Journal of Experimental Social Psychology 47 (2011) 616–621

Contents lists available at ScienceDirect

Journal of Experimental Social Psychology

journal homepage: www.elsevier.com/locate/jesp

Reports

# Early words that work: When and how virtual linguistic mimicry facilitates negotiation outcomes☆

Roderick I. Swaab *, William W. Maddux, Marwan Sinaceur

*INSEAD, France*

ARTICLE INFO

*Article history:*
Received 13 February 2010
Revised 3 January 2011
Available online 19 January 2011

*Keywords:*
Negotiation
Mimicry
Timing
Computer mediated negotiation
Culture

ABSTRACT

We hypothesized that in online, virtual formats, negotiators receive better outcomes when mimicking their counterpart's language; furthermore, we predicted that this strategy would be more effective when occurring early in the negotiation rather than at the end, and should also be effective across both independent and interdependent cultures. Results from two experiments supported these hypotheses. Experiment 1 was conducted in Thailand and demonstrated that negotiators who actively mimicked their counterpart's language in the first 10 min of the negotiation obtained higher individual gain compared to those mimicking during the last 10 min, as well as compared to control participants. Experiment 2 replicated this effect in the United States (with Dutch and American negotiators) and also showed that trust mediated the effect of virtual linguistic mimicry on individual negotiation outcomes. Implications for virtual communication, strategic mimicry, and negotiations are discussed.



As the internet continues to increase its presence in society, people rely more and more on text-based, virtual communication channels (e.g., email and instant messaging) for their professional interactions and negotiations. Although these channels enable rapid back-and forth communication, they can also make it more difficult than face-to-face or phone interactions to establish a positive interpersonal connection (especially trust) between negotiators. This sort of "human" connection can be invaluable to computer mediated negotiations. For example, research has shown that a simple, short "schmoozing" session between negotiators prior to an online negotiation increased the value of subsequent deals (Moore, Kurtzberg, Thompson, & Morris, 1999; Morris, Nadler, Kurtzberg, & Thompson, 2002). And in a recent meta-analysis on computer mediated negotiations and group decision-making, researchers found that the inability to see, hear, and directly respond to others acts as a detriment to final outcomes for negotiators who were previously unacquainted, or for those who had not yet established a positive interpersonal connection prior to their online conversation (Swaab et al., 2011). In online contexts in particular, and negotiations situations in general, establishing positive interpersonal capital is crucial because it facilitates trust between parties, thus helping to improve the negotiation climate, and as a result, final negotiation outcomes (Fisher, Ury, & Patton, 1991; Thompson, 1991).

However, it is currently unclear how parties might create interpersonal capital when *already immersed* in a challenging, mixed-motive setting such as an online negotiation. In the current paper, we propose that one efficient way to build a positive connection with others in online interactions is through mimicry. Over the past decade, research has clearly demonstrated the powerful impact of imitating others' behavioral expressions in face-to-face interactions (for reviews, see Chartrand, Maddux, & Lakin, 2005; Chartrand & van Baaren, 2009). Mimicry involves matching the facial expressions, postures, affective responses, and other mannerisms of interaction partners, which typically increases liking, rapport, and, especially trusts in the mimicker (Chartrand & Bargh, 1999). Although mimicry is usually done nonconsciously, mimicry can also be used strategically. For example, waitresses who consciously mimicked their customers' tone of voice received bigger tips (van Baaren, Holland, Steenaert, & Van Knippenberg, 2003). And, in face-to-face negotiations, negotiators who actively mimicked their counterpart's nonverbal behavior increased the mimickee's trust, thereby generating more creative and mutually beneficial agreements (Maddux, Mullen, & Galinsky, 2008).

To our knowledge, however, the impact of mimicry has not yet been examined in online, text-based communication environments. This is an important shortcoming given the difficult nature of establishing positive interpersonal capital in environments that strip away critical nonverbal communication cues (e.g. Gick & Derrick, 2009). Although there is extant empirical evidence that people do spontaneously mimic speech characteristics of interaction

☆ We thank Anne Lorgeoux, Anna Gyarmati, and Alvaro San Martin for their help with data collection and coding.

* Corresponding author at: INSEAD, Organisational Behaviour Area, Boulevard de Constance, 77305 Fontainebleau Cedex, France.
*E-mail address:* roderick.swaab@insead.edu (R.I. Swaab).

0022-1031/$ – see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.jesp.2011.01.005

partners (e.g., Chartrand et al., 2005), it is currently unclear whether linguistic mimicry occurs in online text-based formats, and whether it proves to be helpful in complex, mixed-motive formats like negotiations.

