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## Traditional vs nontraditional gendered roles in Instant Relay Chat

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**TRADITIONAL V.S. NONTRADITIONAL GENDERED  
ROLES IN INSTANT RELAY CHAT**

by

**Jennifer Del Quadro**

**Bachelor of Arts  
Northern Arizona University  
1998**

**A thesis submitted in partial fulfillment  
of the requirements for the**

**Master of Arts Degree  
Hank Greenspun Department of Communication Studies  
Greenspun College of Urban Affairs**

**Graduate College  
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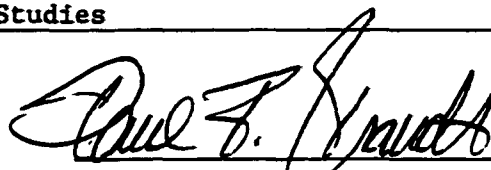
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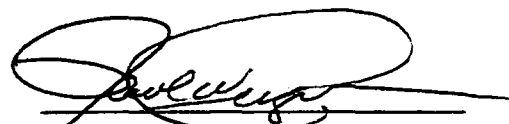
Instant Relay Chat

is approved in partial fulfillment of the requirements for the degree of

Master of Arts in Communication Studies



Examination Committee Chair



Dean of the Graduate College



Examination Committee Member



Examination Committee Member



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## **ABSTRACT**

### **Traditional v.s. Nontraditional Gendered Roles in Instant Relay Chat**

by

**Jennifer Del Quadro**

**Dr. Paul Traudt, Examination Committee Chair  
Professor of Communication  
University of Las Vegas, Nevada**

Communication technology, such as the Internet, reflects social norms in society, including gender roles. The author explored traditional and nontraditional gender roles in Instant Relay Chat (IRC) rooms. This quantitative study tested five hypotheses: H1: Participants who portray themselves as women tend to use more supportive language than men in IRC; H2: Participants who portray themselves as women tend to use more attenuated language than men in IRC; H3: Participants who portray themselves as women tend to use more graphic accents (GA) than men in IRC; H4: Participants who portray themselves as men tend to use more challenging language than women in IRC; and H5: Participants who portray themselves as men tend to flame more than women in IRC. Based on the results of the tested hypotheses, the author found no significant difference between those who portrayed themselves as men and women in their use of supportive language, attenuated language, challenging language or flaming in IRC.

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## **CHAPTER I**

### **INTRODUCTION**

Technology has fostered new modes of communication through the Internet, a medium that allows people to interact with numerous individuals from hundreds of different countries at the same time, a medium that has eliminated ideas of race, gender and religion. Or has it? Society entered an age in which what and who you are can be augmented by the sender. Relationships are based on what participants are willing to share. Identities can be altered at any time. The Internet has no boundaries or common code of ethics. It also provides a unique perspective on human communication without social norms as censors. Communication between genders, in particular, can be better observed without participants fearing socially undesirable repercussions. Chat room participants can be observed openly corresponding with those who claim to be of the same and opposite gender. A range of gender roles can be established and reinforced on the Internet.

The Internet was originally created in the late 1960s in the United States for scientists to conduct military-related research and development on secure computer systems miles away from their home institutions (Herring, 1996, Introduction; Quarterman, 1990; Santoro, 1994). In the 1980s, a number of agencies took over funding of the major Internet links. The Internet became available for commercial use during the

1980s and 1990s. By 1993, at least two million individual computers were attached to the Internet (Elmer-DeWitt, 1993). According to Negroponte (1995):

The user community of the Internet will be in the mainstream of everyday life. Its demographics will look more and more like the demographics of the world itself....The single biggest application of networks is e-mail....It is creating a totally new social fabric. (p.183)

As Negroponte (1995) points out, the Internet community is rapidly becoming a part of our everyday communication on both a local and global level. This area is being studied to determine its consequences and effects on society.

### Purpose of the Study

Computer mediated communication (CMC) is a relatively new area within the larger body of communication studies. In the last two decades, research on CMC has grown. CMC is of interest to researchers in interpersonal communication, as a great deal of research on the nature of CMC focuses on social interaction, interpersonal, and psychological processes that affect the way people exchange messages through the medium in comparison to traditional face-to-face (FTF) and group communication (Kiesler, Siegel, & McGuire, 1984; Rodino, 1997; Savicki, Lingenfelter, Kelley, 1999). Some suggest that computer conferencing may add “new dimensions” to public communication (Heydinger, 1978). Others warn that computer conferencing may result in “social problems and messes” (Vian & Johansen, 1981, p. 13).

One social dimension of Internet communication that can be explored is gender. In particular, gender within interpersonal interactions can be studied to determine the extent

to which gender plays a role in shaping others perceptions. Two popular forms of interpersonal interaction found in CMC are e-mail and instant relay chat (IRC). E-mail can be compared in structure to letter writing. Participants correspond through written text that is delivered via the Internet. IRC, on the other hand, involves real-time written responses via the Internet. IRC and the perceptions and influences of gender on those interactions will be the focus of this study.

### Research Questions

This study will attempt to answer a number of questions dealing with gender and how gender influences how people present themselves and perceive others in IRC. First, how is gender in IRC identified? Numerous techniques can be used to determine this factor, such as self-disclosure, nicknames, and context cues. Does gender really make a difference in how participants communicate in IRC once gender is determined? Will participants treat each other as equals or will perceptions or even content of language change as a result of gender? Finally, does gender even play a role in IRC? Do participants act and react based on gender or is gender merely relative in the cybersetting?

### Significance of the Study

Traditional gender roles have held fast in previous research concerning communication between genders in every type of communication interaction to date. The Internet provides a new medium in which gender roles have the potential to be changed or even eliminated. As noted by Negroponte (1995), this medium should be explored because it is becoming the predominant form of communication in the world. Research in

this area would greatly benefit the understanding of CMC and its effectiveness; it can either open our eyes to a world without discrimination and prejudice or it can serve as a blind and perpetuate these problems. Finally, CMC gives us a unique look at our global community and reflects societal norms without societal constraints.

### Overview and Definition of Terms

Walther (1994) found that CMC was significantly higher than face-to-face (FTF) on certain types of hostile or profane speech acts, leading to characterizations of CMC as uninhibited and depersonalized. According to Kiesler, Siegel, and McGuire (1984), “without nonverbal tools, a sender cannot easily alter the mood of a message, communicate a sense of individuality, or exercise dominance or charisma....Communicators feel a greater sense of anonymity and detect less individuality in others” (p.1131). As a result of this lack of individuality and accountability, Walther (1996) observed that CMC partners engage in an “over attribution” process: (Walther, 1996, p. 18) They build stereotypical impressions of their partners without qualifying the strength of such impressions in light of the meager information on which these perceptions were built.

In chat rooms, fellow chatters struggle for information and commonalities with others. Walther (1996) found that one of the first-asked questions often deals with gender, a familiar social category. This aspect seems important for effective communication and participants acted according to traditional sex roles once a gender was identified. Also, the identification of gender allowed participants to determine how those they interacted with would respond based on traditional sex roles.

Men and women have different communication styles, related to their corresponding sex roles, “the psychological traits and the social responsibilities that individuals have and feel are appropriate for them because they are male or female” (Pleck, 1977, p.182). Kramer (1978) concluded that students characterize male speech as more attention-seeking, dominating, authoritarian, aggressive, and frank. However, concepts such as friendly, gentle, enthusiastic, grammatically correct, but sometimes trivial, characterize female speech. In an earlier study, Kramer (1974) explained that many sex-role stereotypes concerning men’s and women’s language exist. For example, college students were able to correctly identify the sex of a cartoon character from captions alone. Students assigned logical, concise, businesslike and controlling captions to male speakers and stupid, vague, emotional, confused and wordy captions to female speakers. In 75 percent of the cases, the students assigned the correct characteristics to the correct gender. It is obvious how this type of study could apply to CMC, because of the lack of nonverbal cues.

A more recent study conducted by Herring (1996) found similar results. Herring has been observing on-line interactions since 1991. Her observations determined that men and women have different characteristic on-line styles. According to Herring (1996), “The male style is characterized by adversariality: putdowns, strong, often contentious assertions, lengthy and/or frequent postings, self-promotion and sarcasm” (p. 146). The female style is based on two characteristics: supportiveness and attenuation. “Supportiveness” is characterized by expressions of appreciation, thanking, and community building. “Attenuation” includes hedging and expressing doubt, apologizing, asking questions, and contributing ideas in the form of suggestions (Herring, 1996).

Herring's on-line findings correlate with traditional gender roles and can serve as a criteria for determining what discourse is considered traditional and nontraditional in on-line communities.

A clear distinction must be made between sex and gender. Sex is determined by nature and gender or gender roles are perceived based on certain personality traits and characteristics of a given individual. Traditional gender roles are based on the same characteristics assigned to sex roles. Nontraditional gender roles allow men and women to have both masculine and feminine traits. This study will look at whether traditional gender roles or nontraditional gender roles are predominant in CMC.

The following chapters will delve deeper into the issues introduced here. The historical evolution of CMC will be covered briefly and aspects of CMC currently being researched will be noted. From this point, previous research on gender roles off-line will be examined to form a basis for the current study. Finally, an in depth look at prominent studies concerning on-line gender roles will be evaluated and described to present the ground work for the areas of interest addressed in this study.

