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Face-to-Face and Email Negotiations: A Comparison of Emotions, Perceptions and Outcomes

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Abstract:
The purpose of this research was to conduct an exploratory study comparing email to face-to-face negotiations primarily focusing on emotions across the two negotiation environments. We used a bargaining task with a negative bargaining zone for the negotiation and pre- and post-negotiation surveys to measure motivations, emotions, and perceptions. We found that email dyads had less pro-social concerns, were less likely to reach agreement, less satisfied with the quality of the interaction during the negotiation, reported less rapport and rated future trust in their partner significantly lower than face-to-face dyads. Those negotiating face-to-face rated their own emotions during the negotiation and those of the other party significantly higher than those negotiating over email. However, accuracy in emotion perception was greater in the email dyads. Finally, our research shows that accuracy in perceiving negative emotions is a significant predictor of settlement, regardless of negotiation environment. Limitations and implications for future research directions are discussed.

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of settlement, regardless of negotiation environment. Limitations and implications for

future research directions are discussed.

Introduction

In recent years, two areas of negotiation research have received considerable attention: computer-mediated negotiations and emotions in negotiations. While there is significant overlap in these literatures a thorough exploratory study on the comparison of emotions across negotiation media (in-person or email) has not been done. The primary purpose of the study presented here was to conduct an exploratory study on emotions in email as compared to face-to-face negotiations.

Overview of Past Research

Researchers investigating computer-mediated negotiations have found, generally, that negotiating in an electronic environment can be difficult (Stuhlmacher & Citera, 2005; Tompson & Nadler, 2002).   Negotiations using richer communication media, such as in-person or telephonic interaction which allows for greater transfer of verbal and non-verbal cues, leads to better coordination, greater information exchange and efficiency, and more positive outcomes such as satisfaction and trust than negotiations occurring via email (Drolet & Morris, 2000; Galin, Gross, & Gosalker, 2007; Moore, Kurtzberg, Thompson, & Morris, 1999; Morris, Nadler, Kurtzberg & Thompson, 2002; Purdy & Nye, 2000; Thompson & Nadler, 2002). For example, Purdy and Nye (2000) had subjects negotiate using one of four different negotiation environments that varied in terms of media richness: face-to-face, videoconferencing, telephone, computer. The negotiation task required logrolling and collaboration to optimally satisfy the interests of the parties negotiating. Results indicated that satisfaction with the outcome and collaborative behavior was enhanced when the negotiation environment allowed for greater exchange of nonverbal signals, feedback and personal impact (i.e.,was richer).

It is important to note that despite these less than favorable findings, researchers do not suggest doing away with email negotiations; on the contrary, not only would this be impossible, as email is an ubiquitous part of our world today, but some research has yielded positive findings (e.g., minimization of status differences) and ways to enhance email negotiations to make them more successful. For example, a brief phone call or engaging in a relationship-building chat prior to the e-negotiation has been found to build rapport and establish the requisite positive feelings that may lead to greater cooperation and agreement (Galin et al., 2007; Morris et al., 2002).

On the whole, however, researchers comparing computer-mediated negotiations and face-to-face negotiations have not measured emotions as outcome variables. Those studies that have explored emotions have concentrated primarily on the email environment not directly comparing negotiating modes (Morris, Nadler, Kurtzberg, & Thompson, 2002; Purdy, & Nye, 2000; Croson, 1999; Galin, Gross, Gosalker, 2007). For example, Morris et al. (2002), in study 1 investigated behavioral variables such as information exchanged, tactics, and proposed bids across the different negotiation modes; they did not assess emotions. Though, they did measure emotions in study 2 which used an email only experimental environment. Similarly, research by Moore et al. (1999) also measured negotiator ratings of emotions, expressed emotions and impression of the counterpart's emotions but did so only within an email environment.

A recent article by Galin et al. (2007) entitled "E-negotiation versus face-to-face negotiation what has changed—if anything?" examined many dependent variables (duration, tactics, final price) but they did not measure emotions. This highlights the lack

of attention paid to a direct comparison of emotions across these different negotiating

media.

