

## STICKS AND STONES: LANGUAGE, FACE, AND ONLINE DISPUTE RESOLUTION

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**Hypotheses derived from face theory predict that the words people use in online dispute resolution affect the likelihood of settlement. In an event history model, text data from 386 disputes between eBay buyers and sellers indicated a higher likelihood of settlement when face was affirmed by provision of a causal account and a lower likelihood of settlement when face was attacked by expression of negative emotions or making commands. These aspects of language and emotion accounted for settlement likelihood even when we controlled for structural aspects of disputes, such as negative feedback filings and the filer's role as buyer or seller.**

Online trading has rapidly become a significant market for buying and selling goods. In 2004, more than \$34.1 billion in business was transacted via the dominant online trading firm, eBay, by more than 100 million users (Cabral & Hortaçsu, 2005). Although eBay's phenomenal growth has been driven, in part, by satisfied trading partners, some transactions do not satisfy the parties. A survey commissioned by the National Consumer League reported that 41 percent of individuals participating in online auctions had problems such as late delivery or failure of goods to arrive (Pastore, 2001). eBay's customer service page directs dissatisfied buyers or sellers to SquareTrade, a "dot.com" that provides online dispute resolution services.

Disputes are a particular form of conflict in which one party, the filer, makes a claim and the other party, the respondent, rejects that claim (Fel-

stiner, Abel, & Sarat, 1980–81). It is in the interests of SquareTrade to be effective by settling disputes and efficient by settling disputes quickly, because online dispute resolution is a business and as such its ability to serve clients at a reasonable price depends on efficiency. This research analyzes the role of language in determining the likelihood of dispute resolution in an online context. Past research on the effectiveness of face-to-face dispute resolution negotiations has tended to focus on the characteristics of disputes, disputants, or procedures (Brett, Barsness, & Goldberg, 1996; Shapiro & Brett, 1993) rather than the verbal interchange between parties (see Brett, Lytle, and Shapiro [1998] and Friedman, Anderson, Brett, Olekalns, Goates, and Lisco [2004] as exceptions). This study extends our own prior research on dispute resolution (Friedman et al., 2004) by focusing on how the parties' choice of language gives and attacks *face* (the social value given to others in social situations) and thereby affects the effectiveness and efficiency of dispute resolution.

By focusing on language, the study also breaks new ground. Computer-mediated communication

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is notoriously devoid of social cues (Friedman & Currall, 2003; Kiesler, Siegel, & McGuire, 1984). Therefore, people must base attributions about others on the content and linguistic features of the words used (Ramirez, Walther, Burgoon, & Sunnafrank, 2002). This study brings a language-focused perspective to the study of dispute resolution and contributes to an emerging field in social psychology that investigates how words convey information about psychological states, emotions, and social intentions (Pennebaker, Mehl, & Niederhoffer, 2003). The theoretical focus of our analysis of words is face theory, introduced first by Goffman (1967) and later extended by Brown and Levinson (1987) and others (e.g., Ting-Toomey & Kurogi, 1998).

Another important feature of this study of online negotiations is that participants were real disputants engaged in real disputes, not students engaged in simulated deal-making negotiations (e.g., Moore, Kurtzberg, Thompson, & Morris, 1999). The distinction between dispute negotiations and deal-making negotiations is important; in dispute resolution, negotiators come to the table with strong emotions, whereas in deal making, they come to the table optimistic about developing new relationships (Brett, 2001). Furthermore, the distinction between real disputes and simulated ones is important, as it is difficult to simulate the emotion that results from making what you think is a legitimate claim and having that claim summarily rejected.

In sum, this study breaks new ground by studying real disputants engaged in real disputes. It also extends our own prior research (Friedman et al., 2004) by looking beyond a single emotion, anger, to an array of language cues in social interaction that affect not just the effectiveness of dispute resolution but also its efficiency.

## THEORETICAL DEVELOPMENT AND HYPOTHESES

### Language and Face in Social Interactions

When filers lodge a claim with SquareTrade, they are attempting to influence another party. The claim conveys the expectation that the other party will comply with this influence attempt and work to resolve the dispute. Our language-focused approach to dispute resolution highlights the importance of the *form* that this influence attempt takes (e.g., Drake & Moberg, 1986; Wilson, Aleman, & Leatham, 1998). Symbolic interactionists (e.g., Goffman, 1959), sociolinguists (e.g., Grimshaw, 1971), and politeness theorists (e.g., Brown & Levinson, 1986) have all emphasized the role of language in

defining social roles and obligations. Moreover, analyses of exchange relationships identify esteem and status as important “currencies” available for exchange (Foa & Foa, 1980). Face theory (Brown & Levinson, 1986; Goffman, 1967), which is the theoretical focus of our analysis, links the use of language to the definition of social roles and exchange relationships: the exchange currency in disputes is disputants’ face, and language provides the medium for making exchanges.

