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A Comparison of Conversational Quality in Online and Face-to-Face First Encounters

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Abstract

Students encountering each other for the first time were asked to converse for 30 minutes either face-to-face or through online chat. Conversational quality was compared to examine the possibility that specific social differences in communicative style are reduced or erased in online chat. As expected, gender differences evident in face-to-face conversation were absent online. However, conversational differences between experienced and inexperienced online chat users were, on the whole, similar across conditions. More generally, online chat appeared to produce less sequential connectivity, greater self-focus, and less other-focus than did face-to-face conversation.

Keywords

conversation, online chat, gender, leveling

Popular instant messaging clients such as Windows Live Messenger (formerly MSN Messenger) and Blackberry Messenger have made text messaging and online chat (OC) a daily practice for millions of worldwide users (Lenhart, 2010; Marketwire, 2006). The ever-increasing prevalence of smartphones continues to feed this trend (Ben-Aaron, 2010). As with traditional and electronic mail, OC relies on written text. However, like telephone and face-to-face (FTF) conversation, it is *synchronous*, occurring in real time and allowing users to anticipate immediate responses from one another. OC synchronicity, however, is lessened somewhat by the short delays required

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to type out and transmit replies. The absence of visual and auditory information (facial expression, posture, tone of voice, etc.) results in an exclusive focus on textual content (Burgoon & Hoobler, 2002) but without the permanence of traditional writing. For millions of users, adapting to the medium of OC means adopting a communication style that fits its distinctive combination of properties. This suggests that the form of OC conversation might differ from that produced in FTF exchanges (Walther, 2009). The purpose of the present study is to examine the nature of some of these conversational differences. The specific possibility of interest here is the potential for OC to reduce or erase differences in FTF conversational style across groups defined by social identity or position—a sort of social leveling. Gender is a prime candidate in this regard.

In FTF conversation, women tend to be more deferential and compromising, and less assertive and dominant, than men (e.g., Tannen, 1999). In cross-gender conversation, men often take a dominant position (West & Zimmerman, 1998), assertively pursuing their illocutionary aims while ignoring those of the woman. Insofar as conversational manner is a performative aspect of gender (Butler, 1990), it is possible that the stylistic differences that distinguish men from women will be reduced or erased altogether when the physical markers of their sex are absent—that is, when the body is unseen and the voice unheard. Such is clearly the case in anonymous OC (Joinson, 2001). Accordingly, we sought to examine the possibility that gender differences in conversational quality would be greater in FTF encounters than in OC.

Frequent or heavy users of OC are more likely to report experiencing difficulties in their FTF interactions and to exhibit both asocial and antisocial patterns of FTF communication (Beebe, Asche, Harrison, & Quinlan, 2004; Caplan, 2007). For such individuals, OC may provide a safer and more comfortable environment for finding social support and engaging in interpersonal exploration (Bargh & McKenna, 2004, Caplan, 2003). Indeed, previous research has identified OC as an optimal environment for intimate self-disclosure, one where strangers feel emboldened to disclose highly personal details during first encounters (Joinson, 2001; Tidwell & Walther, 2002; Walther, 2009). The greater control, protection, and relative freedom from social cost that OC provides would be most attractive to those who feel intimidated or anxious about the self-presentational and evaluative demands of FTF encounters. Accordingly, the conversational style of frequent users of OC might be quite different in OC, where they feel confident, than in FTF contexts, where they are more likely to feel hindered and inadequate. If so, experienced and inexperienced users of OC should differ more in their conversational style when communicating FTF than in OC. This is the second potential form of convergence or leveling examined in this study.

To look at the above possibilities, we compared conversational quality in FTF encounters and OC for strangers meeting for the first time. Specifically, we examined volume, topical range and bridging, types of statement reference, and various forms of turn-taking (Schegloff, 2007; Wooffitt, 2005).

