or clause level we really are what we type. In terms of language in general, our attempts to create a false gender identity are barely more successful than drag queens who emphasise make up but still walk like men.

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Appendix A: Information sheet and consent form for experimental participants

ELECTRONIC COMMUNICATION

INFORMATION SHEET FOR
PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?

This project is being conducted as part of a fourth year dissertation. The purpose of this project is to examine how people communicate using electronic mail. We will look at how you "talk" on the net, and how you respond to another person's messages.

What Type of Participants are being sought?

Anyone who can write using a keyboard can participate in this study. You do not need to be computer literate or a proficient typist to participate.

What will Participants be Asked to Do?

Should you agree to take part in this project, you will be asked to attend a 20-minute orientation session where you will be given a computer account and learn how to send and receive electronic mail. You will then be assigned a netpal.

Over the next two weeks you will send a minimum of 5 messages to your assigned netpal. You can send messages any time the computer lab is open.

You will then be asked to attend a brief 15-minute session where you can complete your worksheet for credit and fill in a short questionnaire.

Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

What Data or Information will be Collected and What Use will be Made of it?

Your email messages will be saved and read only by the researchers involved in this study. You will be identified by your account code, not by name, and all messages will be kept confidential. Results of this project may be published but any data included will in no way be linked to any specific participant.

You are most welcome to request a copy of the results of the project should you wish.

The data collected will be securely stored in such a way that only those mentioned above will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Melanie Hills   Dr. Tamar Murachver
Department of Psychology   or   Department of Psychology

This project has been reviewed and approved by the Ethics Committee
of the University of Otago

ELECTRONIC COMMUNICATION

CONSENT FORM FOR
PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.
I know that: -

1.   my participation in the project is entirely voluntary;

2.   I am free to withdraw from the project at any time without any disadvantage;

3.   the data will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed;

4.   the results of the project may be published but my anonymity will be preserved.

I agree to take part in this project.

....
            (Signature of participant)   (Date)

This project has been reviewed and approved by the Ethics Committee
of the University of Otago

Appendix B: Male and female versions of the list of "email do's and don't's"

Male version

EMAIL DO'S AND DON'T'S
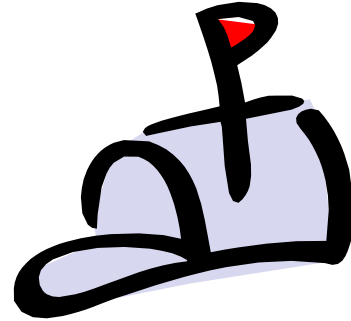
Don't:
1. Tell your netpal your name, phone number etc.
2. Tell your netpal your gender or anything directly indicative of your gender (for example: "Me and my boyfriend went to the Cook last night").

Do:
1. Use the given account names to address one another in emails.
2. Try and convince your netpal through your communication that you are female.
3. Send at least 5 messages.
4. Have fun!

Account name: _____ Password: _____

<u>Female version</u>

<u>EMAIL DO'S AND DON'T'S</u>
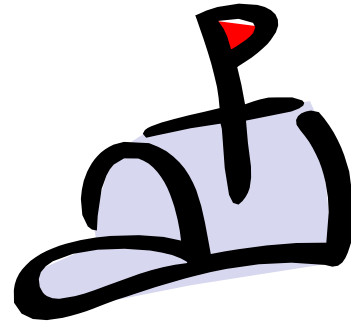
Don't:
1. Tell your netpal your name, phone number etc.
2. Tell your netpal your gender or anything directly indicative of your gender (for example: "Me and my boyfriend went to the Cook last night").

Do:
1. Use the given account names to address one another in emails.
2. Try and convince your netpal through your communication that you are male.
3. Send at least 5 messages.
4. Have fun!