Our central argument is that how a disputant phrases initial claims provides important information about how he or she perceives the other party. One choice that a disputant can make is about how much to respect the other party’s esteem or status. The other party can be given esteem or status through positive politeness—that is, the use of words that protect the other party from loss of respect or loss of approval (Drake & Moberg, 1986). A disputant who attempts to preserve the status of the other party and to signal respect is preserving the other party’s face (Goffman, 1967).

The giving (or attacking) of face, as we have described it, is not directly measurable (e.g., Tjosvold & Sun, 2000). Rather, it is implied through individuals’ choices of words and the messages that those words convey about the relative status of the other parties in disputes (Brown & Levinson, 1987; Drake & Moberg, 1986). What a disputant says can be interpreted as either building up/preserving or undermining the other party’s perceived sense of respect. These communications are known respectively as “giving” and “attacking” face (Goffman, 1967). Language that protects the other person’s identity and is intended to preserve the relationship gives (or builds) face; language that implies the other party is unrepentant and untrustworthy attacks face by indicating that the speaker is willing to risk loss of a relationship (Wilson & Putnam, 1989). According to face theory, managing face is an underlying subtext in most social interactions. When people feel that their face is under attack, they are more likely to respond in a way that is defensive and uncooperative. Thus, it is not just material interests that people defend, but also their social honor and self-image (Blumstein, 1973; Goffman, 1959; Prus, 1975). When people feel their face is preserved, they are more likely to respond in a way that is cooperative and helpful. Indeed, many elements of social influence (e.g., ingratiation, pleas for sympathy) can be seen as effective because they build the other party’s face.

The concept of face provides an overarching framework for understanding the relationship between what disputants say and the likelihood that they will resolve disputes. We propose that words

convey a great deal of information about a disputant's own desires, preferences, goals, and perceptions of what took place during a dispute; therefore, a core determinant of whether words affect the likelihood that a dispute will resolve at any given point in time is whether the words give face to or attack the face of the other party.

### Face in Dispute Resolution

A claim in a dispute represents an attack on face because it is an attempt to gain compliance from the other person that is contrary to what that person wants to do (Brown & Levinson, 1987: 65–66). Brown and Levinson (1987) listed a variety of acts that attack face, including threats, warnings, orders, offers, promises, expressions of strong negative emotions such as anger and hatred, disapproval, criticism, contempt, ridicule, accusations, and insults. A claim may have an especially strong effect on face because it implies the recipient has a duty to comply and further, that the claim concerns action that the recipient was already obligated to perform (Wilson et al., 1998). And claims may have little impact on the disputants' own face because presumably disputants do not make claims unless they believe they have a right to restitution. Of course, it is possible for disputants to make claims to extract revenge rather than with a real expectation of restitution, but this seems less likely in the eBay disputing environment, where parties may enact revenge by posting negative feedback against one another.

Although a claim made in a dispute appears to be an attack on face, its impact on the other person may depend on how the claim is expressed. To understand how the words used in online disputing claims and responses affect the speed of dispute resolution, we turned to Pennebaker's work on the use of words as markers of emotional states, social identity, and cognitive styles (Pennebaker et al., 2003). Pennebaker, Francis, and Booth (2001) developed the Linguistic Inquiry and Word Count (LIWC), in which they categorized 2,300 words, some of which represent psychological and cognitive processes, into broad groups (for detailed information about the development of the LIWC and how to obtain access to it, please see <http://www.liwc.net/liwcdescription.php>). Because face implicates both social identity and relationships, we selected LIWC word categories that reflect both the affective and cognitive linguistic dimensions of social interactions, including positive and negative emotions, displays of firmness, commands, and causal explanations.

Our broad argument is that when the words dis-

putants use affirm each other's face, the likelihood of settlement increases; when the words disputants use attack face, settlement becomes less likely. Language that conveys a desire for a positive relationship produces positive feelings about the speaker and affirms face. It signals that the speaker values the recipient and so affirms the recipient's social standing (Oetzel, Myers, Meares, & Lara, 2003; Taylor, 2002; Wilson et al., 1998; Wilson & Putnam, 1989). We expect dispute resolution will be more likely when disputants affirm each other's social identity and the relationship. The implicit message conveyed by such expressions is, "I respect you enough to try to resolve this dispute." Conversely, attacks on face occur when language is used that implies the speaker will impede the other's actions or language is used that shows disrespect, such as expressions of negative emotion and commands (Brown & Levinson, 1987; Wilson et al., 1998). The implicit message is, "I don't respect you enough to try to resolve this dispute."

