You Said What?!: Misunderstandings in IM Conversation Among College Students

Timothy Johnson III
Swarthmore College

Abstract

Instant messaging (IM) is an activity that is quite common among college students and allows students to engage in simultaneous one-to-conversations with several people. Instant messages lack paralinguistic cues such as facial expressions, intonation, and body language, often leading to IM users to misinterpret statements made in instant message conversations. The purpose of my paper is to analyze how misunderstandings occur and are repaired in IM conversations among college students. Data was collected using students' saved logs of instant message conversations that had taken place using AOL Instant Messenger or similar chat clients that shared the AOL chat protocol. IM messages logs were analyzed for examples where misunderstandings occurred and were repaired. I concluded that the majority of IM misunderstandings are due to problems with word referencing or with users interpreting single words or phrases differently. Additionally, lack of paralinguistic cues plays a role in the development of misunderstandings in IM conversation. Future experimentation would include a larger corpus of data and a survey of how people resolve misunderstandings using instant messages versus in spoken conversation.[*]

1. *Introduction*

Instant messaging is a relatively new form of communication that has gained popularity within the last several years, especially among teenagers and college students. If a person has a dial-up or broadband Internet connection, he or she is able to utilize an instant message client to send and receive instant messages. Instant message (IM) communication is a cheap way to "chat" with anyone in the world by typing a message.

IM is a type of computer-mediated communication, or CMC. Computer-mediated communication is a way of moving large portions of text from one place to another, usually across the Internet (Baron 2004). CMC can be either synchronous or asynchronous. A synchronous form of communication allows a person sends a message

[*] I would thank all the people who helped out with my thesis, including my first and second faculty readers, Ted Fernald and Donna Jo Napoli; student readers and fellow linguistics majors Tania Reina '07 and Rebecca Goldman '07, who read my first and second thesis drafts, respectively; and lastly, all those people who submitted IM logs to use as data for my thesis, and whose names have been changed for anonymity.

with the understanding that the message recipient will be able to read and respond to the message immediately, as with IM (Baron 2004). An asynchronous form of communication allows a person to send a message to a recipient, but the recipient may not read the message immediately or may do so at a later point in time, as with e-mail (Baron 2004).

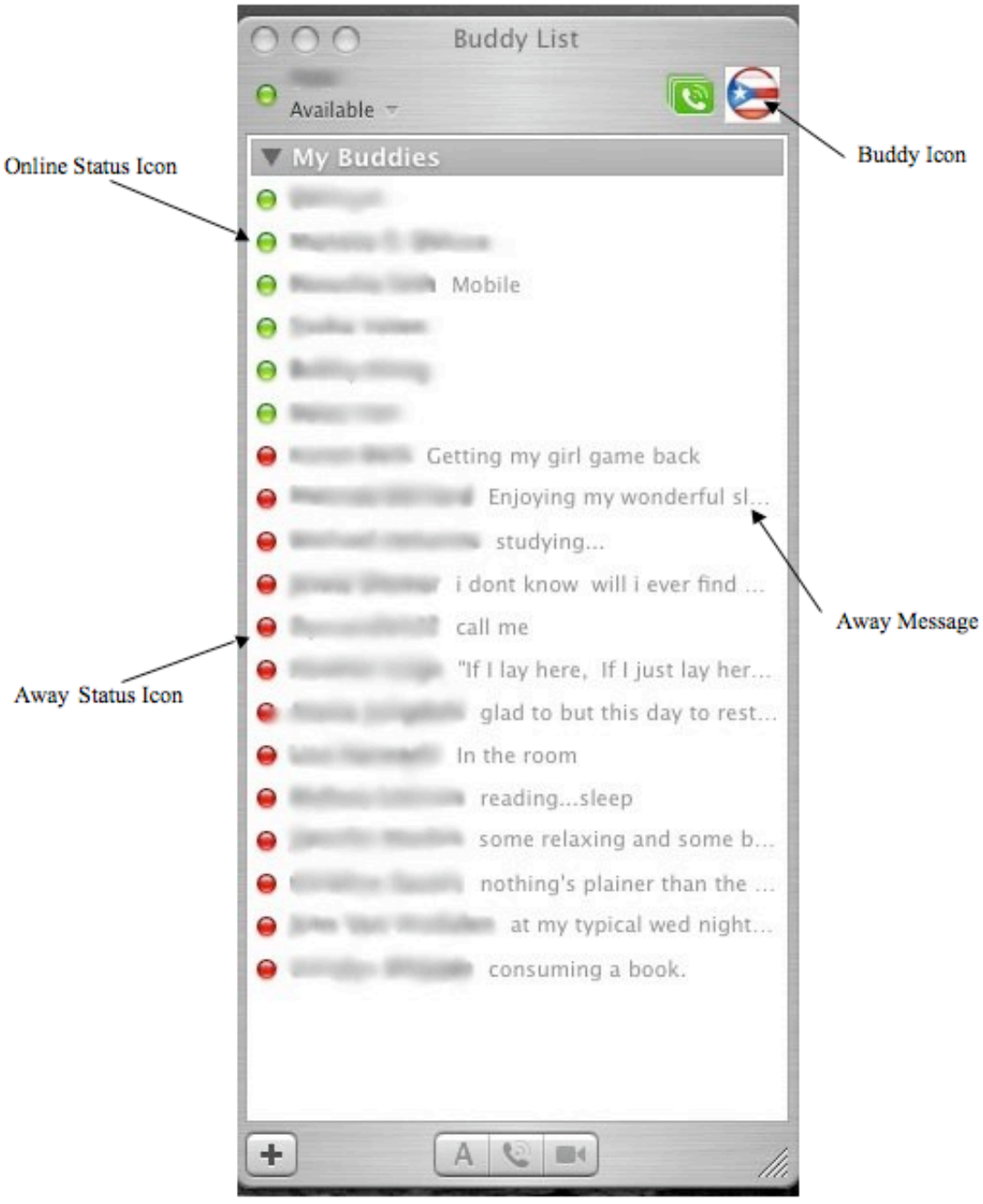
CMC can also be characterized as either one-to-one or one-to-many. A one-to-one communication is sent between two people and a one-to-many communication is sent by one person to multiple people (Baron 2004). Instant messaging is both a synchronous and one-to-one form of communication.

