

Adolescent Avatars in Graphical Chat Spaces

Lois Ann Scheidt

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Introduction

Synchronous computer-mediated communication (CMC) environments have opened new channels for adolescents to explore their personhood. In this medium they engage in written conversation under a nickname, a participant selected name used to disguise their real identity. Adolescents meet and talk about their lives, their personal problems, their activities, or nothing in particular. In this way CMC mirrors real life face-to-face (FtF) dialogue. Many of CMC's unique qualities revolve around the fact that it is an austere mode of communication. There are no changes in voice, no facial expressions, no body language, and no (or very little) visual spatial environment as a context of meaning. (Suler 1997) Additional visual representation may be made by using an avatar¹ to create a graphical representation of a physical "body" in chat space. Thereby creating a thicker medium using facets of written, oral, and visual languages to communication with others.

HTML chat spaces, which support GMUKS (graphical multi-user conversations) (Suler 1999), allow written, oral, and visual communication in the familiar frames-based HTML format used by many commercial and personal websites. GMUKS create a unique graphical social environment, rather than being purely text-based as Donath, Karahalios, and Viégas (1999) discuss in their review of the design of graphical interfaces. Multimedia characteristics add a visual dimension that allows users to create the illusion of movement, space, and individuality. Avatars allow users to express their personalities through pictures using standard jpg, gif, or through animated gif formats.

Avatars add additional visual clues, though Walther (1999) postulates they are more analogues to the clues a user receives from the chat nickname than to actual visual cues received during a FtF exchange. In text-based communication, users selectively present themselves, concentrating on purposeful message construction and eliminating involuntary nonverbal clues from interaction. This interplay can magnify their sense of the similarity and desirability of others, while they become more friendly and attractive to other users. (Walther 1999)

In today's media-saturated world, identities are no longer built solely within the close-knit communities of family, neighborhood, school, and work. Media and online environments are part of our world today and therefore play an important role in the formulations of our identities or constructions of self. (Grodin and Lindlof 1996) The importance of the formation of identities and the construction of the self is evident in the young people, who, in the midst of discovery and their own self-development, populate adolescent chat spaces.

Adolescents approach the development of self by passing through stages where the self differentiates and becomes connected to themselves and others throughout their lifetimes. Gender is one variable with which adolescents must develop a personal

¹ A Sanskrit word that roughly translates to "God's appearance on Earth." (pg. xv) (Damer 1998)

performance. “From early childhood, individuals learn to signal their gender identity in accord with gender stereotypes. They learn to perform ‘masculinity’ or ‘femininity’.” (Danet 1998) Adolescence has been identified by all approaches as a time of heightened activity for most in the loss and creation of new balances.

Given the technological limitations of the medium, the first impulse of users and designers is to create versions of physical bodies that conform to a predictably narrow band of stereotypes. Given that any assertion of a virtual self is itself a rhetorical act, this tendency to create avatars that serve as stereotypical shorthand is indicative of a host of attitudes underlying our interaction with computers. (Kolko 1999)

This paper explores the ways in which adolescents represent themselves through avatars, and how gender is presented through their avatar choices in adolescent chat spaces. Research on adolescents in this medium is severely lacking. If we are to understand how the Internet shapes their lives and to have sufficient background to foretell what their impact on the World Wide Web (WWW) is likely to be, it is essential that we seek an understanding of how adolescents utilize the personal communication opportunities available to them on the WWW. This study aims to begin to fill this research void.

Background

Internet chat spaces allow participants to communicate in the relative safety of anonymity. Walther (2001) has noted that CMC participants, bereft of nonverbal cues, may engage in “selective self-promotion.” (pg. 4) “It is important to remember that virtual community originates in, and must return to, the physical. Life is lived through bodies.” (pg. 113) (Stone 1991)

Without visual clues and societal norms gender becomes more malleable in CMC. (Bruckman 1993) Though malleable, gender does not disappear; Reid (1991) argues that users construct gender through nicknames they choose. The richest form of identity expression and self-promotion can be achieved with avatars, visual representations of a participant’s chosen online identity. (Kim 2000) McIlvenny (2001) states “Avatars are clearly (ac)cultured and socialized: virtual embodiment and materiality is socially constructed, just as it is in ‘meat space’.” Kolko (1999) states, “On-line identity develops a kind of mediated electronic body that resulted in certain inconsistencies between the virtual and physical self.” (pg. 177) In the real world we have limited control over how we look, however when the participant selects an avatar as a visual representation, they make a decision to present themselves with an artifact over which they have significant control and they can change the avatar at will.

