

"That's ur opinion": Alignment and Agreement in Computer-Mediated Communication

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Introduction

- Communication Accommodation Theory suggests that conversation partners align in their communicative behaviors over time. (Giles & Ogay, 2006)
- In computer-mediated communication (CMC), people may align in turn taking (structural) and word choices (linguistic). (Scissors et al., 2009)
- Structural alignment may decrease when CMC partners are in disagreement. (Riordan et al., 2013)
- Purpose:** To examine structural and linguistic alignment in instant messaging (IM) conversations in which people agree or disagree with each other.
- Hypotheses:** Structural alignment will increase over time when people agree, and decrease when people disagree. Alignment in positive emotion words will increase over time when people agree, and alignment in negative emotion words will increase over time when people disagree.

Method

- Sample: 39 undergraduates (11 men, mean age = 21).
- Participants came into our laboratory and engaged in a 10 minute IM conversation with a male confederate. The conversation topic was cell phone use while driving.
- Each participant was randomly assigned to either the "agreement" or "disagreement" condition.
- The confederate was instructed to make explicit statements of agreement/disagreement and to make arguments supporting/countering the participants' position.

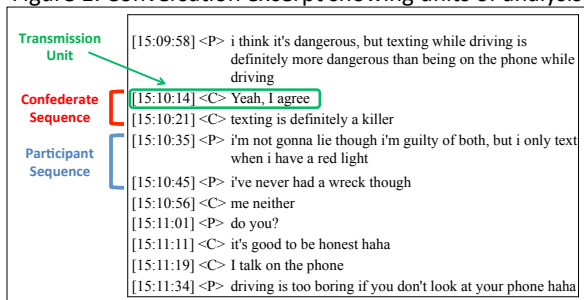
Analyses

- Conversation transcripts were segmented into transmission units which were grouped into sequences (see Figure 1).
- Alignment was measured as the difference between adjacent sequences on structural and linguistic measures¹ (lower difference scores indicate greater alignment):
 - Structural:** number of characters and words, duration of sequence (in seconds)
 - Linguistic:** number of positive and negative emotion words via Linguistic Inquiry and Word Count (LIWC2007).
- Each alignment measure was analyzed using a linear mixed-effect model (results presented in Table 1):
 - Fixed effects:** sequence number, condition², sequence x condition, gender
 - Random effect:** conversation number

¹Square root transformations were used to correct skewed distributions.

²Condition coded as 1 = agreement and -1 = disagreement.

Figure 1: Conversation excerpt showing units of analysis



Note: The bracketed confederate sequence contains 43 characters, 8 words, and is 21 seconds in duration. The bracketed participant sequence contains 113 characters, 25 words, and is 21 seconds in duration. The difference scores for these adjacent sequences are 70, 17, and 0 for number of characters, number of words, and duration respectively.

Table 1: LME Model Coefficients for Alignment Measures

Structural Alignment Measures	Intercept	Sequence Number	Condition	Sequence x Condition	Gender
Number of Characters	7.29	-0.01	0.404	-0.035*	-0.267
Number of Words	3.101	0.003	0.189	-0.017*	-0.114
Duration (seconds)	4.892	-0.027*	-0.083	-0.008	0.042
Linguistic Alignment Measures	Intercept	Sequence Number	Condition	Sequence x Condition	Gender
Positive Emotion Words	1.269	0.032***	0.041	0.018*	0.139
Negative Emotion Words	1.367	-0.014*	0.154	-0.022**	-0.07

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

Condition coded as 1 = agreement and -1 = disagreement

Models based on square root transformed alignment measures.

Results

- Structural Measures**
 - Number of characters/words:** Alignment increased over time in the agreement condition, and alignment decreased over time in the disagreement condition.
 - Sequence duration:** Alignment increased over time regardless of condition.
- Linguistic Measures**
 - Positive emotion words:** Overall, alignment decreased over time. However, this is qualified by a sequence x condition interaction indicating that alignment decreased more in the agreement condition and less in the disagreement condition.
 - Negative emotion words:** Overall, alignment increased over time. However, this is qualified by a sequence x condition interaction indicating that alignment increased more in the agreement condition and less in the disagreement condition.

Discussion

- Our hypotheses about structural alignment were partially supported. People aligned over time in the length (number of characters/words) of their turns when they agreed, but became more dissimilar when they disagreed. However, temporal alignment (duration) increased over time regardless of condition.
- These results suggest that agreement may affect alignment in the amount of content that people produce, but not in the pace of their turn taking.
- The results for linguistic alignment were opposite of our predictions. There was less alignment in positive emotion words and greater alignment in negative emotion words over time in the agreement compared to the disagreement condition.
- Overall, these results more generally demonstrate that alignment (or dis-alignment) can occur in CMC even over a relatively brief (10 minute) time period.

References

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