## **CHAPTER II**

### **BRIEF HISTORY: COMPUTER-MEDIATED COMMUNICATION**

In order to understand the nature of the development of gender roles on-line, it is important to understand the nature of the medium that has influenced and possibly effected how gender roles have been perceived in this medium. Technology often plays a role in how communication and communities evolve. The creation of the Internet has provided an unique medium for evaluating and understanding human interactions on a level exempt from societal norms and constraints.

CMC came into being like many other technologies; it was born out of creativity and competition. In 1957, the former U.S.S.R. launched Sputnik, the first artificial earth satellite. In response, the U.S. formed the Advanced Research Projects Agency (ARPA) within the Department of Defense to establish the U.S. lead in science and technology for the military (Zakon,1999 & Abbate, 1999). In 1965, the ARPA sponsored studies on the “cooperative network of time-sharing computers.” The TX-2 at MIT Lincoln Lab and the AN/FSQ-32 at System Development Corporation in Santa Monica , California were directly linked via a dedicated 1200bps phone line. The Digital Equipment Corporation (DEC) computer at ARPA was later added to form “The Experimental Network.” This was the first ARPANET plan (Zakon, 1999 & Abbate, 1999).

In 1969, ARPANET was commissioned by the Department of Defense for research into networking. Nodes were set up at UCLA, the Stanford Research Institute (SRI), the University of California, Santa Barbara and the University of Utah. Bolt, Beranek and Newman, Inc.(BBN) were awarded the Packet Switch contract to build Interface Message Processors (IMPs) for the project and AT&T provided 50kbps lines. Packet-switching involves a replacement of traditional telecommunications networking technology of circuit-switching (Abbate, 1999 & Moschovitis et.al., 1999). According to Pavlik (1998):

In a circuit-switched network any call between two points on the network establishes or requires a complete, dedicated connection. This is a very expensive method of communication. In packet-switching, digital data, whether voice , video, or any other form of content, are transmitted as discrete packets and sent over any available route in the network, and then at the designated receiver location, or IP address. It's a cheap, efficient, and fast method of transmission. (p.30)

The first packets were sent by Charley Kline at UCLA as he tried logging into SRI. The first attempt resulted in the system crashing as the letter G of LOGIN was entered. Future attempts; however, proved fruitful and the University of Michigan and Michigan State University established an X.25-based Merit Network for students, faculty and alumni (Zakon, 1999).

In 1970, the first publications on ARPANET's capabilities for host to host communication protocol and resource sharing were produced. ARPANET hosts started



using Network Control Protocol (NCP), the first host-to-host protocol. The first cross-country link was installed by AT&T between UCLA and BBN at 56kps. This line was later replaced by another between BBN and RAND. A second line was also added between MIT and Utah. By 1971, 15 nodes (23 hosts) had been established and BBN started building IMPs using the cheaper Honeywell 316. These IMPs, however, were limited to four host connections. As a result, BBN developed a terminal IMP (TIP) that supported up to 64 hosts. At the same time, Ray Tomlinson of BBN invented an e-mail program to send messages across a distributed network. The original program was derived from two others: an intr-machine e-mail program and an experimental file transfer program (Gromov, 1999).

Ray Tomlinson modified the e-mail program in 1972 for ARPANET where it quickly became a big hit. The @ sign was chosen from the punctuation keys on Tomlinson's Model 33 Teletype for its "at" meaning. Larry Roberts took Tomlinson's invention a step further by creating the first e-mail management program (RD) to list, selectively read, file, forward, and respond to messages in July of 1972 (Moschovitis et.al., 1999).

The International Network Working group was formed in October of 1972 and identified the need for a combined effort in advancing networking technologies. Vint Cerf was appointed the first chair. In 1973, the first international connection was established to ARPANET at the University College of London and NORSAR in Norway. In 1973, SRI began publishing ARPANET News in March and the number of ARPANET users was estimated at 2,000. The ARPA study showed that e-mail composed 75% of all ARPANET traffic (Gromov, 1999).

The communication capabilities of this new medium were truly being realized and put to the test. BBN opened Telenet, the first public packet data service, which was a commercial version of ARPANET, in 1974. This opened the door to a host of new innovations and high demand for ARPANET's capabilities. E-mail became more refined and new networks began to emerge such as THEORYNET and Net Atlantic SATNET. In 1978, TCP split into TCP and what we now know as IP. In 1979, USERNET was established using UUCP between Duke and UNC. The first MUD was set up by Richard Bartle and Roy Trubshaw at the University of Essex. On April 12, Kevin MacKenzie e-mailed the MsgGroup a suggestion of adding some emotion back into the dry test medium of e-mail, such as -) for indicating a sentence was tongue-in-cheek (Heinlien, 1999). Though flamed by many at the time, emoticons became widely used as a way of adding a human quality to CMC. At this time, ARPA established the Internet Configuration Control Board (Moschovitis et. al., 1999).

In 1982, the DCA and ARPA created the Transmission Control Protocol (TCP) and Internet Protocol (IP), as the protocol suite, commonly known as TCP/IP, for ARPANET. This led to one of the first definitions of an "internet" as a connected set of networks, specifically those using TCP/IP, and "Internet" as connected TCP/IP internets. The Department of Defense declared TCP/IP suite to be standard for the Department of Defense (Zakon, 1999).

In 1983, networking needs switched from a single, large time sharing computer connected to the Internet at each site, to instead connecting entire local networks. This makes the internet more accessible. By 1986, NSFNET was created, which was established by five super-computing centers to provide high-computing power for all.

This allowed an explosion of connections, especially for universities. By 1987, the number of hosts exceeded 10,000. At this time, newsgroups were on the rise and Instant Relay Chat (IRC) was developed by Jarkko Oikarinen in 1988. IRC is an instant message system in which participants can communicate in real time with each other (Zakon, 1999).

By 1990, the number of hosts topped 100,000 and ARPANET ceased to exist. The World came on-line (world.std.com), and became the first commercial provider of Internet dial up access. Not long after, Tim Berners-Lee developed the World Wide Web, which was released by CERN. The popularity of the Net continued to grow and the number of hosts broke 1,000,000 by 1992. The term “surfing the Internet” was coined at this time as well by Jean Armour Polly and Zen and the Art of the Internet was published by Brendan Kehoe. By 1993, the White House and the United Nations were hooked up to the Net and other countries and governing bodies followed suit (Zakon, 1999).

From this point on, the Internet growth sky rocketed. By 1999, 60,000,000 hosts, 1,600, 000 domains and 160, 000 networks existed. Over 180 countries are currently hooked up to the World Wide Web and about 7,500,000 web sites have been created (Zakon, 1999). The world wide adoption of this new media clearly warrants closer evaluation and scholarly review.

The Internet is a medium for communication that represents new ground to be broken. According to Bosah Ebo (1998):

New technology artifacts often challenge existing social structures by introducing new rules for social relationships. Legal, ethical, cultural, and political infrastructures of society must adjust to the impositions of new technology. Society is forced to redefine old rules or identify new rules for sustaining social relationships. (p.1)

Twenty years ago there were 50,000 computers in the whole world; today 50,000 computers are sold every ten hours (*Investor's Business Daily*, 1996). The Internet is redefining communities and reordering society into new forms of social networks. New values and terms for private and professional relationships are emerging (Buck, 1996; Gates, 1995 & Baym, 1995). Included in the redefinition of new values and terms for private and professional relationships is the issue of gender and how it will be redefined and interpreted on-line.

### **Gender Roles Off-Line**

Gender and communication has been an area of study for some time. The origins of this field were traced back to early 20<sup>th</sup> century anthropologists who, drawing on earlier reports of travelers and missionaries, described separate “men’s and women’s languages in societies removed from Western cultures (Bodine, 1975). In his influential book, Language: Its Nature, Development and Origin, Jespersen (1922) reviewed cross-

cultural reports and speculated about Western women's supposed preferences for refined, euphemistic, and hyperbolic expression, and men's alleged greater use of slang and innovations.

When the women's movement of the late 1960s spurred unprecedented interest in the relationships between women, men and language, according to Thorne, Kramrea, and Henley (1983), feminists turned to earlier sources like Jespersen, pursuing their leads, but also questioning their sexist pronouncements. In this course of work other historical origins of the interest in language and the sexes emerged for instance, the writings of Stopes (1908) who wrote a treatise on the use of "man" in British law, and its effect on women's freedom, and Elsie Parsons (1913) who discussed sex-linked taboos on language use and observed that there was a linguistic double-standard which assumed "the superiority of man." In 1946, Mary Beard, the historian, discussed the problematic "generic masculine" (Beard, 1946). In the process, feminists often ended up addressing questions they had not posed. Feminist researchers struggled to move from the shadow of stereotypes and outside criticism of this sort of work, and created their own lines of inquiry.

One of the more well known researchers in the area is Lakoff. Lakoff's (1975) original investigation of gender and language uncovered the roots of our language that classify and delineate the sexes. Her findings were based on previous studies and observation. Lakoff tried to determine why parallel words, one applying to masculine beings, the other to feminine, are not also parallel in their range of use and connotation. For instance, why have "bachelor/spinster" or "master/mistress" come to mean such widely different things? Lakoff's research pointed out this parallelism as symptomatic of

the nonparallelism in the roles of the sexes and as further reinforcement of a social disparity. According to the author (Lakoff, 1975):

Languages uses us as much as we use language. As much as our choice of forms of expression is guided by the thoughts we want to express, to the same extent the way we feel about things in the real world governs the way we express ourselves about these things. (p. 3)

Our language and the connotations connected to the words in our language reflect how society sees itself and its members. Lakoff (1975) claims that women's language is marked by powerlessness in the forms of "superpoliteness," qualifiers, exaggerations, and tag questions. These effectual conversational forms provide evidence for the inequality between men and women.