## The importance of the timing of mimicry: early vs. late

We also sought to examine the role of timing of mimicry, which previous research has not yet examined; most studies have simply examined the amount of spontaneously occurring mimicry, or manipulated whether mimicry was either present or absent (e.g., Chartrand & Bargh, 1999; Maddux et al., 2008). However, we propose that linguistic mimicry will be more beneficial to negotiators' outcomes when it is applied *early* rather than *late* in the negotiation. The rationale for this prediction is that mimicry fosters trust, and the most critical time for people to develop trust is at the beginning of their interaction (Lewicki & Bunker, 1996; McKnight, Cummings, & Chervany, 1998). A failure to build trust at the start of an interaction makes subsequent cooperation more difficult and can have negative long-term consequences (Komorita & Mechling, 1967; Lount, Zhong, Sivanathan, & Murnighan, 2008). Thus, the early stage of the negotiation is when establishing a good relationship and good negotiation climate is crucial. When trust between negotiators develops early, it can color the entire subsequent interaction, leading to more positive outcomes (Morris & Keltner, 2000; Pruitt, 1981; Rubin & Brown, 1975). In fact, brief periods of exchanging personal information early in the negotiation have been shown to establish a positive interpersonal connection between negotiators and, as a result, improve their final outcomes (Moore et al., 1999). These findings imply that it should be easier to build trust through mimicry at the beginning of the negotiation rather than at the end, a prediction which is consistent with other research showing that whereas a negotiator's early moves are instrumental in shaping the way s/he is positively perceived, later moves are not (Rubin & Brown, 1975; Sinaceur & Neale, 2005). Thus, as a strategy that facilitates interpersonal trust, mimicry may be most beneficial early in the negotiation, at the very point where the relationship between negotiators is most malleable; mimicry late in the negotiation may have less utility when trustworthiness (or untrustworthiness) has already been solidified.

Finally, we expected that the advantage of early virtual linguistic mimicry would hold across different cultural contexts. Although some research has shown that individuals from interdependent cultures mimic more than those in independent cultures (van Baaren, Maddux, Chartrand, de Bouter, & van Knippenberg, 2003), several studies have shown strategic mimicry to be common and highly effective in independent cultures as well (e.g., Chartrand & Bargh, 1999; van Baaren, Holland, et al., 2003; van Baaren, Maddux, et al., 2003; Maddux et al., 2008). Given the increasingly globalized nature of social interactions, and the typical overreliance on American sample populations (Arnett, 2008; Henrich, Heine, & Norenzayan, 2010), we wanted to investigate the generalizability of our predicted effects across both independent and interdependent cultures.

## Overview

Two experiments explored the hypotheses that negotiators would receive better outcomes when mimicking their counterpart's language in online formats early in the negotiation rather than late, and that this strategy would hold across cultures. Experiment 1 manipulated the timing of linguistic mimicry in an online negotiation in Thailand. Experiment 2 sought to conceptually replicate the effect in the United States with Dutch and American negotiators, and further examined the mediating role of trust.

## Experiment 1

### Method

#### Participants, task, and procedure

Participants were 66 MBA students (58% women) at a large business school in Thailand who were enrolled in a negotiations course. The negotiation was conducted using an online, synchronous chat program, so that students could not see or hear each other during the negotiation.

Students participated in a negotiation exercise called "New Recruit" (Neale, 1997). In this negotiation, negotiators' preferences were created by assigning points to each issue, with a higher number of points indicating a stronger preference. Two issues were distributive (parties' preferences were opposite), two were compatible (parties' preferences were identical), and four issues were integrative (one party had a stronger preference for two issues and the other party had a stronger preference for the other two issues). Success in this task is primarily contingent upon negotiators discovering mutually beneficial trade-offs (i.e., exchanging issues of low priority for issues of higher priority) to expand the total amount of resources available to both parties (value creation) which can allow parties to take more resources for themselves (value claiming).

Participants were given confidential role instructions one day before the negotiation and told to prepare by themselves. In addition, the instructions indicated that participants' objective was to maximize their number of points. The exercise was conducted in English, which all participants were fluent in. Students negotiated the exercise on campus, were given 60 min to complete the negotiation, and told to keep track of the end time of their negotiation.

#### Experimental manipulation

Negotiating dyads were randomly assigned to 1 of 3 conditions: early mimicry, late mimicry, or control. Because of concerns with adequate power, and because prior research using the same exercise demonstrated that mimicry is equally effective for both recruiter and candidate (Maddux et al., 2008), we only instructed the recruiter to mimic. Participants were randomly assigned to roles and to experimental conditions.

Recruiters in both early and late mimicry conditions were given "an important message" before their negotiation that began as follows (adapted from Maddux et al., 2008):

> Successful negotiators recommend that you should mimic the language and mannerisms of your negotiation partner to get a better deal. For some reason, linguistic and verbal mimicking seems to facilitate online negotiations. For example, when the other person uses emoticons in their message like ☺ or 😊, you should too. If he/she uses certain jargon, metaphors, grammar, specific words, or abbreviations such as "y'know" (you know), you should do the same. Do not direct too much of your attention to the linguistic and verbal mimicking so you don't lose focus on the outcome of the negotiation. Thus, find a happy medium of consistent mimicking that does not disrupt your focus.

