THE GENDERED INTERACTION OF CHAT: A SOCIOLINGUISTIC STUDY OF INTERNET RELAY CHAT

JESSICA PEDDLE

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by

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Abstract

Computer-mediated communication (CMC) has been of great interest in recent years due to the unique "testing ground" it offers to language and gender researchers. This thesis examines the broader issues of CMC on the narrower scale of chat within a sociolinguistic perspective, paying particular attention to gender. Previously observed gender issues found in real life (RL) interactions are reviewed as well as those found in other forms of CMC (e.g., listservs) to determine if they are found in chat, and to what degree. The focus of this investigation is one channel in particular, one that is typical of the social meeting places that abound in Internet Relay Chat (IRC). The examined variables are participation, emoticons, emotext, and actions. In addition to traditional gender theories, newer approaches to the study of gender and language, such as the notion of "gender as performance" and the concept of the "community of practice," are also applied to the findings obtained from the chat medium.

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Chapter 1 Introduction

Computer-mediated communication (CMC) — defined by Herring (1996a:1) as "communication that takes place between human beings via the instrumentality of computers" — has attracted considerable interest from researchers in recent years. For linguists, this medium offers an opportunity to examine new and innovative forms of communication as they are emerging. For language and gender researchers, it provides the ideal "testing ground" for investigating gendered language use in an environment where the traditional gender cues are absent.

Within CMC, there are two main communication types: asynchronous and synchronous. Asynchronous communication occurs when messages are created, received and answered at different times. Its two principal manifestations are electronic mail (e-mail), or the exchange of electronic messages which are akin to interoffice memos or personal letters; and news formats which include listservs, newsgroups, and bulletin board systems. The news formats are analogous to mass mailing lists; instead of an e-mail being sent from one person to another, it is simultaneously sent to many people. Synchronous communication, on the other hand, involves the transmission of messages directly to users, without any storage or retrieval. As a result, interaction occurs in real time, creating "conversations" which take place via computer. Synchronous modes include Internet Relay Chat (IRC), Multi-User Domains (MUDs) and the many variations of these.

This thesis will examine the broader issues of CMC on the narrower scale of IRC. My goal is to explore the phenomenon of chat from a sociolinguistic perspective, paying particular attention to gender. Previous research of gender in CMC has concentrated primarily on asynchronous modes of communication, in particular e-mail and listservs (e.g., Herring 1992, 1993a, 1994b, 1996b, 1996c; Herring, Johnson & DiBenedetto 1992, 1995). However, gender is highly under-researched in synchronous CMC modes such as IRC. This lack of research is partly because gender is more difficult to ascertain in chat than in other modes of CMC and in real life (RL). I propose to help fill this gap by conducting a sociolinguistic study of gendered interaction in chat.

Many of the previous studies of IRC have analyzed small data sets and have made little mention of the ethical issues involved in online research. In this investigation, I will attempt to avoid some of the problems of earlier research, notably through the elaboration of precise ethical guidelines as well as the investigation of a sizable corpus of online chat discourse.

This chapter provides an introduction to IRC. An understanding of the terminology and unique linguistic characteristics of IRC is essential for the discussion of any analyses and findings. An overview of the IRC vernacular is presented along with a brief discussion of the written-spoken debate. The chapter concludes with an excerpt of IRC in order to better understand the medium and its features.

1.1 Overview of IRC

IRC is the most popular form of synchronous CMC (Danet 1996b). On a given computer network, 10,000 or more users may be online at any one time. After logging onto a network, the user can enter one or more "channels." Channels are the key concept of chat (Reid 1991). More commonly known as "chat rooms," channels are where users meet to converse with one another. Once a user has joined a channel, he or she only has to type messages to participate in the online conversation. Channels can range from the very general (e.g., *#funchat,*[1] a social channel in which users participate in casual conversation) to the very specific (e.g., *#irchelp*, a technical channel in which users can ask questions about IRC). While topics are displayed upon entry into the channel, often there is little adherence to the posted topic. The only exception to this is in the case of technical channels (e.g., those providing help) where the topics are strongly enforced. Regulation of chat is conducted by the users or, in most cases, the channel operators (also known simply as "(chan) ops"). The channel operators are users who have special status in the channel; they have control of the channel and exercise this control with a set of commands that can, for example, kick[2] or ban a user or make the channel closed to non-invited members. They also enforce a code of conduct called "netiquette." While the particulars can vary from channel to channel, the thrust of netiquette remains the same. It

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[1] In the *mIRC* program, a channel name is preceded by a "#" symbol.

[2] The "kick" occurs when one user disconnects or removes another user from the channel. Kicks can be performed by channel operators only.

advocates respectful treatment of fellow users and discourages rude behaviour such as shouting (e.g., using all capitals letters), flooding (e.g., sending many lines of text which slows down the conversation), advertising (e.g., other channels) and generally unacceptable language content (e.g., swearing, racist comments, etc.), as well as any other behaviour which reduces the functionality of the chat medium (Shea 1994).[3]

Another key concept of chat is the "nick." The shortened form of "nickname," it is also referred to as "login," "username," or in older literature "handle" (after the CB radio term of the same meaning). Nicks serve several important functions in chat. They are the sole identifying feature of a user since, as Bechar-Israeli (1995) notes, few users on IRC keep their RL names.[4] In fact, a user's nick is the first thing that the other participants see when that user joins the channel, even before he or she has spoken. Unlike RL names, nicks are selected by the user and often symbolize some aspect of the user's identity, or the persona which he or she wishes to present. While it is customary for users to consistently use one nick (Reid 1991), it is not uncommon for a user to have more than one nick, each representing a different facet of their personality.[5] The most obvious function of a nick is

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[3] For a more detailed description of how IRC works and its many aspects, see Pioch (1997).

[4] The significance of nicks can be illustrated by the use of "Nickserv," a service offered on many networks which protects any user's nick from being used by someone other than the registered user (Bechar-Israeli 1995).

[5] Sometimes a user will change his/her nick in the middle of a conversation as a result of a change in mood or some other intangible motive (Gelléri 1998).

the provision of a sense of anonymity, which can be very liberating and disinhibiting (Reid 1991, Baym 1995). This anonymity may allow a user to "gender-swap" or take a nick which reflects the opposite gender (Reid 1991). With respect to gender, a user in fact has three options when choosing a nick: a gendered nick (reflecting RL gender) such as *madman, BadDude, Elvis* for males, or *Darkgirl, Sweet Pea, Sylvie* for females; a cross-gendered nick (reflecting the opposite gender); or a gender-neutral nick such as *Stargazer, surfer, Carrot_top* (Bechar-Israeli 1995). While gender-swapping is more common in channels with no regular following, it is less prevalent in highly stabilized channels (see section 2.2.1).

1.2. Linguistic Characteristics of IRC

1.2.1 The Written-Spoken Debate

One of the striking aspects of CMC is its lack of extra-linguistic and non-linguistic cues. By definition, CMC precludes the use of body language since communication takes place via computer. As most CMC is predominantly text-based, it also precludes the use of extra- or para-linguistic cues which characterize spoken communication, among them vocal quality, pitch, intonation, loudness, and hesitation.[6] Even though it is text-based, CMC is by no means identical to traditional written modes, such as personal letters. Many

[6] While advances in technology and the introduction of faster modems are increasing the use of auditory and video modes such as "webphone" and "webcam," the majority of CMC is still text-based. Therefore, "CMC" in this thesis will refer to text-based computer-mediated communication.

researchers have noted this fact and it has spawned a debate over the correct categorization of CMC. Since this medium is typed, some are of the opinion that it should be classified as written communication. However it also possesses characteristics that are distinctively oral in nature, making it similar to a spoken form. Given these facts, many researchers conclude that CMC contains aspects of both written and spoken language. Daly (1996) points out that its style is informal and spontaneous like speech, while at the same time conscientiously and deliberately composed like writing. Taking this notion one step further, Gelléri (1998) calls for the deconstruction of the traditional dichotomies of "spoken" and "written" when describing CMC. Yates (1996) concludes that CMC is in fact different from both speech and writing; Danet (1996a) suggests the notion of a hybrid language while Collot & Belmore (1996:14) call CMC a "new variety of language." Perhaps the most compelling evidence for this comes from synchronous modes, including chat, which "def[y] conventional understandings of the difference between spoken and written language" (Reid 1991:¶2).[7] As Ferrara, Brunner & Whittemore (1991) note, an interactive written discourse, such as chat, should be considered an emergent register.

[7] Direct quotes taken from electronic documents that do not include page numbers will be referenced by paragraph numbers as noted by the preceding ¶ symbol. Abstracts and prefaces have been included as part of the text for the purpose of paragraphs counts, however lists, tables, examples, and figures have not. The reader is also encouraged to use the "search" function on his or her Internet browser or word processing program to locate directly quoted material in the original electronic document.

1.2.2 The IRC Vernacular [8]

Since synchronous CMC entails an unconventional method of communicating, conventional writing styles are often not sufficient. Instead, the "IRC vernacular" is filled with many innovative mechanisms used to compensate for its lack of extra- and para-linguistic cues. As Gelléri (1998:33) points out ". . . to 'personalize' utterances, IRC (and CMC) interlocutors are obliged to break certain rules of standard language use and resort to rebellious and eccentric spelling, non-standard grammar, special vocabulary, and the uniquely CMC-specific emoticons." The point of chat is to communicate quickly but to still infuse the messages with as much meaning as possible since the typed text is all that is seen by other users. As a result, the vernacular of IRC has three hurdles to overcome: speed of typing, necessary use of technical terms, and realization of non-linguistic cues. The speed of typing issue is dealt through the use of "chat shorthand," the use of terminology gives way to a form of "technitalk," and the realization of non-linguistic cues enables users to "talk in text." These three issues are discussed below.

1.2.2.1 Chat Shorthand

Chat is fast-paced. Messages can scroll faster than they can be read. In order to survive in the chat world, the user must be able to keep up. Wauchope (1997:¶37) notes that "a slow typist . . . will be disadvantaged, even considered to be less intelligent." It is not

[8] This term is borrowed from Gelléri (1998).

surprising then that users have developed a "chat shorthand," which involves the extensive use of novel acronyms and abbreviations. Like chat itself, these are not regulated and new forms are always being created, yet some endure and have become part of this vernacular. Essentially formulaic, they represent words or phrases that are constantly used in chat dialogue. Examples of these acronyms are found in Table 1-1.

Table 1-1: Examples of chat acronyms

Typed text	**Interpretation**
a/s/l (or ASL)	age/sex/location (requesting personal information)
M; F	male; female
WB	welcome back
J/K (or j/k)	just kidding (or "jo-king")
LOL	lit. "laughing out loud" but often meant as "I find that funny"
BRB	be right back
NP (or n/p)	no problem (most often in response to "thank you")
ROTFL	rolling on the floor laughing

Other regularly used phrases and words have also undergone abbreviation, often according to their phonetic pronunciations. Table 1-2 contains a listing of some of these abbreviations, which illustrate the oral nature of chat language. These abbreviations show that chat users pay close attention to retaining the phonetic quality of speech in their representations.

Table 1-2: Examples of chat abbreviations

Typed text	Interpretation
r	are
u	you
l8r	later
ic	I see
thx	thanks
k	OK
thot	thought
w/ ; w/o	with ; without

In addition to the implementation of the novel typographic conventions given in the above tables, IRC users do not pay particular attention to "correct" grammar or phrasing — in much the same way friends having a casual conversation in real life might not. Spelling errors are usually ignored unless they impede comprehension. Gelléri (1998:39) notes that "participants do not think twice to break the rules of spelling, punctuation, and even syntax in order to create more speech-like utterances."

1.2.2.2 Technitalk[9]

Because chat takes place via computer, a certain amount of technical jargon has become part of the IRC vernacular. This terminology ranges from the basics of computer hard-

[9] This term is borrowed from Gelléri (1998).

and software (e.g., *re-boot*, *server*, *mouse*) and networking (e.g., terms relating to the Internet and e-mail like *URL*, *website*, *domain*) to the specifics of chat (e.g., *DCC*, *kick*, *lurk*). Such technitalk must be a part of the language since it is integral to a user's successful navigation around the chat world.

1.2.2.3 Talking in Text

Even though chat is analogous to speech in its pace of conversing, its colloquial tone, and its loose adherence to the rules of "proper" English, it is still textual in its presentation. Messages are typed and read by the users. The lack of extra- and para-linguistic cues is probably the largest hurdle for IRC users to overcome — interestingly, the ways in which they have dealt with this hurdle seem to be what sets chat apart from other forms of CMC.

When "talking in text," the user cannot see the facial expressions of the other users; he or she cannot hear their vocal pitch, quality, or intonation. Chat contains no laughter, shrugs or hand gestures. Nonetheless, the importance of accurately representing such para- and extra-linguistic cues is evident from the ease with which users can unintentionally insult one another, especially if they do not know how to express paralinguistic and non-linguistic cues in chat (Hiltz & Turoff 1993). How then do users of chat convey the full meaning of their words including their emotional intent or state of mind? There are several ways.

Emoticons. A blend of the words "emotion" and "icon," emoticons are integral to the discourse of chat. There is probably no other mode of CMC where they are used as extensively as in chat.[10] Emoticons are the "graphical representations of facial expressions designated to indicate a speaker's tone and emotional state" (Werry 1996:63, n. 15). Also called "smiley faces" or "smilies" (due to the fact that the first one was just that), they are composed using a low-end ASCII character set, i.e., the alphanumeric characters and punctuation symbols available on the standard keyboard (excluding non-English symbols such as umlauts, accents, etc.). For the most part, emoticons are placed at the end of online utterances or phrases, in lieu of standard punctuation. The most commonly used emoticons are found in Table 1-3.[11]

[10] While emoticons are also used in other forms of CMC, such as e-mail, they are not as crucial to these forms as compared to synchronous modes. Since e-mail is analogous to other forms of written communication (e.g., letters, interoffice memos) and are treated as such, the conveyance of emotional content is not as critical as it is in chat where the discourse is treated very much like speech by its users.

[11] There are many more emoticons than are found in common usage. Some are quite contrived and lack emotional significance (e.g.,*<l:-B for Santa Claus), while others may not mean the same thing to all users (e.g., :} for both a grimace and a sarcastic grin). For more on emoticons see Sanderson (1993).

Table 1-3: Examples of emoticons

Emoticon	Label
:)	smile/smiley face
:(	frown
;)	wink/winkie
:P	"raspberry" (sticking out your tongue)

In addition to simply representing a specific facial expression, emoticons can also convey degrees of emotional intensity via repetition of some component of the emoticon (usually the symbol representing the "mouth") as shown in example (1):

(1) a. :) "happy" :)) "very happy"

b. :("unhappy" :(("very unhappy"

Not only do emoticons show the ingenuity of chat users, but they point to an increased ability to transform visual/textual information into extralinguistic meaning (Gelléri 1998).

Emotext.[12] In addition to using emoticons to convey emotive content and represent facial expressions, chat users also employ more conventional textual means of representing speech in text. One notable technique is the use of emotext. Emotext conveys para- and

[12] This term is borrowed from Jaffe, Lee, Huang & Oshagan (1995).

extra-linguistic cues through the use of specific punctuation to indicate emphasis, acronyms to convey specific emotional content, and selective sound or syllable repetitions to depict spoken pronunciations in CMC.

Specific punctuation can be used to express emphasis in the same way that loudness or pitch would in spoken communication. For example, by enclosing a word or phrase in asterisks, the user denotes what components are to be emphasized, as shown in example (2), which represents different meanings of the phrase *I want to talk to you.*

(2) a. *I* want to talk to you.
b. I *want* to talk to you.
c. I want to *talk* to you.
d. I want to talk to *you*.

Another punctuation method used to indicate emphasis is capital letters. It is not uncommon to find the use of uppercase characters in a typical IRC session, most often in a greeting or for emphasis. However, in most forms of CMC, prolonged use of "ALL CAPS" (e.g., for more than one message) is considered extremely rude as it is the CMC equivalent of shouting and is expected to be used sparingly, if at all.[13]

[13] The tolerance for using "ALL CAPS" varies from channel to channel; however in most, overuse will often elicit angry comments from other users and warnings from the channel operators since it is usually grounds for being kicked from the channel.

Yet another IRC emotext punctuation convention is the use of exclamation points and question marks, especially when used in repetition. However these elements are often used in unconventional ways, as illustrated by the use of repeated question marks as the sole content of a message shown in example (3):

(3) <CoolDude> I just deleted the entire program!

<Ladybug> ???

Some of the acronyms given in Table 1-1 above are also employed as emotext. These are meant to represent phrases commonly used in IRC which convey specific emotional content, such as *LOL* ("laughing out loud"), *WTF* ("what the f__k") and *j/k* ("just joking").

Another aspect of emotext that contributes to the oral quality of chat is the use of what Hiltz & Turoff (1993:91) call "written vocalizations;" in other words, IRC users' depiction of spoken pronunciations in writing. Written vocalizations are most often achieved through selective sound or syllable repetitions, for example, to represent laughter (e.g., *hehehehe*), interjections (e.g., *grrrr*) and vocal expression (e.g., *soooo good*) (Jaffe *et al.* 1995).

Actions. Yet another technique which attempts to compensate for the lack of extra-linguistic cues in chat is the use of actions. Appearing exclusively in synchronous CMC, actions are descriptions of physical activities or behaviours which a user attributes to him- or herself (Ruedenberg, Danet & Rosenbaum-Tamari 1994). An action is produced in chat by a command typed by the user, as shown in example (4a), and is differentiated from the "conversation" of chat by the way it appears online, with a preceding asterisk (see example (4b)):

(4) a. Command issued by the user Trippy: /me is tired

b. What is seen by other users: *Trippy is tired

Actions are often used to greet new users, enact hostile behaviours, and show signs of affection as well as to express background or extraneous information without disrupting the actual chat conversation (Gelléri 1998). In this way, actions add a narrative dimension to chat.

Additionally, actions can help to establish the physicality of chat, either by enacting gestures or by defining the chat medium in spatial terms, as illustrated in examples (5a) and (5b) respectively:

(5) a. *Ladybug hits her computer

b. *CoolDude sits in the corner and talks to himself

Gelléri (1998:18) finds that "the peculiarity of actions in IRC lies in switching from first-person to third-person singular, whereby users report their own actions." Rodino (1997:149) comments that the use of an action "makes the utterance appear authoritative; it is as if an omniscient narrator commented on [the user's] state of being." In some sense, actions are akin to pretend gestures; that is, the users know that the action does not necessarily take place in a physical environment, but it is understood (and accepted) by the users that the action has taken place in the cyber-environment. Even though they are part of a "make believe" world, these symbolic representations can carry the same communicative weight as a real life physical action. Additionally, actions help to "break the first-person monotony of IRC" (Gelléri 1998:21) and "to add a dynamic quality" to the conversation (Ruedenberg *et al.* 1994:189).

1.2.3 IRC Excerpt

In order to better understand the linguistic and extra-linguistic elements described above, a short excerpt of IRC is presented in example (6). The participants in this conversation were *Tasha*, *Querty*, *LassarO* and *oscar13*. Each message contains a "timestamp"

enclosed in square brackets, indicating the time that the message was posted to the channel.[14]

(6) [21:03] <Tasha> ravaoli anyone?

[21:04] <Querty> umm no

[21:05] <Tasha> ok

[21:05] <LassarO> i want some

[21:05] * Tasha gives lassaro some chef boyardee

[21:05] <LassarO> hehe thanks

[21:05] <Tasha> pepsi?