### Giving Face

Words that affirm or give face to the other party in a dispute should stimulate openness to new ideas and further discussion (Brown & Levinson, 1987). According to Goffman (1967), giving face leads the recipient to infer that the speaker respects the recipient and considers him or her to have high repute, esteem, and standing in society. This social recognition affirms the recipient's self-image of dignity and generates positive emotions (Goffman, 1967). Communications giving face also provide information about the relationship between speaker and recipient (Brown & Levinson 1987). Importantly, they may establish verbal immediacy, a mechanism for reducing social distance and fostering a positive relationship (Berger & Bradac, 1982; Drake & Moberg, 1986). Alternatively, speakers may convey powerlessness, putting the recipient in a socially superior position and triggering a sense of obligation to the speaker that palliates the influence attempt (Drake & Moberg, 1986). In either case, in dispute resolution giving face should encourage compliance either by encouraging a positive emotional atmosphere or by reminding the recipient of his/her social obligations.

**Positive emotion.** Positive emotions convey information about the relationship between a speaker and a recipient. The speaker signals that she or he respects and trusts the recipient (Hecht & LaFrance, 1998; Wilson & Putnam, 1989), thus communicating that the speaker perceives the recipient as a worthy person with whom to negotiate. Expressions of positive emotion should give or affirm face

and counterbalance the face attack implied by a claim. Research suggests that the display of positive emotion signals the expresser's readiness to cooperate and prosocial orientation (Anderson & Thompson, 2004; Frank, 1988; Fridlund, 1994; Knutson, 1996). Positive emotions may increase the recipient's trust in the speaker, trigger a more problem-focused strategy, and facilitate communication (Allred, Mallozzi, Matsui, & Raia, 1997; Carnevale & Isen, 1986). This research and reasoning suggest that positive emotion directed toward another gives face and in so doing should cue norms of reciprocal respect or norms reminding the recipient of social duty leading to problem solving and dispute resolution. This leads to the following hypothesis:

*Hypothesis 1. The likelihood of dispute resolution is greater when disputants express positive emotions.*

**Causal accounts and suggestions for resolution.**

Speakers can also give face by communicating that they perceive themselves to be in a "one-down" position, which may be signaled by words and actions, such as apologies, confessions, and promises, that threaten the speakers' own face (Brown & Levinson, 1986). Apologies and confessions are closely associated with providing causal explanations and captured by the Pennebaker category of "causation." Promises imply a willingness to resolve a dispute and may be captured by suggestions for how the dispute can be settled.

Causal explanations involve offering an account or apology (Schlenker, 1980). Accounts provide excuses or justifications that reduce one's responsibility for an event or the apparent severity of the event's consequences (Schlenker, 1980; Scott & Lyman, 1968). They may even identify a common enemy as the culprit responsible for the malfeasance. Apologies are confessions of responsibility that may include expressions of remorse (Tedeschi & Norman, 1985). Such communications are major tactics for extricating oneself from social predicaments (Snyder, 1985). Causal accounts from the respondent (the party against whom a claim was made) give face to the filer (the party making the claim) by conveying respect and simultaneously placing the respondent in a one-down position and the filer in a one-up position. Causal accounts from the respondent signal recognition that social norms have been violated and, in doing so, reaffirm the validity of those norms (Scott & Lyman, 1968). A respondent's causal account may also signal regret, which may be reciprocated with forgiveness and sufficient trust to facilitate negotiations. Therefore, because causal explanations give face, they should increase the likelihood of dispute resolution. Note

that it is unlikely that a filer will be in a position to provide a social account; a filer, after all, is the party who feels aggrieved and is seeking redress through the dispute resolution process. A social account implies some type of acceptance of responsibility (Bies, 1987), but filing a claim implies that the other party is at fault and needs to explain the reasons for some actions he or she took. Thus, our hypothesis in this case is role-dependent.

