

# Children and instant messaging

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## Abstract

Children deal with computers very differently than adults do. Their relationship with their machines goes far beyond practical utility. Most children use computers for at least two recreational purposes: entertainment and establishing contact with peers, through instant messaging programs such as MSN Messenger. Kids as young as eight years old sit in front of their monitors to “chat,” or to converse online, sometimes for hours. Often, they use the keyboard, the web cam and audio devices simultaneously. But, while most children report great enjoyment of instant messaging programs, several features pose a number of usability problems that relate to the very distinct ways they use it.

This exploratory study examines how children deal with this form of communication, how they personalize their settings, what they like and dislike and which usability problems interfere with or frustrate them as they chat using MSN Messenger. Eighteen middle class children from ages eight to twelve participated in the study held in Rio de Janeiro, Brazil, which was based on observation, chat conversations between the authors and the children, and semi-structured interviews, transcribed and analyzed using discourse analysis techniques.

*Keywords: Children, Internet, instant messaging, on-line communication, Messenger, human-computer interaction*

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## 1. Introduction

The use of Instant Messaging programs (IM) is rapidly rising. This fact has been the object of media [1] and scholarly attention. Several works have been published that refer in general to the use of IM as a new means of communication and discuss in particular its social implications, in the workplace [2, 3], and by teenagers and young people [1,4,5]. What seems not to have been noticed yet is that IM has widely reached the youngest users of Internet.

Kids as young as eight years old sit in front of their monitors to “chat,” or to converse online, sometimes for hours. Among all existent IM programs, the one most widely used by young children is Microsoft Internet Messenger. This preference has been noticed while interviewing children for this research and seems to be confirmed by published work in other countries about young people and on-line communication [5,6,7].

This exploratory study examines how children deal with this new form of communication, how they

personalize their settings, what they like and dislike and which usability problems interfere with or frustrate them as they chat using MSN Messenger.

## 2. Main aspects of IM found in the literature

With regard to the various aspects that involve the use of IM, the following issues have been researched and addressed in several papers published in recent years.

- Linguistic implications: papers from Sweden [7], Spain [5], United States [8] and the United Kingdom [6].

- Social implications: some papers strongly criticize this new form of communication [6] while others suggest that its not a matter of approval, but of accepting that IM is here to stay, and that digital communications technologies evolve and improve constantly and quickly [1,4,5,9,10,12].

- Use of IM on the workplace [2,6], and by college students [13].

- Concern for the security of younger users of IM who could become victims of criminals: Naïve children and adolescents unwittingly provide personal data in virtual environments and sometimes go so far as to meet with strangers they get to know on the web [6,10].
- In fewer numbers, papers refer to research on design and usability for the public in general [6,14,15].

### 3. Instant messaging programs (IM)

Several companies offer instant IM services. Nowadays the main ones are: Skype, Yahoo Messenger, AOL and Google, apart of MSN Messenger that is preferred among children. One of the girls who participated in the study said: *“It’s in fashion...Everyone is going on-line with MSN”* (Joana, age 9)

### 4. Msn Messenger

This program comes integrated with the latest versions of MSN Windows (operational system). Its main characteristics:

- Offers the possibility to organize a contact list (buddy list) grouped by categories (see Fig. 01)
- Visualization of who is on-line/offline and on-line status
- Provides the ability to alter the status manually ranging from *“on-line”*, *“away,”* *“out to lunch,”* *“be right back,”* *“on the phone”* or *“busy,”* to *“appear offline,”* and to block or unblock contacts individually, in real time.
- Allows editing of nicknames and display picture (often a small picture of the user) in real time.
- Allows sending and receiving text messages, images, video, and voice messages in real time.
- Informs when another person is writing a message (while the conversation window is open).
- Integration with games
- Editable backgrounds and fonts
- *Emoticons*: icons that express emotions such as *smileys*, and drawings, small pictures and decorated letters or short words – static and animated – and even short films in small dimensions); (see Fig. 2 and 3).