AOL Instant Messenger[1] is probably one of the most popular IM chat clients used by teenagers and college students. AOL Instant Messenger (AIM) is included as part of the AOL browser or as a stand-alone application. In order to use AIM, a user must first create and register a screen name. The screen name chosen is the user's alias in cyberspace while chatting. In addition to a screen name, AIM users may choose a buddy icon as well. A buddy icon is a picture used to visually represent the person online. People chat with each other on AIM by utilizing the buddy list. The buddy list is a self-created list of screen names of people whom a user wishes to send and receive IMs with. To add someone to a buddy list, the user clicks the add button and types in the screen name of the person whom they wish to add. When a user logs into the AIM service, the buddy list will show people who are online, away, idle, or offline. A diagram of the iChat[2] buddy list appears below:

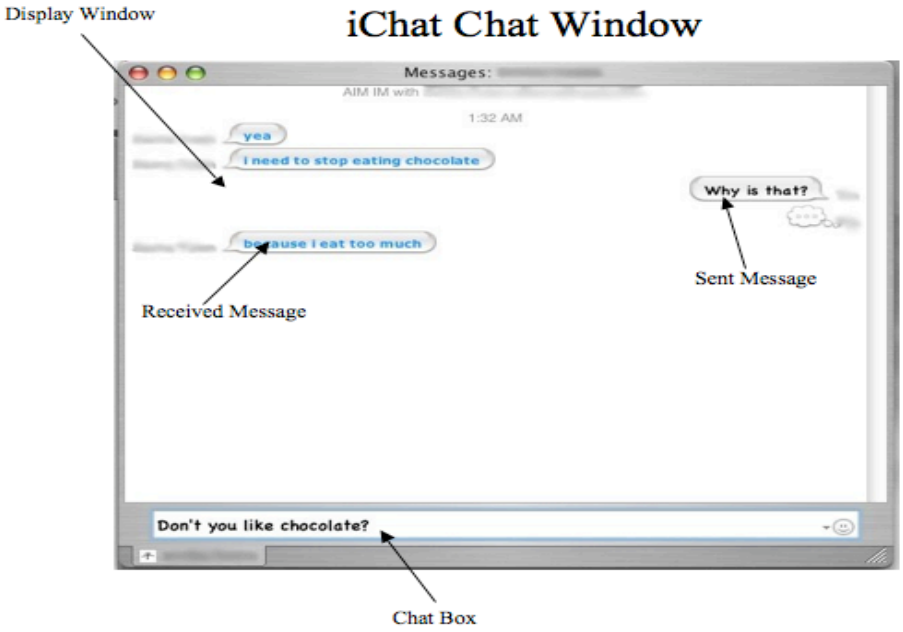
[1] AOL Instant Messenger is the source of all instant message data in this paper.

[2] The figures in this paper are screen shots of Apple's iChat. iChat is the solution to instant messaging on the Macintosh and is compatible with the AOL AIM chat protocol. AIM and iChat users can chat with each other and the basics of IM conversation on AIM and iChat are the same.

iChat Buddy List



To initiate an IM conversation, a user clicks on the screen name of the person who they wish to chat with, and an IM chat window pops up. The IM chat window typically consists of a chat box and a display pane; the display pane is where text that is sent and received is shown and the chat box is where text to be sent is typed. Located elsewhere within the chat window are options to change the font, font color, and font size. Other options include the ability to insert hyperlinks or to insert pictures into the IM. Messages are sent after typing using the "Enter" or "Return" key on the keyboard. A picture of the IM chat box appears below:



If an IM user wishes to remain online, but may not be able to respond to instant messages, they can put up an "away message". If a user is "away", this is indicated on the buddy list by an icon next to their screen name. Any IMs sent to a user while away will display the away message in the sender's display pane. Away messages are usually descriptive in nature, usually giving the user's whereabouts or details of their "offline" activities, such as "I'm at the gym." Other things that often appear in away messages are famous quotes, song lyrics, jokes, various sexual innuendos, and hyperlinks.

In addition to AOL Instant Messenger, there are several other instant message clients, such as Yahoo Messenger, MSN Messenger, Google's Gtalk, and Apple's iChat. There are third-party clients such as Gaim, Adium X, and Trillian, which allow a user to use a single chat client to talk with friends who are using multiple IM services.

In general, all of the IM clients work in the same fashion, and achieve the purpose of sending and receiving instant messages. The only real difference between the chat clients is that they all use different emoticons. An emoticon is a series of symbols, which combined together, create a graphic representation of a given emotion. For example, the emotion "happy" is usually represented by a smiley face emoticon → ☺. The smiley face emoticon is created when ":-)"[3] is typed into the chat box.

I believe that the majority of current American college students have been using IM communication for several years, starting in elementary school and continuing into the college years. Therefore, most college users are aware of the nature and conventions of IM conversations. Two such conventions are the lack of emotion and multi-tasking.