[21:06] <LassarO> oh my goodness

[21:06] <LassarO> no thanks

[21:06] <Tasha> anyone want a pepsi?

[21:06] <Querty> yeah :)

[21:06] * Tasha gives quert a pepsi

[21:06] <Querty> thx

[21:06] <Tasha> the can is BLUE!!!!!!

[21:06] <Querty> hey i have to go

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[14] This excerpt is taken from session four of the ten sessions recorded. Content not relevant to the discussion has been deleted (i.e., messages that are part of another conversation), as have messages contributed by the author as "ResearchGirl." The excerpt has not been edited for grammar, spelling or punctuation.

[21:06] <oscar13> bye quert

[21:06] <Tasha> sure take my pop and run

[21:06] <Querty> night everyone

[21:07] <Tasha> night quert *hugs*

[21:08] *** Querty has quit IRC

1.3 Conclusion

Now that the medium of chat has been introduced and its aspects explained, the issues relevant to the study of gender and language in IRC will be examined. The next chapter presents a review of the literature about face-to-face (FTF) language and gender which is followed by a discussion of the challenges of studying gender in CMC. Finally the findings of previous studies of online gendered interaction are reviewed, with specific attention paid to the variables examined in this thesis.

Chapter 2 Review of the Literature

The investigation of gender and language in IRC must be placed in the broader context of face-to-face and computer-mediated gendered communication research in order to be properly understood. This chapter presents the findings of this previous research and concludes with the hypotheses for investigation.

2.1 Approaches to Language and Gender in FTF Interaction

Research into the way women and men speak has become increasingly important to the study of sociolinguistics since the 1970s. The most important early work in this field is Robin Lakoff's (1975) *Language and Woman's Place*. Lakoff was among the first to point out that the gender-based inequalities found in society were reflected in language.

To this end, Lakoff put forth the notion of a "women's language" characterized by marks of powerlessness, such as the use of hedges (phrases such as *well*, *you know*, and *kind of*), tag questions (which turn a statement into a question, for example *It's cold in here, isn't it?*), superpoliteness and distinctive vocabulary. According to Lakoff, women use these features more than men, and this indicates an uncertainty or lack of confidence in the validity of what they are saying. Lakoff states that in women's speech, tag questions both reduce the force of statements and indicate an approval-seeking aspect. She suggests that women's speech is also marked by superpoliteness forms including greater use of

euphemisms and fewer expletives. Lakoff (1975:53) also posits a category of vocabulary used only by women; this includes words that have to do with "woman's work" such as *shirr* and *dart*; colour descriptors such as *magenta* and *mauve*; and "empty adjectives" such as *divine* and *cute*. Lakoff concludes that these conversational characteristics provide "diagnostic evidence from language use for one type of inequity that has been claimed to exist in our society: that between the roles of men and women" (Lakoff 1975:4). She maintains that women are socialized to communicate in ways that "will later be an excuse for others to use to keep [them] in a demeaning position, to refuse to take [them] seriously as a human being" (Lakoff 1975:5). She asserts that the overall effect of "women's language" is that it suppresses a woman's identity, prevents her from expressing herself strongly and ultimately denies her access to power. Lakoff states that the discrepancies found in women's and men's language are important to uncovering the ways in which women are oppressed by language.

However, by suggesting that language not specific to women (i.e., "men's language") is neutral — the norm — Lakoff's (1975) "deficit" model implies that "women's language" is somehow deviant from the norm. Another problem with this approach is that features claimed by Lakoff to be characteristic of "women's language" can also be found in men's speech. A number of subsequent studies have shown that the usage of such features may be attributed to interactional context as opposed to the gendered language of the speaker

(Holmes 1984, Cameron, McAlinden & O'Leary 1989, Graddol & Swan 1989, Bem 1993, James & Drakich 1993, Freed 1996).

Another theoretical perspective in gender and language studies is the "dominance" approach, first argued by Thorne & Henley (1975). The dominance approach differs from the deficit model in that it does not view women's language as deviant or inferior from men's language; instead, it finds that gender differences are a product of interaction which occurs in a patriarchal society. This approach acknowledges that men hold the power and therefore set the norms of language use. Additionally, this approach points out that there is a sexual division of labour in conversation; that is, it is women's job to maintain and facilitate the conversation while it seems to be men's job to control the conversation, for example via interruption. Dale Spender's (1985) *Man Made Language* is another influential work that reflects this approach. Spender claims that men, through their dominance in language, essentially command all perceptions of the world, by words which exclude or devalue the experiences of women (e.g., *postman*, *housewife*). Uchida (1992:551) echoes this idea, stating "women's reality is not well represented in the language, making it difficult for women themselves to see their reality as 'real,' and even more difficult for women to have their reality treated as 'real' by men."

Yet another explanatory framework in the investigation of gender and language has been termed the "difference" approach. First applied in linguistics by Maltz & Borker (1982),

this approach contends that the genders have been socialized from a young age to have different communicative goals and to use different verbal strategies when communicating. They suggest that while women have learned that talk can establish and maintain interpersonal relationships, men have learned that talk is a means for them to assert themselves and attain leadership status. Deborah Tannen's (1990) book *You Just Don't Understand: Women and Men in Conversation* helped to popularize this framework. Tannen (1990:18) argues that "because boys and girls grow up in what are essentially different cultures . . . talk between women and men is cross-cultural communication." She puts forth the dichotomous concepts of "rapport-talk" and "report-talk" to describe women's and men's speech. Used by women, rapport-talk is "a way of establishing connections and negotiating relationships" whereas report-talk is used by men to "preserve independence and negotiate and maintain status in a hierarchical social order" (Tannen 1990:77). Unlike the deficit approach, the difference model states that women and men have different, but equal, ways of communicating. However, it has come under criticism for its lack of discussion of power issues, and its failure to acknowledge that society at large is hierarchical and power-based (Uchida 1992).

2.1.1 More Recent Approaches

Representation of male and female language as binary runs the risk of overlooking the complexities that characterize actual speech, among them the effects of interactional context and individual differences (Holmes 1984, Cameron, McAlinden & O'Leary 1989,

Graddol & Swan 1989, Bem 1993, James & Drakich 1993, Freed 1996). Rodino (1997:¶9) points out that "ironically, research on the relationship between gender and language has helped reify gender differences." However, Graddol & Swan (1989:89) find that by viewing gender-based distinctions as "differences of degree," the "gross over-simplification" which arises from listing the characteristics of women's and men's language can be avoided. In fact, there has been a recent shift in the ideology of gender studies, a move beyond focusing on men and women as opposing groups. To challenge the dichotomous system and to offer a new approach, researchers such as Cameron (1996) and Bing & Bergvall (1996) call on linguists to use Butler's (1990) conception of gender as performance. Butler views gender as under constant construction, a series of performances, a work-in-progress and -in-practice. Cameron (1997:49) notes that "whereas sociolinguistics traditionally assumes that people talk the way they do because of who they (already) are, [this] approach suggest that people are who they are because of (among other things) the way they talk." She adds that "this shifts the focus away from a simple cataloguing of differences between men and women to a subtler and more complex inquiry into how people use linguistic resources to produce gender differentiation" (49). As such, this notion of gender as performance is especially appealing to researchers since it allows them to "better represent the ways individuals experience gender and communicate" (Rodino 1997:¶22).

A related approach is the notion of "community of practice." Eckert & McConnell-Ginet (1992:464) introduced this notion to language and gender theory, defining it as "an aggregate of people who come together around mutual engagement in an endeavor." They point out that this approach allows researchers to examine "gender in its full complexity: how gender is constructed in social practice, and how this construction intertwines with that of other components of identity and difference, and of language" (472). This notion is important to the study of language and gender because, as Cameron (1992:13) notes, it encourages another focus: "not gender differences but the difference gender makes."

Despite this criticism of the binary categorization of speech, many researchers continue to use a dualistic division to describe language use. Since this is also the most prevalent approach in CMC gender studies (e.g.,Herring, Johnson & DiBenedetto 1992, Michel 1992, Herring 1993a, 1993b, Jaffe *et al.* 1995, Stewart, Shields, Monolescu & Taylor 1999) and since I am investigating previous CMC gender-related findings within the context of IRC, it will also be adopted here.

2.1.2 Previous FTF Findings Relating to Conversational Dominance and Emotional Expressiveness

The previous findings of FTF gender and language research in the areas of conversational dominance and emotional expressiveness are especially important here since these are the

areas on which my investigation of IRC will focus. Culturally, it is women who are stereotyped as talking the most, as evidenced by the notion of gossip being a women's-only domain and expressions such as "Chatty Cathy" (Coates 1986, Tannen 1990), while men are idealized as the "strong, silent type"(Ganong & Coleman 1993). However, in reality, gendered patterns with respect to conversational dominance and emotional expressiveness are not that easy to define.

2.1.2.1 Conversational Dominance

Conversational dominance is of major concern since it affects all other aspects of communication. In their metasurvey of 63 studies which deal with gender differences in the amount of talk, James & Drakich (1993) document considerable variation. They discovered that some studies found that men talk more than women overall; others found the opposite; and still others found that men talk more in some circumstances while women talk more in others. In addition, a number of studies found there to be no gendered difference in amount of talk. Nonetheless, of the 56 studies which dealt with mixed-sex interaction, James & Drakich (1993:282) found that the majority reported that men talked more than women, when participation was measured by "the total number of words, the total number of seconds spent talking, the number of turns at talk taken, and the average length of a turn."

Interpretation of these studies is crucial to any investigation of participation by male and female speakers. One of the reasons advanced for why men seem to talk more than women is "dominance." Socially men have greater power and more status, and it is argued that they use language to exercise this power and status. Through amount of talk as well as other mechanisms such as interruption and topic control, men dominate the discussion and in this way dominate women. As mentioned in section 2.1 above, Maltz & Borker (1982) offer another explanation for the gender differences in language use. They propose that the men have been socialized to use an increased amount of talk as a strategy for achieving status and attention, while women have been taught to opt for a lesser amount of talk as a means for encouraging cooperation and equality. Tannen (1990:77) echoes this explanation in her suggestion that men are more comfortable with "public speaking" (or "report-talk") while women are more comfortable with "private speaking" (or "rapport-talk"). She states that men "get and keep attention" by using such conversation tools as jokes and stories or by presenting information. By contrast, women talk for different reasons: to connect with other people and to maintain relationships. Thus, Tannen (1990) finds that in public men are often more talkative, while in private the situation can be reversed. Holmes (1992:142) also notes that "women do not get their fair share of the talking time in public."

Another issue that is important to the study of conversational dominance in FTF communication is that of interruption. There are conflicting reports concerning gender

differences in interruption patterns. The general hypothesis seems to be that men interrupt women more than the reverse, using interruption as a tool to dominate the conversation and control for talking time. However, there is considerable evidence which suggests that there are few significant gender differences in the use of interruption (James & Clarke 1993, Aries 1996, Anderson & Leaper 1998).

Conversational dominance may also be displayed via choice of conversational topics. If it is men who dominate the conversation and if they have different topic preferences than women, then they can exercise this dominance by choosing topics that are of little interest to women, thereby excluding women from the conversation. The common stereotype is that women prefer more personal topics, such as those related to family life, children and relationships, whereas men prefer to talk about less personal topics such as world events, business, sports and politics (Kramer 1974). Other studies suggest that these stereotypes bear out in actual conversation with women tending to discuss more "private" issues and men tending toward more "public" issues (Aries & Johnson 1983, Kipers 1987).

2.1.2.2 Emotional Expressiveness

Gender differences in the use of emotional language are also the subject of many stereotypes: that women are more emotional and more likely to express emotion (Aries 1996, Burgoon, Buller & Woodall 1996) while men are less likely to display emotions (Ganong & Coleman 1993). These stereotypes seem supported by Maltz & Borker's

(1982) explanation of gendered communication: females are socialized to value interpersonal relationships, where emotional expressiveness is crucial, while males are socialized to seek status and impart information, tasks in which emotional expressiveness is not necessarily important. But how do the stereotypes measure up to real life findings?

There has been considerable research into the differences between males and females in emotional expressiveness (e.g., Allen & Haccoun 1976, Balswick & Avertt 1977, Balkwell, Balswick & Balkwell 1978, Notarius & Johnson 1982). These studies all point to the finding that males are less emotionally expressive than females. Labeled "male inexpressiveness" by Balswick & Peek (1971), this inability to express emotions, especially love, sadness and happiness, seems to occur regardless of age, addressee (e.g., spouse, friend), or context. Using a socialization theory similar to that of Maltz & Borker (1982), Notarius & Johnson (1982) suggest that males have been discouraged, even punished for displaying too much emotion, whereas females are encouraged and often rewarded for being openly expressive. Critics of these findings have stated that a one-to-one correlation of emotional expression (or lack thereof) to gender is misleading; instead, the sex-role orientation of a person must also be considered (Bem 1975, 1977, Narus & Fischer 1982), and may in fact be more salient than actual gender when predicting the level of emotional expressiveness (Ganong & Coleman 1993).

The gender and language findings in FTF communication are important to understand, since many CMC researchers use them to inform their studies of gendered language. In fact much of the previous research has focused on whether or not the FTF results are replicated in gendered online communication. The next section outlines the findings of these investigations.

2.2 Gender in CMC

The study of gender in CMC is especially interesting, given the claims that cyberspace is "gender-blind" (Herring 1994a). When CMC researchers first examined gender issues, many suggested that the computer-mediated environment allows for more gender equality in language than does the face-to-face setting (Kiesler, Seigel & McGuire 1984, Rice & Love 1987, Graddol & Swann 1989, Hiltz & Turoff 1993) — in part due to the apparent reduction of social cues (Spears & Lea 1994). Danet (1996b:¶13) points out that in cyberspace, "conventional signals of gender identity such as intonation and voice pitch, facial features, body image, non-verbal cues, dress and demeanor . . . are absent." However, this lack of social cues does not mean that gender is not important in CMC. In fact, Hall (1996:148) states that "gender is not erased in the virtual world...but intensified discursively." Further investigation, primarily of asynchronous modes, has shown that CMC does not "democratize" gender communication; in fact, gender differences, and the associated stereotypes, seem to be just as prevalent in CMC as they are in FTF interaction

(Selfe & Meyer 1991, Herring 1992, 1993a, 1993b, Kramarae & Taylor 1993, Truong 1993, We 1993, Herring 1994a, 1994b, Ferris 1996, Savicki, Lingenfelter & Kelley 1996, Smith, McLaughlin & Osbourne 1997, Witmer & Katzman 1997). Perhaps this has to do with the need humans have to orient themselves to their interlocutors, especially in terms of their gender (Seavey, Katz & Zalk 1975,[15] Turkle 1995, Herring 2000).

2.2.1 Challenges of Studying Gender in CMC

The inherent challenge to gender research in CMC is determining how to ascertain the gender of the participants. The strategies for doing so used in this thesis are outlined in Chapter 3 below.

When considering gender in CMC, it is important to remember the need to step outside the traditional concept of gender and note that gender is a socially constructed cultural phenomenon. This notion follows from Butler's (1990) concept of gender as performance. Danet (1996b:¶5) points out that in real life, children "learn to perform 'maleness' or 'femaleness'" by adherence to gender stereotype of dress and appearance. This is an especially salient point since, as Turkle (n.d.) points out, the social and linguistic intricacies involved in "being" a gender which had previously been unnoticed

[15] In the famous "Baby X" study, adults interacted with a three-month-old baby dressed in a yellow jumper, who was labeled "male" or "female" or not labeled at all. Babies who were not labeled for gender were often thought to be male and in many cases the adults explicitly asked whether the baby was a boy or a girl (Seavey *et al.* 1975).

become very evident in CMC. Gender identity in CMC appears to be realized and reinforced through the use of linguistic cues which are often associated with "women's language" or "men's language," among them amount of talk, assertiveness, politeness, and emotional expressiveness (Herring 2000). The saliency of these linguistic cues is apparent from attempts (and subsequent failures) at gender-swapping.

The phenomena known as "gender-swapping" and "gender-masking" are definite challenges to the study of gender in CMC. In synchronous modes of CMC, where users choose a nick rather than using their RL name, it is relatively easy to swap or mask gender. While many researchers approach gender-swapping (or gender-switching) and gender-masking (or gender-disguise) in the same way, the two are by no means identical. Gender-masking is typically exemplified by the choice of a gender-neutral nick, one that does not index the user's RL gender. The reasons for this choice are numerous. In a world where the duplication of nicks is not permitted[16] and where originality is highly valued, users may select a gender-neutral nick that has no apparent meaning (e.g., *Capumo*) or is the name of an inanimate object (e.g., *Q-Tip*). Another well documented reason is that women gender-mask in order to avoid unwanted attention or harassment that sometimes occurs when a user has a feminine-sounding nick (Reid 1994, Bruckman 1996).

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[16] When a person logs onto the IRC program, he or she must first indicate the nick he or she wishes to adopt. The IRC program will notify the user if that nick is already in use and ask him or her to select another one, thus avoiding the confusion of two users having identical nicks.

However, these women do not attempt to conceal their gender and may still use the female third-person pronouns in IRC actions or provide their RL gender when asked.

For this reason, gender-swapping is the more problematic of the two phenomena for the research of gendered interaction in CMC. Gender-swapping occurs when users choose a cross-gendered nick and present themselves as the opposite sex when asked for their gender and when using gendered pronouns to refer to themselves in actions. However, it is important to note that its incidence in established CMC communities is low. This is because most instances of gender-swapping are short-lived, since any prolonged identity deception requires much effort. As Wauchope (1997:¶15) points out, the fatal flaw of gender-swapping is that "changing a nickname does not remove the markers of gender that become apparent in IRC." Turkle (1995:212) notes ". . . once [males] are online as female, they soon find that maintaining this fiction is difficult. To pass as a woman for any length of time requires understanding how gender inflects speech, manner, the interpretation of experience." It is no surprise then that after examination of six IRC channels for gendered behaviour, Herring (1998 cited in Herring 2000) found that nearly 90% of participants presented themselves as male and female in traditional ways, and gave frequent gender cues (i.e., once every three or four lines of text on average).

2.2.2 Gender and Language Stereotypes in CMC

The stereotypical gender differences attested in much of the literature in FTF interactions have been generally found to be echoed, and even exaggerated, in online language (e.g., Herring, Johnson & DiBenedetto 1992, Herring 1993a, Kramarae & Taylor 1993, Ferris 1996). In her studies of asynchronous CMC, Herring (1992, 1993b, 1994b) reported that gendered linguistic behaviours attested in a number of studies of FTF interaction are reproduced online. For example, Herring (1993b:348) characterizes men's online language as containing "strong assertions, self-promotion, presuppositions, rhetorical questions, authoritative tone, challenges [to] others, [and] humor/irony." In contrast she describes women's online language as characterized by "attenuated assertions, apologies, explicit justifications, true questions, personal tone, [and] support [of] others." Similarly, Herring (1994a:¶2) points out that "women and men have recognizably different styles in posting to the Internet, contrary to the claim that CMC neutralizes distinctions of gender." Yet, in her study of children's e-mail correspondences, Michel (1994) states that while boys and girls had different conversational styles, the differences were not as discrepant as Tannen (1990) suggests with her notions of "rapport-talk" and "report-talk." Nonetheless, Stewart *et al.* (1999) draw conclusions similar to Herring's in their study of a synchronous computer-mediated conference. They observe that there were "noticeable differences in language style between men and women, with some men using strong and even aggressive language and women using language of agreement. Gender differences in language style, therefore, seem to reflect and or even create asymmetry in power" (¶70).