Three levels reveal gender in CMC chat spaces - nicknames, avatars, and discourse. This becomes a hierarchy in that nickname selection is a default requirement of the computer interface and must be entered to access the chat space. Once logged into a chat space the participants can “lurk²,” watch the conversation without adding their own remarks, thereby limiting additional gender related information. Finally if the participants choose to use an avatar to represent themselves, that pictorial image is entered into the system at the same time as the nickname. Again, the participant could

² “Refuse to communicate.” (pg. 2) (Marvin 1995)

“lurk,” or “spam³” with only their nickname/avatar combination, thereby limiting gender information to the nickname or nickname/avatar combination.

Gender may also be obscured, further separating the real body and the online representation. (Stone 1991) CMC is less revealing of personal information than FtF communication, and some user’s avatars are gender-neutral. Female participants can choose to present themselves in ways so as to minimize discrimination and harassment by adopting a gender-neutral identity. (Bruckman 1993)

Jacobson (1999) showed that in text-based virtual communities people develop an image of one another. These impressions are based not only on cues provided, but also on the conceptual categories and cognitive models people use in interpreting those cues. We sit in front of a computer terminal not only as conscious beings but also as carnal beings. Our vision is not abstracted from our bodies or from our other sensory modes of perception that allow us to access the world. (Sobchack 1988)

In addition analyzing even the most gender-stereotyped of avatars requires deciding; which bodily representation is the result of cultural conceptions and which is the result of technological limitations. How physical bodies can be represented in electronic spaces, ultimately reveals how gendered bodies come to affect gendered voices. (Kolko 1999)

Many authors have referenced the developing gender exploration of adolescence as a time of separation, and autonomy. (Marcia 1993) Tannen (1990) argues, “because boys and girls grow up in what are essentially different cultures...talk between women and men is cross-cultural communication.” (pg. 18) For men, conversation is for “holding center stage” and maintaining that attention. (pg 77) Morahan-Martin (1998) and Tapscott (1998) discuss that girls want to explore relationships, whereas boys search for self-identity through differentiating themselves from others. “Nowhere are these two orientations toward relationships more obvious than in cyber play” and chat spaces. (pg. 168) (Tapscott 1998) Rushkoff (1996) postulates that “screenager,” the child born into a culture mediated by television and the computer, will interact with their world differently than previous generations. This point of view would necessitate a change in how adolescents view and utilize gender and gender-stereotypes.

Avatars are used as stand-ins for the participant in their process of self-promotion. The metaphor of standing-in for is the basis of the observation that signs are used to infer something not directly perceptible, or not directly obvious, from something that simply is. Therein lies the point of sign use, representational conceptions of signs, construing their perceptibility as a replacement or representative of that which is not directly perceptible: The expression stands for that which is meant. (Keller 1998) Semiotics occurs whenever we stand back from our ways of understanding and communication, and ask how these ways arise, what form they take, and why. Semiotics is above all an intellectual curiosity about the ways we represent our world to each other and ourselves. (Sless 1986)

Methodology

³ Excess and/or repetitive posting of communication. (pg. 2) (Marvin 1995)

The adolescent chat spaces used for this study are part of a chat site consisting of 181 chatrooms, 24 of which are designated for General Chat and populated by adolescents. Each room has a capacity of 30 participants. The total General Chat participation regularly exceeds 200 participants. Five General Chat rooms were selected for this study based on the participants' consistent use of avatars, and the regularity of five or more participants around the clock.

The spaces in question are utilized 24-hours a day; therefore data was collected by dividing the day into four time blocks. Data was collected in one-hour increments; two hours were collected in each time block. Individual avatars were collected and saved for analysis. Samples were taken between June 18, 2001 and July 1, 2001.