When speaking to someone on the phone, the speaker is easily able to use

[3] Quotation marks are not included

different tones and pitches to convey various emotions to the listener and the listener can easily pick out the types of emotions conveyed by the speaker. In face-to-face interaction, speakers and listeners rely on paralinguistic cues such as eye contact, facial expressions, and hand gestures to understand the type of emotional content used in conversation.

In contrast, conversations that occur through instant messaging contain none of the above-mentioned cues. When an instant message is received, it is simply text on the screen; thus the recipient of the message is left to interpret how exactly the message was meant to be "said" by sender. Emoticons are sometimes used in IM conversation, but they also do not convey the full range of emotion that is achieved from body language and intonation that occurs on the phone or in face-to-face conversation.

IM users have a tendency to multi-task while having IM conversations. IM communication allows for people to engage in simultaneous activities such as paper writing or web browsing while still carrying on a conversation. While sending and receiving IMs, multi-tasking activities are both accepted and expected, unlike with conversations on the phone or in-person. Most IM users are aware that the person with whom they are chatting with may not have their full and undivided attention. IM multi-tasking behavior often results in minutes to hours long silences, which are acceptable on IM; such silences wouldn't be tolerated on the phone or in-person.

As a result of the impersonal and emotionless nature of instant messaging, as well as the tendency of IM users to multi-task, it is a common occurrence to have misunderstandings arise in IM conversations.

The purpose of this paper is to examine how misunderstandings in instant message

communication among college students arise and are resolved. A quick survey of the literature relating to IM conversation and conversational misunderstandings will be reviewed, which will help frame my analysis of the data. Section 2 presents a model for how misunderstandings in conversations are identified and repaired. Section 3 discusses how the data was collected and gives an analysis of that data. Section 4 is the conclusion and discussion, where I will ultimately discuss how misunderstandings arise and are resolved in IM conversations among college students. I hypothesize that the majority of IM misunderstandings will arise in IM conversations due to the lack of paralinguistic cues such as body language, intonation, and facial expressions.

1.1 *Logic & Conversation by H.P. Grice*

Grice's paper, "Logic and Conversation" (1975) discusses how people interact to have meaningful and successful conversation. Since conversational misunderstandings are the focal point of this paper, understanding the principles that govern successful conversation is important.

Grice's paper specifically discusses the Cooperative Principle (CP), the associated maxims, and the idea of the conversational implicature. The Cooperative Principle is stated as follows:

> Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged (Grice 1975:41).

The CP can be though of as the guiding principle that governs conversations. Following from the CP are a set of maxims that people implicitly use while conversing; if these maxims aren't followed, communication often breaks down and some sort of

misunderstanding occurs. There are four maxims, Quality, Quantity, Relation, and Manner.

After explaining the CP and outlining the specifics of the four maxims, Grice explains how people may fail to follow a maxim in conversation; a failure to follow a maxim results in either a violation or a flout. A violation is some sort of breakdown in communication, either indicated by a speaker giving too little information, or being to vague. Flouting is when a speaker deliberately chooses not to follow a maxim.

Grice then explains the idea of the conversational implicature. The conversational implicature is basically the extra information contained within a given statement that is not explicitly stated. In his paper, Grice includes an example where Speaker A says "Smith doesn't seem to have a girlfriend these days" and Speaker B responds "He has been paying a lot of visits to New York lately." The conversational implicature here, arising from Speaker B's statement, is that Smith does or may have a girlfriend in New York.

Grice concludes his paper with giving various examples of different ways in which the various maxims can be violated or flouted, and states various features that relate the conversational implicature to the CP.

Grice's paper is important to the analysis of IMs because in a given IM conversation, much like in spoken conversation, people are assumed to be following the CP. However, misunderstandings still occur on IM. Therefore, I would suspect that each conversational misunderstanding on IM also occurs due to a violation of one or more of the four maxims.

1.2 *See You Online: Gender Issues in Instant Messaging by Naomi S. Baron*

Baron (2004) sets out to examine linguistic patterns in instant message (IM) conversation among American undergraduate college students. Baron states that although much has been written about teenage use of IM, almost no studies have been conducted on the linguistic nature of such conversations, and that " . . .we lack empirical studies of the linguistic nature of IM conversations constructed by one of the greatest populations of its users, college students" (398).

The goals of Baron's study are to 1.) Develop a linguistic profile of IM conversations by contemporary college students and 2.) Determine if linguistic patterns in IM conversation reveal gender-based differences.

The first section of the paper discusses instant messaging as a form of computer mediated communication. It mentions the multi-tasking nature of instant messaging, as users may be doing multiple things while engaged in various IM conversations. Parallels are drawn between IM exchanges between two people and spoken face-to-face conversation. As such, Baron divides her examination of the characteristics of IM exchanges into four separate groups: individual turns, conversational sequences, openings and closings, and conversation management.

The second section of the paper deals with issues of gender and language and how gender affects language. Background is given on gender studies related to speech, writing, and brief discussion of gender in CMC, specifically in the environment of one-to-many contexts, such as listservs or newsgroups.

The third section of the paper is the actual study. This section discusses the corpus of IM data, and gives some terminology used in the paper for the purposes of IM

data analysis. There are no standard linguistic terms to deal with IM conversations, so Baron defines and uses the following five terms; *turn, utterance, sequence, utterance chunking,* and *closing*. The four of the five terms will be used in my own analysis of IM data, and the definition appear below, as found on page 408 of Baron's paper:

> *Turn*: composition and transmission of an instant message
> *Utterance*: rough equivalent of a sentence in IM
> *Sequence*: the number of IM turns in a row from (from 1 to N) sent by the same user
> *Utterance chunking*: breaking a single IM utterance into two or more turns

The fourth and fifth sections of the paper present a general linguistic profile of IM conversations among college students, and then a profile of IM conversations among college students based on gender differences.