Researchers have taken Lakoff's (1975) findings a step further to see what types of ramifications these language differences have in a social setting. Coates (1986) looked at a series of studies conducted in classroom settings. First, the problem of miscommunication between women and men was assessed in light of current knowledge of interaction patterns. Second, the question of disadvantage was raised in the context of differing linguistic behavior of girls and boys in the classroom. Miscommunication between the sexes was evaluated in seven areas—the meaning of questions, links between speaker turns, topic shifts, self-disclosure, verbal aggressiveness, interruption and listening. Coates (1986) found that differences arose in these areas due to differing conversation styles for men and women.

These differing conversation styles can be seen as a disadvantage for women in a classroom setting. Coates (1986) notes, “Linguistically, girls in school differ from other disadvantaged groups. The significant aspect of their language use is not their pronunciation or grammar, but the wider area of their communicative competence” (p.156). Girls are expected to be more passive and conform more readily to rules of conduct. While boys demand attention in the classroom. Their differentiated communication competence enables boys to dominate. This study demonstrates how language use can perpetuate the hierarchical nature of gender relations (Coates 1986).

Tannen (1993) looked at many of the same areas of differences as Coates (1986). However, Tannen (1993) looked at the aspects of indirectness, interruption, silence, topic raising, and adversative actions through the lense of ambiguity. Tannen analyzes these language differences through the use of a theoretical paradigm of power. This theory is based on three major concepts—the ambiguity of linguistic strategies, the polysemy of power and solidarity, and the similarity/difference continuum. The ambiguity of linguistic strategies simply argues that language can be interpreted in a number of ways. For instance, what appears as an attempt to dominate a conversation, which is an exercise of power, may actually be intended to establish rapport, which is an exercise of solidarity or unity. The polysemy of power and solidarity contends dual meanings and, in this case, even opposing meanings can be found in a singular statement that can both imply power and solidarity at the same time. For example, according to Tannen (1993), “The invitation to contribute a chapter to a book brings editor and contributor closer and suggests a hierarchical relationship” (p. 168). The final aspect of the dynamics of power and solidarity theory is the similarity/difference continuum. The continuum acknowledges that

in some ways people are all the same but in other ways people are all different. Tannen (1993) explained further, "Communication is a double bind in the sense that anything we say to honor our similarity violates our difference, and anything we say to honor our difference violates our similarity" (p.171). As a result, in language, similarities are necessary to foster understanding, but differences are also necessary to preserve the hierarchy of society and individuality.

The use of this theory coupled with the aspects of gender differences boils down to a question of context. Tannen (1993) argues that those traits which cast men as dominant can also make them subordinate in a given context and vice versa for women. For example, interruption can be interpreted in two different ways. Some see interruption or overlap as a sign of enthusiasm or interest, while others feel that only one voice should be heard at a time. Tannen (1993) argues that researchers are more likely to label this behavior as dominant rather than considering the context and individual personalities of the participants. As Tannen (1993) notes, "Attempts to understand what goes on between women and men in conversation are muddled by the ambiguity of power and solidarity. The same linguistic means can accomplish either, and every utterance combines elements of both" (p.183). Tannen (1993) points out the need to acknowledge the ambiguity of power and solidarity in order to gain a deeper understanding of the dynamics underlying gender and language use.

While Tannen (1993) asks researchers to reconsider the ambiguity attributed to traits of dominance, Bing and Bergvall (1996) were creating binary categories for men and women's language. The authors analyze what questions have been asked concerning gender and language how they have contributed to the dichotomies created between the



sexes. The authors argue that gender is too broad a basis for determining language differences. Other factors must be taken into consideration such as race, age, cultural and economic backgrounds. Bing and Bergvall (1996) do not deny differences in male and female discourse, but rather question the stereotyping and oversimplification of language issues between men and women. The purpose of this study was to make linguists and other researchers aware of the aspects that may contribute to language differences. Bing and Bergvall (1996) contend that their findings:

...raise new questions about language which challenge rather than reinforce gender polarization. If we are to abandon traditional dichotomies and binary questions, we must ask new questions and discover new metaphors which help us think about gender, sex and language (p.23).

The authors argue that, perhaps, the world is not as black and white as it may sometimes appear.

Visser (1996) explored the definitions of contemporary notions of masculine and feminine as prototypes of gender. Visser (1996) argues, "Although it seems relatively safe to analyze and assess the construction and meaning of gender within earlier historical periods and within cultures other than our own, currently held notions of gender distinctions appear to be increasingly slippery and fragile" (p. 589). Visser (1996) administered a series of questionnaires to Dutch students concerning what characteristics are considered masculine and feminine. Five feminine and masculine domains emerged from the test results: visual, power, pleasure, identity, and nurturance. The visual domain was found to be a more feminine trait. The prototype instantiates feminine as representing a self-critical concern with outward appearance. The core domain for the masculine was

the power domain. Masculine traits tended to include being dominant, strong, in control, and finding pleasure in control. The nurturance domain was considered to be primarily feminine, because its attributes focused on family. This domain was clearly seen as nonmasculine.

The pleasure domain was problematic. The ideas of humor and giving pleasure showed no significant difference between men and women, but other areas showed a much more polarized view. For instance, participants believed that feminine ideas of pleasure include reading a good book whereas men find pleasure in having control (Visser, 1996).

The domain of identity also seemed to be quite polarized. Participants categorized feminine traits as being emotional, imaginative, artistic, gentle and creative. Masculine traits included self-centered, rational, logical and analytic. Visser (1996) attributed these findings to popular culture and society's expectations of the genders. The author was surprised to find such traditional prototypes of what is considered masculine and feminine.

The study of gender has been of interest to linguistic and communication scholars for decades. The area was simply divided into male and female traits of discourse, but as research progressed society changed and the way language structure and context have been viewed has also changed. The area of gender and language is a continuous challenge due to the evolution of societies and the ever changing approaches to research in the area.

## Gender Roles On-Line

### Traditional Gender Roles in CMC

Few studies have been conducted concerning gender and CMC directly. Rintel and Pittam (1997) conducted a study dealing with interpersonal interactions from CMC known as Instant Relay Chat (IRC). They were looking at opening and closing remarks of participants in IRC as compared to face-to-face remarks. They found the remarks and interactions to be similar between IRC and face-to-face openings and closings; however, the structure, content, and ordering of the strategies were subject to adaptation. Their findings related to gender. Participants typically used nicknames or “nicks” to identify gender. Female participants using “nonstandard” nicknames were sometimes mistaken for men and men more commonly used nonstandard and offensive nicknames to gain attention. The data showed that the use of a female nickname ensured that the user received high levels of attention, particularly from users with male nicknames, but also from those with female nicknames. One other area discussed the textualization of physical gestures such as hugs, which were given by typing “\*HUGAZ\*”. Hugs were only given to opposite sexes in this study, which supports and reinforces traditional gender roles in CMC.

Witmer and Katzman (1998) took these findings a step further and looked at whether it was possible to determine the gender of a message sender from cues in the message. Users have developed a variety of conventions, including truncated language and acronyms, many of which are unique to the medium, such artistic or directional symbols (for example @>---->---- represents a rose). Other textual devices, such as

upper-case letters, asterisks, or repeated punctuation marks co-opted from written discourse may add emotion and color to the electronic messages. Some of these aggregate symbols are called emoticons. Grappling with terminology for these new symbols, Witmer and Katzman (1998) called them “graphic accents (GAs).” The authors found that women tended to use more graphic accents than men in CMC. Thus, these findings also reinforce traditional sex roles by implying that women indulge in more frivolous communication.

Cook and Stambaugh’s (1997) study seems to imply that women are dismissing traditional sex roles in CMC to some extent, but with little support from the majority of the on-line community. They evaluated how people accomplish gender in cyberspace, how everyday acts of male dominance occur, how people identify them, their responses, and the problems encountered when opposing male dominance. The authors referred to gender as relative, depending on the social constructs of gender developed in a given situation. Cook and Stambaugh (1997) see the Internet as a new social construct in which gender roles can be redefined. The authors claim that traditional gender roles are being reinforced and efforts made to increase women’s roles in cyberspace have been challenged by both men and women. Thus, the authors believe that the Internet has not served as the forum to rid the world of male dominance or traditional gender roles.

Savicki, Lingenfelter and Kelley (1999) also looked at specific communication differences related to gender composition in small groups using asynchronous CMC over three to four week periods to complete specific tasks. The authors tested two hypotheses. Their first hypothesis was that the larger the proportion of men in discussion groups, the more the members will use language that: 1) states facts without personal ownership; 2)

challenges group members; 3) calls for explicit action; 4) is argumentative; 5) uses coarse and abusive language, and 6) indicates the member status. The second hypothesis was that the larger the proportion of women in discussion groups, the more the members will use language that: 1) self-discloses; 2) states personal ownership of opinion; 3) apologizes; 4) asks questions; 5) uses “we” pronouns; 6) responds directly to others in the group, and 7) seeks to prevent or alleviate tension or arguments. The sample was drawn from a randomly selected set of 30 online discussion groups from both Internet and commercial information servers. A content analysis was done on 3000 messages.