Since this research is based solely on adolescents in a single chat site, it only accounts for one of many types of the online spaces in which adolescents participate, and conclusions about the construction of adolescents as chat space participants relate strictly to this particular site.

Content analysis was the primary method used to evaluate the avatars. Semiotic analysis was incorporated to the extent possible. The coding scheme was developed during an earlier pilot study; additional categories were added to further describe the data set.

Three sets of forced choice (exclusive) selections were made to:

1. Establish the humanoid/other, and gender categories pictured in the avatar:
 - a. Humanoid - female, male, female(s) and male(s), and unknown gender, or
 - b. Other - non-human, and graphical.
2. Evaluate the race of humanoid avatar characters: Asian, Black, Hispanic, White, or Unknown/Other.
3. Establish if the avatars were publicly available, with avatars from an avatar or picture library as a sub-coding, or privately available, with those that are publicly available at another URL as a sub-coding, or of unknown origins.

Other coding categories were non-exclusive, so a single avatar may be coded in multiple categories.

Animated

Humanoid group (3 or more)

Combination construction

Compound construction

Nickname superimposed on avatar

Avatar is photo

Avatar is drawing

Pornographic

Nudity

Revealing Dress

Sexually suggestive

Exaggerated secondary sexual characteristics

Guns, swords, spears, armor, etc

Trappings of childhood

Membership or group tags
 Baggy clothing
 Advertising
 Coy gaze
 Eyes obscured
 Figures in action
 Superheroes, vampires, larger than life figures
 Angels, pixies, etc
 Gore and/or blood
 Drug, smoking, alcohol
 Celebrities, musicians, actors, etc

Due to limited representation in some categories, similar coding categories were combined and will be shown as such in the results.

A single rater was used for this project, though ad hoc input was solicited in some situations.

Results

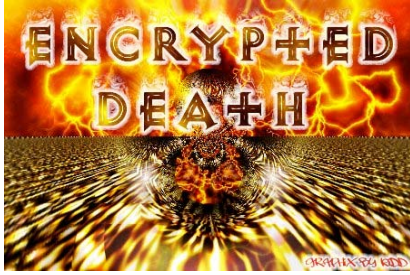
A total of 1296 unique nicknames were present within the data sample. 365 (28.2%) of the nicknames used avatars. Of these 312 (85.5%) are unique; the first occurrence of a repeated avatar within the sample was used for analyses.

Humanoid	288	92.3%	Female(s)	144	46.2%
			Male(s)	100	32.1%
			Female(s) and male(s)	8	2.6%
			Unknown gender	36	11.5%
Other	24	7.7%	Non-human	5	1.6%
			Graphical	19	6.1%
Total	312				

Chart 1

Avatars showing characters with either human or humanoid configurations predominated (92.3%) with females accounting for 46.2% of the 312. Males made up 32.1%, followed by those of unknown/other gender at 11.5%, and avatars showing both females and males making up 2.6% of the data set.

Avatars that display either non-human forms or graphical elements made up 7.7% of the total. Graphical avatars, picture files displaying non-living forms such as formatted text, with or without added elements [Example 1], make up 6.1% of the data set. Non-human images, those of animals and plants [Example 2], account for 1.6%.



Example 1



Example 2

		Female	Male	Female(s) and male(s)	Unknown gender	Non-human	Graphical	Totals
Publicly available avatars	n=	102	60	3	12	2	9	188
		70.8%	60.0%	37.5%	33.3%	40.0%	47.4%	60.3%
Publicly available avatars from an avatar or picture library	n=	97	49	2	7	1	5	161
		67.4%	49.0%	25.0%	19.4%	20.0%	26.3%	51.6%
Avatars from private site	n=	42	40	5	24	3	9	123
		29.2%	40.0%	62.5%	66.7%	60.0%	47.4%	39.4%
Avatars form private sites but available at another URL	n=	10	7	0	1	0	0	18
		6.9%	7.0%	0.0%	2.8%	0.0%	0.0%	5.8%
Unknown (site no longer exists)	n=	0	0	0	0	0	1	1
		0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	0.3%

Chart 2



Example 3

Avatars that were drawn from publicly available sites - including avatar or picture libraries, and open indices HTML pages – account for 60.3% of all avatars. Publicly available avatars are used by the participants as is with no alteration, and therefore can be used by participants with minimal levels of computer skill [Example 3]. 39.4% are being drawn from private sites, these avatars have often been created or manipulated by or for the participant, and often indicate higher levels of participant computer skill, as seen in Example 4.