Baron concludes that IM is frequently used in conjunction with multi-tasking as evidenced from the time between turns and average message length. The paper found that IM users often engage in multi-turn sequences, which keeps IM message recipients from waiting or engaging in other activities. Lastly, IMs contain gender patterns that reflect a blend of both spoken and written language that occur offline; women tend to use longer turns, have longer conversations, and are more likely to use emoticons than men.

Baron's paper provides evidence that college students engage in multi-tasking behvior on IM and do not always respond immediately to received instant messages, as well as engage in utterance chunking. This is extremely important, as both behaviors can lead to misunderstandings and confusion in instant message conversations.

1.3 *Egocentrism Over Email: Can We Communicate as Well as We Think by Justin Parker, Nicholas Epley, Jason Parker, and Zhi-Wen Ng*

"Egocentrism" explores how well paralinguistic cues such as tone and emotion can be conveyed over email. The paper's primary focus is to determine how well participants in five different studies think they can communicate emotions correctly via email, and how well they think other participants can predict emotions correctly.

The point is made in the introduction that much communication between people is nonverbal and that a lot of nonverbal information is an important cue to the listener as to the speaker's meaning. Speech includes tone, emphasis, and facial expressions and conveys to the listener not only what, but a how a statement is to be said.

The problem with email and, of course, IM is that both mediums contain no paralinguistic cues and only display to the reader what has been written. Although the sender of a specific email may be aware of how a message was meant to be interpreted, the recipient is left to interpret the message however he or she chooses. The authors state that e-mail communication is a "fertile ground for miscommunication, and in particular, a lack of awareness of that communication" (926).

The paper states that people often overestimate how well they are able to convey their emotions over email. It is argued that part of the overestimation on the part of email users is due to their egocentrism. Egocentrism is defined in the paper as the inherent difficulty of moving beyond one's subjective experience of a stimulus and imaging how the stimulus might be evaluated by someone who does not share one's own privileged perspective (926).

The central purpose of the five studies was to determine how email users overestimated conveying emotion to recipients. The guiding hypothesis for each

experiment was that participants' perceived ability to communicate emotions would exceed their actual ability to communicate effectively over email.

Participants were given a list of topics and asked to write statements about the topics, half serious and half sarcastic. The studies compared participants' ability to recognize whether the statements were serious or sarcastic via email, spoken recordings, and face-to-face interactions. They also tested if the conversation participant's relationship as friends, acquaintances, or strangers had any bearing on determining the emotion conveyed by the statement. In all five studies, participants overestimated their ability to effectively communicate emotions over email.

The paper states that important in communication among people is not only what they say, but how they say it. Gesture, voice, expression, and context are important paralinguistic cues that can disambiguate ambiguous messages (933).

The paper concluded that email creates a limitation to conveying emotions and that email users are unaware of that limitation due to their own egocentric tendencies. Once a user interprets a given statement as sarcastic, for example, it may be difficult to conceive of the statement any other way (933). Lastly, the paper points out that overconfidence in conveying emotions probably characterizes a wide range of media, such as instant messages (934).

This paper is relevant because misunderstandings that occur in emails occur similarly in IM conversations due to lack of paralinguistic information and participants are left to interpret how a given email or IM should have been "said."

2. *How Misunderstandings Arise and Are Repaired*

As Grice says, conversation or a spoken discourse between two people can be thought of as a cooperative effort; people attempt to be as clear and precise as possible so both parties understand the flow of the conversation. A dialogue usually starts with a greeting, such as "Hello", "My name is," or a question. In every conversation, there are two or more conversation participants; the speaker, who starts the conversation, and the listener who makes comments in response to the speaker.

This "given and take" continues until the conversation closes and comes to an end. The "give and take" between two people engaged in dialogue is also known as *turn taking*. Each word or phrase said by a conversation participant is called an *utterance* and the utterances by each person are called *turns*.

According to Hirst (1994), a misunderstanding in conversation occurs when a participant obtains an interpretation of an utterance that he or she believes to be complete and correct, but that is not the interpretation that was intended by the speaker. Once a misunderstanding has occurred in conversation, the misunderstanding will either be a.) Unnoticed by conversation participants and the conversation will continue with both people talking about different things or b.) One of the participants will notice the misunderstanding and attempt to make a repair (215). The term "repair" in this sense means to fix or clear up the conversational misunderstanding.

There are two types of misunderstanding that occur in conversation, *self-misunderstandings* and *other-misunderstandings*. A self-misunderstanding is a misunderstanding that is made and detected by the same participant. An other-

misunderstanding is a misunderstanding that is made by one participant and detected by another (215).

Therefore, misunderstandings are identified in conversations when one participant gets an answer that was unexpected or a participant is unable to understand how a given utterance fits into the context of the conversation (215). Once a misunderstanding has been identified, steps are taken by a conversation participant to initiate repair. A participant can either explicitly state there has been a misunderstanding or *refashion* the utterance that caused the misunderstanding (216). Refashioning occurs by either *expanding* an utterance by adding additional information or *replacing* the original utterance with a new one (216).

Once a participant attempts to repair a misunderstanding, the repair may be accepted or rejected by the other participant. If the repair is accepted, the other participant has been made aware of the misunderstanding and understands the interpretation of the original or refashioned utterance as the speaker originally intended it. If the repair is unsuccessful, the other participant will reject the attempted repair, and the refashioning process will or may be continued by the speaker until a repair is made and accepted by the listener.

This model of repairing conversational misunderstanding as expressed in Hirst will be used to examine how IM participants handle misunderstandings and repair. I think this model of conversational repair in spoken discourse can be applied to and will work just as well with IM conversations.