Both hypotheses were partially supported. Only two of the six language use variables added to the significant result in the first hypothesis. As predicted, subjects did use more fact oriented language and more calls for action in groups with higher proportions of males. Only two of the seven language use variables added to the significant result in the second hypothesis. Subjects in groups with a higher proportion of women did use more self-disclosure and more attempts at tension prevention and reduction. The study’s findings supported traditional gender roles, however it does signal that the aggressive nature of CMC may be decreasing. According to Savicki, Lingenfelter and Kelley (1999), “The most optimistic interpretation of these results is that online communication may be becoming more civilized” (p. 9).

We (1994) found similar results when seeking the answer to the question, “Does computer mediated communication help women and men communicate more effectively?” (p.1). We (1994) sent a questionnaire to several different Usenet newsgroups and electronic mailing lists concerning what effects CMC have on communication between the sexes. A statistically significant number of responses were not received, but We (1994)

felt that the responses were representative of views of many people in the electronic community. We (1994) drew a number of conclusions based on these interactions. First, many different types of interactions take place on-line. When contact is professional, as several respondents noted, communication is seen as relatively free of gender cues. When the contact is social, however, there may be as many ways of communicating as there are individuals. Second, on the surface, it would seem that most people feel that cyberspace tends to be friendly to women. It allows women to adopt more active personas, and to speak on a “level playing field” reduced of gender cues. However, it has also been observed that sexist comments and jokes, and the use of universals “man” and “he” exclude women from participation. And when women speak up, they may be actively harassed. We (1994) contends:

Computer mediated communication is a fascinating extension of the ways in which human beings already communicate. It has the potential to be liberating, and it has the potential to duplicate all the misunderstandings and confusion which currently take place in interactions between women and men in everyday life. (p.10)

Thus, We’s (1994) findings reflect the slow breaking of boundaries between the expressed in previous articles (Cook & Stambaugh, 1997; Savicki, Lingenfelter & Kelly, 1999), but seem to provide further evidence that traditional gender roles have a strong hold on the on-line community.

### Nontraditional Gender Roles in CMC

Some feminists point to the Internet as a particularly potent site of resistance, an arena where male domination can be successfully challenged and transformed (Smith & Balka, 1988). In fact, some feminists suggest that in cyberspace, conventional ideals of gender as well as traditional rituals of dominance will soon become immaterial—if not obsolete (Graddola & Swan, 1989; Pavela, 1994; Spears & Lea, 1994).

The previously mentioned study by Witmer and Katzman (1998) found evidence supporting nontraditional gender roles in CMC. Originally, the authors posed three hypotheses. The first dealt with graphic accents, but the other two claimed that men would use more challenging and inflammatory language. The authors were surprised to find that women used more challenging and inflammatory language than the male participants. One explanation for this was that women feel more at ease in the relatively anonymous electronic environment. Women in CMC also are often more involved in male dominated endeavors such as high-tech organizations and academia, so traditional gender roles are not as strictly enforced (Witmer & Katzman, 1998).

CMC has created a medium where gender is up to the individual. Bruckman (1996) explores this aspect by studying gender swapping, the act of identifying one's self as the opposite sex in an on-line community. She briefly introduces the technology called MUDs, or multi-user virtual reality environments, and then analyzes a community discussion about the role of gender in human social interaction which was inspired by participants' experiences in MUDs. According to Bruckman, "Gender swapping is one example of how the Internet has a potential to change not just work practice but also culture and values" (p. 318). The first contact with the MUD program is to direct it to

create a database entry which will serve as a window into the virtual universe. Players rarely choose to give their real name to the virtual persona; most choose to manifest themselves under a name that forms the central focus of what becomes a virtual disguise. For example, men are often surprised at how they are treated when they log on as a female character. Male participants quickly noted unwanted sexual advances and unrequested offers of assistance. Without makeup, special clothing, or risk of social stigma, gender becomes malleable in MUDs. For the participants, MUDding throws issues of the impact of gender on human relations into high relief. Fundamental to its impact is the fact that it allows people to experience rather than merely observe what it feels like to be the opposite gender or have no gender at all. Gender swapping serves as an extreme example of a fundamental fact: the network is in the process of changing not just how we work, but how we think of ourselves and ultimately, who we are.

Miller (1995), on the other hand, takes issue with CMC and the gender debate by refuting media coverage casting women as victims suffering from virtual sexism. The author believes women are viewed as a weaker sex on-line, because many women actively participate in the call for greater regulations of on-line interactions. Miller claims, "These requests have a long cultural tradition, based on the idea that women, like children, constitute a peculiarly vulnerable class of people who require special protection from the elements of society men are expected to confront alone" (1995, pp.52-53). Miller believes that casting women as victims simply reinforces traditional sex roles on the Internet. Miller finds it perplexing that women are reluctant to enter into the kind of robust debate that characterizes healthy public life, and their willingness to let men bully women even when they are relieved of most of their traditional advantages.



While the men dominate the on-line population, a significant and vocal minority of women contribute regularly and more than manage their own. Participants are washed clean of the stigma of their real selves and are free to invent new ones to their tastes. Perhaps some observers believe that the replication of gender roles in a context where the absence of bodies supposedly makes them superfluous proves exactly how innate those roles are. Instead, Miller (1995) sees the relentless attempts to interpret on-line interactions as highly gendered as an intimation of our artificial, created gender system. If it comes “naturally,” why does society need to perpetually defend and reassert it? Miller (1995) contends:

Perhaps what we should be examining is not the triumph of gender differences on the Net, but their potential blurring. If gender roles can be cast off so easily they may be less deeply rooted, less “natural” than we believe. (p.56)

Rodino (1997) looks specifically at how gender is being reconceptualized in CMC. This author’s study looks at how FTF and CMC describe gender and its use in language. The author argues that researchers should stop looking at gender as binary categories and begin looking at gender as performative. The author analyzed a continuous, forty minute stream of conversation on an IRC channel. Four-hundred and fourteen lines of text were selected from observations made over a ten-week period. Rodino’s (1997) study suggests that conceptualizing gender as a dichotomy neglects the variety of gender constructs in IRC. Gender should be seen as a series of performances that are not limited to one gender or another. Thinking about gender under constant construction does not contradict studies which suggest that men dominate CMC. It appears that users who present maleness, being either male or female, have more power

than those who present femaleness. Rodino (1997) found that females will perform as males to get the same respect and treatment as other male users. According to Rodino (1997), “Moreover, making oneself feminine entails vulnerability to harassment and censorship” (p.19). Therefore, this study argues that traditional gender roles will not be found in IRC, because IRC users will take on the characteristics that are most effective for communication in this environment. As a result, women will perform as males in CMC.

### Summary of Previous Research

To sum, one can draw a number of conclusions about traditional gender roles in CMC, based on the studies reviewed. First, nicknames are typically used to identify gender. Second, textualizations of physical acts are only given to the opposite sex or between women in most cases. Third, women typically experience unwanted sexual advances and offers of assistance. Finally, studies show participants have reinforced traditional gender roles and both men and women have challenged efforts to increase women’s roles in cyberspace.

One can also draw a number of conclusions for nontraditional gender roles. First, women do use challenging and inflammatory language in CMC. Second, gender swapping has become a frequent practice on the Internet. Third, women should avoid calls for censorship due to sexual harassment in CMC, because women then cast themselves as victims. If women want others to treat them as equals, they must act like equals. Finally, those women that are most successful in CMC have taken on male traits to equalize opportunities in the environment.

After reviewing the pertinent literature in CMC, off-line gender and on-line gender, one can now begin to look at those unanswered questions and verify those questions that have already been asked. The previous literature showed a clear inconsistency in the perpetuation of traditional and nontraditional gender roles in a computer-mediated setting. The following chapter will propose a methodology for distinguishing whether traditional or nontraditional gender roles exist in Instant Relay Chat Rooms (IRC).

## CHAPTER III

### METHOD

This study has followed in the footsteps of Witmer and Katzman (1998). The former study looked at discourse that would indicate or disclose the gender of an author of an e-mail message. For the purposes of this study, the gender of authors in instant relay chat rooms were determined based on specific types of context clues and self-disclosure. Herring (1996) offered two distinct styles for men and women on-line. Women's on-line styles tend to be attenuated and supportive and men tend to be more aggressive and self-promoting. Considering these findings, two hypotheses can be offered. H1: Participants who portray themselves as women tend to use more supportive language than men in computer-mediated discourse. "Supportiveness" is characterized by expressions of appreciation, thanking and community building (Herring, 1996). H2: Participants who portray themselves as women tend to use more attenuated language than men in computer-mediated discourse. "Attenuation" includes hedging and expressing doubt, apologizing, asking questions, and contributing ideas in the form of suggestions (Herring, 1996). According to Witmer and Katzman (1998), aesthetic quality in discourse is also a female trait. Women tend to use more expressive and emotional language. Graphic Accents (GA) or emotional, artistic, and directional devices (Witmer & Katzman, 1998) should be used more often by women to show and express ideas and emotions. This

evidence leads to the third hypothesis. H3: Participants who portray themselves as women use more graphic accents than men in computer-mediated communication. Also, if men's language is considered more aggressive than women's language then men should be more prone to using challenging language and flaming, which is the use of hostile and abusive language. This evidence leads to two additional hypotheses. H4: Participants who portray themselves as men use more challenging language than women in computer-mediated discourse. A challenge, as defined by *New Webster's Dictionary and Roget's Thesaurus* (1995), is "to summon to fight; to defy; to call into question; to object to." Savicki, Lingenfelter, and Kelley (1999) defined challenging language simply as, "the presence of a challenge, dare or bet" (p.5). Finally, H5: Participants who portray themselves as men flame more often than women in computer-mediated communication. The concept of flaming must be clearly distinguished from the concept of challenging language. Flaming has been regarded as a form of uninhibited behavior and is typically defined as language that includes swearing, insults, name-calling, profanity, and "typographic energy" such as capitalizations and exclamation points (Lea, O'Shea, Fung, & Spears, 1992; Franco, Piirto, Hu, Lewenstein, 1995).