Further findings provide evidence for the claim that FTF gender differences are present in asynchronous CMC, emphasizing the inequality of men and women online. Herring (1996b) argues that there are gender-specific communication ethics in CMC. She contends that women are more likely to be polite and deferential in relation to men. She also finds that the behaviours deemed by women to be important are those which can be characterized as democratic, e.g., those which validate others' experiences, while men value speed over all else and are offended by behaviours which impede the pace. This sets up an imbalance due to the fact that the definition of value systems in CMC has already been set by men, and until women gain the power to redefine the values, their participation will continue to be restricted (Herring 1994a).

Matheson (1991:144) finds that gender information, such as that provided by gendered nicks, "invokes stereotypes regarding gender-appropriate behavior which, in turn, influences expectations and perceptions of the other communicator." We (1993) reports that 45% of the women she surveyed said that they replied differently to women than they did to men, while 71% of the men she surveyed said that they reply similarly to messages, regardless of their interlocutor's gender. According to Matheson (1991), this can be linked to the fact that in CMC, as in RL, females are expected to be socially supportive, submissive, and more emotional but less decisive, ambitious, effective and aggressive than males. Additionally, gendered nicks may affect the treatment a user receives from others: for example, it is well documented that female gendered nicks garner much

unwanted attention (We 1993, Bruckman 1996). However, We (1993) comments that, for certain groups of people who have traditionally been stereotyped and disenfranchised (e.g., women, the disabled, the elderly), CMC can be a liberating communication environment. Further to this, Michel (1994) observed that CMC can have very positive effects among school children's communication, especially for cross-gendered discourse.

The following sections will detail the previous findings of CMC research in gender differences in three areas: participation, emotional language, and actions. These aspects of online interaction will be the focus of my investigation.

2.2.2.1 Participation in Online Communication

In the gender and language research that deals with FTF interaction, it is widely claimed that men dominate conversation, especially in public settings (see section 2.1.2.1 above); that is, they speak more often and for longer (Holmes 1992). The question of whether this conclusion is valid in CMC, especially in light of the supposed "democratizing" effect of computer-mediation, has inspired considerable research (Herring 1992, 1993a, 1994a, Herring, Johnson & DiBenedetto 1995). The answer seems to be that men continue to dominate in CMC. Herring (1993a:¶13) states that "the most striking sex-based disparity

in academic CMC is the extent to which men participate more than women."[17] The ratio of male-to-female users in general is approximately 3:1 (Ebben & Kramarae 1993, Herring 2000), a fact which must be noted when examining the issue of male dominance in CMC.[18]

The above conclusions have been drawn from asynchronous modes of CMC. However, there are fewer studies of gendered participation in synchronous CMC. When these studies of synchronous CMC are reviewed, the findings seem almost as varied as those discussed in James & Drakich's (1993) review of gender differences in FTF conversational dominance.

In their investigation of IRC, Stewart *et al.* (1999) examined gendered participation in a task-oriented synchronous conference. The participants were arranged in three mixed-sex groups and logged onto an IRC channel, which was used to create an environment for collaborative work. From the resulting discourse, Stewart *et al.* (1999:¶5) concluded that there was a "significant difference in the amount and type of communication by gender."

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[17] There are many reasons put forth on why in general men use the Internet more than women. For the sake of brevity, however, they will not be discussed here. For information on this topic please see Gunn 1991, Balka 1993, Ebben & Kramarae 1993, Shade 1993.

[18] Recent research of the demographics of Internet users finds that this gender gap is closing. Several reports conducted by the research company Media Metrix United States (2000:¶6) find that in Canada the "male-to-female ratio of Internet users in Canada is close to even," with men comprising 41.5% and women 36.8% (with youths 17 years or younger making up the remaining 21.7%).

Echoing the findings of asynchronous CMC, they found that the males dominated the discussion, both in terms of participation (i.e., amount and length of messages) and topic control.

Another study of dominance in IRC suggests the opposite, that women participated more than men. Vaughn Trías (1999) found that while males did produce more messages and spend more time online, which is in keeping with the FTF and asynchronous findings, females produced more messages for the time they spent online than males did. This led Vaughn Trías (1999:¶13-14) to conclude that "women are participating more than men" and that "women dominate the discourse on Internet Relay Chat."

In her comparison of gendered interaction from an IRC channel and an e-mail discussion group, Herring (1999:155) found that the participants in the discussion group performed in the expected manner, with men producing more discourse; however examination of the number of "utterances" (i.e., number of messages, actions and kicks) in the IRC sample showed that "in general, amount of participation by males and females is more equal."

Herring does note that there are two aspects of IRC in which males continue to dominate. In the channel she examined, Herring found that only males had channel operator status. Subsequently, these men were the only users able to "kick" another user from the chat room. Herring (1999:155) states that "kicks symbolically and literally 'interrupt' another

person's participation, and thus can be an effective strategy for asserting interactional dominance." In this way, the males can still dominate in this channel using kicks as a tool for interruption regardless of the more equal participation of the genders in terms of number of messages and average message length.

Stewart *et al.* (1999) offer no explanation for their findings of male dominance in IRC, but simply say that it echoes the conclusions drawn in other gendered interaction. However, given the above mentioned Herring (1999) and Vaughn Trías (1999) studies, Stewart *et al.*'s findings may result from the fact that investigation was of a task-oriented exercise in an experimental setting, not a social dialogue occurring in a natural context (e.g., casual conversation via IRC).

Vaughn Trías offers several possible explanations for her observation of greater relative participation by females: the general finding that women type faster than men; the membership and topic of the channel (i.e., one that is more hospitable to women); the different communication motives (i.e., men want to have a presence, women want to have a dialogue); and the possibility that IRC, as a medium, is inherently democratic.

Since Herring's (1999) study was focused on online sexual harassment, she does not offer an explicit explanation for her conclusion of equal gender participation. However, she does observe that "this [more equal gendered participation] is due in part to the fact that

females in IRC are often the targets of sexual attention" (155). Her suggestion seems to be that because women receive sexual attention (e.g., flirting, harassing comments) they participate more, either because they are responding with "snappy put-downs and rejoinders designed to deflect the force of the harassing comments by making light of them" (157-158) or because they "began interacting with the males on the channel" (159-160), after being "coerced into [this] accommodation" (160). Herring accounts for the differences in the two communication forms she studied by suggesting a reason for the females' increased participation in the synchronous chat as opposed to their relatively low contribution to the asynchronous listservs. She points out that "female participants are expected to accommodate to male expectations of their gender by interacting flirtatiously with men (on IRC), or by withdrawing from participation (in discussion groups)" (160). In this way, females are given more opportunities to participate in IRC (albeit within very limited parameters) whereas in discussion groups they are expected to participate on a lesser scale.

An issue associated with participation is that of topic choice, since control over topic choice is another tool for dominance in conversation. Herring (1993a) finds that topic choice is another area of online discourse that closely resembles FTF communication. She notes that "although women contribute less than men overall, they contribute relatively more on certain topics of discussion, specifically those which involve real-world consequences as opposed to abstract theorizing" (¶17). In this article, Herring

(1993a:¶17) ranks the men's topic preferences as "issues > information > queries > personal" whereas the women's topic preferences are shown to be the near inverse: "personal > queries > issues > information." Ferris (1996) also discusses topic choice in her study of a week's posting to an academic listserv. Citing Herring (1994a) and Collins-Jarvis (1995), Ferris (1996:32) notes that "males monopolize on-line conversations, and even when women do contribute, they are often driven to silence by the adversarial style of male responses, either ceasing to post messages or withdrawing from the discussion." Ferris' observations support these findings and she concludes that "topic choices were predominantly male" (32).

2.2.2.2 Emotional Language in Online Communication

The study of emotional language in online communication involves the examination of two components: emoticons and emotext. While I will be analyzing these two aspects of online language separately in my analyses, I will discuss the previous research findings collectively in order to present the larger picture of gendered emotional language use in CMC.

In their study of an asynchronous conference (i.e., a discussion group), Jaffe *et al.* (1995) discuss the use of "emotional text" which includes both emotext and emoticons. The expectation is that men are "less inclined than women to engage in socioemotional and relational patterns of communication which might exhibit social interdependence" (Jaffe

et al. 1995:¶23) as defined by references to other responses, self-reference, supporting reference and emotional text. Consistent with this hypothesis, they found that there was a higher percentage of emotional text produced by females as opposed to males. Interestingly, in their study of pseudonymous vs. real-name interaction, Jaffe *et al.* (1995) found that men who used pseudonyms were more likely to exhibit social interdependence (including emotional language) than those men who used their real names, while women displayed similar expressions of social interdependence in both the pseudonymous and real-name conference. They explain this finding by suggesting that "despite a social expectation for males to portray social independence, the need for social interdependence is equally strong for males as it is for females" (Jaffe *et al.* 1995:¶60) Their findings in the pseudonymous conference of greater display of social interdependence by males and greater similarity in gendered communication in general are significant. These findings suggest that for some men, the anonymity afforded by pseudonymous CMC gives them the opportunity to engage in socioemotional behaviour that would normally be deemed inappropriate for males. The similarity of gendered CMC suggests that there can be an equalization of the genders in terms of the amount of emotional language use. This leads Jaffe *et al.* (1995:¶62) to conclude that "gender differences in communication patterns may be mitigated through the use of pseudonyms" in CMC.

In their data collected from asynchronous newsgroups, Witmer & Katzman (1997) found their hypothesis that women used emoticons more than men did was partially supported.

They commented that while neither gender used many emoticons, the results showed that those users who did use them tended to be women. Citing previous findings that women have a greater tendency towards the display of emotion and emphatic expressiveness (Mulac, Bradac & Mann 1985, Mulac & Lundell 1986), they suggest that the use of emoticons by women might indicate a translation of the FTF characteristics of female language to CMC.

Additionally, Herring (1998 cited in Herring 2000) found that female IRC participants used three times as many representations of smiles and laughter as the males who, in turn, were more apt to use aggressive or insulting speech. She states that this is in keeping with the findings from asynchronous CMC where women tend to use "aligned and supportive" discourse styles and men are more likely to be "oppositional and adversarial" (Herring 1994a, 1996b, 1996c). Similarly, in their study of a task-oriented synchronous conference, Stewart *et al.* (1999:170) found that the men used "strong and even aggressive language" while the women used "language of agreement and inclusion."

Another study which mentions the gendered use of emoticons is Smith (1998). In his study of five newsgroups, Smith discovered varied emoticon usage. In the soc.singles (SS) newsgroup, Smith (1998:525) says the use of emoticons "follows the rigid rule of textual masculinity . . . men don't use emoticons" while in soc.singles.moderated (SSM), the pattern is very different. Here, Smith (1998:525) finds the male users are using

emoticons "at about the same rate" as the females. He suggests that the divergence of these two results can be attributed to the differing cultures of the newsgroups. The SS newsgroup is a stereotypical group with "anarchic, antagonistic and obscene" overtones, while SSM is a smaller group, which seems to place "high value on mutual support" (Smith 1998:522). Smith notes (1998:525-526) that in the SS newsgroup, "fixed, traditional gender uniforms are a must, and emoticons are the evening gown of SS femininity" while in SSM, users are not as pressured to fit into certain gender roles, and thus feel freer to use emoticons.

2.2.2.3 Physical Behaviours in Online Communication

Physical behaviours represent another facet of socioemotional communication in CMC. Found specifically in synchronous CMC, physical behaviours are executed by the use of "actions" (see section 1.2.2.3 above). Cherny's (1994) examination of a Multi-User Domain (MUD) offers interesting insights into the gender differences of performed actions. Hers is the only previous study to interpret the socioemotional intent of the physical activities of the MUD, through the classification of the verbs used in each action according to specific categories. Cherny first considers the actions hugs and "whuggles"[19] as a separate category from the others examined, which she subsequently classifies into

[19] Used almost exclusively in MUDs, a whuggle is a "purely virtual interaction that is related to a hug" (Cherny 1994:104) and is used "often as a sign of affection or support" (Cherny 1994:105).

the following categories: affectionate, neutral, poke,[20] killing, consuming, and other.[21] Additionally, she classes the actions according to the gender of the performer and the intended addressee(s) (e.g., M(ale)-M(ale)).

With regards to the hugs and whuggles category, Cherny (1994:107) found that "a hug/whuggle event is almost [four] times as likely to be initiated by a female" but she also found that "men hug and whuggle women more often than they do other men." In other words, women are more likely to hug/whuggle another person, and the male-initiated hugs/whuggles were more often aimed at a woman than another man. In fact, Cherny (1994:107) notes that "several of the male-male whuggles were probably meant to annoy."

In her examination of the remaining action categories (i.e., those apart from hugs/whuggles), Cherny found that the total instances of M-M interactions exceeded all other, with F(emale)-M and M-F coming second and third, respectively. With regards to types of actions, the total number of "other" actions ranked the highest, while

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[20] Cherny (1994:109) describes the "poke" as an action that is "frequently used to get another character's attention when that character is not active in the conversation." The analysis of this category involves solely the use of the verb "poke."

[21] The name of this category is nondescript, which may imply that the verbs which compose it are subsequently nondescript or ambiguous; however, several of these verbs could easily be deemed violent (e.g., *poison*, *cut off head*, *swing axe at*, *mangle*) and Cherny's results must be interpreted with this in mind.

"affectionate" actions ranked the lowest. When the type and direction of action were considered together, the "other" action type was most prevalent for all the direction groups, with F-X (where X indicates that the action was aimed at all users) actions having the highest percentage of use (75%). However it must be noted here that this result is due to the fact that there were only four F-X actions in total with three of these categorized as "other." A more accurate representation may be attained from the following findings. Of the "other" actions used, the M-X actions ranked second (61%) and M-F and M-M ranked as close third places (44% and 43% respectively). Since these results are based on fairly large numbers, they may be interpreted as closer to what actually occurs in the MUD.

If the use of "other" actions are set aside, interesting patterns in the action and direction types come to light. The findings of the remaining action categories (i.e., affectionate, neutral, poke, killing, and consuming) are primarily what Cherny uses as the basis for her conclusions. She notes that male-initiated actions aimed at another male (i.e., M-M) are very often of the "killing" category, while the M-F actions are more likely to be "pokes." When the female-initiated actions are considered, those aimed at another female are few in number with "neutral," "poke," "consuming," and "other" being used the most (two instances of each) while there is one instance each of the "affectionate" and "killing" action types. In contrast, F-M actions are very often of the "neutral" category.

Cherny (1994:102) concludes from these results that "men use more physically violent imagery during conversation, and women are more physically affectionate toward other characters." Cherny (1994:113-114) also notes that though women use less violent imagery than men, when they do use such physically aggressive behaviours, it represents "an example of women's adaptation to the different discourse style in male-dominated groups."

In her study of online sexual harassment, Herring (1999) also discusses actions. She counted the number of actions performed in one 40-minute IRC session and found that actions were used exclusively by the males in her sample. While Herring states that there is no reason why the females would not use actions as much as the males, she does offer one explanation. She suggests that the observed actions are typically used to "enact sexually aggressive behaviors, and thus may be avoided by participants who are the targets of such behaviors" (i.e., the females) (155).

2.3 Hypotheses for Investigation

Since much of the literature on gendered discourse in CMC has focused on the asynchronous modes of communication, such as listservs and discussion groups, this thesis will concern itself with the less investigated mode of synchronous CMC. While I expect to report findings similar to those which have emerged from the previous research, it must be noted that since so little is known about synchronous CMC, the expectations

must be guarded. Nonetheless, I propose the following hypotheses for IRC: Males participate more than females do; females use more emotional language (i.e., emoticons and emotext) than males do; and males use more actions than females do. The methodology for investigating these hypotheses is explained in the next chapter.

Chapter 3 Methodology

The methodology and analysis used in this thesis adapt the approaches of traditional sociolinguistic research to the unique mode of communication found in IRC. This chapter deals with the specifics of the investigation. It addresses the issue of ascertaining gender in IRC, and provides an outline of the channel selected and its participants, the collection and treatment of data, the ethics policy adopted in this study and the linguistic aspects of IRC on which analysis is focused.

3.1 Ascertaining Gender in CMC

As mentioned in section 2.2.1, the major challenge of investigating gender in chat arises from the phenomenon of gender-swapping. The medium of IRC lends itself to the possibility of users posing as members of the opposite sex. In addition to selecting a nick that reflects their RL gender, a user may choose a gender neutral nick so that their RL gender is not apparent ("gender-masking") or they may select a cross-gendered nick to present themselves as the opposite sex ("gender-swapping") (Bruckman 1996).

While this type of deception certainly goes on in chat, the instance of gender-swapping in highly stable, close-knit IRC communities, such as the one I am investigating, is low (Curtis 1996; Herring 1998 (cited in Herring 2000)). That is, in channels where there is a high number of regular users and where users have formed relationships with one

another, gender-swapping does not appear to occur frequently. This is in part due to the fact that in well-established channels, a user would have to go to a great deal of trouble to maintain a false gender identity. From several years of observation in one MUD, Curtis (1996) found that gender-swapping over a long period of time was infrequent because of the work involved in prolonged portrayal of a false gender identity.[22] Similarly, Herring (2000:¶16) comments that in her 1998 study, she found that "the longer someone participates, the more likely it is that they will reveal their actual gender."

While both these phenomena pose a challenge to ascertaining gender, there *are* ways to determine gender in the so-called "genderless" world of chat. The simplest way is to ask. In fact, the first question often posed to newcomers to a chat session is "a/s/l" (i.e., "age/sex/location?"), indicating the participants' fundamental need to be oriented to their conversational partner's gender (Turkle 1995, Herring 2000). Another way of displaying gender is through the use of gendered nicks (e.g., *Ladybug*, *CoolDude*). If the given nick does not answer the gender question, self-reference often does. The use of actions often requires that users refer to themselves by a third-person pronoun which presents their gender, as illustrated in example (5) above. Perhaps the most reliable way of determining gender, however, is via information gathered from a channel's website. Many established

[22] In fact, in such closely-knit communities, sustained gender-swapping is considered unacceptable. Curtis (1996:355) notes that many users feel it is "dishonest" to gender-swap and these users "report feeling 'mad' and 'used' when they discover such a deception." Not surprisingly, then, Reid (1996:402-403) finds that gender-swapping can also instill "deep feelings of guilt of the perpetrators."

channels have websites containing news and details about that channel and its users. These websites often have sections where users can post personal information about their real life selves, such as their names, geographic locations and links to their personal websites. Often this personal information is accompanied by photos of the users.

Of course the inherent problem in the above methods of determining a given user's gender is that a user may simply lie. When asked the common "a/s/l" question or deciding on a nick, it is not difficult for the participant to use incorrect information. However as stated above, the incidence of such deception is relatively low in stable IRC communities where it is deemed inappropriate and users who gender-swap feel guilty about their behaviour and are often excluded from the conversation by the other members (Curtis 1996, Reid 1996, Herring 1998 (cited in Herring 2000)).

In order to determine participant gender for the purposes of this study, I evaluated each of the users who participated in the logged sessions. This evaluation was done on the basis of information gathered during both logged and unlogged sessions. I determined a participant's gender by means of several criteria: reference to the user by way of pronoun or real life name (either by the user him/herself or by another user); use of a gendered nick; answer to the a/s/l question; information given on the channel's website; and/or additional knowledge I gathered as a participant-observer in the channel. In this sense, gender was taken at "face value," as participants (and their fellow IRCers) presented it.