However, the text in the last paragraph differed for each condition. In the early [late] mimicry condition it read (brackets indicate the alternative wording for late mimicry):

> However, it is recommended that you should **only** mimic your counterpart's language and verbal expressions during the **first 10 minutes** [the **last 10 minutes**] of the negotiation. If you mimic later (e.g. at the end) [earlier (e.g. at the beginning)], you run the risk that the technique backfires because it becomes too obvious

to the other side. So, make sure you mimic the other's behavior only **in the early stage** [**in the final stage**] of the negotiation.

As in Maddux et al. (2008), we provided participants in the non-mimicking roles (candidates) and in the control condition (candidates and recruiters) with the following instructions, which was redundant with information given to all students earlier in the academic period:

Successful negotiators recommend that you should focus on the information in your planning document, and to negotiate with this always in the back of your mind. For some reason, this will help get you through the negotiations and get a good deal.

*Manipulation check and dependent measures*

Recruiters in the mimicry conditions were asked after the negotiation, 1) what percentage of time they actively mimicked their counterpart in the first 10 min and, 2) what percentage of time they actively mimicked their counterpart in the last 10 min.

Our primary dependent measure was individual gain, the total number of points that each negotiator obtained individually. This measure captures how much both parties claimed value for themselves. In addition, we also measured joint gain, the sum of negotiators' individual gain. This measure captures how much the parties created value by discovering mutually beneficial tradeoffs.

*Results*

*Manipulation check*

Recruiters in the early mimicry condition indicated that they mimicked their counterpart more during the first 10 min ($M = 35\%$; $SD = 36\%$) than during the last 10 min ($M = 28\%$; $SD = 33\%$), whereas the reverse was true for recruiters in the late mimicry condition, who mimicked their counterpart more during the last 10 min ($M = 55\%$; $SD = 26\%$) than during the first 10 min ($M = 28\%$; $SD = 36\%$), $F(1, 19) = 7.28$, $p = .01$, $\eta^2 = .29$.

*Individual gain for mimickers*

We examined how individual gain for the mimicker differed across conditions, controlling for the effect of the opposing party's individual gain (see Maddux et al., 2008). Thus, we ran a one-way ANCOVA with condition as our independent variable and recruiter (mimicker) individual gain as our dependent variable, with candidate (mimickee) individual gain as a covariate.

Results showed a significant main effect for mimicry condition, $F(2, 29) = 3.94$, $p = .031$, $\eta^2 = .21$. Mean comparisons indicated that recruiters obtained significantly more points when they mimicked early ($M = 6181.82$; $SD = 1669.02$) compared to when they mimicked late ($M = 4345.45$; $SD = 1601.48$), $F(1, 19) = 7.76$, $p = .012$, $\eta^2 = .29$ and compared to recruiters in the control condition ($M = 4690.91$; $SD = 1989.20$), $F(1, 19) = 4.13$, $p = .056$, $\eta^2 = .18$. The late mimicry and control condition did not differ, $F(1, 19) = .27$, $p = .61$ (see Fig. 1).

*Individual gain for mimickees*

Controlling for recruiter's individual gain, no effects were found across mimicry conditions for candidates' (i.e., mimickee's) individual gain, $F(2, 29) = .63$, $p = .54$.

*Joint gain*

We also analyzed joint gain by running a one-way between-subjects ANOVA with condition as the independent variable and joint gain as the dependent variable. The main effect of mimicking condition was not significant, $F(1, 30) = 2.06$, $p = .15$, $\eta^2 = .12$. However, planned mean comparisons demonstrated that when the recruiter mimicked early ($M = 11{,}163.64$; $SD = 1830.45$), the dyad earned higher joint gain than when the recruiter mimicked late ($M = 9654.55$; $SD = 1625.03$), $F(1, 20) = 4.18$, $p = .054$, $\eta^2 = .17$. However, there was only a non-significant trend for early mimicking dyads to do better compared to the control condition ($M = 9981.82$; $SD = 2030.67$), $F(1, 20) = 2.06$, $p = .17$, $\eta^2 = .09$. Finally, when the recruiter mimicked late, joint gain was not different from the control condition, $F(1, 20) = .17$, $p = .68$.

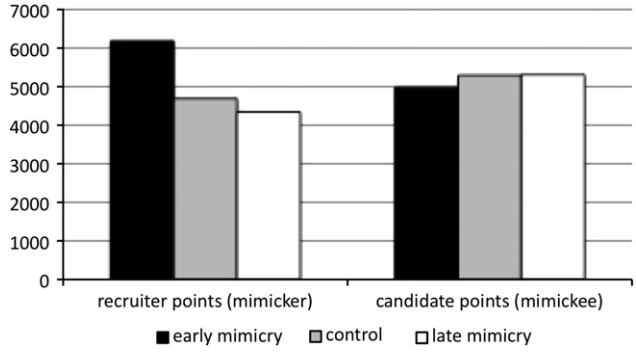


**Fig. 1.** Recruiter and candidate gain (in points) as a function of experimental condition, Experiment 1.

Taken together, these results demonstrate that virtual linguistic mimicry enhanced individual benefits for the mimicking party, but *only* when they mimicked *early* in the negotiation. Interestingly, however, mimicry did not lead to detriments for the mimickee.