Method

Participants

Participants were 122 undergraduate students (62 women and 60 men) at the University of Toronto. The mean age was 19.15 years, with a range of 17 to 24. Roughly half the sample had previously reported regular use of OC (synchronous conferencing) technologies. Hereafter, these participants are referred to as *chatters* and the remaining participants as *nonchatters*. Forty percent of chatters but only 18% of nonchatters reported speaking English less than 90% of the time. This difference was significant, $\chi^2(1) = 7.09$, $p = .008$. The confounding of language use with OC experience warranted including the former as a covariate in the models tested below.

Procedure

Participants were tested in partnered pairs. Partners were unknown to each other prior to testing. Within each pair, partners were matched on gender and chatter/nonchatter status. Each pair was randomly assigned to either the FTF or the OC condition. In the FTF condition, partners were seated directly across from each other and instructed to get acquainted by talking to each other for 30 minutes. In the OC condition, partners were seated in separate rooms in front of desktop computers and instructed to get acquainted by texting each other for 30 minutes using Google Talk, a web-based instant messaging application. They were prevented from seeing each other before, during, and after the conversation. In both conditions, it was made clear that partners would have no further involvement with each other following the 30-minute conversation.

Results

Preliminary Analysis and Coding

To accommodate the mutual influence of partners' conversational characteristics, participant-level outcome variables were analyzed according to Kenny, Kashy, and Cook's (2006) actor–partner interdependence model. This approach requires defining a multilevel or mixed model with individual participants as first-level units and dyads as second-level units. To control for inflation of family-wise alpha (the risk of Type I error) across the 14 parallel models estimated, a Bonferroni-corrected significance level of .004 was used in effect testing.

First, the number of words spoken or typed was modeled as a function of the participant's gender, experience (chatter, nonchatter), conversation medium (FTF, OC), and all possible interactions among these three predictors. Cell means and standard deviations appear in Table 1. Whether the participant spoke English less than 90% of the time was included as a categorical covariate in the model. The results revealed

Table 1. Words, Topics, and Bridges by Medium, Online Chat Experience, and Gender

Medium	Experience	Words	Topics	Bridge Ratio
Face-to-face	Nonchatters			
	Men (n = 16)	2,052 (630)	36.63 (6.65)	.71 (.07)
	Women (n = 16)	2,598 (540)	7.25 (7.83)	.75 (.06)
	Chatters			
	Men (n = 14)	1,850 (672)	31.86 (8.03)	.63 (.13)
	Women (n = 16)	2,100 (458)	40.38 (8.11)	.74 (.12)
Online chat	Nonchatters			
	Men (n = 14)	491 (143)	16.14 (4.14)	.54 (.12)
	Women (n = 14)	435 (89)	12.71 (3.77)	.52 (.10)
	Chatters			
	Men (n = 16)	484 (209)	15.25 (5.90)	.53 (.11)
	Women (n = 16)	535 (217)	17.13 (4.88)	.60 (.15)

Note: Values are the means for number of words produced by individual participants, number of distinct topics addressed in the conversation, and the ratio of bridges to topics. Standard deviations appear in parentheses.

significant effects for gender, $F(1, 52.7) = 13.67$, $p = .0005$, medium, $F(1, 52.9) = 1057.97$, $p < .0001$, Gender × Medium, $F(1, 53) = 13.44$, $p = .0006$, and Experience × Medium, $F(1, 52.5) = 14.95$, $p = .0003$. As the interactions qualify the main effects for gender and medium, they were decomposed to reveal their patterns. Simple effects testing showed that the Gender × Medium interaction was because of women talking more than men in FTF, $F(1, 53.3) = 27.10$, $p < .0001$, but not texting more in OC, $F(1, 52.4) = 0.01$, $p = .99$, controlling for the other variables in the model. The Experience × Medium interaction was because of nonchatters talking more than chatters in FTF, $F(1, 54) = 19.04$, $p < .0001$, but not texting more in OC, $F(1, 53.3) = 0.96$, $p = .33$, controlling for the other variables. Viewed alternatively, this interaction reflects the fact that the unsurprising tendency of participants to speak more words than type them in 30 minutes was greater for nonchatters, $F(1, 52.8) = 652.05$, $p < .0001$, than for chatters, $F(1, 52.5) = 424.96$, $p < .0001$.