### Considerations for Data Collection/Sampling

In order to test the hypotheses, data will be collected, coded for content and statistically analyzed. The nature of instant relay chat rooms makes determining gender difficult. Participants may give false or no information. Use of supportive language, attenuated language, graphic accents, challenging language and flaming will be recorded for both men and women consistent with procedures established by Savicki, Lingenfelter

& Kelley (1999). A series of sample chat room sessions will be taken from randomly selected chat rooms. Data will be collected from these samples and statistically analyzed.

The determination of gender is indeed a problematic situation, but previous research can be relied on to determine gender based on nicknames, self-disclosure and context cues. Nicknames are often used as clues for other IRC participants to determine gender. If participants wrongly refer to others as he or she based on nicknames, the owner is quick to correct the offending party (Rintel & Pittam, 1997; Rodino, 1997). Self-disclosure also frequently reveals gender as a result of requests from other participants. Age, sex, and location is often requested by those just entering a chat room and attempting to get a feel for the group and to find commonalities. An abbreviation often used in IRC to request this information is a/s/l. Context cues are the final avenue for determining the gender of participants. Gender can be determined based on how participants portray themselves through the use of masculine or feminine pronouns (Rodino, 1997; Danet, 1996) and areas of discussion that may be gender specific.

The selection of chat rooms for the collection of data can also be problematic. The first problem is narrowing the number of chat rooms from which to draw a random sample. One factor narrowing the number of chat rooms is unavoidable. Many chat rooms have restrictions that prevent chat sessions from being saved or copied. These chat rooms will have to be disqualified as possible candidates for data collection.

Also, the chat rooms for data collection will be randomly selected chat channels provided by a popular service provider. IRC service providers typically have a number of rooms or channels that may be entered. These channels are usually categorized by a certain theme or topic. For instance, the chat channels Rodino (1997) selected were:

#boston, #ircbar, #romance, #talk, #teenchat, #texas, #chatzone, and #truthdare. Rodino (1997) notes, "Regardless of methods used, however, generalizing across all IRC and CMC contexts seems nearly impossible" (p. 11). Chat rooms have become highly specialized and it would be highly unlikely to randomly select one chat channel that has a diverse and representative population. The random selection of individual chat channels will be chosen because areas of discussion will be broader in scope and should provide a relatively representative population of men and women in IRC.

The chat rooms will be randomly selected through the use of a table of random numbers and two alternative numbers will be selected if the initial selections do not meet the qualifications. As in Rodino's (1997) study, data will be obtained by observing chat sessions as a nonparticipant. Two separate ten minute chat sessions from each of the five channels of chat rooms selected will be observed and recorded for a total of 1 hour and 40 minutes of text. This should yield approximately 100 lines of text for each session, thus; approximately 1000 lines of text should be generated. The sessions will be saved to disk and hard copies will be generated for coding.

### Inter-Coder Reliability

The following inter-coder criteria were established prior to drawing the sample. Twenty percent of the data was analyzed by the researcher and an independent coder. The coding will then be analyzed for agreement. The a priori level of agreement must be at between at least 80% and 89% as noted by Reinard (1998). Coders were given a pretest to verify understanding of the measures to be coded and coder agreement. In the case of differences, definitions for dependent variables were adjusted and the coders were

retrained. Once 80% agreement was reached and inter-coder reliability was established; the remaining data was coded by the primary researcher.

In the actual study, inter-coder reliability was established for the variables of gender, supportive language, attenuate language and challenging language and flaming. Actual two-coder consistency varied between 85.6% and 99.7%. The lowest inter-coder reliability was found in supportive language due to a series of flames that were repeated in one of the samples. These flames were repeated by other participants in the chat room as a form of support and approval. Both coders agreed that this was a form of supportive language and coding was changed accordingly (See Appendix I for Code Book).

### **Data Analysis**

Considering the use of nominal data in a two group design, chi-square tests were run to analyze the five proposed hypotheses. The unit of analysis was measured in complete utterances in turns taken by speakers in IRC. Gender as the independent variable was cross tabulated with each dependent variable. The a priori rejection level is  $p \leq .05$ .

### **Sample**

The data collected generated 1147 lines of text for analysis. The sample was drawn from MSN a free Internet service provider that provides e-mail, chat rooms and a search engine. This provider was chosen because data could easily be copied for IRC to a text file and the provider offered over 50 different chat rooms or channels for sample selection. One problem; however, did arise. The graphic accents used were changed by the IRC



program into actual graphics within the text, which could not be copied into a text file.

This resulted in the absence of data appropriate for testing the third hypothesis: that those who portray themselves as women use more graphic accents than those that portray themselves as men.

From the 50 chat rooms, five channels were selected through the use of a table of random numbers: Asian American, Blind Date, Chicago, Countdown 2000, and Teen Music. Two ten minute chat sessions were taken from each of these channels at an interval of two to three days. Teen Music was chosen as an alternative channel to Emoticon Valley, because Emoticon Valley contained too many graphic accents. These graphic accents in Emoticon Valley could not be saved or copied, so it made coding the conversations close to impossible.

An additional obstacle was also found in each of the chat rooms. All the chat rooms had hosts either computer generated or human hosts, who policed the language of the IRC participants. These hosts had the ability to take participants out of the chat room if inappropriate language or content was displayed by any of the participants. Participants were usually given an initial warning and then were kicked out of the chat room on the second offence. This was a form of censorship and a social constraint inherent in the IRC program. These hosts were not terribly effective; however, because participants would often rejoin the chat room a few moments later.

## CHAPTER IV

### RESULTS

The gender of the authors of the lines of text included 8.7% undetermined, 47.4% females and 43.9% male. Supportive language was found in 39.8% of the lines of text. Attenuated language was found in 31.2% of the lines of text. Challenging language occurred in 10% of the lines of text and flaming occurred in 17.2% of the lines of text. The data were collected from five chat rooms with the following percentages of lines of text: Asian American = 26.7%, Blind Date = 12.9%, Chicago = 26.9%, Countdown 2000 = 13.5%, and Teen Music = 20%.

The four remaining hypotheses were tested using chi-square analysis by cross tabulating the independent variable of gender with the dependent variables of supportive language, attenuated language, challenging language and flaming. These same cross tabulations were run within each individual chat room to see if differences arose based on the theme or context of the chat room as opposed to the statistics generated across all five of the chat rooms.

#### Hypothesis 1:

The first chi-square analysis was run on whether those who portray themselves as women use more supportive language than men in computer-mediated communication. No significant finding was found outside the alpha level of  $p \leq .05$  in cross tabulations

across all chat rooms. However, support for this hypothesis was found in the chat room Teen Music. The Teen Music chat room supported the hypothesis that those who portray themselves as women use more supportive language than men in computer mediated communication  $\chi^2(2, N = 229) = 20.51, p \leq .001$ ). Women used supportive language in 34.7% of the lines of text while men used supportive language in only 8.9% of the lines of text drawn from the Teen Music chat room.

#### Hypothesis 2:

The second chi square analysis was run on whether those who portray themselves as women use more attenuated language than men in computer-mediated communication. No significant findings were found outside the alpha level of  $p \leq .05$  in cross tabulations across all chat rooms or within individual chat rooms.

#### Hypothesis 3:

The third chi square analysis was run on whether those who portray themselves as men use more challenging language than women in computer-mediated communication. No significant findings were found outside the alpha level of  $p \leq .05$  in cross tabulations across all chat rooms. However, support for this hypothesis was found in the chat room Teen Music. The Teen Chat room supported the hypothesis that those who portray themselves as men use more challenging language than women in computer-mediate communication  $\chi^2(2, N = 229) = 6.00, p \leq .05$ ). Men used challenging language in 31.1% of the lines of text while women used challenging language in only 16.9% of the lines of text drawn from the Teen Music chat room.

#### Hypothesis 4:

The fourth and final chi square analysis was run on whether those who portray themselves as men flame more often than women in computer-mediated communication. The finding for this hypothesis approached significance with a computed level of  $\chi^2(2, N = 1147) = 5.19, p \leq .075$  in cross tabulations across all chat rooms. Within individual chat rooms, the Teen Music chat room produced a statistically significant finding in support of the hypothesis that those who portray themselves as men flame more often than women in computer-mediated communication  $\chi^2(2, N = 229) = 25.85, p \leq .001$ . Men flamed in 46.7 % of the lines of text while women only flamed in 16.1% of the lines of text drawn from the Teen Music chat room.

## **CHAPTER V**

### **DISCUSSION**

**Computer-mediated communication is the newest frontier for the communication field. This study has attempted to investigate how this medium influences one of the oldest areas of interest in communication, communication between those portraying themselves along different gender lines. The initial research question was whether traditional gender roles would be maintained or eliminated through CMC. This study has found that perhaps the boundaries have been maintained in some areas and eliminated in others based on environment and context.**

**The four hypotheses tested in this analysis found no significant differences in those who portray themselves as men and women in their uses of language, collectively, across all five IRC groups examined in this study. The variables of supportive language, attenuated language, challenging language and flaming were not used more by one gender than another. However, within individual chat rooms some significant findings were produced.**

**The first hypothesis proposed that those who portrayed themselves as women would use more supportive language than men. This hypothesis was based on previous studies conducted by Herring (1996) and Savicki, Lingenfelter and Kelley (1999). Herring (1996) described women on-line as being more supportive by using more expressions of**

appreciation, thanking and community building. Savicki, Lingenfelter and Kelley (1999) found that women made more attempts at tension prevention and reduction. This study found that women were not significantly more supportive than men were on-line across all chat rooms analyzed.