## Experiment 2

In Experiment 2 we sought to replicate the results of Experiment 1 in a different cultural context in addition to testing our proposed mechanism that mimickee's trust mediates this effect. In addition, because participants in Experiment 1 used different versions of the online chat program, timestamps were not recorded for most dyads, which did not allow us to examine the *content* of the mimicking that took place, nor empirically validate that the actual mimicry that occurred was consistent with our experimental timing manipulation. Thus, in Experiment 2 we sought to explore the psychological mechanism driving our hypothesized results, as well as the frequency with which mimicry occurred and its specific content to better understand why early mimicry works better than late mimicry.

*Method*

*Participants, procedure, and task*

48 students who were enrolled in an International Executive MBA course (11 American and 27 Dutch men, 4 American and 7 Dutch women) and all visiting a business school in the Midwestern United States participated as part of a negotiations course. All participants negotiated using the same version of a synchronous chat program which had a mechanism to record timestamps. Students negotiated the same exercise with the same instructions and logistical set-up as in Experiment 1. Chat transcripts were recorded and logs revealed that the average time taken for the negotiation was 59.60 min. No difference was found for time between conditions, $p = .42$.

*Experimental manipulation*

The experiment had two conditions: early mimicry and late mimicry. Participants were randomly assigned to roles and experimental conditions.

*Manipulation checks*

To assess recruiters' actual mimicry, three coders independently content analyzed the first and last 10 min as well as the middle phase (40 min on average) of each conversation transcript to code the extent

to which the recruiter mimicked the candidate. Mimicry was measured as *a per minute* frequency with which recruiters repeated or only subtly altered words or expressions that were first used by the candidate in a preceding sentence. For example, when a candidate said "*How are you doing today*?", and the recruiter replied, "*Good. How are you doing*?", then coders counted this as one mimicking act. Likewise, a candidate's expression, "*Is this a good time to talk*?" followed by a recruiter's response, "*This is a great time to talk*," would also count as one mimicking act. Three transcripts (2 in the early mimicry and 1 in the late mimicry condition) were unable to be captured because of malfunctioning of the program; this was controlled for in the subsequent analyses. Coding decisions were made by three independent coders who were trained prior to coding the transcripts, and coders were blind to condition during coding. Overall agreement was 92%. Discrepancies were resolved through further discussion.

*Dependent measures and proposed mediating variable*

We measured individual and joint gain as in Experiment 1. Trust was measured by asking participants "To what extent do you trust the other person" and "I felt on the same page with the other person", on 7-point scales (Cronbach's $\alpha = .79$).

*Results*

Initial analyses indicated no significant differences between the American and Dutch participants on any of the independent or dependent measures (all $p$'s>.36). Therefore, these groups were combined in the subsequent analyses.

*Manipulation checks based on content coding*

Recruiters in the early mimicry condition mimicked their counterpart more during the first 10 min ($M = .32$; $SD = .14$) than during the last 10 min ($M = .05$; $SD = .05$, $p < .001$) and more than during the middle phase of the negotiation ($M = .15$; $SD = .09$, $p = .001$). However, the reverse was true for recruiters in the late mimicry condition, who mimicked their counterpart more during the last 10 min ($M = .21$; $SD = .08$) than during first 10 min ($M = .10$; $SD = .07$, $p = .021$) and than during the middle phase ($M = .10$; $SD = .07$, $p = .015$), respectively. Thus, the experimental manipulation of mimicry was effective.

*Individual gain for mimickers*

[1]Controlling for candidate's individual gain as in Experiment 1, a one-way ANCOVA indicated that recruiters obtained significantly more points when they mimicked early ($M = 6183.33$; $SD = 1223.88$) than when they mimicked late ($M = 4758.33$; $SD = 1269.54$), $F(1, 20) = 4.99$, $p = .037$, $\eta^2 = .20$ (see Fig. 2). This replicated the key effect from Experiment 1, yet with a different cultural sample.

To further test our hypothesis, we also examined individual gain as a function of the *actual* amount of mimicry that took place. We found a positive correlation between amount of early mimicry and individual gain ($r = .64$, $p = .002$), but a negative correlation between amount of late mimicry and individual gain ($r = -.58$, $p = .006$). Mimicry during the middle phase was not correlated with individual gain, $p = .16$. Thus, the more recruiters mimicked their counterpart during the first 10 min, the more points they gained; the more they mimicked their counterpart during the last 10 min, the fewer points they gained.

*Individual gain for mimickees*

To explain the detrimental effect of late mimicry, we also examined candidates' (mimickees') individual gains. Controlling for recruiter's individual gain, candidates actually obtained more points when they were mimicked late ($M = 6541.67$; $SD = 839.33$) than when they were mimicked early ($M = 4866.67$; $SD = 1280.15$), $F(1, 20) = 5.82$, $p = .026$, $\eta^2 = .23$. Indeed, when recruiters mimicked early, recruiters did better than candidates ($p = .038$), but when recruiters mimicked late, candidates did better than recruiters ($p = .006$), $F(1, 20) = 24.78$, $p < .001$, $\eta^2 = .54$. This beneficial effect for candidates when they were mimicked late by recruiters result did not emerge in Study 1. This effect further supports the correlational analyses above that showed that recruiters gained fewer points when they mimicked late. Because this effect was not hypothesized, and did not emerge in Experiment 1, we ran additional analyses below to further investigate.