Additional analysis revealed that the number of words produced by conversation partners were positively correlated in OC, $r = .67$, $p < .0001$, but negatively correlated in FTF, $r = -.38$, $p = .002$.

Coding of Conversational Content

Content coding was undertaken at three levels of analysis. The first two were straightforwardly descriptive and involved no interpretation. The third, however, involved the classification of speech acts. This raised the question of judgmental validity and justified the use of two independent coders. The coders agreed 89% of the time. Cohen's

κ estimates ranged from .60 to .89 across third-level coding tasks, indicating adequate chance-corrected agreement. All disagreements were resolved through discussion.

Level 1: Topics and bridges. Each conversation was segmented into episodes within which a single distinct topic was discussed. The number of topics reflected the range of the conversation. The boundaries between successive topics were then examined to identify whether the transitions were achieved through bridging content common to both topics. The ratio of the number of such bridges to the number of topics served as an indicator of the smoothness of topical transitions. Means and standard deviations appear in Table 1. As dyad rather than individual participant was the unit of analysis in examining topics and the bridge-to-topic ratio, standard analysis of covariance was used to model these variables as a function of gender, experience, conversation medium, and all interactions among these variables. For these two models, use of English was redefined as a categorical covariate with three levels (none, one, or both members of the dyad speaking English less than 90% of the time). The results for number of topics revealed only a significant effect for medium, $F(1, 51) = 159.31$, $p < .0001$, with more topics addressed in FTF than in OC. Given the greater amount of conversational content in FTF, this is to be expected. The results for bridge-to-topic ratio also revealed only a significant effect for medium, $F(1, 51) = 30.34$, $p < .0001$, with smoother topical transitions (i.e., more bridging) in FTF than in OC.

Level 2: Reference. Next, each participant's speech or text was segmented into self-referring statements (those referring to the thoughts, beliefs, actions, or other characteristics of the speaker), partner-referring statements (those referring to the thoughts, beliefs, actions, or other characteristics of the partner), inclusive statements (those referring to both the speaker and the partner, and possibly others), other-referring statements (those referring to subjects other than the speaker or the partner), and discourse particles (nonstatements such as *yeah, oh, uh-huh, um, well, y'know, really?*). The percentage of total speech or text falling into each reference category was modeled as a function of the individual participant's gender, experience, conversation medium, and all interactions among these variables, controlling for the participant's use of English as before. Means and standard deviations appear in Table 2. The results for each category are discussed in turn below.

For self-referring statements, the only significant predictors were medium, $F(1, 48.2) = 12.40$, $p = .0009$, and experience, $F(1, 50.5) = 15.98$, $p = .0002$. These effects reflected the tendency for those in OC to talk more about themselves (as a share of their total speech or text) than those in FTF, and for nonchatters to talk more about themselves than chatters.

For partner-referring statements, the only significant predictors were medium, $F(1, 47.5) = 115.35$, $p < .0001$, and the Gender × Medium interaction, $F(1, 47.7) = 11.20$, $p = .002$. The interaction was because of women referring more to their conversation partner than did men in FTF, $F(1, 48.1) = 15.95$, $p = .0002$, but not in OC, $F(1, 46.9) = .57$, $p = .45$. Viewed alternatively, the interaction reflected a stronger tendency to refer more to one's partner in OC than in FTF on the part of women, $F(1, 48.3) = 99.16$, $p < .0001$, than men, $F(1, 46.9) = 27.25$, $p < .0001$.

Table 2. Reference of Speech or Text by Medium, Online Chat Experience, and Gender

Medium	Experience	Reference				
		Self	Partner	Inclusive	Other	Particles
Face-to-face	Nonchatters					
	Men	42 (17)	09 (04)	00 (00)	20 (11)	28 (14)
	Women	36 (10)	05 (02)	00 (01)	26 (09)	32 (11)
	Chatters					
	Men	28 (09)	11 (05)	00 (00)	34 (10)	26 (11)
	Women	30 (09)	07 (03)	00 (01)	32 (10)	30 (11)
Online chat	Nonchatters					
	Men	42 (10)	17 (07)	03 (06)	23 (07)	15 (07)
	Women	52 (12)	19 (08)	01 (01)	19 (08)	09 (07)
	Chatters					
	Men	39 (12)	17 (05)	01 (02)	29 (10)	13 (08)
	Women	37 (07)	17 (05)	01 (01)	24 (08)	21 (07)

Note: Values are the means for percentage of individual participants' total speech or text falling into each reference category. Standard deviations appear in parentheses.