3 *Experiment to Analyze IM Misunderstandings and Repair*

In order to analyze the misunderstandings in IM conversation, data in the form of saved IM logs were needed in which a misunderstanding occurred and was resolved. I sent an email to all the students in the Swarthmore Linguistics Department; the purpose of the email was to ask students if they had saved past IM conversations on their computers and if so, to review their chat logs for instances of misunderstanding that occurred and were resolved. Students were asked to send the conversation excerpts containing those misunderstandings to me via email. Several students sent in logs for analysis. The data examples that occur in this paper were selectively chosen from the logs I acquired; they provide clear instances where misunderstandings arise and are repaired. The names of conversation participants have been changed for confidentiality purposes.

3.1 *IM Misunderstanding Data & Analysis*

Eight of the nine data examples fall into two different groups, based on the types of misunderstandings that occur in the IM conversations. The two major types of misunderstandings that occur repeatedly are either multiple interpretations for one statement or vagueness in the word reference. The data is divided into two groups, "Word or Phrases with Multiple Interpretations" and "Word Reference Problems." The last example in the data set, example 9, does not fall into either group. Analysis will appear right below each data example.

Words or Phrases With Multiple Interpretations

Example 1:

1. Heidi: I slept with Tom for the first time.
2. Catie: Really?
3. Catie: How was it? Did you like it?
4. Heidi: Yeah, it was really nice, but he didn't like it very much.
5. Catie: Oh, that's too bad. Do you know why?
6. Heidi: I mean we napped together. We've never shared a bed before.
7. Heidi: He didn't like it because it made him sad. We can't stay together because I'm going to have an arranged marriage. So he doesn't want to go too far, because he doesn't want to be too attached.
8. Catie: Oh, okay.

The source of confusion in Example 1 is associated with the interpretation of the phrase *slept with*. The phrase *slept with* can mean "to sleep together with" or "had sex with." Among college students, the phrase *slept with* is understood to mean, "had sex with." Catie's interpretation that Heidi had sex with Tom is valid. After Catie's question in Line 5, Heidi realizes that Catie misinterpreted the phrase *slept with* as "had sex with", and clarifies the misinterpretation. Heidi refashions her utterance in Line 6; she does so by expanding her utterance to include additional information, specifically that she and Tom napped together and shared a bed.

Heidi made a self-misunderstanding in Line 6 and corrected that misunderstanding in Line 6, with a conversational repair. Catie accepts the repair in Line 8 with her response, *Oh, okay.*

Catie's interpretation of Heidi's statement probably due to her egocentrism, her understanding that *slept with* does mean "had sex with."

Heidi's utterance in Line 1 relates to Grice's maxim of Manner, which cautions speakers not to be ambiguous and to avoid obscurity of expression. If Heidi had said "I

napped together with Tom for the first time," the misunderstanding would have been avoided.

Example 2:

1. 4:11:54 AM Bill: What do you usually like watching, or what types of porn are turn ons for you?
2. 4:13:50 AM Laurie: i dont know
3. 4:13:54 AM Laurie: a bunch of stuff
4. 4:14:04 AM Laurie: depends on my mood
5. 4:14:38 AM Bill: Alrighty.
6. 4:15:58 AM Bill: So, at some point, this group of girls was watching gay porn with this gay guy, when I showed up with Kelly after the show, but they shut the laptop and all looked a little miffed for a second. Is that turn on for you at all?
7. 4:16:24 AM Laurie: a little
8. 4:16:41 AM Laurie: but i feel like its more something im curious about
9. 4:16:54 AM Laurie: like i get how anal works, but what about straight on
10. 4:17:02 AM Laurie: how does that work w/ t guys
11. 4:18:39 AM Bill: how does what work without the guys?
12. 4:19:45 AM Laurie: well they can rub their clits together and the friction causes the girl to orgasm
13. 4:20:00 AM Laurie: but sometimes they use toys
14. 4:21:49 AM Bill: Ah, you meant girl/girl, not guy/guy/ ok.
15. 4:22:27 AM Laurie: i was saying i dont know how guy on guy works
16. 4:22:38 AM Laurie: i do know how girl on girl worka
17. 4:22:41 AM Laurie: works
18. 4:23:02 AM Bill: Right, ok, I got it.

Example 2 contains an abbreviation, which may mean two very different things; this is similar to the two differences of *slept with* in Example 1. The misunderstanding is in Line 10, in which Laurie states, *how does that work w/ t guys*. The abbreviation *w/ t* could stand for "without the" or "with the." Also unclear here is whether *that* in Line 10 refers to the phrase *straight on* in Line 9. Bill, from his statement in Line 11, interprets *w/ t* to mean "without the". Bill's question in Line 11 is "How does what work without the guys?" but Laurie seems to have to interpreted his question as "How does that work

without the guys?" referring to how sex occurs with just women, as evidenced from her responses in Lines 12 and 13. Laurie realizes that Bill has misunderstood her after his statement in Line 14. Laurie repairs the misunderstanding by stating that she is unsure of how guy on guy sex works, but does know how girl on girl sex works. By Laurie's clarification in Line 15, it is now obvious that Laurie meant "with the" by her abbreviation *w/ t* and not "without the", as it was interpreted by Bill. Bill accepts and understands Laurie's conversational repair by stating the phrase, *Right, ok, I got it.*

Here, again, Grice's maxim of Manner is violated. Laurie should have said "with the" rather than *w/ t* to comply with the Cooperative Principle, as the abbreviation is ambiguous and leaves room for interpretation.