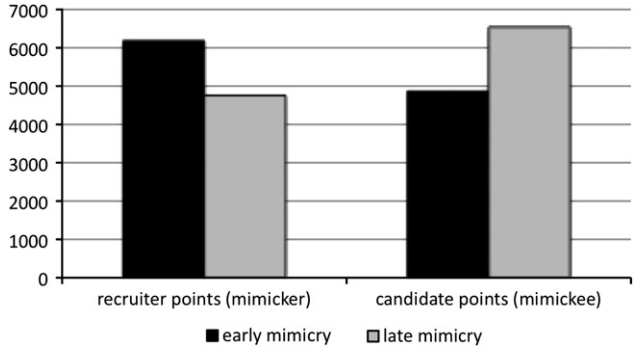


**Fig. 2.** Recruiter and candidate gain (in points) as a function of experimental condition, Experiment 2.

We also examined the candidate's individual gain as a function of the actual amount of mimicry. There was a negative correlation between amount of early mimicry and individual gain ($r = -.54$, $p = .012$). However, there was a marginally significant positive correlation between amount of late mimicry and individual gain ($r = .42$, $p = .06$). Mimicry during the middle phase was not correlated with candidate gain, $p = .46$. Thus, results for candidates (mimickees) showed the opposite pattern as those for recruiters (mimickers): Candidates did better when being mimicked late, while recruiters did better when mimicking early.

*Joint gain*

Contrary to results from Experiment 1, however, joint gain did not differ across conditions. The total value (points) the recruiter and candidate created was equally high when the recruiter mimicked early ($M = 11{,}050.00$; $SD = 1586.59$) as when the recruiter mimicked late ($M = 11{,}300.00$; $SD = 1139.38$), $p = .89$. However, this is likely due to the fact that the early mimicry advantage for recruiters (mimickers) was counterbalanced by the late mimicry advantage for the candidates (mimickees), and thus no joint gain difference could emerge across experimental condition.

*Mediational role of trust*

No differences were found across conditions for how much the recruiter (mimicker) trusted the candidate (mimickee). However, the candidate's (mimickee's) trust in the recruiter (mimicker) was greater when the recruiter mimicked early ($M = 5.83$; $SD = .56$) than when the recruiter mimicked late ($M = 4.40$; $SD = 2.01$), $F(1, 20) = 4.25$, $p = .05$, $\eta^2 = .20$.

Then, we tested whether the candidate's (mimickee's) trust in the recruiter (mimicker) mediated the effect of experimental condition on the recruiter's individual gain. First, using the procedures of Baron and Kenny (1986), there was a direct effect from the early vs. late mimicking condition on recruiter's gain ($\beta = .51$, $p = .01$) and on the candidate's trust in the recruiter ($\beta = .45$, $p = .05$). But when both the condition and candidate's trust were entered as predictors of recruiter's gain, the effect of candidate's trust was significant ($\beta = .55$, $p = .01$), but the direct effect of early vs. late mimicking was no longer significant ($\beta = .30$, $p = .14$) (see Fig. 3). To test the significance of the indirect effect (i.e., the path through the mediator), we used a bootstrapping procedure, as

[1] One dyad questioned the legitimacy of the experimental set up and we controlled for this in our analyses.

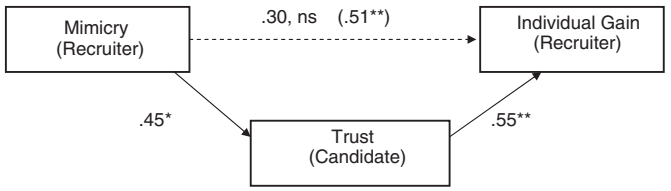


**Fig. 3.** Mediation analysis for the effect of mimicry and trust on individual gain, Experiment 2.

recommended by Shrout and Bolger (2002). The result of 1000 resamples (as recommended by Efron & Tibshirani, 1993) demonstrated that zero fell outside of the 95% confidence interval for the indirect effect (95% CI Low = −1567.65; CI High = −143.10). Thus, trust mediated the effect of early vs. late mimicry on individual gain.

*Exploratory analyses of mimicry content*

To further explore what aspects of mimicry affected individual and joint gain, and in particular to better understand the timing effect in which recruiters did better when mimicking early but candidates did better when being mimicked late, we conducted post-hoc analyses on the mimicking acts by content coding the first and last 10 min as well as the middle phase of the negotiation. Three coders assigned mimicking acts to one among four categories. Recruiters' mimicking was coded as (1) emotionally "positive" when they mimicked positive emotional language such as "great", "nice", or "exciting", (2) emotionally "neutral" when recruiters mimicked language that was not explicitly emotional such as "experienced" or "security", (3) as emotionally "negative" when recruiters used language with negative valence such as "cannot" or "disappointing", and (4) as "accommodating" when recruiters repeated words reflecting agreement such as "ok" or "agree". There was 93% agreement between coders. All discrepancies were resolved through subsequent discussion. Again, we divided the number of mimicking acts by the number of minutes negotiators spent within each phase.