*Hypothesis 2. The likelihood of dispute resolution is greater when the respondent provides a causal explanation.*

A similar line of reasoning applies to explicit suggestions for resolution. Such suggestions not only indicate a willingness to resolve a dispute but convey an implicit promise to put things right. As was the case for casual accounts, such actions from a respondent give face to a filer. They signal that the claim, and therefore the filer, is worthy of a serious settlement proposal. In this way, the filer's face is respected. A respondent's suggestions for resolution may also convey information about the parties' power vis-à-vis each other and reassure the filer that the respondent knows and is complying with social obligations to move the dispute toward settlement. In the mediation literature, explicit suggestions for resolution communicate, if not exactly cooperation (a proposal may be entirely one-sided [Moore, 1986]), then at least a willingness to focus on resolving a dispute, as opposed to desire for revenge for the sake of revenge. Explicit suggestions for resolution from the filer may have similar beneficial effects. Since the dispute has likely been underway for some time prior to the opening of a site on SquareTrade, an effort by the filer to make a suggestion for solution may indicate that the filer is moving beyond the initial claim, and in doing so moving from a demand (which can be perceived as attacking face) to a position in which the respondent's situation is actively considered (thus enhancing face). Although we expect that suggestions for resolution may be less likely in filer communications than in respondent communications, when they do occur it should be face enhancing.

*Hypothesis 3. The likelihood of dispute resolution is greater when the disputants make explicit suggestions for resolution.*

**Firmness.** A communication of firmness expresses the importance of a dispute to the speaker and may convey a message of determination: that the speaker is unlikely to back down. At first glance, communicating firmness might appear to put the recipient in a one-down position and to attack face. But note the important and subtle dif-

ferences between this communication and the expressive acts that, Brown and Levinson (1987) argue, attack face. In communicating firmness, the speaker is communicating feelings about him-/herself, not about the other party. So long as the communication is expressing the feelings of the speaker and not the feelings of the speaker toward the recipient, no attack on face is implied. In Tjosvold and Sun's (2000) study, affronts to personal face made conflict relational and unproductive, but affronts to position emphasized cognitive disagreement and promoted open discussion of differences. Therefore, firmness communications should discourage inferences of weakness, but at the same time, should not attack the recipient's face. This theorizing leads to the following hypothesis:

*Hypothesis 4. The likelihood of dispute resolution is greater when the disputants use words that convey firmness.*

### Attacking Face

Words that attack face disconfirm the recipient's identity and are likely to result in retaliation as individuals attempt to regain or maintain their face (Brown, 1968; Deutsch & Krauss, 1962; Goffman, 1967). Language that attacks face fails to comply with negative politeness norms; that is, it conveys assumptions about what the other party should do and may threaten the other party (Drake & Moberg, 1986). The recipient of a face attack infers that the speaker disrespects the recipient. Face attacks generate negative emotion because they reject the self-image to which the recipient is emotionally attached (Goffman, 1967). Words that attack face also remind the recipient of his/her role in society and the social obligations that he/she has flouted in rejecting the claim. Thus, communications attacking face also provide information about the relationship between speaker and recipient. But here, attacking face communicates that the speaker views him-/herself as one up and the recipient as one down in the relationship. Face theory suggests an attack on face is an attack on identity; it repudiates reputation and impugns character. The culturally prescribed way of responding to an unjustified threat is to challenge the speaker and engage him or her in a contest of supremacy (Deutsch, 1973). Goffman explained that the need to maintain face is a prevalent cultural value and that people will do costly things to maintain face (also see Brown, 1968). The importance of maintaining face suggests that face attacks are likely to be challenged. As a result, attacks on face are likely to harden positions, escalate conflict, and reduce the likelihood of

agreement (Deutsch & Krauss, 1962; Tjosvold, 1985; Tjosvold & Huston, 1978).

**Negative emotion.** Negative emotion directed toward another attacks that person's face (Brown & Levinson, 1987). Feelings of injustice usually motivate the original claim in a dispute, and those feelings may be communicated with words that convey anger. For example, "You were supposed to send me \$25," may be accompanied by "and I am pissed." Per politeness theory (Brown & Levinson, 1987), an individual in polite society does not direct negative emotion toward another. When face is attacked, the recipient (who is concerned with reestablishing his/her reputation and status in the society that the speaker represents) may therefore comply and resolve the dispute (e.g., Van Kleef, DeDreu, & Manstead, 2004). However, given that in the eBay setting studied here, the disputes have escalated to a point that requires third-party intervention, it is more likely that expressions of negative emotion will generate retaliation and reduce the likelihood of dispute resolution.