As for the burgeoning area of emotions in negotiations, once a historically

overlooked variable, has begun to receive significant attention. In this literature, as well

as the literature mentioned above, studies addressing consequences of different

negotiation media on emotions is largely absent.

There have been important advances (although somewhat equivocal) in the

understanding of strategic displays of emotion and interpersonal consequences of

emotional expression in conflict and negotiation. Some researchers have found that

positive emotions lead to greater gains in negotiations and negative emotions lead to

lesser gains, more anger, and impasse while others have found that negative emotions,

such as anger, can benefit the negotiator (Allred, Mallozzi, Matsui, & Raia, 1997;

Parlamis, Block, & Allred, 2010; Kopelman, Rosette, & Thompson, 2006; Steinel, Van

Kleef, & Harinck, 2008; Sinaceur & Tiedens, 2006; Van Kleef, De Dreu, & Manstead,

2004; Van Dijk, Van Kleef, Steinel, Van Beest, 2008). For example, Kopelman et al.

(2006) found that, across several negotiation situations (e.g., dispute, ultimatum,

distributive) positive emotional expression increased the likelihood of beneficial

outcomes, such as greater acceptance of offers and concessions, than negative emotional

expression. In contrast, Van Kleef and colleagues (2004a, 2004b) found, over a series of

studies, that opponents yield more to angry counterparts (e.g., making lower demands)

than to happy ones; this effect was moderated by cognitive motivational processes (e.g.,

time pressure and power). Furthermore, Sinaceur and Tiedens (2004) found that

negotiators conceded more to angry counterparts, in particular, when the negotiator had

less attractive alternatives. Some of the emotions research mentioned above examined

negotiations that took place in a face-to-face environment (Kopelman et al., 2006,

Sinaceur & Tiedens, 2004) whereas other research (Van Kleef et al., 2004a, 2004b;

Sinaceur & Tiedens, 2004) used a computer-mediated environment for the negotiation

studies. Importantly, little attention has been paid to the impact of negotiation mode on

emotions. Greater consideration of the negotiation environment and direct comparisons

of emotions across negotiation modes would add to this literature.

The purpose of our research was to explore emotional differences and similarities

across negotiation mode: face-to-face and email negotiations. Furthermore, we were

interested in both the intrapersonal and interpersonal perceptions of emotions; what does

the negotiator feel and how does the negotiator perceive his or her counterpart?

Specifically, we posed the following research questions: Do emotions and perceptions of

a counterpart's emotions differ in face-to-face and email negotiations? If so, how?

Method

Participants and Design. A total of 108 students participated in the study. All

were MBA students at a U.S. university. The students participated as part of a class

assignment in their negotiation course. We randomly assigned students to either the role

of buyer (the representative of a corporation interested in purchasing a service station) or

the role of seller (the service station owner). We randomly assigned individuals to

negotiation dyads. The single independent variable was negotiation environment: email

versus face-to-face. Four classes were used in the study. Two classes were instructed to

negotiate in-person and two classes were instructed to negotiate via email for a total of 30

in-person dyads and 24 email dyads. Participants were removed from the data if

substantial portion of the questionnaires were incomplete. If one partner from a dyad did not complete the questionnaire the pair was removed from the analyses. Four face-to-face and 7 email dyads were removed because of incomplete surveys.

Procedure. Each student received information packets that included negotiation instructions, confidential role information, negotiation partner's email address (if appropriate for condition) and a pre- and post-negotiation survey. For the face-to-face conditions, both classes were instructed to negotiate within a fixed time period during the regularly scheduled class time allotment (3 hours). For the email condition, one class was instructed to negotiate for a fixed time period within the class time allotment (3 hours) and the other class was allowed several days to complete the negotiation but given a deadline of 5pm on the Friday after the class session. Both email conditions were instructed to conduct their negotiations entirely through email exchanges. In all conditions, at the end of the allotted time, if no agreement was reached, they were to report an impasse.

Negotiation task. Participants engaged in a negotiation over the sale of a service station. The negotiation task was designed to have a negative bargaining zone (i.e., a situation where there is no overlap in resistance points; the highest price the buyer is willing to pay is still lower than the lowest price the seller is willing to settle for (Lewicki, Saunders, Barry, & Minton, 2004)). This type of negotiation requires integrative solutions and creativity for settlement. Information exchange is critical to determine the interests of the parties involved and create value in the negotiation.