While this method might be considered problematic in light of the possibility of gender-swapping, it is consistent with Butler's (1990) notion of gender as performance since users are accepted as whichever gender they present themselves. Moreover there was nothing to indicate that any participant in the selected channel was purposely attempting to pass as the opposite gender.[23] Thus, the participants were categorized as "male" or "female." Those users whose gender could not be determined were categorized as "unknown" and their contributions to the channel discourse were discarded from the corpus.[24] A complete list of users with corresponding gender categorizations is given in Appendix 1.[25]

3.2 Channel Information

For the collection of my data I concentrated on one channel in which I regularly participated. The channel, identified here as *#h*, is one of the many "recreational" IRC channels which serve as social gathering places for participants. An average session from

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[23] There are instances of gender-disguise or gender-masking in this channel, i.e., users choosing gender-neutral nicks. However, they do not go beyond the choice of nicks; participants still present gender in other ways (e.g., via real life name/gendered pronoun, the a/s/l question).

[24] For the most part, these "unknown" users did not participate in more than one of the ten logged sessions that constitute the online corpus analyzed in this thesis. Additionally, they tended to spend very little time in the channel (i.e., joined and quit in a short period of time) or merely lurked, i.e., present in the channel but remaining silent.

[25] Pseudonyms have been assigned for all users mentioned in this thesis, as outlined in the anonymity clause of the ethics policy (see Appendix 5). Wherever possible, pseudonyms which reflect some aspect of the original nicks (e.g., semantic, phonetic) were selected.

such channels is typified by several interactive activities: greeting and leave-taking, playing (e.g., joking, flirting) and discussing specific topics (e.g., music, food, computer/Internet-related issues). The interaction which occurs on *#h* is characterized by many of the same features as other recreational channels: the use of colloquial language, an informal tone, and a range of conversational topics. (See Appendix 2 for more detail on the topics discussed in the logged sessions.) Channel *#h* was selected as the focus of this analysis because it embodied the average recreational IRC channel in that it contained these interactive components as well as constituting a "community of practice;" that is, it has a set of regular participants who come together for a mutual purpose and share a membership, history, knowledge, and set of practices.

3.3 Subjects

As discussed below, there is a set of users who regularly frequent channel *#h* along with a number of others who participate on an intermittent basis, plus the usual number of transients who either join for only one chat session or who lurk.

The channel has approximately 25 regular participants.[26] On an average night (a popular time for chatting being 7:30 p.m. NST to 12:30 a.m. NST[27]), upwards of 20 users may have logged onto the channel in the course of a couple of hours. At any one time, there are usually six to nine participants present, and the number remains fairly constant due to the fact that users are logging off as others are logging on. Some nights, like Fridays, can be busier with up to 10 to 15 users online at the same time. I preferred to log the average nights as during the busier nights it can be confusing to follow the chat, and still more confusing to decode the non-linear transcripts afterward.

The language of the channel is English, as it is in many IRC channels, though not all of the users are native English-speakers.[28] There are also German, French and Spanish participants in this channel. However, these users are able to hold a discussion via chat without noticeable problems, which is quite a feat in light of the lack of paralinguistic and

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[26] The classification of participants as "regular" is based on the number of logged sessions in which they participated, whether or not they had posted information on the channel's website and additional knowledge gained via my participant-observer status.

[27] NST is Newfoundland Standard Time, the time zone for the province of Newfoundland. It is three and a half hours behind Greenwich Mean Time and one and a half hours ahead of Eastern Standard Time.

[28] The channel information (available on the website and via ChanServ, an IRC program used to register channels) explicitly states that the language of the channel is English. Users are asked not to speak languages other than English; in fact, violation of this rule can result in being "kicked" from the channel. This reflects the claim that English is the *lingua franca* of the Internet (Crystal 1997).

non-linguistic cues, and the written aspect of the medium, not to mention the need to master IRC jargon and slang.[29]

The male-to-female ratio of the channel is approximately 3:1 (see Appendix 1). Of the users who participated in all the logged sessions, 11 are females, 34 are males and 19 are of unknown gender. This ratio is also found in the set of 25 regular participants, where there are seven females and 18 males. The gender ratio reflects the finding generally documented in the literature dealing with gender participation in CMC (see section 2.2.2.1 above).

The average IRC user is young, most likely a student, and computer literate (Danet 1996b). In the channel I observed, this general characterization seems to hold. While there are a few older participants (i.e., in their 30s or 40s) and a few younger ones (i.e., in their early teens), I would estimate that approximately 70% are aged between 18 and 24 years. The age range of observed participants is 13-41 years.

As documented in previous research, most of the users of the Internet, and by extension, IRC, in general belong to the middle- to upper-middle class, and are fairly well educated

[29] The English competency of these few users is such that, for the most part, it is not apparent from their discourse that English is not their first language. Any errors in syntax or morphology are either nonexistent or concealed by the informal nature of IRC discourse.

(Reid 1991, Danet 1996b). Therefore I feel it is reasonable to assume that most of the participants in the channel I observed are of similar socio-economic status.

3.4 Data Collection

3.4.1 The Data

The data for this study were collected by logging sessions of IRC. Users of IRC employ a client-server software program (e.g., *mIRC*), which allows them to connect to a server (i.e., a specific computer) on an IRC network (e.g., *Dalnet*, *EFnet*). Once connected to the server via the client-server program, users can send messages over the network. The benefit of a program such as *mIRC* is that it gives participants the option to log chat sessions. Within that option, users can also "timestamp" the session, so that the time that each message was posted to the channel appears next to it. Once users have logged a session, they only have to open the log file in a word-processing program and a transcript of the session is readily produced. This provides an extremely convenient way to gather and analyze this kind of "conversational" data.

In the collection of my research, I logged a total of 23 hours and 36 minutes of IRC interaction. This consisted of ten sessions which varied in duration from 52 minutes to three hours and six minutes; the average time for a logged session was two hours and 22 minutes. The decision to log ten sessions was based on the volume of data retrieved from

these sessions; any more would have produced an unmanageable amount of data for analysis. Sessions were selected for logging based on various criteria (e.g., the number of participants in the channel, the quantity and quality of conversation being produced) in order to accurately reflect the mood and tone of channel *#h*. Appendix 3 provides individual session information.

The corpus was prepared for analysis by removing several different non-conversational components of IRC communication, which I call "channel traffic," from each of the ten logged sessions. This includes messages indicating nick changes, mode setting, and pings, along with any messages posted by the channel bots.[30] In order to analyze participation, messages indicating that users had joined and/or quit remained in the logs but were ignored for word and message counts. The resulting corpus contains 4881 messages or 19415 words of text. Each session was then divided into individual logs, one for each of the participants' contributions to that session, resulting in an individual log per session containing that participant's messages only.

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[30] *Mode setting* refers to the changing of status, either for a user (e.g., becoming a channel operator) or the channel (e.g., becoming a closed, private channel). *Pings* are the server's tool for checking if the client computer is still active. Pings are also used to check lag, i.e., how long it takes for a sent message to reach the channel. *Bots* are programs which run continually in an IRC channel, even when the channel owner/operator isn't present. They are used to automate mundane tasks for the channel owner, e.g., provide channel control in terms of mode setting, etc.

3.4.2 Participant-Observer Role

My role as a researcher was a dual one. When logging a session, I was an observer and participated only when required — that is, when I was directly questioned or drawn into the chat by another user, or when I needed clarification on some aspect of the conversation (e.g., definition of a term). There were a couple of instances when I chose to pose questions to the participants, such as how they came to join that channel, or how the channel came to exist. On rare occasions, I participated more extensively, for example if only I and one other user were temporarily present in the channel. Overall, however, I participated as little as possible when logging and for the most part simply observed the interaction. In the resulting corpus, all of my messages or channel traffic were disregarded.

It is also important to note here that there were times when I took part in sessions simply as a regular participant. I did this for several reasons. Initially, I participated in the channel when "scouting" for a channel from which to collect data. I did not log those initial sessions, but merely tried to determine if the channel would be a viable research site. Then after I had begun to collect data, I continued to participate when not logging in order to gain additional information about IRC as well as to better understand the channel's dynamics and its participants. As my data collection came to an end, and even after its completion, I continued to visit the channel to illustrate to the participants that I

was not simply "using" them for research, but that I genuinely had an interest in them and the channel.[31]

3.4.3 Method of Data Collection

My method for collecting data was as follows: Upon entering the channel, I asked for permission to log the session. I reminded all users that anonymity and confidentiality were assured, and that if at any time they wished me to stop logging the session, they should say so and I would comply, without question. I also told them that if they wished to find out more about my research they could visit my website which contains a brief description of my work and my ethics policy. Upon receiving permission to log the session, I proceeded to observe and/or participate in the interactions taking place. If there were many people coming and going and/or unknown users, I would repeat the above message, asking for permission and assuring anonymity and confidentiality. At the end of a logged session I thanked the participants for their help and exited the program. When users quit IRC, a message is posted to all the users remaining in the channel notifying them of this fact, and there is also the option of displaying a personal message at this time (see line 18 in Appendix 4 for an example). In my "quit message," I would again give the address for my website.

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[31] This practice has not gone unnoticed. Two prominent members of the channel have remarked that they appreciate that I have participated when not logging and have maintained contact with the channel after completing my research.

3.4.4 Ethics Policy

The field of online research is still relatively new. Therefore the ethics guidelines of online research are not as well defined as are those of more traditional research areas. There are debates over whether or not communication produced online (e.g., messages posted to listservs, chat channels) constitute public or private communication. However, at the start of my research I felt it was important to uphold the tenets of all ethical research involving human subjects and to follow an ethics policy which adopts these tenets and modifies them in order to accommodate the characteristics of CMC. As noted above, permission from all users was sought at the beginning of each logged session and often requested again during the session. Upon receiving permission to log, I would change my nick to "ResearchGirl." The rationale for this was two-fold. First, it would clearly indicate to the users that I was currently logging the session for research purposes. Anything that had been posted in the channel before this nick change was discarded from analysis. Second, for users entering the channel after my initial request for permission, it was a signal that I was conducting research. Often newcomers to the channel would then ask why I had chosen that nick, thus ensuring I could ask for their permission to continue logging the session. It is important to note that, as in many studies of gender and discourse, I did not inform the users that gendered language and interaction was my focus. After learning that my research was for a Master's thesis in Linguistics, many users did not query further. Those who did seemed satisfied with my reply of "social interaction" or "discourse analysis."

My ethics policy, which was approved by the Memorial University of Newfoundland Arts Faculty Committee on Research, was available on my website *http://www.ucs.mun.ca/~jpeddle/mythesis.html* for all IRC users to view. It outlines how the four basic tenets of ethical research involving human subjects — confidentiality, anonymity, informed consent, and accessibility — were upheld in my data collection for this thesis. Appendix 5 contains my ethics policy in full.

3.5 Data Analysis

A number of linguistic variables relating to gendered discourse have been examined in CMC (see section 2.2 above). While most of these variables have been examined qualitatively, some have been analyzed from a quantitative perspective. The four variables of IRC that this thesis investigates are participation, emoticons, emotext, and actions. These variables were chosen because all had been the focus of previous research and I felt it was important to see how the results from channel *#h* would compare. The following sections detail the quantitative methodology I employed in the analysis of each variable.

3.5.1 Participation

Participation is typically defined in studies of IRC by the amount of discourse a user contributes and the amount of time he or she spends online in a channel. Several

previous investigations have examined gender differences in participation within a "dominance" framework, proposing that men dominate in CMC, both in terms of the number, length and frequency of messages they post and the amount of time they spend online (e.g., Herring 1992, 1993a, 1994a, Herring, Johnson & DiBenedetto 1995, Stewart *et al.* 1999, Vaughn Trías 1999). In this study, I likewise examine participation in terms of its two basic components, amount of discourse contributed and time spent online.

3.5.1.1 Classification

In IRC, amount of discourse can be examined using a number of attributes. These include the total number of words participants contribute;[32] the number of textual messages they post; and their total number of posted messages (i.e., the total number of textual and non-textual messages combined).

In order to examine the amount of time users participate, it is necessary to distinguish their actual time in the channel from their total time online. For this analysis, "total time online" begins the minute a user joins the channel (or when session logging begins, if they are already present) and ends the minute a user quits the channel (or when session logging ceases, if they are still present). A user's actual time spent participating in the

[32] For the purposes of this research, "words" are defined as those units of discourse which carry meaning. Clearly, these include words in the traditional sense, but in IRC, also include emoticons, abbreviations and certain punctuation symbols. (See section 3.4.1 for more on preparation of the data for analysis.)

channel, however, is also determined by their "time away from keyboard" ("time afk"), during which the user is still logged onto the channel but has temporarily stepped away from the keyboard (often made evident by the posting of an "away" message). This phenomenon is quite common in IRC, where users often spend considerable time online and take breaks of varying durations to take phone calls, eat, watch TV programs, or even sleep. Therefore I determined "time in channel" by subtracting the "time afk" from the "total time online." This reflects the actual amount of time a user is logged onto the channel and presumably present at their keyboard, either actively participating in the discourse or simply lurking.

3.5.1.2 Method of Analysis

In order to interpret the raw data in terms of participation by gender, I used the above attributes of amount of discourse (i.e., number of messages and words) and time (i.e., time in channel) to define two variables. The first, gendered "words per message," represents the *amount* of participation per gender, in the form of the average or mean number of words per message produced by male and female participants in the channel. It was calculated (both per session and overall) by dividing the number of words contributed by each gender by the number of textual messages posted by that gender. The second variable, "messages per minute," represents the *rate* of participation by gender, in the form of the average or mean number of messages contributed by each gender per minute. It was calculated by dividing the total number of messages contributed (i.e., both

textual and non-textual messages) by the total time in channel for each session. Additionally, an overall mean was calculated by dividing the total number of messages produced by each gender by the total amount of time that gender spent in the channel. Statistical analysis in the form of t-tests (see Chapter 4) was applied to these two variables to determine whether differences existed in the amount of discourse contributed by each gender and the amount of time each spent in the channel.[33]

Also relevant to the study of participation are any gender differences in "total number of messages" and "total time in channel." These two measures were used to determine if the genders' totals were in keeping with the 3:1 ratio of users.

3.5.1.3 Hypotheses for Participation Findings

Based on the previous FTF and asynchronous research, I expect to find that males will dominate the discourse in this channel with respect to participation, in terms of the various measures outlined above (Herring 1992, 1993a, 1994a, Herring, Johnson & DiBenedetto 1995). However the findings from synchronous CMC will also be kept in mind since they suggest that this stereotypical gender imbalance may be changing and

[33] Here t-tests are used due to the nature of the data (i.e., continuous). For participation, the data are normally distributed and may be any value. For further discussion, see Freund (1992).

that the medium of IRC may be the setting for more equal participation of the genders (Herring 1999, Vaughn Trías 1999).

3.5.2 Emoticons

As stated in section 1.2.2.3, chat discourse is social in nature and for that reason, the need to compensate for the lack of extra-linguistic cues and accurately convey emotional content is essential. In IRC, emotion is expressed in several ways. One of the unique compensatory techniques is the use of emoticons, or the graphic representations of facial expressions.

3.5.2.1 Classification

For the purposes of this investigation, emoticons were classified into five types as shown in Table 3-1.

Table 3-1: Emoticon types

Type	Interpretation	Examples
Smile	Affectionate, happy, approving, supportive	:) :^) :))
Frown	Unhappy, dismayed, displeased	:(:^(:((
Wink	Teasing, "just joking"	;) ;^) ;))
Raspberry	Poking fun (fig. "sticking one's tongue out at someone")	:P :p :PP
Other	Unable to determine/Meaning is ambiguous	:D :] :} >:) ;p :/ :I :P~ :0 ;)~~

It must be noted that the interpretation of the "smile," "frown," "wink," and "raspberry" emoticons are based purely on their form. In chat, these forms have fixed meanings and therefore are not subject to the type of contextual variation exhibited by other forms of emotional language used in chat (e.g., emotext).

3.5.2.2 Method of Analysis

In order to determine whether gender differences exist in the use of emoticons, each occurrence of an emoticon in the entire database of ten sessions was counted, along with the gender of the user and the emoticon type. Emoticons were analyzed in terms of the above five types as well as an "overall" category, which represents the total use of emoticons per gender.

Since the ratio of male to female participants in the channel under investigation was on average 3:1, mere reporting of raw figures would not reveal significant differences that might exist in the use of emoticons by males and females. Instead, two general measures of emoticon usage were calculated. The first, "rate of emoticon use," is a general ratio of emoticon usage on the part of each gender. It was calculated for each session by dividing the number of emoticons produced per gender by the number of textual messages produced by that gender in the session. The second general measure used was termed "emoticon choice." It examined the degree to which each gender utilized the five different types of emoticons. A mean rate was calculated by dividing the number of occurrences of each emoticon type by the total number of emoticons produced by that gender. This mean rate was evaluated using two analyses: intergendered and intragendered. The intergendered, or "cross-gender," analysis examined female versus male differences in the choice of each emoticon type. In order to determine statistical significance for these rates, z-tests were used.[34] The intragendered, or "within-gender," analysis on the other hand examined the degree to which each emoticon type was favoured by each gender and will be discussed as rankings.

[34] The variables emoticons, emotext and actions have a multinomial distribution (i.e., for each variable, the data are classified into one of several categories). As well, z-tests were chosen due to the large sample size and the nature of the data (i.e., discrete). For more on z-tests, see Freund (1992:481).

3.5.2.3 Hypotheses for Emoticon Findings

Given the findings of previous research in both FTF and CMC, I expect to find that women are more likely than men to use emoticons (Jaffe *et al.* 1995, Witmer & Katzman 1997, Smith 1998), especially smiles (Herring 1998 (cited in Herring 2000)).

3.5.3 Emotext

In addition to emoticons, another set of elements is used in IRC to compensate for the lack of extra-linguistic cues. I have labeled these elements "emotext."[35] In the same way that emoticons are representative of facial expressions in IRC, the use of emotext helps to convey emotional content and create a more "speech-like" mode of communication.

As defined for this analysis, emotext consists of several components. The first is the use of specific types of punctuation to indicate emphasis. These consist of the use of "all caps" (e.g., *YES*), asterisks (e.g., **too* cool*), exclamation points (e.g., *yes!*), and extra question marks (e.g., *what??*).[36] A second is the use of abbreviations which convey

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[35] In their analysis, Jaffe *et al.* (1995) define emotext in much the same way I do here. However, Jaffe *et al.* consider emotext to be part of a larger category of "emotional text," which also includes emoticons. Since I treat the interpretations of emoticons as fixed and the interpretations of emotext as contextually based, I have chosen to analyze these two components of emotional language separately.

[36] Instances of question marks used in as a normal punctuation marker (i.e., a single question mark after a questioning sentence) were not included as emotext. The use of question marks was considered emotext only when more than one question mark was used or when the question mark(s) constituted the full content of the message.

emotional content, such as *LOL* ("laughing out loud"), *WTF* ("what the f__k") and *j/k* ("just joking"). A third is the use of written vocalizations; that is, selective sound or syllable repetitions which are used to imitate certain aspects of spoken communication, for example laughter (e.g., *hehehehe*), interjections (e.g., *grrrrr*) and emphasis (e.g., *soooo good*).

3.5.3.1 Classification

While individual emoticons convey a specific emotional content, individual elements of emotext can be used with different meanings, depending on the context. For purposes of analysis, all instances of emotext were classified into broad groups, as shown in Table 3-2. These groups reflect the emotional content of the message in which the emotext was used. If the message also contained an emoticon, it was not placed in an emotext category. For examples of these emotext types in context, see Appendix 4.