Both female and male avatars were primarily drawn from publicly available avatar sites, 70.8% and 60.0% respectively. Nearly all of the publicly available female avatars,



Example 4

67.4%, are taken from avatar or picture libraries. While a smaller proportion of the publicly available male avatars, 49.0% are taken from avatar or picture libraries.

The three remaining categories – female(s) and males(s) (62.5%), unknown gender (66.7%), and non-human (60.0%) - primarily utilized avatars drawn from private web sites.

		Female	Male	Female(s) and male(s)	Unknown gender
Asian	n=	1	0	0	0
		0.7%	0.0%	0.0%	0.0%
Black	n=	1	11	0	0
		0.7%	11.0%	0.0%	0.0%
Hispanic	n=	1	0	0	0
		0.7%	0.0%	0.0%	0.0%
White	n=	142	74	7	14
		98.6%	74.0%	87.5%	38.9%
Unknown/Other Race	n=	0	14	1	22
		0.0%	14.0%	12.5%	61.1%

Chart 3

White characters are chiefly used to represent female, male, and both female(s) and male(s) avatars with 98.6%, 74.0%, and 87.5%. Avatars of unknown gender are often of unknown race with 61.1%. While 38.9% of the unknown gender avatars are white.

		Female	Male	Female(s) and male(s)	Unknown gender	Non- human	Graphical
Baggy Clothing	n=	24	35	3	11	0	0
		16.7%	35.0%	37.5%	30.6%	0.0%	0.0%
Celebrates, musicians, actors, etc	n=	10	22	2	3	0	2
		6.9%	22.0%	25.0%	8.3%	0.0%	10.5%
Combination/compound construction & nic on picture	n=	45	32	6	12	3	9
		31.3%	32.0%	75.0%	33.3%	60.0%	47.4%
Coy Gaze	n=	108	9	3	4	0	0
		75.0%	9.0%	37.5%	11.1%	0.0%	0.0%
Drawing	n=	122	78	5	32	2	19
		84.7%	78.0%	62.5%	88.9%	40.0%	100.0%
Exaggerated Sexual characteristics	n=	53	25	1	0	0	0
		36.8%	25.0%	12.5%	0.0%	0.0%	0.0%

		Female	Male	Female(s) and male(s)	Unknown gender	Non- human	Graphical
Eyes obscured	n=	8	33	3	7	0	0
		5.6%	33.0%	37.5%	19.4%	0.0%	0.0%
Figures in action & Superheroes, Vampires, Larger than life & Animated	n=	28	40	1	11	3	4
		19.4%	40.0%	12.5%	30.6%	60.0%	21.1%
Guns, swords, spears, armor, etc & Gore and/or	n=	18	38	0	10	0	0

blood & Drug, Smoking, Alcohol		12.5%	38.0%	0.0%	27.8%	0.0%	0.0%
Humanoid group (3 or more)	n=	3	2	1	0		
		2.1%	2.0%	12.5%	0.0%		
Membership or group tags & Advertising	n=	13	17	2	1	0	1
		9.0%	17.0%	25.0%	2.8%	0.0%	5.3%
Nudity & Revealing Dress	n=	72	13	4	0	0	0
		50.0%	13.0%	50.0%	0.0%	0.0%	0.0%
Photo	n=	23	22	4	4	3	0
		16.0%	22.0%	50.0%	11.1%	60.0%	0.0%
Pornographic	n=	0	0	0	0	0	0
		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sexually Suggestive	n=	27	3	2	0	0	0
		18.8%	3.0%	25.0%	0.0%	0.0%	0.0%
Trappings of childhood & Angels, pixies, etc	n=	21	11	1	4	0	0
		14.6%	11.0%	12.5%	11.1%	0.0%	0.0%

Chart 4

The 144 female avatars are represented in all coding categories with the single exception of pornographic avatars. Female avatars are primarily drawings, 84.7%, with 16.0% are shown in photographs.