These findings suggest that the conclusions drawn by Witmer and Katzman (1998) and Rodino (1997) hold true in cyberspace, today. Witmer and Katzman (1998) were used as a premise for the development of this study, because they found evidence which portrayed women as being more aggressive than men on-line. The authors (Witmer & Katzman, 1998) attributed the aggressive nature of women in e-mail to the idea that most women on-line are educated professionals that have to compete in male dominated arenas. This observation is further supported by Rodino (1997), another influence on the development of this study, who argued that women who take on more traditional male traits will be the ones who thrive in the on-line environment.

However, this interpretation is rather one sided. Another possible cause for these results may be that men feel they can be more supportive in the on-line environment. The anonymous nature of IRC may enable those that portray themselves as men to be more supportive and disregard traditional gender roles that cast men as self-promoting and sarcastic as described by Herring (1996).

Within individual chat rooms the findings were consistent with those found in the general study, except in the Teen Music chat room. The hypothesis that those who portray themselves as women will use more supportive language than men was supported in this chat room. These findings support the conclusions drawn by Herring (1996) and Savicki, Lingenfelter, and Kelly (1999).

This inconsistency may be accounted for by examining two major difference between this chat room and the others analyzed. First, this chat room was limited to a particular age group, teens. The youth of the participants may have resulted in a clinging to traditional gender roles out of fear of rejection from other participants if these boundaries were crossed. Second, the theme and atmosphere of this chat room was different than the other chat rooms in this study. Music was the focus of discussion in this channel, whereas, relationship building was the focus of discussion in the rest of the chat rooms. Also, participants felt the need to promote individual tastes in music and this often lead to debates concerning which types of music and artists were to be held in the highest esteem. As Savicki, Lingenfelter, and Kelley (1999) observed, in their previous study, those who portray themselves as women felt the need to avoid and calm tension in the chat room through the use of supportive language. Thus, women may have used more supportive language in this chat room in response to heated debates on the topic of music.

The second hypothesis was based predominately on the observations made by Herring (1996). She claimed that women use more attenuated language, which is characterized through the use of hedging, expressing doubt, apologizing, asking questions, and contributing ideas in the form of a suggestion (Herring, 1996). The hypothesis that those who portray themselves as women will use more attenuated language than men was based on these observations. This analysis; however, did not support Herring's findings. No support for this hypothesis was produced in individual chat rooms or in the chat rooms observed as a whole.

These results supported the findings of Savicki, Lingenfelter, and Kelley (1999). The authors found that women did not tend to apologize more or ask more questions than men. This research indicates that the aggressive nature of CMC may be decreasing (Savicki, et. al., 1999). Thus, both men and women may feel more prone to avoid conflict.

On the other hand, the results of this study may be interpreted as reinforcing the conclusions drawn by Rodino (1997). Rodino (1997) predicted that females on-line will perform as males to get the same respect and treatment of other male users. Considering this interpretation, perhaps, women are simply not using as much attenuated language in order to prevent being viewed as inferior to their male counterparts.

The third hypothesis contended that those that portray themselves as males will use more challenging language than women. The results computed for all chat rooms observed supported the findings observed in Savicki, Lingenfelter, and Kelley (1999). Men did not use more challenging language than women in CMC. A segment of text from the Teen Music chat room illustrates this finding:

BUFFALO : THEY ARE SALE OUTS

"koRny koRoner" : **TIGEERGIRL IS FULLA JUNK**

tigergirl : YOU TO BSBISANAS U KNOW THAT'S RIGHT

"koRny koRoner" : **SOS BSBISANAS**

Chickadee : ***I DONT CARE I LIKE THIER MUSIC***

Those who portrayed themselves as men and women both used challenging language.

Witmer and Katzman (1998) offered two explanations for these results. First of all, women may feel more at ease in the relatively anonymous environment of IRC.

Without a "known" identity it is easier to be bold. Second, Witmer and Katzman (1998)



maintained that women in CMC are often involved in male dominated endeavors such as high-tech organizations and academia, so traditional gender roles are not as strictly enforced. These observations may shed some light on analysis of the individual chat room results.

The Teen Music chat room supported the hypothesis that those who portrayed themselves as men used more challenging language than women. Once again, the age group and theme of this chat room may have influenced the results. Female participants in this room have not yet reached the age or educational level necessary to participate in male dominated endeavors and thus, continue to play out traditional gender roles in IRC. As pointed out earlier in Savicki, Lingenfelter, and Kelley's (1999) study, females preferred to avoid and easy tension in volatile situations rather than contribute to the conflict.

The final hypothesis that those who portrayed themselves as men would flame more than women approached significance, but was not fully supported when the results were analyzed for all chat rooms observed. Savicki, Lingenfelter, and Kelley (1999) found similar results. In the previous study, men did not use more coarse or abusive language, which could be characterized as flaming, than women. These findings can be interpreted in two ways. The first as a sign of a friendly on-line environment as suggested by Savicki, Lingenfelter and Kelley (1999) or as a sign that women are becoming more aggressive and taking on male traits as suggested by Rodino (1997).

When analyzing individual chat rooms, the Teen Music chat room once again clashed with the results found in the other chat rooms. The Teen Music chat room supported the hypothesis that those who portray themselves as men flame more than

women. The age and content focus of the chat room lent itself to conflict and heated discussions concerning musical tastes. For example, it was common for male participants to use all caps and dominate the conversation with repeating text as a form of flaming.

This type of flaming was common in the Teen Music chat room:

**BATTERY21 : I AM METALLICA KING**

**BATTERY21 : I AM METALLICA KING**

**BATTERY21 : I AM METALLICA KING**

**BATTERY21 : I AM METALLICA KING**

**BATTERY21 : I AM METALLICA KING**

**BATTERY21 : I AM METALLICA KING**

**BATTERY21 : I AM METALLICA KING**

Those that portrayed themselves as males rose to the occasion and became adversarial, which is consistent with Herring's (1996) characterization of male on-line styles.

The findings of both Witmer and Katzman (1998) and Rodino (1997) are supported by the findings in the current study. Traditional gender roles did not hold in IRC. Those that portrayed themselves as women did not use more supportive and attenuated language than men and those that portrayed themselves as men did not use more challenging language or flame more than women. Nontraditional gender roles or at least a blurring of gender roles takes place on-line and gives the sexes an equal playing field without the restrictions of gender socialized roles.

One particular chat room did; however, support traditional gender roles and proved that these findings are subjective and dependent both on the demographics of the participants and content of a given chat channel. The Teen Music room supported the hypotheses that those that portray themselves as women use more supportive language

than men and that those that portray themselves as men use more challenging language and flame more than women. This discrepancy can be attributed to the youth and maturity level of the participants in this chat room and the subject being discussed. Considering the youth of the participants, perhaps, they could not shed their traditional gender roles without fear of rejection. The theme of music also provided a broad area for debate. The area of adolescent communication styles on-line and the influence of chat room themes on the types of language used would be worthy of further study.

Overall, the study did find that nontraditional gender roles rule the cyber world. Men and women appear to have the same amount of leverage and power in IRC. Men and women seem to use similar types of language and do not seem hindered by the constraints of gender roles in cyberspace. CMC may indeed be the forum for equal communication among the sexes at least if given the proper context.

### Limitations

The study did have a number of limitations and constraints in the areas of sampling and censorship. The sample was relatively robust, but a larger sample would have drawn more reliable findings. Also, the random selection of chat rooms posed problems. The Teen Music chat room is a perfect example. Specialized chat rooms, with certain age groups or interests, may produce different results because they are only representative of that age group or special interest rather than the general population. Each chat room is a subculture of the larger cyberculture. As subcultures, each culture has developed its own rules and norms. If a participant does not agree with those rules or norms, the participant simply moves on to another chat room or subculture that suits his or her liking. As a

result, very distinct subcultures are developed. A larger sample, with more chat rooms, may be more representative of the collective cyberculture or a focused study on one particular type of subculture would produce more reliable results.

Another bump in the road occurred concerning graphic accents. The use of graphic accents was another language consideration for this study. Graphic accents are a type of language unique to IRC. They are directional devices and graphics more commonly known as emoticons. Users will often use a colon and an ending parentheses to create a smiley face. IRC service providers found the use of such emoticons so common that a new feature was provided for their users. The typed pictures were turned into actual graphic pictures. So, the smiley face turns into a yellow circle with two dots for eyes and a semicircle for a smile. Unfortunately, this new feature could not be cut and pasted to a word processing file. The text from those chat rooms could be copied, but only an empty space appears where the graphic accent once existed. This raises two issues. First, this information is lost and can not to be studied, except through direct observation. Graphic accents are a type of dialect used in IRC that are worthy of studying and understanding. Second, any other areas of language study in IRC are hampered because pieces of the communication exchanges are missing. A method should be developed to log or even save IRC conversations that include the computer altered graphic accents.

The second limitation is the issue of censorship on-line. Censorship on-line is an area of constant controversy in our society. The Internet was originally a forum without rules, but society is demanding some limitations. IRC is not immune to censorship either. The service provider used for this study, like most providers, now have hosts who monitor and punish those that use inappropriate language, inappropriate content or flame in IRC.