Account name:_____ Password:_____

Appendix C: Netpal questionnaire

Netpal Questionnaire

1. What gender do you think your netpal was?

	1	2	3	4	5	6	7

definitely male   definitely female

2. How effectively did you portray yourself as the other gender?

	1	2	3	4	5	6	7

very effectively   not effectively

3. How much did you like your netpal?

	1	2	3	4	5	6	7

very much so   not at all

4. How intelligent do you think your netpal is?

	1	2	3	4	5	6	7

unintelligent   very intelligent

5. How close a relationship would you want with your netpal?

	1	2	3	4	5	6	7

stranger   close friend

6. How similar are you and your netpal?

	1	2	3	4	5	6	7

very alike   completely different

7. How competent do you think your netpal is?

	1	2	3	4	5	6	7

not competent   very competent

_____

Your netpal number: _____   Gender: M/F   Your age: _____

Appendix D: Debriefing sheet

<u>Netpal Experiment Debriefing Sheet</u>

Thank you for participating in this project. We hope you had fun sending and receiving mail.

What was the aim of the project?

The aims of the project were to examine how males and females convey their gender through communication and to investigate whether it is possible to convince an electronic correspondent through language alone that you are of the opposite gender.

What was the design of the experiment?

The design of the experiment was between subjects with two independent variables. These were:
1. Gender of participant
2. Portrayed gender (whether the participant was trying to be their own or the other gender).

Your messages will be analysed for a number of dependent variables, including the number of times a gender stereotypic topic is mentioned, number of hedges (e.g. sort of, probably) and number of intensifiers (e.g. really, very, quite).

What were the hypotheses?

The hypotheses of this experiment were:
1. That participants would use a large amount of gender stereotypic topics when attempting to portray the other gender.
2. That other gender indicative features of language would remain constant (for example: number of intensifiers).

Remember your messages will be kept confidential and any content will not be analysed. If you want a copy of the results please contact Melanie Hills or Dr. Tamar Murachver towards the end of the second semester.

Some people have not yet finished the study. Please do not tell them details about the design.

Appendix E: Information sheet and consent form for control participants

ELECTRONIC COMMUNICATION

INFORMATION SHEET
FOR PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?
This project is being conducted as part of a PhD research project. The purpose of this project is to examine how people communicate using electronic mail. We will look at how you "talk" on the net, and how you respond to another person's messages.

What Type of Participants are being sought?
Anyone who can write using a computer keyboard can participate in this study. You do not need to be computer literate or a proficient typist to participate.

What will Participants be asked to do?
Should you agree to take part in this project, you will be asked to attend a 20-minute orientation session where you will be given a computer account and learn how to send and receive electronic mail. You will then be assigned two netpals. Over the next two weeks, you will send a minimum of 5 messages to each assigned "netpal." You can send messages anytime the computer lab is open. You will then be asked to attend a brief, 15-minute session where you can complete your worksheet for credit.
Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

What Data or Information will be collected and what Use will be made of it?
Your e-mail messages will be saved and read only by the researchers involved in this study. You will be identified by your account code, not by name, and all messages will be kept confidential.
Results of this project may be published but any data included will in no way be linked to any specific participant.
You are most welcome to request a copy of the results of the project should you wish.
The data collected will be securely stored in such a way that only those mentioned above will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any

raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

What if Participants have any Questions?
If you have any questions about our project, either now or in the future, please feel free to contact either: -

Rob Thomson   or   Tamar Murachver
Department of Psychology   Department of Psychology

This project has been reviewed and approved by the Ethics Committee
of the University of Otago

ELECTRONIC COMMUNICATION

CONSENT FORM FOR
PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.
I know that: -

1.   my participation in the project is entirely voluntary;

2.   I am free to withdraw from the project at any time without any disadvantage;

3.   the data will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed;

4.   the results of the project may be published but my anonymity will be preserved.

I agree to take part in this project.

....
          (Signature of participant)   (Date)

This project has been reviewed and approved by the Ethics Committee
of the University of Otago