Example 5

Female avatars displayed 31.3% combination/compound avatars or avatars with nicknames superimposed on a photo or drawing. Combination construction, Example 5, groups' individual elements from individual URL's where they have been combined to form an avatar. In this case six individual avatars are used in concert. Compound construction,

Example 6, uses individual avatars combined into one avatar URL, via use of a program such as Adobe PhotoShop to create a single avatar. In this example two separate avatars are compounded with a nickname superimposed.

Female avatars display a variety of sexually oriented coding: 75.0% of female avatars, such as the form seen in Example 5, show a coy glaze to the viewer; 36.8% show exaggerated secondary sexual characteristics; 18.8% display sexually suggestive poses; while 50.0% include revealing dress or nudity.



Example 6

avatars or avatars with nicknames superimposed on a photo or drawing were used in 32.0% of male avatars.

Females, 19.4%, were also shown in action as superheroes, vampires and other larger than life figures or in animated avatars. While 14.6% showed characteristics of the trappings of childhood - toys, games, candy, etc. - pictured within the avatar.

The 100 male avatars are represented in all coding categories with the single exception of pornographic avatars. Male avatars are primarily drawings, 78.0%, with 22.0% being shown in photographs. Combination/compound



Example 7

photos of celebrities, musicians, actors, etc in 22.0%.

The combined category of guns, swords, spears, armor, etc & gore and/or blood & drugs, smoking, alcohol appears in 38.0% of the avatars. 25.0% of male avatars display exaggerated secondary characteristics. While 40.0% show the combined categories of figures in action & superheroes, vampires, larger than life figures & animated avatars. Example 7 displays all these characteristics.

Male avatars display baggy clothing in 35.0%; membership, group tags, or advertising in 17.0%, and



Example 8

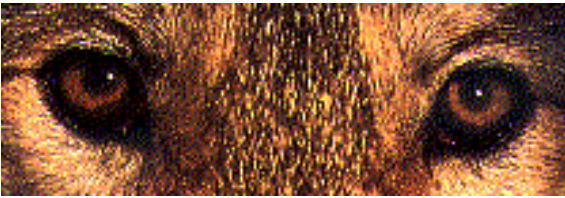
Avatars showing both female(s) and male(s) displays of nudity & revealing dress (50.0%) and sexually suggestive poses (25.0%) as seen in Example 8. Coy gazes are shown in 37.5%. Baggy clothes are seen in 37.5%. Membership or group tags & advertising are seen in 25.0%. Eyes are obscured in 37.5% of the avatars and 25.0% picture celebrities, musicians, actors, etc.

The eight avatars that show both female(s) and males(s) are represented in all coding categories with the exception of pornographic avatars, and the combined category of guns, swords, spears, armor, etc, & gore and/or blood & drugs, smoking, or alcohol. 50.0% of both female(s) and male(s) avatars are photographs, while 62.5% are drawings. Combination/compound avatars or avatars with nicknames superimposed on a photo or drawing were used in 75.0% of both female(s) and males(s) avatars, Example 6.



Example 9

The 36 avatars of unknown gender are also primarily drawings, 88.9%. Combination/compound avatars or avatars with nicknames superimposed on a photograph or drawing were used in 33.3% of the unknown gender avatars. The combined categories of guns, swords, spears, armor, etc. & gore and/or blood & drugs, smoking, alcohol (Example 9); and figures in action & superheroes, vampires, larger than life & animated avatars are shown in 27.8% and 30.6% respectively. 30.6% display baggy clothing and 19.4% have eyes obscured.



Example 10

figures in action & superheroes, vampires, larger than life & animated avatars are shown in 60.0%, Example 10.