Hosts can be either human or computer generated. These hosts give warnings and can also log someone out of a room if the inappropriate behavior continues. Such an example could be found in the Teen Music chat room:

**.MANICGIRL : I CAN'T BELIEVE PEOPLE CONSIDER POP TO BE MUSIC, IT IS THE BIGGEST LOAD OF SHITE I'VE EVER HEARD. MUSIC IS NOT ABOUT LOOKING GOOD, WINNING AWARDS, GETTING BOOB JOBS, GOOD DANCE MOVES OR ANY OF THAT CRAP. IT'S ABOUT BEING ABLE TO SING AND PLAY AN INSTRUMENT**

**Host Jayde\_ kicked MANICGIRL out of the chat room because: That is not appropriate for Teen Community**

Adult content chat rooms do exist; but for those chat rooms open to all, hosts are necessary to prevent individuals from being exposed to excessive and vulgar assaults from other participants and to prevent minors from being exposed to inappropriate content. As a result, participants are not allowed to always say exactly what they wish and this diminishes the idea that IRC is free of social constraints to control behavior. Therefore, the variables of challenging language and flaming were hindered, because participants could be silenced if the behavior was considered inappropriate by the host.

### **Future Research**

The question of gender should be studied further. A study of gender and first impressions could determine how much of a role gender plays in developing perceptions of others in CMC. How often are questions of gender asked? How much time lapses before a participant asks for another participant's gender? Do participants simply rely on language cues and nicknames to determine gender, how long must they observe before they make an assumption and are these assumptions, typically correct? Answers to these

questions could help to define traditional and nontraditional roles in cyberspace. Research of this sort could also help to define the virtual community and norms that guide it.

Future research should also examine how traditional and nontraditional gender roles appear in e-mail verses instant messages and chat rooms. The response times could affect what participants say because they have more or less time to respond. Also, e-mail can be traced back to a person whereas chat rooms typically allow for complete anonymity. This could also affect what gender stereotypes do or do not surface. Such a study could be further limited by looking at chat rooms with regular participants as opposed to those that have more of a transient status.

Women's roles in cyberspace have yet to be defined. According to Miller (1995), women are viewed as the weaker sex on-line. Where does this assertion come from and has this perception changed in the last five years? An evaluation of computer literacy for both men and women could be conducted. Are men encouraged more than women to use the Internet in schools and work or by the virtual community itself? Perhaps the age-old ideas that men are better in the sciences and women are better in the language arts falls into place here. Miller (1995) claims, male domination of CMC has resulted in a virtual community that is hostile toward women. Future studies may find that this is no longer the case.

Women who fully participate in CMC do exist. In Witmer and Katzman's study (1998), women were actually more challenging and hostile than their male counterparts. The researchers attributed this to the female participants' positions in high-tech organizations and academia. The ideas of economic and social status in relation to men and women and their perceptions of gender in CMC would be worth studying. Also, a

more extensive study looking at women with positions in high-tech organizations and academia and their roles in CMC would be helpful in determining the validity of Witmer and Katzman's assumption.

Gender swapping also provides an interesting area of study, considering its uniqueness to CMC. Due to the lack of nonverbal cues, gender swapping can be accomplished with little effort. However, as mentioned before, participants often base gender on how language is constructed in the computer-mediated setting. It would appear that those that wish to portray themselves as the opposite gender would have to succumb to gender stereotypes to achieve their purpose. Most participants would take a person's word on their gender, but some mastering of gender traits would have to be incorporated. Or would they? A study of this nature could explore whether those that exchange genders are suspected by others on-line. Also, it would be valuable to determine what traits, if any, are the most convincing for determining gender.

Related to gender swapping, researchers could look at the insights attained by those doing the swapping. In Bruckman's (1996) study, a male participant was surprised by how he was treated when he logged on as a female. He was allowed the unique experience of truly being perceived as the opposite sex. It would be interesting to note whether this experience in some way altered his perception of women. If so, it would be worthwhile to explore this phenomenon. Participants could take a survey determining how strongly they stereotype the sexes and then engage in gender swapping. After a period of time, participants could be reevaluated to see if their perceptions were altered.

Most media attention concerning CMC has focused on sexism on the Internet. It also has signaled that gender and stereotyping is an issue for the virtual community. Some have suggested censorship and others believe that censorship is unnecessary, as pointed out by Miller (1995). Perhaps, information should be gathered to determine the prevalence of sexism on the Internet. If the problem truly is significant, the next step would be to decide if sexism is a result of the medium or the environment, "medium" meaning the anonymous nature of CMC and the environment referring to commonly viewed websites and advertisements. Before calling for censorship, an in-depth evaluation is in order. The idea of stereotyping is not limited to gender. Sexism is only one social problem that can arise. Racism and discrimination are in the same vein and should be evaluated as well.

An additional area of study may focus on IRC. The study conducted for the purposes of this paper may be duplicated, but modified in ways which would provide more accurate results. For instance, the unit of analysis could be altered to focus on words or phrases rather than simply complete utterances in turns taken. Also, the font and colors chosen by participants in which to type could also be observed and analyzed as a nonverbal indicator of a participants mood or personality. Finally, types of chat rooms that focus on specific themes or age groups could be targeted and analyzed as communities on-line.



As a new dimension of communication, CMC at this time has many areas that have not yet been explored. More research is needed in this area to see how this virtual community should proceed and what problems should be expected and how to resolve them. The issue of gender roles in CMC is one small facet of an ever-changing technology that is becoming a part of everyday life.

## **APPENDIX I**

### **CODE BOOK**

## TREATMENT OF DATA

### VARIABLES

#### Unit of Analysis

In order to accurately identify supportive language, attenuated language, graphic accents, challenging language and flaming, these types of language must be considered within the context of conversation. Thus, the unit of analysis will be measured in complete utterances in turns taken by speakers in IRC.

#### Independent Variables

The independent variable to be observed in this analysis will be gender.

Distinctions between genders will be based on nicknames, self-disclosure and context cues. The independent variable will be coded as: 0 = indeterminate gender; 1 = female; 2 = male.

Each chat room has be coded according to theme as well: 1 = Asian American; 2 = Blind Date; 3 = Chicago; 4 = Countdown 2000; 5 = Teen Music.

## Dependent Variables

Content analysis has been done using the following codes included in the table below.

### Content Codes Used with Definitions

Content Scale	Definition	Examples
Supportive language	Measured expressions of appreciation, thanking and community building by the author of the message:  1 = yes, 2 = no.	Hellos, goodbyes, asking for a/s/l, and where participants are from.
Attenuated language	Measured use of hedging and expressing doubt, apologizing, asking questions, and contributing ideas in the form of suggestion by the author of the message:  1 = yes, 2 = no.	Saying sorry, asking questions such as, "How are you?" Hedging, such as, "I could be wrong, but..."

<b>Graphic Accents</b>	<p>Measured use of emotional, artistic, and directional devices to show and express ideas and emotion by the author of the message:</p> <p>1 = yes, 2 = no.</p>	<p>Using faces to depict Emotions, such as, :( , to represent sadness or directional, such as, -----&gt; to to a comment of importance.</p>
<b>Challenging Language</b>	<p>Measured expressions of aggression, defiance, objection and disagreement by the sender of the message:</p> <p>1 = yes, 2 = no.</p>	<p>Statements such as, your wrong or I disagree. Even aggression such as, why would you think that or are you crazy?</p>
<b>Flaming</b>	<p>Measured use of profanity, insults, name-calling and typographic energy such as capitalizations or explanation points by the author of the message: 1 = yes, 2 = no.</p>	<p>Profanity, such as fuck or bitch. Also insults, for instance, "YOUR STUPID."</p>

## **APPENDIX II**

### **CODING INSTRUMENT**

	chatroom	gender	support	attent	challenge	flaming
1	3.00	1.00	2.00	2.00	2.00	2.00
2	3.00	.00	2.00	1.00	2.00	2.00
3	3.00	1.00	1.00	2.00	2.00	2.00
4	3.00	1.00	2.00	2.00	2.00	2.00
5	3.00	1.00	2.00	2.00	2.00	2.00
6	3.00	1.00	2.00	1.00	1.00	1.00
7	3.00	1.00	2.00	1.00	2.00	2.00
8	3.00	1.00	2.00	2.00	2.00	2.00
9	3.00	1.00	2.00	2.00	2.00	2.00
10	3.00	1.00	2.00	2.00	2.00	2.00
11	3.00	2.00	1.00	2.00	2.00	2.00
12	3.00	1.00	2.00	1.00	2.00	2.00
13	3.00	.00	2.00	2.00	2.00	2.00
14	3.00	2.00	2.00	2.00	1.00	2.00
15	3.00	2.00	1.00	1.00	2.00	2.00
16	3.00	2.00	1.00	2.00	2.00	2.00
17	3.00	1.00	1.00	2.00	2.00	2.00
18	3.00	1.00	2.00	2.00	2.00	2.00
19	3.00	1.00	2.00	1.00	2.00	2.00
20	3.00	2.00	2.00	2.00	2.00	2.00
21	3.00	1.00	1.00	1.00	2.00	1.00
22	3.00	2.00	2.00	2.00	2.00	2.00
23	3.00	1.00	2.00	1.00	2.00	2.00
24	3.00	1.00	2.00	2.00	2.00	2.00
25	3.00	1.00	2.00	2.00	2.00	2.00
26	3.00	1.00	2.00	2.00	2.00	2.00
27	3.00	2.00	1.00	1.00	2.00	2.00
28	3.00	1.00	1.00	2.00	2.00	2.00

## **APPENDIX III**

### **IRC SAMPLE TEXT**



January 28, 2000 4:37PM Teen Music

The chat's topic is: Music Nation ROCKS!

tigergirl : ANYONE FROM ALABAMA

STR8EDGE : korn freak 69 you need to get in touch with reality

Chickadee : **I like limp bizkit myself**

bsbisanas : hi nsyncgodeess!!!!!!