Fig. 1: Contact list detail showing “friends”, “best friends” and “boring people” from the list of a nine year old girl.



Fig. 2: A few standard emoticons and their shortcuts



Fig. 3: some of the 96 personalized emoticons from the list of an 8 year old girl.



Fig. 4: Basic package of winks on MSN IM version 7.5 and frame of the animated bow wink.

- “*nudge*” which functions to request a contact’s attention: the conversation window trembles when activated by a user
- “*winks*,” which are animated images that take over the whole conversation window like *kiss*, *hug* and *bow* (see Fig. 4)

## 5. The importance of studying and testing children’s behaviour in regard to the use of computers.

In design, some people assume that “because they were once children, or because they have children at home, they can evaluate the usability of a product for children. This rarely brings in a good outcome” [17]. As an example, we can examine a situation in which drag and drop interactivity was being tested in educational software. For this activity children were supposed to select different types of food to place in a blender. Contrary to what had been expected by the software developers, children left the virtual items on top of the blender in order to drop them in [17].

There is not enough adult evaluation to reveal the issues children face [17,18], or the way they process information [19]. In this regard, IM programs are no different from any other, and therefore, deserve attention, research and a close look at how the young public uses them.

## 6. The study

A group of eighteen middle class children in Rio de Janeiro (only middle and upper classes households have computers in Brazil nowadays), from ages eight to twelve participated in the study, which was based on observation, chat conversations between the authors and the children, and semi-structured interviews which subsequently were transcribed and analyzed using discourse analysis techniques.

All participants are identified via pseudonyms, and any e-mails that might identify the users, when visible in sample screens, were erased to preserve their anonymity.

## 7. How children use MSN Messenger

Children as young as eight years old use MSN Messenger to chat, sometimes for hours. During

those conversations they often include more than one “buddy” in the same window, or they keep several dialog windows open simultaneously. The child who reported her “record” said she has had eleven conversation windows open at the same time.

Those who have video and audio resources use them whenever they can. They use the keyboard, web cam, microphone and loudspeakers or earphones simultaneously. Those who do not have such gadgets would like to have them.

In most cases children keep all dialog windows maximized, taking up the entire screen, even when they hold parallel conversations with different contacts in various windows, or when doing another activity in the computer, like browsing the web.

While most children report great enjoyment of instant message programs, several features pose a number of usability problems to them. While it can be argued that MSN Messenger was not specifically designed to be used by small children, the fact is that they are using it in a very different way than adults do. In fact, many of the difficulties kids face in regard to this software relate to the very peculiar ways they use it.

### 7.1. Personal configurations

#### 7.1.2. Nicks (nicknames)

*Nicks* are the names by which IM users choose to be identified. Nicks vary according to all sorts of criteria, such as mood, status within groups of users, and so forth. These nicknames often include their names, either in full or in part. Children also use them to send out messages and attract other users’ attention. They not only create *nicks* with words, but also embed emoticons and explore the use of punctuation marks to create drawings or visual effects. A good example of the way kids build their nicks is one used by a girl whose mother was pregnant at the time of the interview and still didn’t know the gender of the unborn baby (see Fig 5): She used punctuation marks, before and after her actual name, that resemble the drawing of a cat face (she placed them there for no special reason, just because “it looks cute”). The icons in the middle of the phrase are a boy and a girl, representing her baby brother or sister.



Fig. 5. Nick example

Many other *nicks* attracted the researcher's attention and a few can be seen in the next table (see Table 1). Children also change their nicks very often.

Table 1.  
Commented sample nicks

<i>Nick:</i>	☘. \$29C. \$6a. \$29r. \$29o. \$6l ☘
	The actual girl's name is Carol, and that is embedded in the nickname "to look nice".
<i>Nick:</i>	<b>I have no idea</b>
	This kind of <i>nick</i> actually appears quite often, when there is nothing special to say.
<i>Nick:</i>	»»-( ' ' )-> Raphaelinha <-( ' ' )-««
	The actual user's name is Raphaela. Apart from the drawings she created with punctuation marks, her name is written, in Portuguese, in the diminutive form.