The five non-human avatars vary from the other categories, as 60.0% are photographic while 40.0% are drawings. Combination/compound avatars or avatars with nicknames superimposed on a photo or drawing were used in 60.0% of the non-human avatars. The combined category of



Example 11

The 19 graphical avatars are all drawings, 100%. Combination/compound avatars or avatars with nicknames superimposed on a photo or drawing were used in 47.4% of the graphical avatars. The combined category of figures in action & superheroes, vampires, larger than life & animated avatars are shown in 21.1%. 10.5% of the graphical avatars are related to celebrities, musician, actors, etc, Example 11.

Discussion & Conclusions

In reviewing the avatar categories several overarching interpretations present themselves. Umiker-Sebeok (1996) in her semiotic analysis of magazine advertising describes ritualized subordination as the females pictured adopt postures, which indicate submission to control of others. Adolescent females' avatars show this characteristic in coy gazes, sexually suggestiveness, adopting revealing clothing styles, and idealized bodies (Exaggerated Secondary Sexual Characteristics, and nudity).

Ware & Stuck (1985) in their content analysis of computer magazine advertisements found that many stereotypical portrayals were found. Men appear more often than women; women were relegated to roles as clerical worker or sex object. The current study shows that sex object identification has continued through avatar selection. Likewise, Clark (1998) in her ethnographic study of teens and their text based online relationships found that teen girls adopted "new physical personae, describing their looks in such a way as to appear more attractive to the males." (pg. 166)

Umiker-Sebeok (1996) also found that “psychological withdrawal from the social context (males stay attuned and ready for potential threats to their control of the situation while females' attention drifts away).” (pg. 3) One common way to signify withdrawal is to cover the face. In this study male participants showed this characteristic more than females, distancing and obscuring the self through covered eyes, and baggy clothing.

While the adolescent male must “disconnect, must separate himself, must assert his right to be distinct,” they also strive to create group connections as shown through the use of logos on clothing (membership or group tags & advertising) and by using pictures of celebrities, musicians, actors, etc. (pg.81) (Archer 1993)

This study also supports Kolko (1999) finding that “conventional markers” of masculinity such as superheroes; guns, swords, spears, and armor are prevalent. Likewise Kiesler, Sproull, and Eccles (1985) found that male computer users were often introduced to computing through video games. The avatars reviewed in this study include many that are drawn from anime, and gaming sites.

In her ethnographic study of 4th and 5th graders using a newsgroup to post questions and answers regarding class work, Evard (1996) found that boys and girls used the computer system in similar ways. This is held true through this study in the nearly identical utilization of manipulated avatars being drawn from private sites.

Previous writers including Bruckman (1993) have discussed that participants who adopt nicknames that do not disclose their gender are often female. In this study it had been expected that the participants who adopted personas of avatars of unknown gender, non-human, or graphical would mirror the categories used by identified female participants. It was interesting that this expectation was not born out. Unknown gender and non-human avatars in this study utilizing more closely mirror traits found displayed in male avatars. Graphical avatars did not smoothly mirror either female or male avatars. Conversely, avatars picturing both female(s) and male(s) likenesses reflect a mix of characteristics found in single sex avatars.

Implications

Research on adolescents in CMC spaces has been limited, Thomas (2000) found through her ethnographic study of children (8 – 15), in the Palace 3D environment, that they are “learning to converse with new semiotic systems, some of which directly relate to computer programming cues, other are signs of their own invention, both of which combine to create a new form of text which requires correct interpretation for inclusively in the cyber world of children.” (pg. 13) Part of this new semiotic system is bound within and around their developing sense of gender for themselves, and their expectations of others. Further research is needed to establish how contact with other adolescents through computer-mediated environments impacts and is impacted by their personal explorations.

Suggestions for future research

This study raises research questions relating to the creators of the avatars and those that maintain the publicly available avatar libraries, from which most of the avatars

in this study were selected: What are their genders? How do they make design decisions? What messages do they perceive are sent by their designs?

Finally additional questions of race in avatar selection and use are suggested by these findings. Principally are the avatars selected to reflect the participant's actual race. Or does the selection of specific race reflect the participant's ideal of that race.

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