Pre-negotiation measures.   Prior to the negotiation, participants were asked to complete a pre-negotiation questionnaire that focused on strategic orientation

(cooperative or competitive) and personal motivations. Specifically, participants were asked to "think about your own thoughts and motivations regarding the negotiation. In your mind, how are you approaching the interaction?" For example, participants were asked to rate on a 6-point scale (1 = not at all; 6 = definitely) to what extent "I want to share helpful information" and "I'm more interested in getting a good deal than in being a nice person" and "I want to like my partner". For a complete list of pre-negotiation questions see appendix A.

Post-negotiation measures. After the negotiation, participants were asked to complete a post-negotiation questionnaire. Surveys were included in the original packet of materials but participants were specifically instructed to continue with the questionnaire after the negotiation was complete.

Objective and Subjective Measures. The first page of the questionnaire asked participants to report if they reached a settlement. In addition, they were asked to rate, on a 6-point scale (1 = extremely dissatisfied; 6 = extremely satisfied) their level of satisfaction with the outcome of the negotiation and how satisfied they were with the "quality of the negotiation interaction itself—the quality of the personal exchange you had with your partner, regardless of outcome". Also, participants were asked on a 6-point scale (1 = strongly disagree; 6 = strongly agree) "Now, after the negotiation, do you feel like you could trust your partner in future negotiations?" Finally, participants were asked to rate on a 6-point scale (1 = not much; 6 = quite a lot) "What level of rapport did you feel with your partner?" We asked some additional questions regarding mental inferences made by the negotiators during the negotiations. These were not relevant to this study.

Emotion Measures. Participants were presented with a list of 15 adjectives and were asked to rate, on a 9-point scale (1 = not at all; 9 = extremely), what they were feeling during the negotiation and what your partner was feeling. A similar method was used by Smith and Ellsworth (1985; 1987). A complete list of emotions can be found in Table 3. By measuring both self and partner perceptions of emotions we would be able to get a measure of accuracy of emotional perception.

Results

Pre-negotiation questions. We intended the pre-negotiation questions to be used, primarily, as control variables for the experiment. In addition, these pre-negotiation questions were used to verify equivalence across groups; we expected no significant differences between the face-to-face and email groups prior to the start of the negotiation. No significant differences were found between the face-to-face and email conditions for all pre-negotiation questions save "I want to like my partner" and "I want my partner to like me". For the former question, participants in the face-to-face condition (M = 4.10, SD = 1.2) rated their interest in having their partner like them significantly higher than those in the email condition (M = 3.58, SD = 1.37) F(1,105) = 4.37, p < .05. The same pattern was found for the latter question. Those in the face-to-face condition (M = 4.13, SD = 1.36) rated their interest in having their partner like them significantly higher than in the email condition (M = 3.44, SD = 1.38) F(1,106) = 6.89, p = .01.

The pre-negotiation questions were submitted to a principal components analysis with varimax rotation to determine the dimensions participants used when rating how they were approaching the negotiation. Factors were retained if they met the criteria of obtaining an eigenvalue greater than 1. We formed scales by selecting items with factor

loadings greater or less than positive or negative .5. If the loading was less than .5, and the item did not load on other factors, it was also included in the scale. Factor patterns and dimension weights are presented in Table 1.

The PCA analysis revealed five factors that accounted for 62.8% of the variance. The first dimension accounted for 26.8% of the variance. We formed a scale of the three items (items: 4, 8, and 16), which had a high moderate reliability ($\alpha = .75$) and labeled it pro-social motivation. The second dimension accounted for 11.3% of the variance. We called this dimension competitive orientation and it was made up of four items (items: 5 reversed, 12, 14, 15) with a moderate reliability of ($\alpha = .62$). The third dimension (items: 9, 11, 13) accounted for 10.8% of the variance and had low reliability ($\alpha = .53$) and we labeled it cooperative orientation. The fourth dimension (items: 1 reversed, 3 and 7) accounted for 7.7% of the variance and was labeled fairness orientation ($\alpha = .61$). The fifth dimension (items: 2, 6, 10) accounted for 6.3 % of the variance and was labeled pro-self motivation ($\alpha = .57$).