### 7.1.3. Display pictures

On the right side of the conversation window there is room for a small image. This is also the place where a video image can appear when the web cam is active. The video image takes up a larger area of the screen. As for a "display picture" young IM users often place a photograph, either one by themselves or with a friend, but in most cases children use images they have copied from the Internet, like cartoon characters or pictures of cute animals (this goes for girl users especially), short animations or emulating text signs like, one of their favorites: "Why are you looking over here, pal? Conversation is over there ←". As with nicks, kids frequently change their display picture.

### 7.1.4. Backgrounds and fonts

All conversation windows in MSN messenger can be personalized by the users. Children use this feature extensively. Girls often chose pink or lilac backgrounds. Kids also use several background images. Mostly, they receive them from friends to be "shared" during IM conversations or they download them from the web. A nine year old boy uses race car images. One of the girls, who is also nine, uses colorful, animated backgrounds, like that of a lagoon with fish that "swim" behind the typed conversation (see Fig. 6) or a dark sky streaked with falling stars. She reports that she uses a different personalized background for each contact, as long as it is "a cool person."

Most children seek out, use, and enjoy visual effects which would normally annoy or disrupt adult users.



Fig. 6: Dialog window with active web cams and animated background with fish "swimming" behind typed sentences.

Fonts, font size, color, style (regular, italic, bold) and effects (underline, strikethrough) are frequently modified by young users.

### 7.1.5. Contact (buddy) list categorization

Kids assemble a large number of contacts that are grouped and distributed among several categories which normally include at least three of these classifications: *Family*; *School friends*; *Best friends*; *Friend's parents*; *Cool people*; *Boring people*. One of the interviewed kids has also created the category for "Unbearable people"

The latter two categories include contacts that the young users do not like or with whom they do not wish to talk. They usually stay blocked (see Fig.1), meaning that these contacts cannot see when they get online. But even these contacts are kept in the list, and not deleted. Even "unbearable people" can be unblocked "if there is no one else on-line to talk to (...) because it's better than having nobody to chat with". (Nicola, 9 years)

### 7.1.6. Emoticons and winks

Apart from the standard *emoticons* that come with the software, young IM users collect personalized *emoticons* in large numbers.

Some children, after a euphoric beginning period in which they save to their computers each image they receive for their own use, erase a large number of emoticons as a result of a number of difficulties (which will be discussed in topic 9). Some of these images generate themselves while typing messages. One girl said that "I used to have like 120, but I have deleted most of them and only kept **the most important ones**. Now I only have like 35" (Sharon, age 9).

Children will especially employ *Winks*, both standard and personalized. *Winks*, which normally are used as a way to say goodbye, with an animated kiss, hug or bow, will sometimes appear in the middle of a conversation for no reason other than that they are “*nice*” or “*funny*”.

## 8. Language related issues

As is the case with teenagers and some adults, children will not heed grammatical conventions when typing instant messages, and instead will use abbreviations, acronyms and phonetic substitutions. For them, following convention is not important for this means of communication. They are aware that this form of writing cannot be used in school. Among many others, short sentences like “*How are you doing?*” becomes “*how u doin?*” and words like “before” are replaced by “*b4*” to speed up the typed conversation [7,8,20].