Table 3-2: Emotext types

Types	Interpretation
Approving	Showing amusement/affection/support, laughing with someone
Joking	Teasing, being silly, laughing at someone
Disapproving	Showing distaste/dislike/unhappiness
Rude	Being obnoxious/offensive/angry
Other	Neutral/no emotional content, type could not be determined

3.5.3.2 Method of Analysis

As in the case for the analysis of emoticons, gendered rates of emotext usage were calculated to determine whether gender differences existed in emotext usage. Since the instances of emotext classified as "other" carried no discernible emotional content, they were discarded from the analysis.

The two measures of usage employed in the analysis of emoticons were also used to analyze emotext. In this case, these are "rate of emotext use" and "emotext choice." The former was calculated by dividing the number of emotext occurrences produced per gender by the number of textual messages posted by that gender, resulting in an overall rate of emotext use for both genders. The latter was calculated by dividing the number of emotext instances according to type by the total number of instances of emotext used by that gender, resulting in averages for each type of emotext used by both genders. As with emoticons, the averages of emotext choice were evaluated by two different analyses: intergendered and intragendered.

As in the case of emoticons, z-tests were performed to identify significant differences between the rates of "emotext use" and the intergendered means of "emotext choice" by each gender. In other words, the gender differences in the overall usage of emotext as well as cross-gender gender preferences for specific emotext types were examined for

statistical significance. The intragendered, or within-gender, means will be discussed as rankings of percentages.

3.5.3.3 Hypotheses for Emotext Findings

Since the findings of emotext are closely linked with those of emoticons, I expect to find similar results, based on previous research in both FTF and CMC discourse. That is, women are more likely than men to use emotext (Jaffe *et al.* 1995), specifically when this is "aligned and supportive," including the "language of agreement and inclusion" (Stewart *et al.* 1999:¶70), for example emotext which falls in the "approving" category (Herring 1996b, 1996c). The opposite is hypothesized for the men. They are not expected to use emotext as much as the women, but when they do, this may be more likely to be "oppositional and adversarial" (Herring 1996b, 1996c) as exemplified by the use of insulting and aggressive speech (Stewart *et al.* 1999), such as emotext which falls in the "disapproving" or "rude" category.

3.5.4 Actions

Actions are descriptions of physical activities or behaviours which users attributed to themselves. Along with emoticons and emotext, they add a degree of emotionality to the conversation.

While there are two documented investigations of gendered use of actions in synchronous CMC, only one study (Cherny 1994) appears to have thoroughly examined gender differences in the use of actions in CMC. Herring's (1999) study briefly mentions that, of the actions performed in the 40-minute session she studied, all were performed by male users. Since Herring (1999:155) does not categorize the use of actions beyond saying that they are "sexually aggressive" in nature, I use Cherny's (1994) in-depth investigation of actions as a model, even though her study dealt with a MUD rather than IRC. Cherny categorized each action according to three criteria: the verb used, who performed the action and to whom the action was directed. I adopt a similar framework here, by classifying the action type, plus the direction of the action in terms of the genders of the performer and the intended addressee(s).

3.5.4.1 Classification

In IRC, actions fall into three basic categories. The first category, the "away/back" action, indicates that the participant has either left the channel or returned to it after being away from the keyboard (e.g.,**CoolDude is back)*. The second category, the "greeting" action, is used to say hello to another user (e.g., **CoolDude Ladybug!!!* where Ladybug is another user). The third category, the "physical" action, describes a movement, a gesture, or a physical or emotional state of the user, for example:

(7) *CoolDude hugs Ladybug

(8) *Ladybug glares

(9) *CoolDude sings the flintstones theme

These actions can be directed at a specific user as in example (7), an unknown or unspecified user as in example (8), or the entire channel as in example (9).

For the purposes of this study, only physical actions were examined, since the other types of actions ("away/back" and "greeting") were not only few in number, but also did not have the function of conveying a user's physical or emotional state. For examples of actions used in the context of IRC discourse see Appendix 4.

On the basis of their emotional content, the physical actions in the ten session database were classified as one of the five types shown in Table 3-3.

Table 3-3: Action types

Type	General description	Example verbs
Affectionate	Showing affection/friendliness/support	Hug, kiss, smile, give (e.g., a soda)
Playful	Teasing, rough-housing, self-aggrandizing	Grin, poke, slap (with a large trout[37])
Dissatisfied	Being antisocial, showing dissatisfaction/negativity	Sigh, cry, growl, glare
Violent	Demonstrating violence/malice	Kick,[38] die, bite, slap, kill
Neutral	Being attention-seeking/non-aggressive, often not aimed at another user	Think, ponder, sing, want, is X (e.g., hungry), has X (e.g., 6 logs)

3.5.4.2 Method of Analysis

As with the emoticon and emotext variables, actions were examined using two general measures. First the overall "rate of action use" was calculated for each gender. This is the ratio of physical actions to the number of textual messages produced by each gender. After these overall rates were determined, the actions were coded according to the types given in Table 3-3. Then the "action choice" variable was calculated. "Action choice" examines the degree to which each gender favours individual action types, and represents the ratio of individual actions by type to total number of actions used per gender. These

[37] This is a ritual action, performed upon the mention of the "slap word" (a word chosen weekly by the channel owner). This differs from the "slap" in the *violent* category.

[38] This would be perceived to be a physical kick occurring in cyberspace, different from the act of "kicking" (or disconnecting) a user from the channel.

ratios were then subject to two analyses, intergendered and intragendered. These measures were statistically tested in the same manner as emoticons and emotext (see sections 3.5.2.2 and 3.5.3.2).

In addition, every type of physical action was further coded for both the gender of the performer and the gender of the addressee, as represented by the classifications M→M, M→F, F→F, F→M, M→X, or F→X (where X means that the action was aimed at all participants, an unidentifiable user, or an unspecified participant). Then the frequencies of each direction category were calculated by dividing the number of specifically directed action types (e.g., *affectionate* M→M) by the total number of all actions with that direction (e.g., total M→M). In this way, the variable "action by direction" was analyzed for each type. However, due to the limited number of events in each direction category, statistical tests were not performed.[39] Instead, these frequencies will be discussed as percentages in Chapter 4.

3.5.4.3 Hypotheses for Action Findings

As stated above, both Cherny (1994) and Herring (1999) found that men use more actions than women. I anticipate the same result. With regards to type of action, again I expect to

[39] Statistically, the smaller sample size of "actions by direction" leads to larger variance and an increased probability of Type I and Type II errors.

obtain similar findings, that is that men are more apt to use violent or aggressive actions than women who, conversely, are more likely to use affectionate actions.

3.6 Conclusion

Now that the procedures for the data collection and the various methods of analyses have been clarified, the findings of this study can be presented. Chapter 4 contains the results of my investigation.

Chapter 4 Findings

As described in Chapter 3, I have chosen four variables on which to focus my analysis of gender differences in the language of IRC. These variables are participation, emoticons, emotext, and actions. Participation rates were analyzed using t-tests while the remaining variables were analyzed using z-tests to determine whether statistically significant differences existed between males and females.

4.1 Participation Results

Gendered participation in CMC interaction has been the focus of many studies. Since most of these studies have concentrated on asynchronous CMC, it is my goal to examine the participation patterns of synchronous IRC to discover if previous findings that men dominate the conversation in CMC bear out.

Table 4-1 presents totals of the data as calculated from all ten sessions in the database which are pertinent to the examination of gendered participation: number of participants, number of textual messages, number of all messages, number of words (taken from textual messages only), and time spent in the channel. (See Appendix 6 for the raw participation data.)

Table 4-1: Data totals over all ten sessions

Data type	Gender	Totals	Total combined participation	Gendered percentage of total participation
Participants	F	34	127	26.77
	M	93		73.23
Textual messages	F	1196	4881	24.50
	M	3685		75.50
All (textual and non-textual) messages	F	1225	4983	24.59
	M	3758		75.42
Words (from textual messages only)	F	4486	19415	23.11
	M	14929		76.89
Time in channel (in minutes)	F	1904	7191	26.48
	M	5287		73.52

With regards to total participants, the raw data shows that in every logged session of IRC there were more men present in the channel than women. The mean number of male participants is 9.3 per session while the mean number of female participants is 3.4; thus, the ratio of male participants to female participants is approximately 3:1, as previously documented in CMC research (Ebben & Kramarae 1993, Herring 2000).

Given the 3:1 gender ratio, it is important to determine if the users are participating in proportion to that ratio in terms of the amount of discourse they contribute and the amount of time they spend in the channel. The numbers given in Table 4-1 show that this is, in fact, the case: female participants contribute just under one-third the number of messages (both textual and non-textual) posted by the men, as well as just under one-third the number of words used by male participants, and spend just over one-third of the total amount of time in the channel that men do. This finding is important because it indicates that the greater number of messages contributed by males is purely the result of the greater number of males in the channel, not that males posts more messages than females do. In other words, neither gender has an *advantage* over the other with regards to total messages contributed or total time in channel, regardless of the fact that there are approximately three times as many men as there are women present in the channel. Hence, women's contribution to the discourse does not appear to be impeded because of the greater number of male participants.

The gendered rates of participation can only be meaningfully compared in a manner that is independent of the number of users present. This has been achieved in previous studies through the use of two measurements: "words per message" and "messages per minute." The present study employs these two measures in order to analyze the length and frequency of messages contributed by men and women. Mean values for each were calculated according to the method outlined in 3.5.1.2. Both the genders' measures of

"words per message" and "messages per minute" were then tested by comparing the mean female values to the mean male values via t-tests. The results of this investigation are given in Table 4-2.

Table 4-2: Participation rates by gender

	Gender	Mean	t-value	p-value	Significantly greater rate by
Words/msg	F	3.75	-1.00	(0.32)[40]	Neither gender
	M	4.01			
Msg/min	F	0.64	-0.89	(0.37)	Neither gender
	M	0.76			

As Table 4-2 shows, no statistically significant difference was observed between the genders. In other words, female participants in this channel posted messages that were not significantly different from those posted by males in terms of length and frequency.

Since neither gender has an advantage over the other in terms of number of messages posted or time spent in the channel, and there is no statistically significant difference in their rates of message frequency and length, it can be concluded that in channel *#h*, men and women are participating to an equal degree.

[40] Non-significant p-values are shown in brackets.

4.2 Results for Emoticon Use

As stated in Chapter 2, many previous FTF studies of gender differences in emotional language have suggested that females use more emotional language than males do. Similarly, studies of asynchronous CMC have echoed these differences, finding that women are more apt to use emotional language as represented by emoticons (Jaffe *et al.* 1995, Witmer & Katzman 1997) , especially those which are sociable such as smiles (Herring 1998 (cited in Herring 2000)). Thus, I hypothesized that my findings would reflect these documented gender differences.

The first variable which examined these potential differences was the mean "rate of emoticon use," calculated by dividing the total number of emoticons produced per gender by the total number of textual messages contributed by that gender. This mean represents the average number of emoticons used by each gender per message. Results for this analysis are shown in Table 4-3, which presents the total textual messages, mean rate of use, z-values and p-values for each gender per emoticon type. (See Appendix 7 for raw emoticon data.)

Table 4-3: Rate of emoticon use by gender (total textual msgs F=1196; M=3685)

	Gender	Total number of emoticons	Mean rate of use	z-value	p-value	Significantly greater use by
Overall	F	118	0.10	-2.574	0.01	Men
	M	466	0.13			

From these results it is clear that there was a significant overall gender difference in the rate of emoticon use. Males made significantly greater use of emoticons than females did.

The second variable used to investigate potential gender differences was "emoticon choice." This variable was examined via two analyses: intergendered and intragendered. In both analyses, the female and male mean percentages of emoticon choice were calculated by dividing the number of emoticons in each individual category produced per gender by the total number of emoticons contributed by that gender. The difference lies in the way in which those means were compared. In the intergendered analysis, a cross-gendered comparison using a standard statistical z-test was performed: within each category of emoticon, the female means were compared to the male means to determine whether females and males differed significantly in the degree to which they favoured particular emoticon types. In the intragendered analysis, a within-gender comparison was used to rank the degree to which each gender made use of the five types of emoticons examined.

As shown in Table 4-4, there is no statistically significant gender difference in the intergendered choice of emoticons; that is, there is no significant difference in the degree to which females favour any particular type of emoticon as compared to males.

Table 4-4: Intergendered emoticon choice (total emoticons F=118; M=466)

Emoticon type	Gender	Number of emoticons	Percentage use of each emoticon type	z-value	p-value	Significantly greater use by
Smiles	F	64	54.24	1.072	(0.29)	Neither gender
	M	227	48.71			
Frowns	F	8	6.78	0.135	(0.90)	Neither gender
	M	30	6.44			
Winks	F	28	23.73	-0.357	(0.72)	Neither gender
	M	118	25.32			
Raspberries	F	8	6.78	-1.515	(0.13)	Neither gender
	M	54	11.59			
Other	F	10	8.47	0.191	(0.85)	Neither gender
	M	37	7.94			

In light of this result, it is perhaps no surprise that the results from the intragendered analysis are similar. These within-gender rank orders of preference, based on the percentages of Table 4-4, are presented in Table 4-5.

Table 4-5: Intragendered ranking of emoticon choice

Gender	1st	2nd	3rd	4th	5th
F	Smiles	Winks	Other	Raspberries = Frowns	
M	Smiles	Winks	Raspberries	Other	Frowns

Here, both men and women most favour *smiles*, followed by *winks*. Beyond that, the genders show broad similarities in their rankings for the other emoticons.

This investigation of emoticon usage reveals that men use more emoticons overall than women do. This is an unusual finding given the previous research which points to women as being more emotional. With regards to intergendered choice, there are no significant gender differences in the degree to which men and women choose specific emoticons, and they show similarities in their preferences for emoticon types, favouring *smiles* and *winks* more than the other types.

4.3 Results of Emotext Use

As in the case of the investigation of emoticons, emotext was also analyzed using statistical z-tests. To examine the potential gender differences in the rate of emotext use, a mean usage rate was calculated by dividing the number of instances of emotext produced per gender by the total number of textual messages contributed by that gender. As with emoticons, this mean rate of use represents the average number of emotext instances used

per message by each gender. The results of this investigation are presented in Table 4-6. (See Appendix 8 for raw emotext data.)

Table 4-6: Rate of emotext use by gender (total textual msgs F=1196; M=3685)

	Gender	Total number of occurrences of emotext	Mean rate of use	z-test	p-value	Significantly greater use by
Overall	F	370	0.31	5.953	<0.001	Women
	M	826	0.22			

As Table 4-6 shows, women demonstrated a statistically significant greater overall use of emotext. This is in keeping with the previous findings from both FTF and CMC research.

In order to examine emotext choice, each genders' mean was calculated for each emotext type by dividing the number of instances of that type by the total number of emotext instances produced by that gender. The results for this analysis are shown in Table 4-7.

Table 4-7: Intergendered emotext choice (total emotext F=370; M=826)

Emotext type	Gender	Number of occurrences of emotext	Percentage use of each emotext type	z-value	p-value	Significantly greater use by
Approving	F	140	37.84	-0.692	(0.49)	Neither gender
	M	330	39.95			
Joking	F	160	43.24	0.399	(0.69)	Neither gender
	M	347	42.00			
Dis-approving	F	68	18.38	0.603	(0.55)	Neither gender
	M	140	16.95			
Rude	F	2	0.54	-0.919	(0.36)	Neither gender
	M	9	1.09			

These results from the cross-gendered analysis show that there are no statistically significant differences in the genders' choices of emotext types. In other words, neither males nor females differed significantly in the degree to which they used any particular category of emotext in the messages they posted.

There are also no gender differences in the rankings resulting from the intragendered or within-gender analysis of emotext choice, as shown in Table 4-8.

Table 4-8: Intragendered ranking of emotext choice

Gender	1st	2nd	3rd	4th
F	Joking	Approving	Disapproving	Rude
M	Joking	Approving	Disapproving	Rude

Here, both the males' and females' orders of preferences for the different emotext types are the same. Both males and females most favour *joking* emotext followed by *approving*, then *disapproving*, and finally *rude*.

Since both genders show preferences for the same types of emotext (i.e., *joking* and *approving*) over others (i.e., *disapproving* and *rude*), and since the ranking of these preferences is the same for both genders, it can be concluded that there are no real differences in the types of emotext favoured by males and females. However, there are gender differences in the rate of use, since women make significantly greater usage of emotext overall.

4.4 Results for Action Use

By using the same statistical testing methods that were employed in the analysis of emoticons and emotext, potential gender differences were investigated in the rate of use for actions. The mean rate of usage was calculated for each gender by dividing the number of actions by the total number of messages produced by that gender, and represents the average number of actions contributed by each. The gendered rates of use are presented in Table 4-9. (See Appendix 9 for raw action data.)

Table 4-9: Rate of action use by gender (total textual msgs F=1196; M=3685)

	Gender	Total number of actions	Mean rate of use	z-value	p-value	Significantly greater use by
Overall	F	55	0.05	-2.168	<0.05	Men
	M	232	0.06			

The above table shows that the males' overall usage of actions was significantly greater than the females' usage, a result certainly due to the males' high use of *playful* and *neutral* actions (see Appendix 9). However, when the intergendered analysis of action choice is examined, another finding emerges, as shown in Table 4-10.

Table 4-10: Intergendered action choice (total actions F=55; M=232)

Action type	Gender	Number of actions	Percentage use of each action type	z-value	p-value	Significantly greater choice by
Affectionate	F	12	21.82	1.302	(0.19)	Neither gender
	M	34	14.66			
Playful	F	16	29.09	-0.996	(0.32)	Neither gender
	M	84	36.21			
Dissatisfied	F	6	10.91	-0.407	(0.68)	Neither gender
	M	30	12.93			
Violent	F	3	5.45	0.367	(0.71)	Neither gender
	M	10	4.31			
Neutral	F	18	32.73	0.119	(0.91)	Neither gender
	M	74	31.90			

Table 4-10 above shows that there are no statistically significant differences in the cross-gendered analysis of action choice; that is, when females' and males' choice of specific types of actions were compared, neither gender displayed significant differences from the other. This is interesting given that the relative differences in the males' and females' percentages of usage seem reasonably large, especially in the case of *affectionate* and *playful* actions.

Since the findings of the cross-gender analysis of action choice do not show any significant gender differences, the resulting gender similarities of the within-gender analysis, as shown in Table 4-11, are no surprise.

Table 4-11: Intragendered ranking of action choice

Gender	1st	2nd	3rd	4th	5th
F	Neutral	Playful	Affectionate	Dissatisfied	Violent
M	Playful	Neutral	Affectionate	Dissatisfied	Violent

From these results, it is clear that the genders' preferences for specific action types differ only in their selection of *neutral* and *playful* actions. While the females chose more *neutral* than *playful*, the males' choice was the opposite. The remaining categories were ranked in the same order.

The study of "actions by direction" represents another aspect of importance to this investigation. By examining the gender of the performer in conjunction with the gender of the addressee, six categories of action direction were identified. These categories, along with the corresponding raw numbers and frequencies[41] for each action type, are shown in Table 4-12. In this table, an *X* in the addressee position indicates that the action was aimed at all participants, an unidentifiable user, or an unspecified participant.