Laurie states that she is unsure of how guy on guy sex works in Line 15. This is untrue, because in line 9, Laurie stated, "I get how anal works". What Laurie is unsure about is how two men have sex other than through anal intercourse. This is only made clear after it is understood that *w/ t* means "with the". Laurie's comments in Lines 9 and 10 would then be read as "like i get how anal works, but what about straight on, how does that work with guys?" It is now clear that *that* did in Line 10 did refer to *straight on* in Line 9.

Example 3:

1. Chase: I'm sure you're sane
2. Rebecca: really
3. Rebecca: people who have known me longer will tell you otherwise;)
4. Chase: Of course, you could be crazy, but if so, in the good sort of way
5. Rebecca: hmmm, how would you know? for all u know i could be some serial killer who's just really smart
6. Rebecca: but i guess not all serial killers are dumb
7. Rebecca: actually a lot of them are kinda profound, so they must be kinda smart, maybe wealthy businessmen gone crazy
8. Rebecca: at least the ones in movies are profound
9. Chase: "American Psycho" . . . hah
10. Rebecca: yeah, and like seven
11. Chase: "Seven" was a sick movie.
12. Rebecca: that guy was mad smart, remember? he had all those journals
13. Rebecca: OMG best movie ever!!
14. Rebecca: i need to buy it, thats how amazing it is
15. Chase: Haha, ok, you're one crazy cookie.
16. Rebecca: did you mean sick as in "whoa! thats sick!" or did u mean sick as it "ewww, thats really sick..."
17. Chase: the latter
18. Rebecca: oooh, i thought u meant it like slang
19. Chase: I could see how my use of sick could be ambiguous
20. Rebecca: well, i still think its a fucking awesome movie
21. Rebecca: thats not ambiguous
22. Rebecca: ;) lol
23. Chase: Haha, nope, not at all.

In Example 3, a misunderstanding is prevented. The misunderstanding relates to the meaning of the word *sick* and how the word is used in Chase's comment, "Seven was a sick movie." Rebecca realizes that *sick* has two denotations, either a.) *sick* is being used as synonym for "cool" or "awesome" or b.) sick is being used as a synonym for *perverse*. To avoid confusion in how she interpreted the statement, Rebecca asks for clarification, because she understood Chase to have used *sick* to mean "cool". Chase confirms that he is using *sick* as a synonym for *perverse*. This is important because it shows that both people had interpreted the statement *"Seven" was a sick movie* quite differently.

Word Reference Problems

Example 4:

1. (23:51:59) Bert: I like twinkies
2. (23:52:12) Bert: too fattening though
3. (23:52:13) Ernie: so do a lot of people
4. (23:52:18) Bert: so are a lot of people
5. (23:52:24) Ernie: but normally theyre fat
6. (23:52:31) Bert: the people?
7. (23:52:50) Ernie: yeah
8. (23:53:01) Ernie: people who eat twinkies tend to be fat
9. (23:53:49) Bert: I hate fat people

The utterance, *the people?* in Line 6 indicates that a misunderstanding has occurred. This particular misunderstanding is directly related to the tendency of college students to use multi-turn IM sequences, as stated in Baron (2004). In Line 5, Ernie says *they're fat*. It is unclear whether *they're* refers to fat people or to Twinkies. In Line 3, Ernie says, *so do a lot of people*, followed by four seconds later by Bert's utterance, *so are a lot of people*. In Line 5, Ernie says *but normally they're fat*, eleven seconds after his utterance in Line 3. If Bert had not interrupted Ernie's multi-turn sequence, both statements would have been read as "so do a lot of people but normally they're fat". In that case, no misunderstanding arises as it clear that *they're* refers to the word people.

Had this conversation taken place in-person, Ernie's utterances in Lines 3 and 5 would probably have been one long statement, with no interruption by Bert, and thus, no misunderstanding would have occurred.

Example 5:

1. (20:14:19) Jorge: what is the assignment?
2. (20:14:31) Nancy: write a persuassive essay
3. (20:14:34) Nancy: that's it
4. (20:14:44) Nancy: no length limit or anything
5. (20:14:48) Nancy: just over 2 pages
6. (20:15:08) Jorge: that's a fun assignment
7. (20:15:16) Nancy: yeah, no restrictions
8. (20:15:52) Nancy: everyone is writing about typical stuff like technology ruins education, criminal punishment is bad....
9. (20:16:18) Nancy: so i wanted to do something else
10. (20:16:35) Jorge: argue we should invade Canada
11. (20:16:45) Nancy: no, cuz i love Canada
12. (20:16:54) Nancy: I'm french Canadian stupid
13. (20:16:56) Nancy: jkjk
14. (20:17:04) Jorge: you can still want to invade it
15. (20:17:08) Nancy: i would never invade such a lovely country
16. (20:17:26) Jorge: most of the country would survive unharmed
17. (20:17:37) Nancy: hahahaha!
18. (20:18:55) Nancy: list your intentions
19. (20:19:20) Jorge: 1) finish my homework
20. (20:19:25) Jorge: 2) play fiddle
21. (20:19:32) Nancy: for invading canda, duh
22. (20:19:37) Jorge: 3) make sure we have transport to the dance on saturday
23. (20:19:40) Jorge: 4) sleep
24. (20:19:42) Jorge: oh
25. (20:19:57) Jorge: um
26. (20:20:02) Jorge: explosions are fun?
27. (20:20:16) Nancy: blow up the US then
28. (20:20:17) Jorge: the climate is better than that in iraq?
29. (20:20:39) Nancy: everything, well almost everything except new england
30. (20:20:46) Jorge: our military doesn't like blowing up us people?
31. (20:20:47) Nancy: and parts of upstate new york
32. (20:20:51) Jorge: /US
33. (20:21:04) Nancy: well, I thought you were planning on leading your own arm