Of the 5 dimensions, pro-social concern was the only one that differed significantly across conditions. In other words, individuals who negotiated in the face-to-face environment (M = 4.44, SD = .96) had greater pro-social concerns prior to starting the negotiation than those who negotiated over email (M = 3.99, SD = 1.05) F (1, 105) = 5.45, p < .05.

Post-negotiation questions.

Objective and Subjective Measures. Seventy percent of the face-to-face dyads reached settlement whereas 50 percent of email dyads reached settlement (χ^2 (1) = 4.49, p = .034). In other words, those in the email environment were significantly less successful

at reaching agreement than those in the face-to-face condition. Participants in the email

negotiation condition reported lower satisfaction with the quality of the interaction (M =

4.0) than those in the face-to-face condition (M = 4.75) F(1, 105) = 7.37, p < .01.

Participants in the email negotiation condition reported less trust for their counterpart in

future negotiations (M = 3.98) as compared to those in the face-to-face condition (M =

4.65) F(1, 106) = 7.28, p < .01. Participants in the email negotiation condition reported

lower rapport with their negotiation counterpart (M = 3.89) than those in the face-to-face

condition (M = 4.62) F(1, 103) = 7.28, p < .01. Satisfaction with the quality of the

outcome was not found to be significantly different in the email and face-to-face

conditions F(1, 105) = 3.15, p = .08 ns. Differences in the email and face-to-face

conditions in satisfaction with quality of the interaction, future trust, and rapport

remained significant (p < . 05) when controlling for settlement success and how well

parties new each other prior to negotiating.

Emotion Measures. One-way Analysis of Variance was used to determine if

ratings of self-emotions and perceptions of the opponent's emotions were significantly

different in the email and face-to-face groups. Table 2 shows the means and standard

deviations for the emotion measures asked in the post-negotiation questionnaire;

emotions that were found to differ significantly across conditions are indicated.

For participants rating their own emotions, six emotions (guilt: F (1, 106) = 4.57,

p < .05, hopeful: F(1, 106) = 4.49, p < .05, challenged: F (1, 106) = 4.33, p < .05,

confident: F(1, 106) = 7.08, p < .01, happy: F(1, 106) = 13.1, p < .001, relieved: F(1,106)

= 10.56, p < .01)) significantly differed in the email and face-to-face conditions such that

these emotions were rated higher when participants negotiated face-to-face as compared to email.

Participants rated their perceptions of their counterpart's emotions during the negotiation as well; eight emotions (angry: $F(1, 106) = 4.51$, $p < .05$, nervous: $F(1, 106) = 4.33$, $p < .05$, resigned: $F(1, 104) = 11.5$, $p < .01$, hopeful: $F(1,106)$, $p < .05$, challenged: $F(1,106) = 8.7$, $p < .01$, confident: $F(1,106) = 7.86$, $p < .01$, happy: $F(1,106) = 5.65$, $p < .05$, relieved: $F(1, 106) = 9.16$, $p < .01$) differed significantly across conditions. Results indicated that those negotiating face-to-face rate their counterpart's emotions as higher than those negotiating via email. The only emotion that was rated higher for email was perceptions of the counterpart's anger. In other words, those in the email condition perceived the anger of their negotiation counterpart to be greater than those in the face-to-face condition.

The post-negotiation emotion questions were submitted to a principal components analysis with varimax rotation to determine the dimensions participants used when rating their emotions and those of their partner.   Factors were retained if they met the criteria of obtaining an eigenvalue greater than 1. We formed scales by same method mentioned above for the pre-negotiation questionnaire. Factor patterns and dimension weights are presented in Table 3.