Table 4-12: Numbers and frequencies of actions by direction

	M→X	**F→X**	**M→F**	**F→M**	**M→M**	**F→F**
Affectionate	13 (8.39%)	4 (14.81%)	17 (44.74%)	6 (25.00%)	4 (10.26%)	2 (50%)
Playful	43 (27.74%)	3 (11.11%)	16 (42.11%)	11 (45.83%)	25 (64.10%)	2 (50%)
Dissatisfied	26 (16.77%)	4 (14.81%)	2 (5.26%)	2 (8.33%)	2 (5.13%)	0
Violent	4 (2.58%)	0	1 (2.63%)	3 (12.50%)	5 (12.82%)	0
Neutral	69 (44.52%)	16 (59.26%)	2 (5.26%)	2 (8.33%)	3 (7.69%)	0
Total	155	27	38	24	39	4

[41] The frequencies of use for actions by direction were calculated for each direction category (e.g., M→M) by dividing the number of actions of a specific type (e.g., *affectionate*) by the total number of actions in that direction category, thereby calculating a percentage of use for that category of each action type.

Since these numbers are too few to analyze statistically, these results will be discussed as given. If each direction type is examined with regards to the action type used, interesting patterns emerge.

An examination of the total number of actions produced in each direction category shows that for both genders, those actions with an unspecified addressee (as indicated by the addressee label *X*) are most numerous. When gender-specific direction of actions is considered, the females aim more actions at males, yet very few at other females. Comparatively, the males aim almost the same number of actions at other males as they do females.

As noted above, the unspecified addressee category occurs most frequently for both males and females. Here, males' preference for specific action types is more evenly distributed than females', with *neutral* ranking the highest for males at 44.52%, *playful* as the second at 27.74% and *dissatisfied* as the third most preferred at 16.77%. In the F→X category, neutral actions are clearly in the majority (59.26%) while *affectionate* and *dissatisfied* actions are used equally, though at a much lower rate (14.81%). Interestingly, there are no instances of *violent* actions in the F→X category.

Actions that are aimed at the opposite gender exhibit considerable gender similarity. For the M→F category, *affectionate* and *playful* actions are both heavily favoured (44.74%

and 42.11% respectively) while the other types are rarely used. Similarly, these two action types dominate the F→M category; however females seem to prefer *playful* (45.83%) more than *affectionate* (25.00%). All of the other action types are used at a rate of less than 10% by both males and females, with the exception of the surprisingly high rate (12.5%) of *violent* actions aimed at males by females.

For actions that are aimed at a user of the same gender, there are interesting gender differences. For the M→M category, *playful* actions make up just over 64%, while the other action types are little favoured. While the males aimed 38 actions at other males, there are only four occurrences of actions in the F→F category, with *affectionate* and *playful* being favoured equally.

In order to better conceptualize the differences in each direction category, the preference rankings are presented in Table 4-13, where each action type is represented by its first letter, where A is *affectionate*, P is *playful*, D is *dissatisfied*, V is *violent* and N is *neutral*.

Table 4-13: Rankings of actions by direction

Direction	**1st**	**2nd**	**3rd**	**4th**	**5th**	**Direction**	**1st**	**2nd**	**3rd**	**4th**	**5th**
M→X	N	P	D	A	V	F→X	N=A	D	P		
M→F	A	P	D=N	V		F→M	P	A	V	D = N	
M→M	P	V	A	N	D	F→F	A=P				

From this table is it easy to see how the genders differ in the way they direct their actions. In all cases, the first action preferred is either *affectionate*, *playful* or *neutral*. For the males, the second most favoured action type is *playful*, except in the case of actions aimed at another male where *violent* is second in rank. In all-female interaction, actions are exclusively *affectionate* or *playful*; when females direct actions at males, they also favour these two categories, with *playful* actions clearly dominating.

The results of the analysis of the gendered use of actions in this channel are varied. Overall, men use significantly more actions than women do, yet no significant gender differences are apparent in the genders' choice of action category. Both genders aim more actions at unspecified users than they do at their own and the opposite sex. In short, in channel *#h* women and men can be said to employ the same kinds of actions in similar manners.

4.5 Conclusion

Given the varied findings outlined above, these results must be further evaluated in order to situate them within the larger framework of gendered CMC. The next chapter discusses the findings of the present study in terms of the broader context of gender differences in both face-to-face and computer-mediated interaction.

Chapter 5 Discussion

This investigation has revealed interesting insights into gendered interaction in the IRC channel *#h*. Some of these confirm the hypotheses set out at the start of the study, and some disprove these hypotheses, offering instead a somewhat different picture of men's and women's CMC. Contradicting previous research, men and women contributed proportionally equal amounts of discourse in channel *#h*. Unexpectedly, men displayed a greater overall usage of emoticons than women, while no significant gender differences in the choice of specific emoticon types was found. Conversely, but in keeping with previous research, women made greater overall usage of emotext than men, while again there were no significant gender differences in the choice of specific types of emotext. Another finding confirmed the prediction of previous research: men displayed greater overall usage of actions than women. Yet again, there were similarities in the types of actions the genders seemed to prefer.

For the most part, these results can be explained in terms of the differences between asynchronous CMC and synchronous CMC. Most of the previous research findings and subsequently, the research hypotheses, were based on asynchronous CMC. These findings for the most part echoed FTF gendered communication research; many FTF studies suggest that men dominate discourse, often through the use of aggressive language, whereas women are more apt to use emotional language, especially language of the type

that conveys agreeable and supportive sentiments. However, there are two general but related differences between asynchronous CMC and synchronous CMC which must be considered when discussing the results of the present investigation: the nature of synchronous CMC and the notion of the "channel as community."

Asynchronous CMC, including listservs, is similar to traditional interoffice memos or letters exchanged by friends. Such asynchronous CMC is often academic or information-oriented in nature and, while the tone can be informal, it usually does not carry the same capacity for the expression of emotion or elicit the same dialogue-inspired discourse as synchronous CMC does. By comparison, the nature of synchronous CMC allows for a highly informal conversation-like interactional setting which lends itself to the expression of emotion and to less serious discourse. The primary goal of chat is socialization and so the conversation is often lighthearted and sometimes even silly, with the users playing jokes on each other and engaging in talk that is used to establish rapport as well as share knowledge. Such a conversational environment may be perceived as somehow "safer" and "less socially bound" (Michel 1994:34), thus it may allow the users to converse using a manner of speaking which might be considered socially unacceptable for them in asynchronous communication or in many FTF contexts. For men, synchronous CMC may permit engagement in close, personal conversations normally deemed off-limits; for women, it may provide the opportunity to impart knowledge and gain status as a result (We 1993). Recalling Butler's (1990) theory of gender as a social construct, one which is

a series of performances, Lawley (1993) comments that the medium of CMC allows for more fluid gender constructions. Indeed, some of the allure of IRC discourse may lie in the fact that it presents an opportunity to explore ways of speaking and types of communication that are not a part of the normal conversational roles men and women are expected to play as demonstrated, for example, by the unexpected prevalence of violent actions directed at males by females.

The notion of "channel as community" is another major characteristic of synchronous CMC which is not often found in asynchronous CMC. On a whole, channel *#h* is a well-formed, close-knit community. Many of the core users have interaction outside of the IRC medium (e.g., via e-mail, telephone conversations, in-person meetings) which creates a stable, friendly channel. The users in channel *#h* are welcoming to newcomers and, for the most part, maintain a hospitable environment. This contrasts with other types of CMC, especially asynchronous modes, where discourse is most often geared toward the exchange of information in which the users "discuss" a number of topics in a more formal, often moderated, setting. As stated above, the social interaction in IRC often results in silliness and joke-playing. These users are not as concerned with presenting themselves as better or smarter than the other users, as the users of asynchronous CMC often are; instead, they are interested in casual conversation with people they know well. While many studies of asynchronous CMC have deemed the computer-mediated environment as hostile to women, especially due to the use of adversarial and vulgar

behaviour such as "flaming,"[42] swearing and name calling (McCormick & McCormick 1992, Herring, Johnson & DiBenedetto 1995, Herring 1994a, 1994b), this channel operates like a "community of practice," defined by Eckert & McConnell-Ginet (1992:493) as sharing "knowledge, membership, history and practices." This channel offers an environment in which users can engage in this shared community and, as such, be comfortable enough to communicate openly.

These two characteristics of IRC, specifically evident in channel *#h*, are the framework for the following discussion of the results on the analyses of participation, emoticons, emotext, and actions.

5.1 Participation

While previous research of gender participation in asynchronous CMC has found, for the most part, that men dominate conversation (Herring 1992, 1993a, 1994a, Herring, Johnson & DiBenedetto 1995), the data from channel *#h* contradict this conclusion.

Previous research indicates that there is typically a 3:1 male-to-female user ratio in CMC. In keeping with this finding, this investigation has shown that there were on average three

[42] The practice of "flaming" involves the sending of hostile or insulting messages, usually in response to another user's message.

times as many male participants in channel *#h* as female. Yet though IRC may be a male-dominated medium, female participation in channel *#h* was not adversely affected. Though more messages were contributed by men, this is simply a result of the greater number of male participants in the channel, rather than a greater posting on average of messages by men than women. Indeed, women contributed proportionally as much discourse as did the men in channel *#h*.

When the two rates of participation ("words per message" and "messages per minute") are considered, it is also clear that there are no gender differences in the length or frequency of messages contributed. From these results it can be concluded that, in this IRC channel, men and women participate equally. While contradicting the findings of asynchronous CMC research, these results are in keeping with those studies of recreational synchronous CMC which found that gender participation was more equal (Herring 1999), and in one case, that women dominated (Vaughn Trías 1999).[43]

As noted above, synchronous CMC may offer an opportunity for more equal gender participation that is not readily available in asynchronous CMC because of the nature of

[43] While Stewart *et al.*'s (1999) study of an online synchronous conference found that men dominated the discussion in terms of length and number of messages, I feel it is important to point out that this was a task-oriented conference in an experimental setting which is more analogous to an asynchronous listserv than a recreational chat group like the one studied here as well as by Herring (1999) and Vaughn Trías (1999). Therefore its results must be approached as such.

the chat conversation and the notion of the channel as community. We (1993:¶10) notes that of the CMC users she surveyed, "most people answered that men and women are able to communicate far more easily online than face to face." An examination of the range of topics discussed in the logged sessions of channel *#h* shows that conversations aimed at social interaction and the establishment of social rapport occurred alongside the exchange of information and the maintenance of social status, a significant difference from the findings from asynchronous CMC. Appendix 2 summarizes the topics discussed in each logged session of channel *#h*.

This range of topics does not conform to the previous findings that so-called "male-oriented" topics are more prevalent in CMC (Herring 1993a, Shade 1993). In this channel, the conversation often reflected the sense of community, involving discussion of what was going on in the lives of the members of the channel, as well as their moods and feelings. There are many examples of this, including instances where users discussed everyday dilemmas, told stories about how they came to join the channel, and reminisced about what it was like to be a "newbie."[44] Even when topics were discussed that were stereotypically "male-oriented" in nature — mostly computer-related issues such as software and hardware, website design, network problems, and video games — the women in the channel very often participated in these discussions. As noted by Kaplan &

[44] The term "newbie" refers to a user who is new to IRC and unfamiliar with the slang, netiquette and technology associated with the medium.

Farrell (1994), the women who participate use the Internet and participate in CMC are often already familiar with the "male" topics noted above, thereby increasing the probability that they can participate in conversations previously inaccessible to them. There was only one session in which the females seemed unwilling to participate in the "male" topics of soccer, drugs, pornography and masturbation (see Appendix 2, session four). However, I feel this is due to the presence of several overbearing male users, who had never been in channel *#h* before but joined the channel to talk to one of the male channel operators specifically. They commandeered the conversation, silencing everyone else, including other male users who were part of the channel community. This continued for some time until one of the female channel operators started a silly conversation with the researcher about the weather, which silenced the overbearing males who quickly left the channel.

For the most part, observation indicates that topics introduced by women were taken up for discussion in channel *#h* as much as those introduced by men, a further indication that the nature of chat encourages equal gender participation. We (1993:¶13) points out that in her survey of CMC users, "both women and men felt that women had more of a 'presence' online and that it is easier for women to make their voices heard online than in face-to-face conversation." This conflicts with Herring's (1999) suggestion that because women are not being given opportunity to contribute by men or because they are being mistreated by the men in the channel, women resort to talking only to women. In channel

#h, there seems to be a good deal of mixed-sex discourse in which both the females and males participate equally.

Given the high incidence of mixed-sex discourse in the channel, it can be surmised that both males and females are directing their messages at both the opposite sex and their own sex. Certainly, conversations involving all-male or all-female participants took place during logged sessions; however, for the most part, these were not exclusionary and often occurred alongside mixed-sex conversations. There also seemed to be a fair amount of cross-talk; that is, users participated in more than one conversation at any given time, so that a male/female user might be participating in an all-male/all-female conversation on the one hand, while participating in a mixed-sex conversation on the other. Interestingly, there seemed to be few conversations which involved only two participants — in IRC, discourse is group-oriented, such that one-on-one conversations are difficult to maintain. It is safe to assume that such conversations took place via "private chat;"[45] unfortunately, the availability of the private chat mode, inaccessible to other participants, prevents conclusions being drawn about the instance of one-on-one conversations between female-female, male-male, and mixed-sex dyads.

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[45] Private chat occurs in chat via "Direct Client to Client (DCC)" or "whisper" functions of the IRC program. Limited to two participants, communication takes place via a personal channel. Often, users will open a private chat channel with another user while simultaneously chatting in the group channel.

In channel *#h*, as in many others, netiquette is primarily enforced by channel operators. These users have special status in the online community because they have access to an additional set of commands that can, for example, kick or ban a user for breach of netiquette, which may include adversarial behaviour such as flaming, swearing and name calling. In this channel, the gender representation of channel operators may further encourage equal gender participation. Given the higher number of men in the channel, it is no surprise that there were more male channel operators. What is surprising is the ratio of male-to-female operators. There were on average eight male and four female users who regularly had channel operator status, resulting in a 2:1 gender ratio, one that is much improved over the overall 3:1 ratio of the channel membership.[46] This is quite a different observation from that of Herring (1999), who noted that all of the channel operators in her sample were male. The 2:1 ratio in channel *#h* means that there was at least one female channel operator present in the channel almost all the time. Referring to the popularity of online groups that are women-centred or women's-only, also noted by Smith & Balka (1988) and Shade (1993), Herring (2000:¶10) says that there is evidence that "women participate more actively and enjoy greater influence in environments where the norms of interaction are controlled by an individual or individuals entrusted with maintaining order and focus in the group." Given this evidence, it may be surmised that

[46] Channel operator status is assigned to a select number of users and given to them by the channel bot upon entry into the channel). It is also within a channel operator's power to give this status to other users. The reasons for doing this are most often only known by the channel operator. This gift carries much prestige in the channel and the channel operator rarely gives it to the same user twice.

having female channel operators in channel *#h* made other females feel more comfortable in participating.

Interestingly, Herring (1999) found that in her study there were instances of harassment where the male channel operators unnecessarily kicked female users, that is, they caused the females to be disconnected from the channel. Of all the sessions logged in channel *#h*, there were seven kicks carried out by male channel operators while the female channel operators performed three.[47] Of the seven male-initiated kicks, six were aimed at other males, two for violating netiquette and four for unpleasant behaviour. Only one of the male-initiated kicks was aimed at a woman, and it was done in jest. Of the female-initiated kicks, all were aimed at men: two were meant to be gags (both by the same female channel operator) while the other was performed out of annoyance. While Herring (1999) indicates that in her study the kicks, all male-initiated, were arbitrary, unprompted and intended to annoy the kicked user, in channel *#h* the opposite seems to be true. Possibly had there been female channel operators in the channel investigated by Herring, as there are in channel *#h*, such harassment might not have occurred.

[47] It is also possible to be kicked by a bot, for certain acts pre-programmed by the channel owner, e.g., trying to alter the bot's settings. These kicks are not discussed here.

In conclusion, this study suggests that the nature of the synchronous medium and the range of topics discussed in an IRC channel such as channel *#h* offer an opportunity for both genders to participate equally.

5.2 Emoticons

The results of the investigation into gender differences in emoticon usage in channel *#h* were unexpected. While previous research indicated that women would use more emoticons than men, the opposite was the case: men displayed a greater overall usage of emoticons in this channel.

Additionally, when an intergendered analysis of emoticon choice was considered, no significant differences emerged in the degree to which women and men chose specific emoticon types. Similarly, there were few differences in the intragendered analysis results, i.e., in the within-gender choice of specific emoticon types. Both genders preferred *smiles* and *winks* as their first and second choices, respectively, and their rankings of preference for the remaining emoticons were not dissimilar.

These findings may be interpreted via the two characteristics of IRC discussed above. Although some of the asynchronous CMC findings point to an increased use of stereotypical gender-marked language and interactional patterns, chat represents an

informal discourse setting where the genders may have the opportunity to experiment in terms of the stereotypical roles usually associated with gender and language. Instead of men feeling obligated to the "strong but silent" stereotype, they may feel more comfortable expressing emotion in the casual interactional setting offered by IRC where communication is, in addition, mediated by the use of an online nickname which may or may not index real-life gender. Reminiscent of the position taken by Cameron (1997:54) that, while stereotypically "feminine," gossip fulfills an appropriate need for males in "affirming the solidarity of an in-group," Jaffe *et al.* (1995:¶60) find that "despite a social expectation for males to portray social independence, the need for social interdependence is equally strong for males as it is for females" and that this need can be expressed in certain forms of CMC. In her survey of the experiences of Internet users, including users of MUDs and IRC, We (1993:¶14) relates the comment of one woman with regards to this point: "Men are more open online than face-to-face . . . Men freely give online hugs and kisses, which you don't see in face-to-face contacts as much."

Another explanation may be that because the stereotype exists that males' speech tends to be adversarial and aggressive, men explicitly mark their language when they are *not* behaving in this manner, for example, through the use of *smiles* and *winks*. Their attempts to be clearly understood could result in an increased rate of use of emoticons. An example of the use of an emoticon to interpret a possibly misread comment is given in (10). Here, user Buoy-o is telling another person to ask user Levt to log on to the channel. The use of

the imperative could be mistaken for a rude or angry command; however, the *smile* emoticon mitigates this interpretation and tones down the effect of the command as shown in (10):

(10) <Buoy-o> tell levt to get online :)

It is interesting to note that, as stated in section 1.2.2.3 above, emoticons almost always come at the end of a message, often in place of the grammatical punctuation symbol, where the addressee is certain not to miss it. In this way, emoticons 'punctuate' or emphasize the speaker's intent before the addressee can misinterpret it, as shown in (10) above.

In example (11), the user Wattail asks about my research and the user Levt interjects by asking if I had tried the channel *#cybersex*, a comment that could easily be interpreted as vulgar or lascivious. Here, the use of the *wink* modifies a comment which is intended to be a joke.

(11) <Wattail> ResearchGirl: found any interaction yet?

<Wattail> or just random insults?

<Levt> Hehe

<Levt> Tried #cybersex? ;)

Many of the instances of *winks* and other emoticons in channel *#h* are used to modify comments that could be taken as vulgar or lewd, and indicate instead that the intent was intended to be merely suggestive or flirtatious. It is interesting that while this type of "toning down" of sexual comments is employed more by men, female participants in channel *#h* also use this technique. As stated above, the point of chat is social interaction and some of this interaction takes the form of flirtation — however not to the extent that Herring (1999) describes in her study, where the female users are given the choice of interacting flirtatiously with the male users or being kicked from the channel. Female users in channel *#h* do not face being removed from the channel if they do not participate in flirtation, as discussed in 5.1 above.