An alternative to making concessions to try to reestablish social balance is reciprocating and retaliating by attacking the speaker's face, in essence dragging the speaker down to the same social level that, the speaker has implied, the recipient occupies. Deutsch and Krauss observed that a threatened person who considers him- or herself to be equal or superior in status to the source of a threat will feel reciprocal hostility and tend to respond with a counterthreat:

To allow oneself to be intimidated, particularly by someone who does not have the right to expect deferential behavior is (when resistance is not seen to be suicidal or useless) to suffer a loss of social face and hence of self-esteem and that the culturally defined way of maintaining self-esteem in the face of attempted intimidation is to engage in a contest for supremacy *vis à vis* the power to intimidate or to resist intimidation. (Deutsch & Krauss, 1962: 54)

Indeed, Brown (1968) found that negotiators retaliated more when they lost face to exploitative others. This reasoning leads to the following hypothesis:

*Hypothesis 5. The likelihood of dispute resolution is lower when disputants express negative emotions.*

**Commands.** Brown and Levinson (1987) concluded that directives intrinsically threaten face. Words such as "should," "ought," and "must" (Pennebaker et al., 2003) imply not only what the recipient should do but also convey the expectation that the recipient will comply with the directive. These words, which can be interpreted as commands,

convey what the recipient should do in a way that may impugn reputation and therefore cause a loss of face, or self-identity. Commands may be perceived as signaling a lack of respect, even contempt. By signaling an expectation of compliance, commands may attack face by conveying that the speaker is in the one-up position (Ridgeway & Berger, 1986). This signal may be reinforced by the language itself, which may be interpreted as signaling power held by the speaker (e.g., Bradac, 1990; Shapiro & Bies, 1994).

Although it is possible that the recipient of commands will accept the implied lower status and concede in order to gain the speaker's approval (Morris & Keltner, 2000), it seems more likely that he or she will actively attempt to restore face. No one likes to have their face attacked. Parties to a dispute do not like to think of themselves as powerless in the process or incapable of contributing to resolution. The extensive research on procedural justice, for example, has shown that disputants prefer to be active participants in the dispute resolution process, not passive recipients of directives (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Furthermore, this literature has emphasized the importance of respect as a major element of justice perceptions (Tyler, Degoe, & Smith, 1996). Thus, in the context of online dispute resolution, recipients of commands will react negatively, and that may reduce the likelihood of dispute resolution.

The party that is typically in a position to give commands in an eBay dispute is the filer. This is the party who has made a claim of wrongdoing and expects certain actions by the other party. Just as it is the respondent who is in a position to make social accounts for any mistakes or problems identified by the filer, it is the filer who is in a position to make demands of the respondent.

*Hypothesis 6. The likelihood of dispute resolution is lower when filers use words that convey commands.*

## METHODS

### Disputes

In the context of a larger study on dispute resolution (Friedman et al., 2004), we studied 386 eBay-generated disputes that were filed and responded to on the SquareTrade site. SquareTrade is an online dispute resolution firm that has a contract with eBay to mediate disputes between eBay buyers and sellers. Although all the cases in our study were filed for mediation, the data in our model, with the exception of that on outcomes, were from the periods immediately before mediators were assigned to

the cases and began to work with the parties. Our model predicts the likelihood of dispute resolution at any given time using data available prior to any mediation intervention.

SquareTrade directed us to a period with a medium volume of case closures, and we collected data on all cases that SquareTrade closed during this period. A case could have been opened days, weeks, or months prior to the date that it closed. Taking as a sample all the cases that closed during a specific period allowed us to have substantial variance on the time-to-closure dependent variable. It also allowed us to avoid any problem of "right-censoring," which would occur if cases in the sample were not closed. A case could be closed because it was resolved, or because the respondent or the filer or both stopped replying, or because the parties agreed that they could not agree and terminated the process. Selecting a period with a "normal" rate of closure, which our SquareTrade partners did, also ensured that the cases in the sample were typical of the cases that SquareTrade handles for eBay. As a result of this data collection strategy, we have good variance on our dependent variable, the likelihood of resolution over time.

### Variables

Table 1 presents the means and standard deviations of the study variables.

We defined our dependent variable, likelihood of resolution, with two data points: resolution and time. In event history analyses, the criterion is the likelihood of an event's occurrence over time (Harrison, 2001). A dispute was coded as resolved if both parties explicitly accepted a resolution. The SquareTrade resolution process requires that a mediator write up the final agreement and that each disputant sign off on it. A dispute remained unresolved if one or both parties stopped participating or if the mediator declared an impasse. Time was coded as the number of days from the date of the respondent's first response to the date of resolution or to the date of termination without resolution.