Results showed significant differences across conditions for mimicry of positive language *early* in the negotiation. Recruiters mimicked more positive emotional language during the first 10 min when they were instructed to mimic early ($M = .17$; $SD = .16$) than when they were instructed to mimic late ($M = .04$; $SD = .05$), $F(1, 19) = 7.21$, $p = .015$, $\eta^2 = .28$. No differences were found across conditions (early vs. late mimicry) for positive emotional language during the middle phase or last 10 min of the conversation ($p$'s > .17). In addition, early mimicry of positive emotional language was positively correlated with candidates' trust ($r = .59$, $p = .012$) and with recruiter's individual gain ($r = .61$, $p = .003$), and marginally negatively correlated with candidate's individual gain ($r = -.39$, $p = .077$). No other significant relationships were found for positive emotional language during any of the phases and the dependent variables.

Results showed significant differences across conditions for mimicry of accommodating language *late* in the negotiation. Recruiters mimicked more accommodating language in the last 10 min when they were instructed to mimic late ($M = .08$; $SD = .09$) than when they were instructed to mimic early ($M = .01$; $SD = .03$), $F(1, 19) = 6.01$, $p = .024$, $\eta^2 = .24$. No differences were found across conditions (early vs. late mimicry) for accommodating language in the first 10 min or in the middle phase ($p$'s > .39). In addition, late mimicry of accommodating language was negatively correlated with candidates' trust ($r = -.56$, $p = .02$) and marginally negatively correlated with recruiter's individual gain ($r = -.41$, $p = .067$). However, mimicry of accommodating language during the middle phase was actually positively correlated with joint gain ($r = .44$, $p = .05$). This was the only significant effect of middle phase mimicry, and suggests that the timing of accommodating language may be crucial as well as the timing of mimicry. No other correlations between accommodating language during any of the phases and the dependent variables were significant.

Finally, no significant differences were found for neutral language or negative language mimicry.

To summarize, then, these content-coding analyses suggest that early mimicry was conducive to the mimicry of positive emotional language, which was associated with higher individual gain of the mimicker. Late mimicry, on the other hand, was conducive to the mimicry of accommodating language; however, mimicking accommodating language late actually was associated with less individual gain for the mimicker, and more individual gain for the mimickee.

## General discussion

Two experiments investigated the hypothesis that virtual linguistic mimicry early in a negotiation facilitates negotiators' outcomes. Experiment 1 showed that for Thai negotiators, early virtual linguistic mimicry resulted in more beneficial outcomes compared to late mimicry and compared to a control condition. Experiment 2 replicated the positive effect of early mimicry with Dutch and American negotiators. Further, Experiment 2 showed that early mimickers elicited more trust and that this trust mediated the impact of mimicry on individual outcomes.

Whereas previous negotiations research has examined differences *between* communication channels (e.g. email vs. face-to-face vs. videoconferencing) (see Swaab et al., 2011 for a meta-analytic review), the present studies provide insight into strategies that help improve individual outcomes *within* an online context. This research extends prior findings showing that the psychological factors influencing the quality of social relationships are largely responsible for the outcomes of online decision-making (Postmes, Spears, & Lea, 1998; Reicher, Spears, & Postmes, 1995; Walther, 1996) and negotiation contexts (Moore et al., 1999; Swaab, Kern, Diermeier, & Medvec, 2009; Swaab & Swaab, 2009).

*Limitations and directions for future research*

Although both experiments reported consistent mimicry effects on individual gains, effects on joint gains were less straightforward: Experiment 1 demonstrated that joint gains were higher when negotiators mimicked early than when they mimicked late, though Experiment 2 demonstrated no differences across conditions. These findings are only partially consistent with the Maddux et al. (2008) research, which found that mimicry consistently increased joint gains in face-to-face negotiations. However, this discrepancy might have emerged for several reasons. First, because the present research focused on the *timing* of mimicry, it is possible that less mimicry might have occurred overall (compared to a design where participants are told to mimic throughout the negotiation) which, in turn, could have had weaker effects on joint gain. It is also possible that the virtual format and text-based mimicry expressed in the electronic chats might not be as pervasive as the face-to-face mimicry that was manipulated in the Maddux et al. (2008) study, consistent with the meta-analytic findings showing that the absence of visual and vocal cues in online negotiation settings (like the one we studied) decreases joint gains (Swaab et al., 2011). Finally, and perhaps most importantly, a joint gain effect may not have emerged because the advantage of early mimicry was actually counterbalanced by the disadvantage of late mimicry in Experiment 2, where candidates (mimickees) did better than recruiters (mimickers) when mimicking occurred late.