Both males' and females' seeming reluctance to use the other emoticons — notably *frowns* and *raspberries*, which express displeasure and poking fun — can be interpreted in conjunction with the above explanations. In this informal, conversational context, the users are attempting to be friendly and sociable, which is in keeping with James & Drakich's (1993:299) claim that in FTF communication "the more casual the conversation . . . the more [that] 'facilitative' uses of speech are required." The goal of conversation is to make friends and have fun, not to make people feel stupid or inferior. The usage of *raspberries* is often intended to be teasing, as opposed to mean, as illustrated in example (12) where EagleEyes's reply of "cos you suck" is clearly marked as a teasing comment as opposed to a hostile one; however, the *raspberry* emoticon does

not seem to have the same minimizing effect as a *smile* or a *wink* might, as evidenced by Halim's subsequent *frown*:

(12) * EagleEyes gives ann another rubix cube

<PepperAnn> hehe

<PepperAnn> thanks

<halim> how come i didn't get one eh ?

<EagleEyes> cos you suck

<EagleEyes> :P

<halim> :(

The *frown* emoticon, which ranks quite low for both men and women, is used to indicate dismay, displeasure or unhappiness. Frowns are most often used to describe displeasure at oneself, or some situation out of one's control, as opposed to displeasure with another user: for example, in (13) Halim is having trouble with his video game *Descent*, and in (14) `Tash is distraught that she is not having steak for supper like her family:

(13) * halim cannot for the life of him get Descent to work :(

(14) <`Tash> no fair they are having steak :(((((((((

Within the medium of IRC, the genders' preferences and dislikes for specific emoticon types may be explained by similar reasons. The desire to appear friendly and hospitable in a channel where pleasant conversation is the goal, along with being welcoming as a community, can best be achieved through the use of *smiles* and *winks*, whereas behaviour contradictory to this mandate, as demonstrated by the inadequacy of *raspberries* to clearly convey a teasing tone and the discontent associated with *frowns*, may be viewed as unacceptable and result in rejection from the channel.

The above findings are quite different from what previous CMC research has reported. For the most part, this literature deals with the use of emoticons in asynchronous CMC. Jaffe *et al.* (1995) found that a higher percentage of emotional text was produced by females than by males. Witmer & Katzman (1997) found that while few emoticons were used overall, their hypothesis that women used more emoticons than men was partially supported. Gurak (1995:12) commented that in one listserv discussion group, it was "primarily women who used lots of smileys and other emoticons." These results from asynchronous CMC are in keeping with those of at least some FTF communication where women have been found to produce more positive socioemotional content, as illustrated by support and agreement (e.g., Leet-Pellegrini 1980, Aries 1982).

The research on gender differences in the use of emoticons and emotional language in synchronous CMC are few in number and need to be regarded cautiously when compared

to the present investigation. Herring (2000) comments that in her 1998 study, women used more representations of smiles and laughter in IRC than men did, up to three times as much, while men were more likely to use insulting, aggressive speech. Unfortunately she does not expand further on this statement, except to say that her results "parallel the finding that women and men in asynchronous discussions tend to use different discourse styles" (¶13).

Interestingly, the conclusions that most parallel those of the present study come from an asynchronous newsgroup. In his study of two Usenet newsgroups, Smith (1998) found contradictory results. In the "soc.singles"(SS) newsgroup, the use of emoticons by men is said to follow the "rigid rule of textual masculinity" established in some online groups; that is, men do not use emoticons, thereby reflecting "an element of male gender performance in RL, the association of masculinity with emotional reserve" (Smith 1998:525). This finding conflicts with that of the "soc.singles.moderated" (SSM) newsgroup, where Smith (1998:525) discovered that men use emoticons "freely, and at about the same rate" as women. Smith's explanation for this differing findings is based on the differing natures of the newsgroups.[48] The SS newsgroup is a stereotypical group

[48] Smith (1998) did not consider the possibility that a moderator in the SSM newsgroup mitigated the typical asynchronous CMC scenario with regards to gendered communication, as illustrated in the SS newsgroup. This is especially surprising given that Herring (2000) cites evidence that the presence of a moderator, whose job it is to maintain conduct order, may affect the interaction, for example by encouraging women to participate more freely and openly in CMC.

with "anarchic, antagonistic and obscene" overtones, while SSM is a smaller group, which seems to place "high value on mutual support" (Smith 1998:522). The SSM newsgroup is analogous to the IRC channel examined here in that it has fewer users and is a close-knit community where the goal of communication seems to be social interaction, as opposed to the SS newsgroup which seems to be typical of asynchronous groups in that there is a large membership and the content leans toward "hyperbolic statements about Women and Men" (Smith 1998:522). Given the similarities in the natures of SSM and channel *#h*, it is no surprise that their participants' usages of emoticons are similar, yet different from the SS newsgroup or other more traditional asynchronous CMC.

5.3 Emotext

This study has shown that the gendered usage patterns of emotext in channel *#h* are very different from those of emoticons. With regards to rate of emotext usage, women display a significantly greater use than men; however, the intragendered rankings of emotext choice show that there is no difference in the genders' preferences for specific types of emotext.

The females' greater use of emotext is one of the few findings of this study that may confirm the importance of traditional gender stereotypes. While the males in this channel seem to have embraced the use of emoticons, they may not feel as comfortable expressing

their emotions in ways that traditionally have been deemed "women's language" as represented by the textual equivalents to vocal pitch, intonation, or emphasis that are illustrated in examples (15), (16), and (17) respectively:

(1) <tempa> finals are the week after next

<tempa> eeeeekkkk

(16) <PepperAnn> that sounds sooo good

(17) <Tasha> the can is BLUE!!!!!!

The males' preference for emoticons may lie in the fact that emoticons are graphic representations of emotions, which may be deemed to be somehow more "masculine" than representing the suprasegmental dimension of language or the actual way that speech sounds, which may be considered overly "feminine."[49]

This said, the genders nonetheless display the same rankings of emotext choice. As discussed above in 5.2 above, this may be explained by the nature of chat discourse. For the most part chat is not serious or academic; rather it is lighthearted and sometimes silly, since social interaction is its primary goal. For this reason, the predominant emotext choice for both genders is *joking*, which is not surprising when the level of humour and

[49] See Brend (1972), Titze (1989) and Woods (1992) for more on gender differences in suprasegmental and acoustic characteristics.

the average age of the participants are both considered. The second most preferred type of emotext is *approving*, which can be explained by the friendliness of the channel and by the fact that it is a tight-knit community where the users are not out to "one-up" each other or cause the others hurt. *Disapproving* emotext is ranked third, over *rude* which is ranked last, and may be explained by the fact that the users of this channel do not tolerate transgressions of the channel rules nor do they allow users to haphazardly degrade fellow users.

While this findings are in keeping with the general stereotype of asynchronous CMC in that women use more emotext than men, in channel *#h* there is something of a contradiction with respect to the conversation types usually associated with men and women. The findings of asynchronous CMC suggest that men and women have two distinct communicative styles, which are said to parallel those found in FTF communication. Most of Herring's asynchronous research (1992, 1993a, 1993b, 1994a, 1996b, 1998 (cited in Herring 2000)) has found that women's online language is characterized by apologies, personal orientation and support of other users, whereas men's online language is characterized by strong assertions, authoritative orientation and challenges to other users. As stated above, in channel *#h* both genders prefer *joking* and *approving* emotext types far more than *disapproving* and *rude* types; this is yet another discrepancy between the findings of asynchronous and synchronous CMC research.

Therefore the conclusions of other synchronous research into the use of emotext must be examined.

While in their study of a synchronous IRC conference, Stewart *et al.* (1999) did not investigate the possible differences in the amount of emotext used by males and females, they did note differences in communication styles similar to those suggested by Herring. Stewart *et al.* (1999:¶70) commented that men used "strong, even aggressive language" while women used the "language of agreement." These findings may seem to indicate that the results of the present investigation are deviant from the norm. However, it must be noted that the fact that Stewart *et al.*'s conclusions echo those of asynchronous CMC can be attributed to the greater similarities of their interactional setting to a listserv as opposed to a recreational IRC channel. First of all, the conference from which Stewart *et al.* (1999:¶29) collected their data was a "quasi-experiment, that is, the communication situation was contrived by the researchers." Secondly, the participants did not know each other before the experiment. Thirdly, the conversation which took place was not social in nature; instead, it was a task-oriented exercise which used a test ("Lost on the Moon") to elicit group decision-making discussion.[50] Consequently, these results need to be

[50] In this test, devised by Doyle & Strauss (1976), Stewart *et al.* (1999:¶31) told participants "to rank, in order of importance to their survival, 15 items to bring on their trek [to the moon] and were told they had 30 minutes to complete their task"

considered carefully before any general conclusions about the gender differences in emotext use in synchronous CMC are drawn.

Instead of following the typical "female-affiliative" versus "male-dissaffiliative" communication styles, the users of channel *#h* seem to be more interested in maintaining a friendly, hospitable environment where *joking* and *approving* types of emotext are used much more than *disapproving* and *rude* emotext. This is in keeping with the definition of this channel as an informal interactional setting where the users feel a sense of community.

5.4 Actions

In channel *#h*, actions are used more overall by males than by females. As with emoticons and emotext, there were no gender differences in the intergendered action choice and similar patterns of intragendered action choice were observed.

The finding that men use more actions supports the conclusions of Cherny (1994) and Herring (1999). Herring discovered that all of the actions in her sample were produced by men. Cherny's results were split into two general categories: "hugs/whuggles" and "other" actions; although Cherny does not draw this overall conclusion herself, when these categories are combined, the men in her MUD make greater use of actions than the women do.

The males' significantly greater usage of actions in channel *#h* may be seen as a continuation of the trend exhibited by the males' use of emoticons; that is, they are using actions to be explicit in their expression of emotion, as shown in (18).

(18) * Levt grins mischievously

Like emoticons but unlike emotext, actions are a graphic way to express emotion, without using elements of spoken language, as emotext does. As with emoticons, actions may be considered more masculine. The "masculine" quality of actions may be derived from the fact that they, and to some degree emoticons as well, are depersonalized. Instead of simply announcing their emotional intent, participants who use actions are employing what Rodino (1997:¶49) calls "an omniscient narrator." Interestingly, Ruedenberg *et al.* (1994) liken actions to the stage directions inserted by playwrights into the scripts of a play. As such, the use of third-person narration as characterized by actions can be seen as something of a removal of the speaker from the interaction.

Given the similarities between actions and emoticons, it is no surprise that actions can sometimes express the same sentiment as an emoticon would, as in (19). Additionally, emoticons are often contained within an action as in (20).

(19) * PepperAnn frowns

(20) * LassarO throws a pie in ResearchGirl's face :)

When the types of actions preferred by the genders in this investigation are examined, it is clear that women use a higher proportion of *affectionate* actions (see for example (21)) than do men.

(21) * `Tash hugs eagle

This finding is in keeping with Cherny's (1994) "hug/whuggle" analysis which shows that women used more "hugs" and "whuggles" than did men. Hugs and whuggles are related actions (the latter is used almost exclusively in MUDs) which Cherny (1994:105) says are often used "as a sign of affection or support." In contrast to the *affectionate* results, the men used more *playful* actions in channel *#h* (see for example (22)) than the women did.

(22) * Levt pokes Nels again

Both genders used almost the same proportion of *neutral* actions, which was quite high in both cases. Conversely, *dissatisfied* and *violent* actions are selected least of all (especially the latter), presumably for the same reasons why *disapproving* and *rude* emotext are used

so little — the channel's community would not tolerate such displays of negative interaction which would certainly disrupt the social focus of the conversation. Herring (1999:155) suggests that in her channel, women are less inclined to use actions than men because the observed actions are typically used to "enact sexually aggressive behaviors, and thus may be avoided by participants who are the targets of the behaviors" (i.e., the females). This does not seem to be the case in channel *#h*.

The males' lack of use of *affectionate* actions reflects the gender stereotype of being less likely to be seen as "emotional," which to some degree is corroborated by FTF findings (Ganong & Coleman 1993). Another possible explanation is that, in synchronous CMC, actions may be seen as having the same communicative weight as real life actions would. Cherny (1994:106) comments that with regards to "hugs" and "whuggles," "the etiquette involved seems to require that both parties feel affectionately toward one another, especially if they have not met [in] RL" — as such, *affectionate* actions (such as kisses and hugs) are probably used sparingly in channel *#h*. Additionally, any other *affectionate* action (e.g., smiling) may be represented by other means (e.g., emoticons).

When gender of performer and addressee are considered simultaneously, some differences did emerge in the case of gender-specific addressees. Females directed almost as many actions at males as at unspecified participants, yet very few at other females. Males, on the other hand, directed relatively few actions at either males or females. With

regards to action type, males aimed more *affectionate* actions at females and very few at other males. These results echo Cherny's (1994:107) who also notes that *affectionate* M→M actions, including "hugs" and "whuggles" are "probably meant to annoy." Another factor here is that our homophobic society disapproves of males being affectionate with one another, as such displays could be interpreted as indicative of homosexual tendencies. Interestingly, there were only four instances of F→F actions in total, equally *affectionate* and *playful*. This tends to confirm the aforementioned suggestion that in channel *#h* actions may be perceived as "masculine" behaviour, unlike the "feminine" use of conversational techniques which could be considered closer to actual speech, in particular emotext.

While men use more *violent* actions overall than women, a finding that is in keeping with Cherny (1994), it is important to note that there were very few instances of *violent* actions on the part of either gender. With regards to direction, the violent actions used by males tended to be aimed at other males or unspecified participants, while those used by females were solely directed at males. The finding that women are more apt to use violent imagery when conversing with males is unexpected relative to the literature on FTF and asynchronous CMC interaction. Cherny (1994:113-114) interprets similar results as "an example of women's adaptation to the different discourse style in male-dominated groups." Such an interpretation, however, assumes a dichotomous view of gender, in which the expression of violence is seen as an exclusively male prerogative.

The fact that *playful* and *neutral* actions were used extensively by both genders while neither gender favoured *violent* actions, further supports the idea that the goal of this channel's communication is social interaction, primarily of a fun and open-minded type.

5.5 Conclusion

The results of this investigation into gender differences in synchronous CMC do not echo the typical conclusions of the literature on FTF discourse or asynchronous CMC interaction with respect to both degrees of participation and use of emoticons. Similarly, examination of the emotext and actions results show a departure from the traditional findings concerning gender-preferred types of language. This has been explained in terms of the nature of IRC and the notion of the channel as community of practice. However, another consideration here is the current criticism that much of earlier literature on gender and language was too rigid in its interpretation of gender differences in language (Cameron 1992, Freed & Greenwood 1996, Cameron 1997).

The current literature suggests that these differences are not nearly as pronounced as gender role stereotypes would predict. A whole range of variables independent of gender needs to be taken into consideration. These variables include topic of conversation, the context of interaction (degree of formality, number of speakers, etc.), age of speakers and personality factors. Some of the literature (e.g., James & Clarke 1993) questions the

validity of the conclusions of earlier FTF gender studies, given their potential observer bias in light of the expectation of dichotomized gender styles.

Cameron (1997) recalls Butler's (1990) concept of gender as performance and comments that women and men are not from different cultures as previous theories have suggested; instead, "[men and women] do not only learn, and then mechanically reproduce, ways of speaking 'appropriate' to their own sex; they learn a much broader set of gendered meanings that attach in rather complex ways to different ways of speaking, and they produce their own behaviour in the light of those meanings" (280-281). In her study of gendered interaction in IRC, Rodino (1997:165) presents a similar argument, in that her analysis "suggests that conceptualizing gender as a dichotomy neglects the variety of gender construction in IRC. Although some gender performances in IRC conform to dualistic gender categories, others break out of binary categories."

Considering this observation, it is not surprising that given the context of IRC, the men and women in channel *#h* were able to converse in non-traditional ways alongside more stereotypical and more commonly attested gendered styles of communication.

Chapter 6 Conclusion

Since much of the previous literature on gender in CMC has focused on asynchronous modes of communication, this thesis sought to examine the less investigated mode of synchronous CMC. The hypotheses called for similar results as past research has reported: males participate more than females do; females use more emotional language (i.e., emoticons and emotext) than males do; and males use more actions than females do.

The examination of gendered modes of interaction in Internet Relay Chat channel *#h* has confirmed only some of these hypotheses. In keeping with previous research, women displayed a significantly greater usage of emotext, while men used significantly more actions. Conversely, men and women contributed proportionally equal amounts of discourse in channel *#h* — an unexpected finding given the evidence to the contrary from both FTF discourse and asynchronous CMC. Another unexpected finding was that men displayed a greater overall usage of emoticons than women.

These findings have been interpreted within two separate frameworks which hinge on the differences between asynchronous and synchronous CMC, namely the nature of chat, and notion of channel as community. The nature of chat as a medium allows for more open communication on the parts of men and women. Participants are not bound to follow stereotypical gender roles, as they are more likely to be in asynchronous CMC, and they

are given an opportunity to communicate in a context or register that is casual, one which is very different from the interactional environment offered by asynchronous listservs and newsgroups. The notion of channel constituting a community also allows for such open communication, since the users are familiar with each other and perceive their computer-mediated environment as a meeting place where social interaction is the primary goal.

As such, while the finding that the participation of men and women in channel *#h* is equal is unexpected, it is not far from inexplicable. Similarly, the discovery that men use more emoticons overall as opposed to women is by no means incomprehensible. The men in this channel seem to have embraced the form of emotional shorthand offered by graphic symbols. Likewise, the women in this channel seem very comfortable in expressing their emotions by means of emotext, as predicted by previous FTF and CMC research. The finding that men use more actions than do women is also expected based on the previous findings, and may be interpreted as an extension of their preference for using unique methods for conveying meaning in computer-mediated communication.

Clearly the conclusions of this investigation need to be considered carefully, especially in light of the fact that they are drawn from a single channel and a relatively small group of participants. However, inasmuch as channel *#h* typifies a recreational IRC channel, the findings from it may be considered to be reflective of a channel of similar composition and function. Nonetheless the findings of the present study certainly indicate that more

research into synchronous CMC modes must be conducted, specifically those which are focused on social interaction as opposed to academic discussion. Such modes present a compelling testing ground for language and gender investigators. And as research indicates that more women are logging on than ever before, the need to examine gendered communication in such newly-emerging environments can only become greater.