The misunderstanding in Example 5 occurs due to Nancy's vague statement, *list your intentions* in Line 18. This statement by Nancy is in response to Jorge's comment in Line 10 to invade Canada and Nancy doesn't explicitly say, "list your intentions for invading Canada." However, this statement is interpreted by Jorge as a request to list his goals for the evening, which Jorge proceeds to do in Lines 19, 20, 22, and 23. Nancy realizes her

comment has been misinterpreted and attempts to make a repair in Line 21. The type of misunderstanding here is a *self-misunderstanding*, as mentioned in Hirst (2004). Nancy recognized her comment had been misinterpreted and attempted to correct it. Nancy's attempted repair occurs twelve seconds after Jorge lists his first intention of the evening in Line 19. It takes Jorge almost a minute to list all of his intentions. Jorge acknowledges Nancy's clarification with *oh* in Line 24. In Line 26, Jorge states *explosions are fun*, further indicating that the misunderstanding has been resolved.

This particular misunderstanding arises due to Nancy's failure to the follow the maxim of Manner.

Example 6:

1. (20:53:24) Jill: someone is making popcorn and it smells really good
2. (20:53:46) Jasper: people should cook more here
3. (20:54:00) Jasper: I cooked some last year, made brownies with whipped cream for the hall
4. (20:54:15) Jasper: but other people don't cook much
5. (20:54:16) Jill: sounds really really good
6. (20:54:31) Jasper: it was yummy. I got raspberries too
7. (20:54:40) Jill: frozen or fresh?
8. (20:54:47) Jill: both are good
9. (20:54:55) Jasper: frozen; like we had at the supermarket
10. (20:55:08) Jasper: but let thaw a bit first. And local, from the co-op
11. (20:55:19) Jill: haha the sour not tasting like raspberries ones?
12. (20:55:27) Jasper: I liked those
13. (20:55:40) Jasper: and with brownies and cream they'd not have tasted sour
14. (20:55:45) Jill: they were good... they just weren't raspberries
15. (20:55:45) Jasper: also the cold is confusing
16. (20:56:06) Jill: confusing when it comes to tasting?
17. (20:56:20) Jasper: if people would just make a dessert randomly twice a semester we could have delicious stuff often
18. (20:56:25) Jasper: yes
19. (20:56:55) Jill: yeah you could have it at least once a week
20. (20:57:23) Jasper: mmm
21. (20:58:09) Jill: I haven't been eating all that much dessert type things lately but I have been drinking far too much coffee

The misunderstanding in Example 6 is similar to Example 5, in which there is a referencing problem. The statement in Line 15, *also cold is confusing* is ambiguous. *Confusing* could relate to either the act of tasting or to the raspberries. Jill's statement in Line 16, *confusing when it comes to tasting*, is asked to clarify the vagueness of Jasper's statement in Line 15. Jasper recognizes that there has been a misunderstanding 19 seconds later, and his comment "yes" resolves the misunderstanding. The comment made by Jasper in between Jill's question and Jasper response of "yes" also contributes to the misunderstanding.

Example 7:

1. 3:54:21 AM Lisa: Yup, you can. The toy is made of hypoallergenic silicone, so it won't get bacteria or anything. Soap & water should work fine, as it's a waterproof toy.
2. 3:54:51 AM Cindy: ok so just wash it like dishes or something
3. 3:55:17 AM Lisa: Yup. Soap & water, and make sure you dry it and you should be good to go.
4. 3:55:56 AM Cindy: so the whole thing can get wet or just the purple vibrating part
5. 3:56:27 AM Lisa: It's waterproof. You should be able to submerge it in the bathtub.
6. 3:56:32 AM Cindy: wow
7. 3:56:56 AM Cindy: never at school, but maybe i'll try that sometime when im home alone
8. 3:57:26 AM Lisa: Haha, exactly.
9. 3:57:41 AM Cindy: damn the things some people come up w/
10. 3:57:59 AM Lisa: Lol.
11. 3:59:39 AM Lisa: Yup, double checked. You can completely submerse the thing.
12. 4:00:25 AM Lisa: Haha, yay for private bathrooms.
13. 4:00:35 AM Cindy: yeah def a good thing
14. 4:01:17 AM Lisa: Well, I'm glad you're excited about it.
15. 4:01:30 AM Lisa: It's supposed to be really quiet too, so, you'll have to let me know.
16. 4:01:41 AM Cindy: good that's def a big plus
17. 4:02:05 AM Cindy: cause some of the older ones are soo loud u might as well put up a sign saying what ur doing
18. 4:02:26 AM Lisa: Is the silicone pretty soft? Haha, heard someone do that?
19. 4:03:08 AM Cindy: heard them using a vibrator?
20. 4:03:38 AM Lisa: Yes, or were you just stating in general?
21. 4:04:19 AM Cindy: generally, but that's interesting that u actually heard it
22. 4:04:36 AM Lisa: I haven't.
23. 4:04:47 AM Cindy: i thought u said u did
24. 4:06:48 AM Lisa: Oh! I see. No, I meant "yes", as an affirmation of your question "heard them using a vibrator?" . . . I thought you were trying to clarify what I had meant by saying "do that".
25. 4:07:36 AM Cindy: oh ok