Why was late mimicry found to be detrimental for the mimicker in Experiment 2? Although we did not initially predict a detrimental effect for late mimicry (which did not emerge in Experiment 1), previous research has found that mimicry can be actually be detrimental to interpersonal relationships in some contexts, for example when coming from an outgroup member (Likowski et al., 2011) or a disliked person (Stel, Blascovich, McCall, Mastop, & Vonk, 2010). Indeed, content analyses provide one plausible answer for the detrimental effect of late mimicry in Experiment 2: We found that

positive emotional language tended to be mimicked early, and this was associated with more beneficial outcomes for early mimickers; however, late mimickers tended to mimic language that was more accommodating to the other negotiator. Thus, mimicking accommodating language in the final phase of the negotiation seemed to impair negotiators' ability to protect their own interests. However, it is important to note that this finding is actually quite consistent with prior negotiation research showing that accommodating attitudes lead to increased concession-making and decreased focus on negotiators' own interests (Amanatullah, Morris, & Curhan, 2008; De Dreu, 1995; Pruitt, 1981). Indeed, this detrimental effect of accommodating attitudes is especially pronounced late in the negotiation, when the details of the deal are being finalized (Brett, 2007) and the main challenge for negotiators is to lock the counterpart into a deal (Morris & Keltner, 2000). Interestingly, accommodating language in the middle phase was actually positively correlated with joint gain, suggesting that accommodating language itself it not necessarily detrimental but depends (as is the case with mimicry) on the timing. Thus, in the last phase of the negotiation, a *non*-accommodating stance helps extract more final concessions from a negotiation opponent than an accommodating stance. On the other hand, an accommodating stance may lead to losing focus on one's own interests and do less to extract value from opponents, leading to poorer outcomes (Pruitt, 1981; Sinaceur & Neale, 2005; Sinaceur et al., 2011).

These findings add an important, novel contribution to the mimicry literature: not only does the timing of mimicry matter, the *content* of mimicry matters as well. In other words, the lesser or perhaps even detrimental effect of late mimicry is not only a result of how much negotiators mimic, but also due to different language being mimicked. Intuitively this finding makes sense, however, since mimicking things like negative emotions or hostile behaviors are, prima facie, unlikely to bring many interpersonal advantages. However, our findings indicate that in negotiation contexts, strategic mimicking of language and other behaviors needs to be aligned with the predominant goals of the particular stage of the negotiation: positive emotional language may help build trust early in the negotiation, but accommodating language may be detrimental in the last stage, leading negotiators to give up too much. Although this finding is consistent with prior research (e.g., Morris & Keltner, 2000; Pruitt, 1981), because it only emerged in one of our two experiments, future research is needed to further examine the robustness of this effect in other contexts, such as face-to-face negotiations that allow for richer non-verbal communication. Future research may also examine whether these effects hold in other computer-mediated environments, for example, in *asynchronous* text-based channels such as e-mail when a virtual format necessitates delays between negotiators communications, making negotiations even more challenging.

## Conclusion

Overall, the current results demonstrate that virtual linguistic mimicry can be used as a powerful intervention to improve interpersonal connections and outcomes in online negotiations, which, because of a lack of interpersonal and communication cues, are often of lower quality than face-to-face negotiations. Our results suggest that – even when cloaked behind the anonymity of a computer screen – strategically mimicking a counterpart's language early in a negotiation can be a powerful way to facilitate the negotiation process.

## References


Amanatullah, E. T., Morris, M. W., & Curhan, J. R. (2008). Negotiators who give too much: Unmitigated communion, relational anxieties, and economic costs in distributive and integrative bargaining. *Journal of Personality and Social Psychology*, *95*, 723—738.

Arnett, J. J. (2008). The neglected 95%: Why American psychology needs to become less American. *The American Psychologist*, *63*, 602—614.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173—1182.

Brett, J. M. (2007). *Negotiating globally: How to negotiate deals, resolve disputes, and make decisions across cultural boundaries* (2nd ed.). San Francisco, CA: Jossey-Bass.

Chartrand, T. L., & Bargh, J. A. (1999). The chameleon effect: The perception-behavior link and social interaction. *Journal of Personality and Social Psychology*, *76*, 893—910.

Chartrand, T. L., Maddux, W. W., & Lakin, J. (2005). Beyond the perception-behavior link: The ubiquitous utility and motivational moderators of nonconscious mimicry. In R. Hassin, J. Uleman, & J. A. Bargh (Eds.), *The New Unconscious* (pp. 334—361). New York: Oxford University Press.

Chartrand, T. L., & van Baaren, R. (2009). Human mimicry. *Advances in Experimental Social Psychology*, *41*, 219—274.

De Dreu, C. K. W. (1995). Coercive power and concession making in bilateral negotiation. *Journal of Conflict Resolution*, *39*, 646—670.

Efron, B., & Tibshirani, R. (1993). *An introduction to the bootstrap*. New York: Chapman & Hall/CRC.