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APPENDIX 1: Users' gender categorizations

Table 1: Female participants (n=11)

Participant	Source of information/ verification	Participant	Source of information/ verification
Cjay1	other users'/self references as F; gendered nick	FROGGY	RL name (F) given on website
FlickChick	other users'/self references as F; gendered nick	LovelyLady	Photo and RL name given on website (F)
GeneVieve	other users'/self references as F; gendered nick	PepperAnn	Photo and RL name given on website (F)
LynnLy	other users'/self references as F; gendered nick	`Tash	Photo and RL name given on website (F)
SherylCrow	other users'/self references as F; gendered nick	Tempa	Photo and RL name given on website (F)
Tattoogirl	other users'/self references as F; gendered nick		

Table 2: Male participants (n=34)

Participant	Source of information/ verification	Participant	Source of information/ verification
Buoy-o	RL name given on website (M)	Cyclops	Other users'/self references as M; gendered nick
discjockey	Gender given on website	Dil	Other users'/self references as M; gendered nick
DonnY	Photo and RL name given on website (M)	Fide	Other users'/self references as M; gendered nick
EagleEyes	RL name given on website (M)	hud18	Gendered nick; additional knowledge of researcher
Ger-Vose	Photo and RL name given on website (M)	Huey	Other users'/self references as M; gendered nick

Table 2 (cont'd): Male participants (n=34)

Participant	Source of information/ verification	Participant	Source of information/ verification
Halim	Photo and RL name given on website (M)	Hulk	Gendered nick; additional knowledge of researcher
Krish	Photo and RL name given on website (M)	JaCe	Other users'/self references as M; gendered nick
Levt	Pic and RL name given on website (M)	Laner	Other users' reference; additional knowledge of researcher
Mercury	Gender given on website	LassarO	Other users'/self references as M; a/s/l response
Nelson_B	Photo and RL name given on website (M)	Lethall	Other users reference; additional knowledge of researcher
Querty	Photo and RL name given on website (M)	MacK	Other users'/self references as M; gendered nick
scarecrow	Photo and RL name given on website (M)	Mercury	Other users' reference; additional knowledge of researcher
Remo	Photo and RL name given on website (M)	oscar13	Other users'/self references as M; gendered nick
Thello/ Thakan	Photo and RL name given on website (M)	PabLo/ KoolTop	Other users'/self references as M; gendered nick
AnDrew	Gendered nick; additional knowledge of researcher	Popeye	Other users' reference; additional knowledge of researcher
bowe/fvalli	Other users'/self references as M; gendered nick	skywalker	Other users'/self references as M; gendered nick
Cisco	Other users'/self references as M; gendered nick	Wattail	Other users'/self references as M; gendered nick

Table 3: Participants of unknown gender (n=19)

Participants (None of the criteria met)			
A_FAN	Hansel	oran	Sphinx
dana	Julielik18	ohhh	squid
duckgirl	Kardo	PARKERD	VanMorrison
europe	kindaears	poco	ZORRO
GreTel	Loverboy	SCREW_U	

APPENDIX 2: Topics discussed in each logged session

Session 1: Users' specs (e.g., a/s/l queries and answers, talk about what it is like where someone lives; questions about their lives, etc.); Bots; Food; Discussion about other members of the channel (e.g., who are present/absent); Current goings-on in users' lives; Discussion of my research[51]

Session 2: Games; Users' specs; Websites (e.g., satellite pictures of earth); Discussion of my research; Food; Computers (e.g., hard drive specs).

Session 3: Discussion of my research; Discussion about other members of the channel; The playing of sounds in IRC; Movies; Food.

Session 4: Computer programs; Websites; Music; Discussion of my research; Masturbation; Drugs; Soccer; Pornography.

Session 5: Discussion about other members of the channel; "Nuking;" E-mail accounts.

Session 6: Access/connection to the Internet; Discussion about other members of the channel; Discussion of my research; Personal logs; Joke telling; "Kicking" war with bot; Food; What it is like to be a "newbie;" Individual users' tales of how they came to join the channel.

Session 7: Discussion about other members of the channel; How the channel came to be (i.e., the story of *#h*); Bots; Food; Drinks; Personal problems; Weather; Cost of Internet access in different parts of the world; Currency conversion.

Session 8: Discussion of my research; Discussion about other members of the channel; Roughhousing/teasing conversation; Websites; Server lag; Users' specs; Birthdays and birthday presents.

Session 9: Discussion of my research; Discussion about other members of the channel; Server problems; IRC scripts; Employment insurance; The Internet; Computer problems.

Session 10: Roughhousing/joking conversation; Server/connection problems; Computer games; Board games; Discussion about other members of the channel; Homework; Photos; Users' specs; Pets; Computer networks.

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[51] This usually involved further explanation of what my research was about, where users could find more information (i.e., my website) and queries as to how it was progressing.

APPENDIX 3: Sessional information

(? = participants of unknown gender)

Session	Time logged (NST)	Duration	Total Users (F/M/?)
1	20:50-21:42	1h32	3 (1/2/0)
2	22:55-00:38	2h58	15 (3/9/3)
3	21:31-22:38	1h12	9 (3/6/0)
4	20:48-23:06	2h18	15 (4/10/1)
5	22:02-22:54	0h52	7 (2/4/1)
6	21:47-00:44	2h57	19 (5/12/2)
7	21:36-00:28	2h52	15 (5/8/2)
8	19:55-22:07; 22:36-23:33	3h03	23 (5/14/4)
9	19:55-21:36; 21:34-23:08	3h06	21 (3/14/4)
10	19:17-21:27; 21:29-22:32	2h46	21 (3/14/4)

APPENDIX 4: IRC transcript with sample coding

1	[19:50] <Ger> wb tasha	1 General discourse
2	[19:50] <EagleEyes> TAAAAAAAAAAAAAAAAAAAAAASHAAAAAAAAAAA	2 Emotext: Approving
3	[19:50] <Cyclops> heyz tash :)	3 Emoticon: Smile
4	[19:50] <PepperAnn> wb tasha	4 General discourse
5	[19:50] <halim> wb tash	5 General discourse
6	[19:50] * EagleEyes throws a bouncy ball at tash	6 Action: Playful
7	[19:50] <`Tash> no fair they are having steak :((((((((	7 Emoticon: Frown
8	[19:51] <EagleEyes> awww	8 Emotext: Approving
9	[19:51] <PepperAnn> that sounds sooo good	9 Emotext: Approving
10	[19:51] <EagleEyes> ann... gimmie your connection!	10 Emotext: Other
11	[19:51] <`Tash> i cant have it :((((((((	11 Emoticon: Frown
12	[19:52] <EagleEyes> it's FAST	12 Emotext: Approving
13	[19:52] *** Las-q2 is now known as LassarO	13 [Channel traffic]
14	[19:52] <EagleEyes> well played lassaro	14 General discourse
15	[19:52] <LassarO> :o)	15 Emoticon: Smile
16	[19:52] <LassarO> Thanks	16 General discourse
17	[19:52] <LassarO> Ur not too sucky urself	17 General discourse
18	[19:52] *** MacK has quit IRC (Bye bye peeps)	18 [Channel traffic]
19	[19:52] * EagleEyes grins	19 Action: Affectionate
20	[19:52] <EagleEyes> I'm ok	20 General discourse
21	[19:53] <PepperAnn> its fast today not always fast thogh	21 General discourse
22	[19:53] <EagleEyes> i know ann ;) hehe	22 Emoticon: Wink
23	[19:53] <Ger> brb	23 General discourse
24	[19:53] <EagleEyes> 4000 cps	24 General discourse
25	[19:53] <EagleEyes> woo ha	25 Emotext: Approving
26	[19:53] <EagleEyes> tash.. you need this wav too	26 General discourse
27	[19:53] <EagleEyes> it's hilarious	27 General discourse
28	[19:53] <`Tash> no	28 General discourse
29	[19:53] <`Tash> i dont want it	29 General discourse

APPENDIX 5: Ethics policy

From *http://www.ucs.mun.ca/~jpeddle/ethics.htm*

Statement of Research Intent

The collection of data is for the purposes of research into the interaction of users of Internet Relay Chat (IRC). The collected research will subsequently form the basis for my thesis, to be completed in partial fulfillment of the requirements of the Master of Arts degree. This thesis, once completed, will be made available from the Department of Linguistics, Memorial University of Newfoundland, the Queen Elizabeth II library, Memorial University of Newfoundland and on the Internet at an website/URL to be determined.

Ethics Policy

Confidentiality. Any content discussed during the chat session that is felt to be of a sensitive nature will not be revealed, nor will messages conducted privately (e.g., via DCC or outside of the regular channel).

Anonymity. No user will be identified by his/her name, location, computer (IP address), e-mail address, nick/user name, or any other recognizable features not mentioned here, which might reveal his/her real life or online identities. In addition, the logged channel(s) and accompanying channel topic(s) will also not be revealed. Pseudonyms will be provided in all transcripts of chat sessions, in all raw data as well as where it is absolutely necessary to present excerpts of chat within the text or appendices of the thesis.

Informed Consent. Every attempt will be made to obtain informed consent from all users present during a logged chat session. Permission to log the chat session will be requested upon entry into the channel and periodically during the session for the benefit of new users. If any user is not completely comfortable with this, the researcher will cease logging and disregard that session.

Accessibility. As stated above, this thesis, once completed, will be made available from the Department of Linguistics, Memorial University of Newfoundland, the Queen Elizabeth II library, Memorial University of Newfoundland and on the Internet at an website/URL to be determined. All raw data (transcripts of chat sessions), whether utilized for the purposes of the thesis or subsequent publications, will remain in the sole possession of the researcher, to be shared with others only with legitimate reason (e.g., thesis examiners).

APPENDIX 6: Participation data

Session number		1	2	3	4	5	6	7	8	9	10	All
Participants	F	1	3	3	4	2	5	5	5	3	3	340
	M	2	9	6	10	4	12	8	14	14	14	930
Textual msgs	F	48	92	171	61	90	305	135	179	29	86	1196
	M	89	421	218	498	133	421	415	521	455	514	3685
Non-textual msgs	F	2	0	19	0	0	2	0	5	0	1	29
	M	0	19	20	2	3	2	5	4	3	15	73
Total msgs posted	F	50	92	190	61	90	307	135	184	29	87	1225
	M	89	440	238	500	136	423	420	525	458	529	3758
Total words	F	221	278	774	209	396	1073	563	580	73	319	4486
	M	305	1791	811	2210	566	1887	1823	2121	1530	1885	14929
Average words/msg	F	4.6	3.02	4.53	3.43	4.4	3.52	4.17	3.24	2.52	3.71	3.75
	M	3.43	4.25	3.72	4.44	4.26	4.48	4.39	4.07	3.36	3.67	4.01
Total time IN chan	F	1h20	1h47	2h27	3h01	1h24	6h54	4h22	3h23	2h50	4h16	31h44
	M	1h39	5h37	6h30	10h19	3h26	10h50	10h14	13h08	16h24	10h00	88h07
Average msg/min	F	0.63	0.86	1.29	0.34	1.07	0.74	0.52	0.91	0.17	0.34	0.64
	M	0.9	1.31	0.61	0.81	0.66	0.65	0.68	0.67	0.47	0.88	0.76

APPENDIX 7: Emoticon data

Table 1: Session by session raw emoticon data

Session	1		2		3		4		5		6		7		8		9		10	
Participants	F 1	M 2	F 3	M 9	F 3	M 6	F 4	M 10	F 2	M 4	F 5	M 12	F 5	M 8	F 5	M 14	F 3	M 14	F 3	M 14
Total msgs	48	89	92	421	171	218	61	498	90	133	305	421	135	415	179	521	29	455	86	514
Smiles	3	6	16	26	11	21	2	31	0	2	2	13	19	28	5	32	2	34	4	34
Frowns	2	1	0	10	0	2	0	0	0	1	0	0	2	4	1	4	0	0	3	8
Winks	2	8	2	5	0	3	0	22	2	10	13	26	1	7	1	10	2	17	5	10
Raspberries	0	0	0	6	0	1	0	11	0	0	8	6	0	7	0	15	0	3	0	5
Other	0	0	0	5	0	3	0	17	0	0	1	2	1	0	5	5	0	2	3	3
Ttl emoticons	7	15	18	52	11	30	2	81	2	13	24	47	23	46	12	66	4	56	15	60

Table 2: Compiled emoticon data

Emoticon type	Gender	Total N of emos used	Rate of usage (of all F/M msgs)
Smiles	F	64	5.35%
	M	227	6.16%
Frowns	F	8	0.67%
	M	30	0.81%
Winks	F	28	2.34%
	M	118	3.20%
Raspberries	F	8	0.67%
	M	54	1.47%
Other	F	10	0.84%
	M	37	1.0%
All emoticons	F	118	9.87%
	M	466	12.66%

APPENDIX 8: Emotext data

Table 1: Session by session raw emotext data

Session	1		2		3		4		5		6		7		8		9		10	
Participants	F 1	M 2	F 3	M 9	F 3	M 6	F 4	M 10	F 2	M 4	F 5	M 12	F 5	M 8	F 5	M 14	F 3	M 14	F 3	M 14
Ttl msgs	48	89	92	421	171	218	61	498	90	133	305	421	135	415	179	521	29	455	86	514
Approving	25	1	18	32	6	5	11	41	10	21	40	45	9	37	13	60	1	39	7	49
Joking	21	12	18	64	17	13	7	39	8	21	41	41	10	25	27	25	5	44	6	63
Disapproving	2	1	0	17	2	2	2	12	3	2	24	10	4	57	24	16	1	3	6	20
Rude	0	0	0	0	2	2	0	3	0	0	0	4	0	0	0	0	0	0	0	0
Other *	0	0	3	49	6	23	1	23	4	2	10	22	7	28	1	20	0	20	0	18
Ttl emotext	48	14	36	113	27	22	20	95	21	44	105	100	23	119	64	101	7	86	19	132

* Where no emotional meaning could be discerned from context; Not included in 'ttl emotext.'

Table 2: Compiled emotext data

Emotext	Gender	Total N of emos used	Rate of usage (of all F/M msgs)
Approving	F	140	11.71%
	M	330	8.96%
Joking	F	160	13.38%
	M	347	9.42%
Disapproving	F	68	5.69%
	M	140	3.80%
Rude	F	2	0.17%
	M	9	0.24%
All emotext	F	370	30.93%
	M	826	22.42%

APPENDIX 9: Action data

Table 1: Session by session raw action data

Session	1		2		3		4		5		6		7		8		9		10	
Participants	F 1	M 2	F 3	M 9	F 3	M 6	F 4	M 10	F 2	M 4	F 5	M 12	F 5	M 8	F 5	M 14	F 3	M 14	F 3	M 14
Ttl msgs	48	89	92	421	171	218	61	498	90	133	305	421	135	415	179	521	29	455	86	514
Affectionate	0	1	0	1	0	3	3	5	0	1	3	7	2	5	2	7	0	0	2	4
Playful	0	1	0	4	1	4	1	7	2	7	8	7	1	17	2	20	0	8	1	9
Dissatisfied	0	0	1	2	3	3	0	3	0	3	0	3	1	5	0	7	0	1	1	3
Violent	0	1	1	1	0	3	0	0	0	0	0	3	1	1	0	1	0	0	1	0
Neutral	0	1	1	10	1	4	1	4	1	2	2	6	4	14	6	5	1	9	1	19
Ttl actions	0	4	3	18	5	17	5	19	3	13	13	26	9	42	10	40	1	18	6	35

Table 2: Compiled action data

Action	Gender	Total N of actions used	Rate of usage (of all F/M msgs)
Affectionate	F	12	1.00%
	M	34	9.23%
Playful	F	16	1.33%
	M	84	2.28%
Dissatisfied	F	6	0.50%
	M	30	0.81%
Violent	F	3	0.25%
	M	10	0.27%
Neutral	F	18	1.50%
	M	74	0.20%
All emotext	F	55	4.60%
	M	232	6.30%

Glossary

Action Appearing exclusively in synchronous CMC, actions are descriptions of physical activities or behaviours which a user attributes to him- or herself. Actions are distinguished from the regular discourse by a preceding asterisk, for example **Lexx sighs*.

AFK AFK is an acronym meaning "away from keyboard" which indicates that a user is no longer viewing the discourse. It is used both in general conversation, as in *Lexx is AFK* and as a nick suffix as in *LexxAFK*.

a/s/l Used in chat to query for "age/sex/location," this acronym is usually posed to a new user when he or she first enters a channel.

Asynchronous CMC In the asynchronous mode of CMC, messages are created, received and answered at different times, e.g., e-mail, listservs, and newsgroups.

Channel A channel is a virtual area where chat users communicate in real time. There are thousands of channels located on the Internet. Also known as *chat room*.

Channel operators ((chan) ops) The channel operators are users who have special status in the channel. They have control of the channel and exercise this control with a set of commands to which only they have access which can, for example, kick or ban a user. Additionally, they are usually the enforcers of the channel's netiquette.

Chat A form of synchronous CMC, chat takes place via the Internet using either websites or special software programs.

Computer-mediated communication (CMC) Any communication, either written or verbal, that is carried out via computers is defined as computer-mediated communication.

Cross-gendered nick A cross-gendered nick is one that does not reflect a user's real life gender but presents the opposite gender, e.g., a female using *Mr. Cool*.

E-mail E-mail is the asynchronous exchange of electronic messages.

Emotext Emotext is composed of a type of dialogue which conveys extra- and para-linguistic cues through the depiction of spoken pronunciations in text, for example *heheheh* for laughter or *noooo* for emphasis.

Emoticon An emoticon is a sequence of alphanumeric characters used to indicate emotion or state of mind in chat, for example, smile, wink, frown, raspberry.

Face-to-face (FTF) This term is used to describe interaction that takes place outside the realm of CMC, e.g., in person or by phone. Also known as *F2F*.

Flame A hostile or insulting message sent in response to another user's message or some violation of netiquette is known as a flame.

Frown A frown emoticon indicates that the user is unhappy/dismayed/displeased, etc. It is meant to represent someone frowning and is usually composed with the colon and open parenthesis as follows :(

Gendered nick A gendered nick is one that reflects a user's real life gender, e.g., *SmartGirl*, *Mr. Cool*.

Gender-masking Gender-masking occurs when a user selects a gender-neutral nick, i.e., one that does not reflect gender. Unlike gender-swapping, it does not usually include attempts to conceal real life gender. Also known as *gender-disguise*.

Gender-swapping Gender-swapping occurs when a user presents him- or herself as the opposite sex. This is usually characterized by the choice of a cross-gendered nick and/or attempts to conceal gender, e.g., using the opposite third-person pronouns in actions or providing the opposite gender when asked. Also known as *gender-switching*.

Internet Relay Chat (IRC) A form of chat which uses a specific software program to connect with a network of users is known as Internet Relay Chat.

Kick A kick occurs when one user disconnects another user's connection to the channel. Kicks can be performed by channel operators only.

Listservs A form of asynchronous CMC, listservs are automatic mailing lists; when e-mail is addressed to a listserv mailing list, it is broadcast to everyone on the list. See also *newsgroup*.

Lurk When a user is present in the channel but does not contribute to the conversation, he or she is said to be lurking.

Message In all forms of CMC, any utterance, phrase or input typed by the user is called a message. It can be as short as a sole emoticon or as long as a book.

Multi-User Domains (MUDs) A multi-user domain constitutes a form of synchronous CMC involving a multi-user simulation environment that is usually text-based, where

users can create objects that remain after they leave, thus allowing a "world" to be built gradually and collectively. Also known as *MUD, Object Oriented (MOO)*.

Netiquette The rules of etiquette that govern online interaction are called netiquette.

Neutral nick A neutral nick is one that does not reflect gender, e.g., *bookworm, Lexx*.

Newsgroups Newsgroups are a form of asynchronous CMC in which users exchange e-mails on a specific topic. Newsgroups are categorized using prefixes such as alt. (alternative), soc. (social), comp. (computer-related), misc. (miscellaneous), rec. (recreation and hobbies), and sci. (science). See also *listserv*.

Nick A nick is the name by which users are known in chat, and can be gendered, cross-gendered, or neutral. Nicks are obtained and changed by a simple command. Also known as *username*, *login*, or *handle*.

Raspberry A raspberry emoticon indicates that the user is poking fun. It is meant to represent someone sticking out his or her tongue and is usually composed with the colon and capital letter 'p' as follows :P

RL Any reference to interaction in "real life" is made using this acronym, for example, *RL name*.

Smile A smile emoticon indicates that the user is happy/supportive/affectionate, etc. It is meant to represent someone smiling and is usually composed with the colon and closed parenthesis as follows :)

Synchronous CMC In the synchronous mode of CMC, messages are instantaneously relayed to the users, without any storage or retrieval. This allows users to have "real time" conversations with others via computer. Examples of synchronous CMC include chat/IRC, MUDs.

User A user is a member of the online audience.

Wink A wink emoticon is used to indicate that the user is teasing or to show camaraderie. The symbol, meant to represent someone winking, is usually composed with the semi-colon and closed parenthesis as follows ;)