## 9. Software usability problems

The excessive use of emoticons by children generates some problems, because MSN limits the number of such images per IM and because the readability of sentences composed by few letters and several images often turns out to be very difficult. Kids generally have more than 100 saved emoticons; it’s nearly certain that a few will appear every time they type a message, since for certain expressions, emoticons offer an instant shortcut. For example, in Portuguese FOI means “WAS” and “OI” means “HI”. If a child has at least one emoticon to substitute for the word “OI”, an animated image will appear after the “F” when typing “FOI”. When they type longer sentences, it is highly likely that numerous emoticons will be embedded in the message. But the program does not permit the use of more than five images per IM. The sentence then has to be either cut into parts or rewritten

The solution kids have found is to ask the contact to rewrite it using capitals. Since shortcuts generally do not appear in messages composed of letters in upper case, this is also the solution for sending messages that exceed the five allowed *emoticons*. The interference of the *emoticons* in the communication process affects even the creation of *nicks*: “*Yesterday I got very upset because I was trying to write something cool for my nick and an emoticon kept always getting in the way*” (Karen, 9

years). Among the eighteen kids interviewed, only one ten year old girl said she didn’t like to use them, but all the others consider it a “*cool*” feature. Therefore, some improvements may be in order so the system does not interfere when a message is being sent.

Users can avoid this problem by saving up emoticons with less obvious typed shortcuts. But that is not an intuitive solution for very young users, and even if this is the only way around the difficulty, it is not being clearly explained to the users as they save a new *emoticon*.

Another problematic aspect for kids in this age range is that having many conversation windows open simultaneously makes it difficult to identify each active contact. *Nicks* are always changing and may no longer refer to a known user. Dany, a nine year old girl, said she wishes there would be a way for her to consistently identify her contacts. Confusing one contact for another could lead to social problems if, for instance, a child types on friend *B*’s window a message which was intended for friend *A* but *referred* to friend *B* [1]. To avoid such situations, the heading of each window requires careful reading of the *nick* and e-mail address of the contact before typing, in order to confirm who that contact is. Natalie, a ten year old, in reference to this issue, approached her screen until her eyes were about twenty centimeters away, to show the “*technique*” she uses to make sure she knew who she was talking to when she has more than one conversation window open.

The frequent use of *Nudges* turned out to be unpleasant for most of the users in this study. Children usually are not very patient; when a friend takes too long to answer, they send several nudges, one right after the other, especially when there is no one else to talk to or they really want a reply. This genuinely annoys some contacts. There is a way to block this feature but only one eleven year old boy, out of the eighteen kids in the study, said he knew how to do it. Once more, options for handling this problem are not easy to understand or find intuitively. In a similar vein, the pop up window “MSN Today” has been pointed out as “*what irritates the most*” and, although these kids seemed to feel very comfortable with knowing how to configure their basic IM settings, many said they wish they could block this pop up but simply didn’t know how to do it.

The slowdown when sending images was also mentioned as a “problem,” especially by older users, aged eleven and twelve. Philip, an eleven year old

boy, said “*Sometimes, when I use the web cam, my PC gets too slow and almost even stops running. That’s why I removed my web cam.*”

## 10. Conclusion

The great difference in IM use between children and other users, even teenagers who use it to communicate or for social integration [9,10], was implicit in the discourse of the children who were interviewed for this project yet, one of them, with a big smile and wide open eyes, explicitly said: “IT IS FUN.” In Portuguese she separated the syllables to make it very clear: “*É DI-VER-SÃO!*” (Letícia, age 9)

Children do use IM to communicate, but for them, IM is more like a fun game. A “junior” version that supported the specific needs of these users would probably gain immediate acceptance if it addressed issues that interfere with complete enjoyment of the software features. As it is a matter of playing around and trying out novelties, kids exaggerate about the use of certain elements that were not specifically designed for use by children.

Still, for being very young and creative, they find ways to overcome the difficulties and enjoy the use of the IM as an interactive game and have fun while chatting with friends. It should be taken into consideration that, for this public, IM often substitutes for TV. One child says “*The TV is just there, and you just sit and watch and do nothing. I just can’t stand to do nothing. Messenger is a lot better: you talk and someone talks back to you, it’s a lot more fun.*” (Claire, age 8).

It certainly appears to be something worth further research.

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