No significant effects were found for inclusive statements. For other-referring statements, only experience emerged as significant, $F(1, 54.5) = 12.56$, $p = .0008$, with chatters referring more often than nonchatters to subjects other than themselves or their partners.

Finally, for discourse particles, only medium was significant, $F(1, 53) = 89.78$, $p < .0001$, with those in FTF using relatively more particles than those in OC, as would be expected.

Level 3: Turn-taking. Turning from topicality to action, each participant's turns-at-talk (Schegloff, 2007) within the conversational structure were identified and coded as clearly connected or unconnected to what the partner had said in the immediately preceding turn. The connections were further classified as instances of (a) responding to a question posed by the partner, (b) asking a question about what the partner had said, or (c) extending what the partner had said in a new direction. Similarly, the unconnected turns were further classified as instances of (a) initiating a new topic or topical thread by asking a question, (b) initiating a new topic or topical thread by making a statement, (c) referring to one's own earlier turn, or (d) referring to an earlier but not immediately preceding turn by the partner. The percentage of turns at talk of each type was modeled as a function of the individual participant's gender, experience, conversation medium, and all interactions among these variables, again controlling for the participant's use of English.[1] Means and standard deviations appear in Table 3. The results for each category are discussed in turn below.

Table 3. Types of Turns at Talk by Medium, Online Chat Experience, and Gender

		Connected			Unconnected			
Medium	Experience	Response	Question	Extension	New question	New statement	Own earlier	Partner's earlier
Face-to-face	Nonchatters							
	Men	23 (09)	08 (03)	20 (06)	13 (05)	28 (06)	06 (03)	02 (01)
	Women	19 (10)	06 (04)	31 (07)	09 (04)	28 (06)	05 (02)	02 (02)
	Chatters							
	Men	32 (15)	13 (04)	16 (09)	14 (07)	21 (09)	03 (02)	02 (01)
	Women	19 (10)	10 (07)	26 (10)	09 (04)	28 (07)	06 (03)	01 (01)
Online chat	Nonchatters							
	Men	27 (13)	06 (04)	24 (07)	12 (06)	26 (08)	03 (03)	02 (02)
	Women	27 (08)	05 (05)	22 (08)	15 (04)	25 (05)	02 (03)	03 (03)
	Chatters							
	Men	26 (12)	08 (04)	21 (07)	14 (06)	24 (08)	06 (04)	02 (02)
	Women	25 (12)	08 (05)	08 (05)	13 (05)	22 (06)	08 (05)	03 (03)

Note: Values are the means for percentage of individual participants' total turns at talk falling into each category. Standard deviations appear in parentheses. Connected = linked to partner's immediately preceding turn; Unconnected = not linked to partner's immediately preceding turn; Response = responding to a question posed by the partner; Question = asking a question about what the partner had said; Extension = extending what the partner had said in a new direction; New question = initiating a new topic or topical thread by asking a question; New statement = initiating a new topic or topical thread by making a statement; Own earlier = referring to one's own earlier turn; Partner's earlier = referring to an earlier but not immediately preceding turn by the partner.

For connected responses and extensions, no predictors were significant. For connected questions, significant effects were found for experience, $F(1, 46.3) = 14.44$, $p = .0004$, and medium, $F(1, 44.3) = 14.15$, $p = .0005$. These effects were because of a greater tendency for chatters than nonchatters, and those in FTF than in OC, to ask questions connected to what their partners had just said.