The PCA analysis revealed five factors that accounted for 68.7% of the variance. The first dimension (items: hopeful, confident, proud, happy, relieved) accounted for 22.1% of the variance and we labeled it positive emotions. We formed a scale of the five items that had high moderate reliability ($\alpha = .79$). The second dimension (items: angry, resentful, frustrated) accounted for 20.3% of the variance. We called this dimension

negative emotions and the scale had high reliability of (α = .82). The third dimension (items: nervous, challenged, surprised) accounted for 10.7% of the variance and had moderate reliability (α = .60) and we labeled it anxiety emotions. The fourth dimension (items: guilt, resigned) accounted for 8.9% of the variance and was labeled accountability emotions (α = .67). The fifth dimension (items: bored, apathetic) accounted for 6.7 % of the variance and was labeled emotional distance (α = .63).

We created these five scales for both the self-emotion ratings and the partner emotion ratings. Using Analysis of Variance we found that self ratings on positive emotions were significantly higher in the fact-to-face as compared to the email condition ($F(1, 106) = 11.3, p < .005$). Perceptions of partner's positive emotions were also significantly higher in the face-to-face as compared to the email condition ($F(1, 105) = 12.27, p < .005$). Self ratings of anxiety emotions were found to be higher in the face-to-face condition as well ($F(1, 106) = 3.8, p = .054$ marginal significance). Perceptions of partner's anxiety emotions were significantly higher in the face-to-face as compared to the email condition ($F(1, 106) = 10.68, p < .005$). Self ratings of accountability emotions were significantly higher in the face-to-face as compared to the email condition ($F(1, 104) = 5.12, p < .05$). Perceptions of partner's accountability emotions were also significantly higher in the face-to-face condition as compared to the email condition ($F(1, 103) = 10.57, p < .005$). Ratings of emotional distance emotions for the self and other as well as ratings of negative emotions for the self and other were not found to be significantly different across the two negotiation modes.

Accuracy. We created an "accuracy" variable by taking the absolute value of the difference of self-ratings and partner ratings for a dyad. For example, let's say we had a

dyad with two negotiators (partner A and partner B). We obtained an accuracy rating for partner A by taking the difference of the self-ratings for partner B of the dyad and the other ratings from partner A. This would give partner A a value that measured how accurate he or she was in perceiving partner B's emotions. A lower score would mean greater accuracy.

Results indicated that those negotiating via email were significantly more accurate in perceiving their partner's positive emotions ($F (1, 105) = 10.63$, $p < .005$), anxiety emotions ($F (1, 106) = 17.81$, $p < .001$) and accountability emotions ($F (1, 101) = 12.61$, $p < .005$) than those negotiating face-to-face. We did not find a significant difference in accuracy for the emotional distance scale nor the negative emotion scale.

Finally, we used logistic regression to determine if accuracy in perceiving emotion impacts settlement success. We found that greater accuracy in perceiving negative emotions significantly predicts agreement, regardless of negotiation context (Wald $\chi^2 (1) = 10.164$, $p < .005$). In other words, dyads that successfully negotiated a settlement were more accurate in perceiving their counterpart's negative emotion. In addition, within the email condition, greater accuracy in perception of counterpart's negative emotion also significantly predicted settlement success (Wald $\chi^2 = 4.05$, $p < .05$). Accuracy in the other emotion scales did not significantly predict settlement success.

Discussion

General. The purpose of the study presented here was to conduct an exploratory study comparing email to face-to-face negotiations primarily focusing on emotions across the two negotiation environments. This research makes four significant contributions to

the literature. First, it appears that mere mention of negotiation mode to participants impacts their orientation toward their partner in the negotiation. Specifically, individuals report less pro-social orientation when about to engage in an email negotiation as compared to those about to engage in a face-to-face negotiation. Understanding a negotiator's orientation can greatly impact both the process and outcomes of a negotiation. Second, emotions were shown to differ significantly for email and face-to-face negotiation dyads. In particular, those in the face-to-face condition rated both their own emotions and perceived their partner's emotions higher than those in the email condition. This may suggest greater emotional engagement for face-to-face negotiations and, in turn, this may have a significant impact on negotiation outcome. Third, our research shows that accuracy of emotion ratings differ across negotiation modes such that those in the email condition are more accurate in perceiving their counterpart's emotions than those in the face-to-face condition. This begs the question, is accuracy of perception good for negotiations?   Finally, our research suggests that accuracy in one area may be quite important; those who were more accurate in perceiving negative emotions of their counterpart were also those who had greater settlement success.