MANICGIRL : **Brian Welch is also an unbelievable babe!!**

tigergirl : HELLOOOOO POOH BEAR

TR8EDGE : korn freak 69 you ned to get in touch with reality

smile : ANYONE LIKE RAP IN HERE

"pooh bear" : a/s/l

"kornfreak 69" : **you suck huge gigantic infected**

Chickadee : **I like all music**

"koRny koRoner" : **STR8 EDGE U NEED 2 GET IN TOUCH WITH A BRAIN OR SOMTHIN**

BATTERY21 : **FOR WHOM THE BELL TOLLS**

"kornfreak 69" : **DICK**

smile : BY THE WAY WHATZ UP PEOPLE

tigergirl : 13/F/AL

"pooh bear" : me 2 but mi

jessica : ANY GUYS WHO R 13 14 WANNA WHISPER ME AND GET TA KNOW ME PERSONALLY

tracy\_nicole\_500 : **IF ANY GUYS WANNA CHAT PRESS 16 !**

BATTERY21 : **DA DA DAH**

BUFFALO : IS THERE ANY FROM OKLAHOMA?

"kornfreak 69" *mad*

Chickadee : **ANY GUYS WANNA CHAT WITH A 17/F**

smile : ANYONE REPRESENTING NEW HAMPSHIRE PRESS 12

"koRny koRoner" : **STR8EDGES PIC**

CHERRLEADER : ANYONE WANT TO WHSIPER `14/F/FLA

"kornfreak 69" : **backsreet boy suck**

jessica : THE MAN

BUFFALO : I WILL CHICKADEE

tracy\_nicole\_500 : **IS ANYONE IN HERE FROM VIRGINIA ?**

STR8EDGE : korn freak 69 cant you come up with anything original to say to me

bsbisanas : no they don't suck

bsbisanas : i love bsb

Chickadee : **HOWS IT GOING BUFFALO**

bsbisanas : i'm their property

"koRny koRoner" : **WHO CARES**

jessica : THE MAN ?

smile : U GUYS ARE BORING PEACE

BUFFALO : OKAY, YOU?

tigergirl : KORNFREAK69 GET REAL KTBSBPA

"pooh bear" : hello does anyl wanna talk?

Chickadee : **I LIKE BACKSTREET BOYS ALSO**

bsbisanas : cool

bsbisanas : where are you from

Chickadee : **GOOD THANKS**

jessica : HEY THE MAN

"koRny koRoner" : **YOUR BOTH RETARDED**

BUFFALO : BSB SUX

jessica : WANNA CHAT

"the man" : *what*

tigergirl : I LIVE FOR BSB

punkrockgirl : see me and jayde have an understanding....right jayde so gently kick me out of this room  
like a good girl....."punxnotdead"

"koRny koRoner" : **THEN DIE**

jessica : ANY FINE GUY WANNA WHISPER ME

punkrockgirl : bye fuckers

Host Jayde\_ kicked punkrockgirl out of the chat room because: That talk is not welcome in Teen Community

bsbisanas : U GO GIRL (tigergirl)

BUFFALO : DO YOU LIKE ANY OTHER BANDS CHICKADEE?

Chickadee : **I LIKE ALL MUSIC RIGHT NOW IM REALLY LIKING LIMP BIZKIT THOUGH**

jessica : **HEY ANY GUYS WANNA WHISPER ME**

BUFFALO : THEY ARE SALE OUTS

"koRny koRoner" : **TIGEERGIRL IS FULLA JUNK**

tigergirl : YOU TO BSBISANAS U KNOW THAT'S RIGHT

"koRny koRoner" : **SOS BSBISANAS**

Chickadee : **I DONT CARE I LIKE THIER MUSIC**

"kornfreak 69" : **KoRn rulz**

tigergirl : NO HONEY YOU ARE

bsbisanas : i think that u guys who don't like bsb is because you're jelaous. bsb can have all girls they want but you have to be beggin' us to at least see you.....lol

BUFFALO : DO YOU LIKE COAL CHAMBER

BUFFALO : ?

Chickadee : **I LIKE KORN AS WELL**

"kornfreak 69" : **backstreet boys are fagets**

BUFFALO : THEY ONLY HAVE ONE OR TWO GOOD SONGS

"kornfreak 69" : **KoRn**

"kornfreak 69" : **korn**

"kornfreak 69" : **korn**

"kornfreak 69" : **korn**

"kornfreak 69" : **korn**

Chickadee : **I DONT REALLY KNOW COAL CHAMBER**

"kornfreak 69" : **korn**

tigergirl : GO BSBISANAS THAT'S THE TRUTH

bsbisanas : yeah i like koRn, limp, eminem etc.... but i love bsb

jessica : **WELL ANY GUYS LIVE ME?**

"kornfreak 69" : **korn**

"kornfreak 69" : **korn**

BATTERY21 : **I AM METALLICA KING**

BATTERY21 : **I AM METALLICA KING**

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BATTERY21 : **I AM METALLICA KING**

BATTERY21 : **I AM METALLICA KING**

BATTERY21 : **I AM METALLICA KING**

BUFFALO : HOW ABOUT SLIPKNOT?

Mary716 :

bsbisanas : OH YEAH, THAT'S THE TRUTH

"pooh bear" : Hello Every1

"koRny koRoner" : **backstreet bt\*\*\*\*\* suk**

"kornfreak 69" : **KoRn**

Chickadee : **IVE HEARD OF THEM BUT I DONT KNOW THEM REAL WELL**

tigergirl : NO ONE CAN BET THEM

"kornfreak 69" : **KoRn**

"kornfreak 69" : **KoRn**

"WE ALL LOVIN698" : **A/S/L CHECK EVERYONE AND I MEAN EVERY ONE**

"kornfreak 69" : **KoRn**

jessica : **NO GUYS LOVE ME**

Chickadee : **17/F/CO**

"pooh bear" : hello storm

"pooh bear" : fine

jessica : *I'M NO ONE LOVES ME AND I'M VERY LONELY*

"pooh bear" : hello ni08

"kornfreak 69" : **backstreet boys suck big fat floppy folible nasty donky dick**

Dan\_the\_Man : Led Zeppelin rules!

"WE ALL LOVIN698" : NO I ME

bsbisanas : you guys think they're gays but i've proved that they're not

Chickadee : **HOW?**

MajinChiChi : **lol@kornfreak**

ni08 : **anyone normal want to chat press 88 17/f/ks**

Mary716 : Any guys want to chat? Whisper me

"kornfreak 69" : **bsb sux**

BUFFALO : ZEPPELIN IS

tigergirl : BSB RULZ IN EVERY WAY

"kornfreak 69" : **KoRn**

"pooh bear" : yeah right tigergirl

"kornfreak 69" : **korn**

"kornfreak 69" : **korn**

"kornfreak 69" : **korn**

"kornfreak 69" : **icp**

"kornfreak 69" : **icp**

"kornfreak 69" : **icp**

"kornfreak 69" : **icp**

"kornfreak 69" : **icp**

"kornfreak 69" : **icp**

"kornfreak 69" : **korn**

jessica : *NO ONE ME*

"kornfreak 69" : **korn**

.MANICGIRL : I CAN'T BELIEVE PEOPLE CONSIDER POP TO BE MUSIC, IT IS THE BIGGEST LOAD OF SHITE I'VE EVER HEARD. MUSIC IS NOT ABOUT LOOKING GOOD, WINNING AWARDS, GETTING BOOB JOBS, GOOD DANCE MOVES OR ANY OF THAT CRAP. IT'S ABOUT BEING ABLE TO SING AND PLAY AN INSTRUMENT

Host Jayde\_ kicked MANICGIRL out of the chat room because: That is not appropriate for Teen Community

"kornfreak 69" : **korn**

JJ : WHISPER

"koRny koRoner" : **ICP**

"koRny koRoner" : **ICP**

"koRny koRoner" : **ICP**

"koRny koRoner" : **ICP**

"kornfreak 69" : **korn**

"kornfreak 69" : **korn**

jessica : *I U GUYS*

"kornfreak 69" : **korn**

"pooh bear" : gosh kornfreak i guess you love korn

JJ : THERE SHIT

Host Jayde\_ kicked JJ out of the chat room because: That is not appropriate for Teen Community

JJ has left the conversation.

"pooh bear" : (h)

bsbisanas : i met bsb and backstage.....

"koRny koRoner" : **icp**

"koRny koRoner" : **icp**

"koRny koRoner" : **icp**

"koRny koRoner" : **icp**

~blue-eyes~ : *hey everyone*

"koRny koRoner" : **icp**

"pooh bear" : hello battery21

"koRny koRoner" : **icp**

MajinChiChi : **does anyone like alice in chains, pink floyd, or queen??**

"koRny koRoner" : **icp**

MANICGIRL : **STUPID ASS MOTHER FUCKERS**

Host Jayde\_ **kicked MANICGIRL out of the chat room because: That talk is not welcome in Teen Community**

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