Turning to unconnected turns, only a significant Gender × Medium interaction emerged for initiating a new topic or topical thread by asking a question, $F(1, 49.8) = 13.65$, $p = .0005$. Analysis of simple effects revealed that the interaction was because of women, $F(1, 50) = 21.96$, $p < .0001$, but not men, $F(1, 49.7) = .33$, $p = .57$, showing a greater tendency to ask unconnected questions in OC than in FTF. No significant effects were found for initiating a new topic or topical thread by making a statement. For referring to one's own earlier turn, only the Experience × Medium interaction was significant, $F(1, 52.2) = 12.32$, $p = .0009$. Analysis of simple effects revealed that this interaction was because of chatters showing a greater tendency to take unconnected turns referring back to their own earlier turns in OC than in FTF, $F(1, 52.6) = 7.52$, $p = .008$, whereas nonchatters showed a slight tendency in the opposite direction, $F(1, 52.2) = 4.93$, $p = .03$. Finally, no predictors were significant for referring to an earlier but not immediately preceding turn by the partner.

Discussion

This study was conducted to examine how first-encounter OC and FTF conversations differ in their formal features. We proposed the possibility that men and women, and experienced and inexperienced users, would become more alike in conversational quality, due to anonymity and reduced awareness of the other in OC. Consistent with this proposition, men and women differed in FTF conversation but not in OC in their level of production (number of words spoken or typed), tendency to make partner-referring statements, and to ask questions unrelated to what their partner had said just before. As these were the only features analyzed on which men and women differed significantly, with each difference expressed in FTF conversation only, the pattern provides good initial evidence for OC leveling with regard to gender. Moreover, the gender differences found in FTF were all consistent with a more traditionally feminine conversational style on the part of women (more verbose, other-directed, and less likely to impose questions that ignore the other's preceding comment; Tannen, 1999). Although this limited evidence should not be taken as suggesting social leveling *in general* through the medium of OC, it does point to the significance of visual and auditory cues in sustaining a number of well-documented gender differences in conversational manner.

In contrast, there was little evidence of OC leveling for experienced and inexperienced users of OC. Experienced or frequent users did tend to speak but not type less than inexperienced users, consistent with the characterization of the former as experiencing greater reluctance in FTF than in OC encounters. However, the tendency of experienced users to refer more to their partner, less to themselves, and to more often ask questions about what the partner had just said, relative to inexperienced users, was as apparent in OC as in FTF conversation. The reasons for this unexpected symmetry are unknown.

Aside from findings that pertain directly to the possibility of social leveling, OC was also found to be associated with less topical bridging and less frequent use of discourse particles, indicating rougher transitions between topics and less interweaving of conversational exchanges (Grice, 1975; Marley, 2007; Strauss & Xiang, 2009). The greater frequency of self-referring statements and lower frequency of questions about the other's immediately preceding statement in OC than in FTF can be taken to reflect the greater self-focus than other-focus that is invited by the invisibility and inaudibility of the partner in OC.

An obvious limitation of this research is its reliance on an analogue situation involving one-off encounters between strangers. Participants did not expect to interact beyond the duration of a single, brief conversation, and there was little at stake beyond the possibility of minor interpersonal tension. Such a low-investment encounter is hardly representative of the broad range of social contexts within which online communication occurs. Accordingly, care should be taken not to generalize the present conclusions beyond the category of casual, transitory dialogue among strangers. Such dialogue, however, is quite common in OC (Baym, 2010; Tom-Tong, & Walther, 2011), making it an important contemporary phenomenon to explore.

In summary, our findings suggest that the conversational tendencies that distinguish men and women in FTF first encounters, at least those examined here, are largely absent in OC. This provides the first clear evidence of which we are aware for the closing of the gender gap in regard to specific constituents of conversational structure through online communication. More broadly, it invites research into the potential of this medium for promoting greater equality of communicative control and power during cross-gender encounters. In contrast, such leveling does not appear to occur on the whole for conversational differences that separate experienced and inexperienced users of OC. Finally, OC on the whole appears to produce weaker sequential connectivity, greater self-focus, and less other-focus than we see in FTF encounters, suggesting a deeper and smoother form of social engagement in the latter.

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Note

1. One participant was eliminated from these analyses for being a clear multivariate outlier on the seven types of turns analyzed.

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Bios

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