Pre-negotiation questions: No significant differences were found across conditions for the pre-negotiation questions except the questions that asked about liking. Those in the face-to-face condition wanted their negotiation counterpart to like them and wanted to like their counterpart more than those in the email condition. Additionally, of the five factors that emerged from the principal components analysis, the only one that was significantly different across conditions was the pro-social factor. This finding could suggest several interpretations. First, this finding could mean that negotiation mode

impacts the value individuals place on the interpersonal relationship in a negotiation.

Second, it could be possible that individuals see email as an opportunity to focus more on

instrumental aspects of the negotiation. Less social motivation has been shown to impact

behavior such as interest in sharing information or being deceptive (O'connor &

Carnevale, 1997; Steinel & De Dreu, 2004). Third, this finding might further explain

why email negotiation suffers from less rapport (Morris et al., 2002). If individuals have

less concern for the relationship they have less motivation to build rapport. Finally, this

finding corroborates and extends earlier research that demonstrates merely mentioning

that negotiations will occur via computer creates perceptions and alters the orientation

toward the future negotiation (Naquin & Paulsen, 2003).

Understanding social motivations is critical in determining how negotiators arrive

at agreements (Olekalns and Smith, 2003). Further investigation of this phenomenon

would help explain how individuals prepare for negotiation in different negotiation

environments and how this pro-social, liking concern impacts the negotiation.

Post-negotiation questions.

Objective and Subjective Measures. Our findings indicate that reaching

settlement in a negotiation that requires integrative solutions and creativity is less likely

in email as compared to face-to-face negotiations. In previous research on computer-

mediated negotiation, settlement success has not always suffered when negotiating over

email. Our research might signify that taking type of negotiation into account could

matter. Kopelman et al. (2006) used several different negotiation situations in their

research. We would argue that more research comparing negotiation media should use

different types of negotiations (e.g., distributive, mixed-motive, etc.). This might help elucidate under what conditions individuals should use or avoid email negotiation.

Similar to previous research (Moore et al., 1999; Morris et al, 2002; Croson, 1999; Galin et al., 2007), our study shows that participants report lower satisfaction with the quality of the interaction, less trust, and lower rapport when negotiating via email as compared to face-to-face. While these findings are not new, they do lend support for the idea that a less rich negotiation environment degrades the quality of the interaction. Some researchers have suggested that a brief phone call or engaging in a rapport-building conversation prior to the negotiation is beneficial (Moore et al., 1999; Morris et al., 2002). In addition, we would suggest that more research should be conducted looking at how to build rapport via email. Possibly engaging in relationship-building conversation in an email, rather than on the phone, prior to discussing the issues of the negotiation, would help build rapport. Or perhaps, the use of emoticons in writing would help communicate non-verbal cues such as emotional intention and sarcasm. Researchers have investigated emoticons and gender or cross-cultural differences in emoticon use (e.g., Wolf, 2000), however, there is little research on emoticon use in email negotiations.

Emotion Measures. We found that individuals rate themselves and their counterparts higher on several different emotions after having negotiated face-to-face as compared to those who had negotiated via email. This is somewhat surprising given the literature on flaming. Flaming has been defined as "antinormative hostile communication of emotions that includes the use of profanity, insults and other offensive or hurtful statements" (Johnson, Cooper, & Chin, 2009). Studies of flaming have shown that flaming occurs more in computer communication than in face-to-face communication

(Johnson, et al., 2009; Kayany, 1998). This would suggest that emotions such as anger, resentment, frustration would be higher for email versus face-to-face, however, this was not the case. Perception of a counterpart's anger was rated higher in the email condition, which is compatible with the flaming literature, but in all other conditions emotions ran higher in face-to-face. These findings indicate that there is greater emotionality in the face-to-face condition. More research should be conducted on emotional engagement in the negotiation and how this is related to integrative solutions, creativity and rapport.