Fisher, R., Ury, W. L., & Patton, B. (1991). *Getting to yes: Negotiating agreement without giving in*. New York: Penguin Books.

Gick, B., & Derrick, D. (2009). Aero-tactile integration in speech perception. *Nature*, *462*, 502—504.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *The Behavioral and Brain Sciences*, *33*(61–83), 111—135.

Komorita, S. S., & Mechling, J. (1967). Betrayal and reconciliation in a two-person game. *Journal of Personality and Social Psychology*, *6*, 349—353.

Lewicki, R. J., & Bunker, B. B. (1996). Developing and maintaining trust in work relationships. In R. M. Kramer, & T. R. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research* (pp. 114—139). Thousand Oaks, CA: Sage.

Likowski, K. U., Schubert, T. W., Fleischmann, B., Landgraf, J., & Volk, A. (2011). Positive effects of mimicry are limited to the ingroup. Manuscript under review.

Lount JR., R.B., Zhong, C., Sivanathan, N., & Murnighan, J. K. (2008). Getting off on the wrong foot: The timing of a breach and the restoration of trust. *Personality and Social Pyschology Bulletin*, *34*, 1601—1612.

Maddux, W. W., Mullen, E., & Galinsky, A. (2008). Chameleons bake bigger pies and take bigger pieces: Strategic behavioral mimicry facilitates negotiation outcomes. *Journal of Experimental Social Psychology*, *40*, 461—468.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. (1998). Initial trust formation in new organizational relationships. *Academy of Management Review*, *23*, 473—490.

Moore, D. A., Kurtzberg, T. R., Thompson, L., & Morris, M. W. (1999). Long and short routes to success in electronically mediated negotiations: Group affiliations and good vibrations. *Organizational Behavior and Human Decision Processes*, *77*, 22—43.

Morris, M. W., & Keltner, D. (2000). How emotions work: The social functions of emotional expression in negotiations. In L. Cummings, & B. Staw (Eds.), *Research in Organizational Behavior*, *Vol. 22*. (pp. 1—50)Greenwich, CT: JAI Press.

Morris, M. W., Nadler, J., Kurtzberg, T. R., & Thompson, L. (2002). Schmooze or loose: Social friction and lubrication in e-mail negotiations. *Group Dynamics: Theory, Research, and Practice*, *6*, 89—100.

Neale, M. A. (1997). New recruit. In J. M. Brett (Ed.), *Negotiation and decision making exercises Evanston: Dispute Resolution Research Center*.

Postmes, T., Spears, R., & Lea, M. (1998). Breaching or building social boundaries? SIDE-effects of computer-mediated communication. *Communication Research*, *25*, 689—715.

Pruitt, D. G. (1981). *Negotiation behavior*. New York: Academic Press.

Reicher, S. D., Spears, R., & Postmes, T. (1995). *A social identity model of deindividuation phenomena.* In S.W., & M. Hewstone (Eds.), *European Review of Social Psychology*, *Vol. 6*. (pp. 161—198) Chichester: Wiley.

Rubin, J. Z., & Brown, B. R. (1975). *The social psychology of bargaining and negotiation.* New York, NY: Academic Press.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, *7*, 422—445.

Sinaceur, M., & Neale, M. A. (2005). Not all threats are created equal: How implicitness and timing affect the effectiveness of threats in negotiations. *Group Decision and Negotiation*, *14*, 63—85.

Sinaceur, M., Van Kleef, G. A., Neale, M. A., Adam, H., & Haag, C. (2011). Hot or cold: Is communicating anger or communicating threats more effective in negotiation? Manuscript under review.

Stel, M., Blascovich, J., McCall, C., Mastop, J., & Vonk, R. (2010). Mimicking disliked others: Effects of a priori liking on the mimicry-liking link. *European Journal of Social Psychology*, *40*, 867—880.

Swaab, R. I., Galinsky, A. D., Medvec, V., & Diermeier, D. A. (2011). The communication orientation model: Explaining the diverse effects of communication cues on negotiation and group decision making outcomes. Manuscript under review.

Swaab, R. I., Kern, M. A., Diermeier, D., & Medvec, V. (2009). Who says what to whom? The impact of communication settings on exclusion in multiparty negotiations. *Social Cognition*, *27*, 381—397.

Swaab, R. I., & Swaab, D. F. (2009). Sex differences in visual contact and eye-contact in negotiations. *Journal of Experimental Social Psychology*, *45*, 129—136.

Thompson, L. (1991). Information exchange in negotiation. *Journal of Experimental Social Psychology*, *27*, 161—179.

van Baaren, R., Maddux, W. W., Chartrand, T. L., de Bouter, C., & van Knippenberg, A. (2003). It takes two to mimic: Behavioral consequences of self-construals. *Journal of Personality and Social Psychology*, *84*, 1093—1102.

van Baaren, R. B., Holland, R. W., Steenaert, B., & Van Knippenberg, A. (2003). Mimicry for money: Behavioral consequences of imitation. *Journal of Experimental Social Psychology*, *39*, 393—398.

Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 3—43.