The type of misunderstanding that occurs in Example 7 arises due to Lisa's question in Line 18. In her question, it is unclear as to what *do that* is referring to. Cindy's attempts clarify what Lisa meant by asking a question in Line 19, *Heard them using a vibrator?* Lisa's comment, "Yes" in Line 20 is vague and is indicative of a problem involving the

maxim of Relation, which states to "Be relevant." It is unclear what the *Yes* in Line 20 is affirming. Lisa's *Yes* statement attempts to clarify that her question in Line 18 was an affirmation of Cindy's question in Line 19. However, Cindy interpreted Lisa's *Yes* statement as an affirmation that *Lisa* had heard someone using a vibrator. Lisa realizes there is a misunderstanding from Cindy's responses in Lines 21 and 23 and attempts to repair the misunderstanding in Line 24. In Line 24, Lisa clearly explains what *Yes* was referring to. Cindy accepts the repair in Line 25 by stating, *Oh, ok.*

Example 8:

1. Julia: i locked myself out of the building and had public safety open it up for me
2. Genevieve: oh no!
3. Genevieve: im sorry
4. Julia: no worries
5. Julia: it was neat..they did it electronically
6. Genevieve: oh thats so cool!
7. Genevieve: oh and i read the APA emails!!!
8. Julia: yeah, it was...the guy sounded so young
9. Genevieve: that is so awesome of them, they seem to want to help out so much
10. Julia: they're so involved!
11. Julia: the emails i mean
12. Genevieve: apa i mean
13. Genevieve: hehe
14. Genevieve: yes :-)
15. Julia: hahaha
16. Genevieve: i figured
17. Julia: yeah, i thought you mean public safety at first and i was like, well, not always

In Example 8, both Julia and Genevieve realize that the series of statements were unclear as to whether the conversation was about public safety officers or about the APA emails. Thus, both girls clarify one after another that they are talking about the APA emails, Julia stating, *the emails I mean* in Line 11 and Genevieve stating *apa I mean* in Line 12. Example 9 is an instance where both parties each realize a self-misunderstanding and attempt to repair it. This is unusual in comparison to the other 8 examples. Julia and Genevieve can both be considered to have violated the maxim of Manner, which is to "avoid obscurity of expression". They should have made it clear to each other whether the topic of conversation was public safety or the APA emails.

Example 9:

1. 12:58:20 AM Todd: yeah, i know the feeling.
2. 1:10:12 AM Todd: random q:
3. 1:10:21 AM Erica: shoot
4. 1:10:43 AM Todd: is sex a big deal the first time around?
5. 1:10:53 AM Erica: more for a girl than a guy
6. 1:10:59 AM Erica: but yes
7. 1:11:17 AM Todd: i dunno. just been wondering if i've been missing out, since i haven't done it.
8. 1:13:11 AM Erica: some people enjoy it more than others. my ex thought that sex wasn't much more pleasurable than masturbation. (which made me feel like crap, but that's beside the point)
9. 1:14:20 AM Todd: I dunno. I guess I feel like I'm 21 and haven't done it . . .
10. 1:15:02 AM Erica: sorry, but i'm not gonna help you on that. it wouldn't be right.
11. 1:15:18 AM Todd: Whoa, I wasn't even suggesting that.
12. 1:15:30 AM Erica: ok...just making sure
13. 1:16:25 AM Todd: It would be a little weird for us to just have sex out of the blue for no reason, anyway.
14. 1:16:42 AM Erica: yeah

The misunderstanding occurs due to the ellipsis that occurs after Todd's statement, *I guess I feel like I'm 21 and haven't done it* in Line 9. On IM, an ellipsis often is used to say something or implicate something without actually saying it. Erica interprets the ellipsis as Todd making a suggestion that they have sex, although it wasn't explicitly stated in Line 10. Todd realizes the misunderstanding has occurred and makes a conversational repair in Line 11. Erica accepts the conversational repair 13.

The other way to look at Example 6 is that Todd really did want to have sex with Erica and was "testing the waters" to see what she how she would react. In this case, no misunderstanding occurred at all, and Erica knew exactly what Tom was asking and responded accordingly to how she felt.

If the conversation had been in-person, the misunderstanding may not have occurred. If Todd had not mean to suggest that he wanted to have sex with Erica, then he

would have given off non-verbal cues indicating that he had simply made a statement. Egocentrism may be playing a role here, in that Erica may see a sexual proposition in Todd's statement when in fact, there is none.

However, if Todd did mean to have sex with Erica, his body language and tone of voice would have given away his intentions. In that case, Erica would have either agreed to his request or rejected it.

According to Grice, Todd's statement in Line 9 may or may not have had the implicature "I want to have sex with you,", depending on how Todd meant his statement to be interpreted.

4 Conclusion and Discussion

Based on the data, the reason that misunderstandings seem to arise in IM conversations among college students is because of either a.) Vague or unclear statements in which there a problem with referencing or b.) Instances where both conversation participants interpreted a single word or phrase in different ways.

The Gricean maxim that seems to get consistently violated in IM conversations are the maxims of Manner and Relation. This probably due to the absence of a paralinguistic cues through IM communication. Without knowing "how" a statement is said, IM users are forced to interpret a statement based on their own experience and egocentrism. While people also rely on egocentrism in spoken conversation, they have paralinguistic cues such as body language, facial expression, and intonation to understand "how" a statement was meant, and thus, help to formulate correction interpretations.

Although I have a small a corpus of data, I can say that the lack of paralinguistic cues plays a part in how misunderstandings arise in IM conversation between college students. The IM conversations in Examples 1 through 9, if they had occurred in-person, would probably have happened with little to no misunderstandings.

For future experimentation, I would need a much larger data set of IM conversations where misunderstandings occurred and were repaired. Furthermore, I would survey students on how they well they feel they can resolve misunderstandings on IM, what they do to resolve those misunderstandings, and how such misunderstandings have occurred or been avoided in spoken conversation.

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