In addition, our findings indicate that individuals perceive greater anger in others when negotiation is over email. This is an intriguing finding. It would be important to tease out if email negotiators are actually expressing more anger or if the email medium inhibits accurate perception of anger. Other findings indicate that accuracy (my partner perceived my emotions) was better in email than in face-to-face environments for positive emotions, anxiety emotions, and accountability emotions; accuracy did not differ for negative emotions or emotional distance. This is also intriguing and implies that accurate perception of a counterpart's emotion is not a critical factor in predicting settlement success; indeed our research bears this out. However, we did find that accuracy in negative emotions was a significant predictor of settlement success, regardless of negotiation environment and within the email condition. In other words, individuals who were able to accurately perceive a counterpart's negative emotions (anger, resentment and frustration) were more likely to reach an integrative solution in the negotiation.

Future research should investigate if we overestimate anger in email negotiations while underestimating anger in face-to-face negotiations. It could be that overestimation

of anger coupled with lack of emotional engagement and rapport creates a perfect storm that greatly hinders integrative bargaining over email. In addition, future research could investigate if we underestimate anger in face-to-face environments (maybe due to social norms inhibiting expression) and how this may benefit negotiators. Finally, if perception of negative emotions is critical to settlement success, maybe we can develop negotiators to become more adept at reading emotional cues (be they over email or in-person). These findings underscore the importance of emotions in conflict. If we can accurately read the other party's anger, we could assess if we are getting close to their resistance point or have asked for too many concessions. This idea is consistent with the social functional approach to emotions which claims that emotions serve the purpose of communicating information upon which negotiators base decisions (Van Dijk, et al., 2008).

Limitations. There are several limitations to this study. First, we would have liked to collect demographic data such as gender. Specifically, Kray and Babcock (2006) argue that taking gender into account in negotiations is important. In particular, gender can have an effect on negotiation outcomes in certain situations. Gender and negotiation media seems an important comparison. Second, analyzing the transcripts of the email negotiations would have added richness to this study. Due to circumstances beyond our control, we were not able to capture transcripts from all email negotiations. Future research will include analysis of email transcripts. Third, our research assessed email and face-to-face negotiation simulations. More and more real disputes are being negotiated virtually. It would be important to extend and replicate these findings with real negotiations. Fourth, this research measured rapport, trust, and satisfaction with single items. Future research should use multiple items to measure these constructs. Finally,

assessing other possible control variables such as level of negotiation experience, conflict

style, and comfort with technology, would be important to measure in future negotiations.

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Table 1

Sorted Rotated Component Loadings of the Principal Components Analysis for Pre-Negotiation questionnaire

	Component				
Scale	1	2	3	4	5
1. Want to share	--	--	--	-.71	--
2. Get good deal	--	--	--	--	.60
3. Want to misrepresent	--	--	--	.46	--
4. Want to have respect	.621	--	--	--	--
5. Want to be reasonable	--	-.502	--	--	--
6. No care of feelings	--	--	--	--	.51
7. Hold back info	--	--	--	.737	--
8. Want to like partner	.849	--	--	--	--
9. Will concede	--	--	.842	--	--
10. Want to beat partner	--	--	--	--	.76
11. Welfare concern	--	--	.503	--	--
12. Extreme offers	--	.719	--	--	--
13. Will compromise	--	--	.622	--	--
14. Want to exploit	--	.661	--	--	--
15. Make ultimatums	--	.578	--	--	--
16. Want OP to like me	.828	--	--	--	--
Eigenvalue	4.29	1.81	1.73	1.22	1.01
Variance	26.8	11.3	10.8	7.7	6.3

Note: For clarity of presentation, only loadings that met our criteria were included under the component loading matrix.

Table 2
Means and standard deviations for post-negotiation emotions

	Self Ratings			Perceptions of Partner	
	Email	Face-to-face		Email	Face-to-face
Angry	2.15 (1.56)	1.83 (1.49)	Angry*	2.56 (1.87)	1.9 (1.37)
Resentful	2.43 (1.77)	2.03 (1.62)	Resentful	2.56 (2.04)	1.98 (1.52)
Frustrated	3.77 (2.15)	3.7 (2.38)	Frustrated	3.87 (2.0)	3.55 (2.34)
Guilty*	2.33 (2.04)	1.65 (1.0)	Guilty	1.85 (1.29)	2.18 (1.54)
Nervous	2.10 (1.49)	2.82 (2.14)	Nervous*	2.0 (1.43)	2.68 (1.88)
Resigned	2.45 (1.5)	3.15 (2.32)	Resigned**	2.19 (1.36)	3.49 (2.33)
Hopeful*	4.79 (1.66)	5.58 (2.12)	Hopeful*	4.58 (1.78)	5.42 (1.8)
Challenged*	5.02 (1.68)	5.78 (2.04)	Challenged**	4.52 (1.75)	5.53 (1.79)
Confident**	4.69 (1.57)	5.65 (2.07)	Confident**	5.13 (1.36)	5.93 (1.58)
Proud	4.52 (1.74)	4.90 (2.33)	Proud	4.34 (1.72)	4.88 (2.12)
Surprised	4.33 (2.0)	4.53 (2.33)	Surprised	3.85 (1.82)	4.62 (2.13)
Happy**	3.92 (1.83)	5.32 (2.12)	Happy*	3.88 (1.9)	4.77 (1.97)
Bored	2.35 (1.59)	2.3 (1.45)	Bored	2.25 (1.36)	2.45 (1.68)
Apathetic	2.06 (1.52)	2.72 (2.0)	Apathetic	2.04 (1.53)	2.65 (1.84)
Relieved**	3.23 (1.83)	4.53 (2.25)	Relieved**	3.06 (1.73)	4.22 (2.14)

$* \ p < .05. \ **p < .01$

Table 3

Sorted Rotated Component Loadings of the Principal Components Analysis for Post-negotiation questionnaire self-emotion ratings

Scale	Component				
	1	2	3	4	5
1. Angry	--	.868	--	--	--
2. Resentful	--	.871	--	--	--
3. Frustrated	--	.725	--	--	--
4. Guilt	--	--	--	.886	--
5. Nervous	--	--	.820	--	--
6. Resigned	--	--	--	.772	--
7. Hopeful	.677	--	--	--	--
8. Challenged	--	--	.643	.737	--
9. Confident	.831	--	--	--	--
10. Proud	.748	--	--	--	--
11. Surprised	--	--	.457	--	--
12. Happy	.738	--	--	--	--
13. Bored	--	--	--	--	.862
14. Apathetic	--	--	--	--	.838
15. Relieved	.595	--	--	--	--
Eigenvalue	3.31	3.05	1.6	1.35	1.01
Variance	22.1	20.3	10.66	8.97	6.73

Note: For clarity of presentation, only loadings that met our criteria were included under the component loading matrix.

Appendix A: Pre-negotiation Questionnaire

How well do you know your partner (from   ◯   ◯   ◯   ◯   ◯   ◯
before today's exercise)?   Not at all   Definitely

In general, would you say your orientation   ◯   ◯   ◯   ◯   ◯   ◯
is highly competitive (rather than   Not at all   Definitely
cooperative)?

Think about your own thoughts and motivations regarding the negotiation. In your mind,
how are you approaching the interaction?

I want to share helpful information   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I'm more interested in getting a good deal   ◯   ◯   ◯   ◯   ◯   ◯
than in being a nice person   Not at all   Definitely
I want to misrepresent my interests   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I want to have respect for my partner   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I want to make reasonable offers   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I'm not interested in how my partner will   ◯   ◯   ◯   ◯   ◯   ◯
feel during the interaction   Not at all   Definitely
I want to hold back information   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I want to like my partner   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I will be willing to concede on less   ◯   ◯   ◯   ◯   ◯   ◯
important issues   Not at all   Definitely
I want to beat or outperform my partner   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I will be concerned about my partner's   ◯   ◯   ◯   ◯   ◯   ◯
welfare and outcomes   Not at all   Definitely
I want to make unreasonable or extreme   ◯   ◯   ◯   ◯   ◯   ◯
offers   Not at all   Definitely
I will be willing to compromise if needed   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I want to exploit my partner if possible   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I want to make ultimatums   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely
I want my partner to like me   ◯   ◯   ◯   ◯   ◯   ◯
                                              Not at all   Definitely