**Predictor variables.** The SquareTrade filing and response process collects closed-ended data on whether the filer was a buyer or a seller, the amount of the transaction, and whether negative feedback was an issue. We used data from the eBay site to create a reputation variable for each disputant that was the ratio of the negative and neutral feedback about the individual on eBay to the positive feedback about him or her, prior to the date of the transaction. We first coded our data set, making a name-code key so that we could collect reputation data from eBay and merge it with our SquareTrade

**TABLE 1**  
**Means, Standard Deviations, and Correlations<sup>a</sup>**

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Days in mediation	26.49	26.43													
2. Resolved	0.47	0.49	-.14												
3. Negative feedback	0.36	0.48	-.22	.17											
4. Filer is buyer	0.69	0.46	.12	-.30	-.55										
5. Filer positive emotions	0.48	0.21	-.02	-.02	.19	-.13									
6. Respondent positive emotions	0.29	0.27	-.05	.03	.02	-.08	.09								
7. Filer negative emotions	0.22	0.20	-.01	-.03	.04	.03	-.16	.02							
8. Respondent negative emotions	0.21	0.25	.14	-.10	.16	-.07	-.01	-.06	.08						
9. Filer solution	0.03	0.19	-.05	.13	.12	-.12	.03	.06	-.09	-.05					
10. Respondent solution	0.14	0.35	.03	.16	.03	-.11	.08	.04	-.09	-.19	.16				
11. Filer commands	0.67	0.22	.06	-.15	.01	.12	.56	-.04	-.13	.05	-.02	.07			
12. Filer firm	0.09	0.14	-.05	.05	-.04	.00	-.14	-.04	.00	.04	-.07	-.08	-.07		
13. Respondent firm	0.08	0.16	.07	-.01	-.04	-.01	-.09	-.01	-.03	.12	.01	-.12	-.12	.13	
14. Respondent causal account	0.12	0.19	-.05	.11	.05	.02	-.02	.09	.03	-.02	.02	-.12	-.03	.03	.07

<sup>a</sup> Correlations with an absolute value greater than .11 are significant at .05; correlations with an absolute value greater than .15 are significant at .01.

data. Once the reputation data were collected, one investigator replaced names with codes, merged the data sets, and sent the name-code key to SquareTrade. The data were therefore anonymous to us.

SquareTrade's filing and response pages also allow filers and respondents to communicate with each other via an open-ended text box. It was the contents of these text boxes that we used to code the majority of our variables, using the Linguistic Inquiry Word Count (LIWC) approach (Pennebaker et al., 2001). The LIWC searches for 2,300 words or word stems within a file of text and classifies them on 70 linguistic dimensions, including standard language categories (e.g., article, preposition); psychological processes (e.g., positive and negative emotions); cognitive processes (e.g., causation words); relativity words (e.g., time, motion); and contexts (e.g., death, sex, home). The LIWC analysis reports the percentage of words in a category in the text file. We only used data from those categories that operationalized our hypotheses. These included positive emotion, negative emotion, commands (labeled "discrepancy" in the LIWC), firmness ("inhibition" in the LIWC), and causal explanation. For example, in one case a participant stated, "Assuming he does as promised, I would be delighted to remove the negative feedback," which received a positive emotion score of 7 percent (1 positive emotion word, "delighted," out of 14 words total). In another case, a participant stated, "UPS is responsible for the item being damaged," which received a causal explanation score of 12.5 percent (1 causal word, "responsible," out of 8

words total). Second, we trained two paid research assistants with no knowledge of the hypotheses to code the open-ended text for evidence of an explicit suggestion for resolving a dispute (e.g., "I will give her a full refund if she takes the bad feedback off."). Cohen's kappa, which measures interrater reliability, was 0.73. Raters consulted to resolve any differences.

**Control variables.** Structural factors, such as the role of the filer and whether or not negative feedback was an issue in a dispute, were included in our model because there was reason to believe they would affect the likelihood of resolution. Therefore, there was a need to control for these variables our study, despite our focus on language and word use in dispute resolution. Factors such as amount of money in contention and eBay reputation, which we did not believe would affect the likelihood of resolution, were not included in the model but tested separately.

### Analysis: Modeling the Occurrence of Events over Time

Our dependent variable was the occurrence of the event of dispute resolution over time—that is, the dispute changing from the state of being unresolved to the state of being resolved. We used event history analysis to test our hypotheses. An event history is a longitudinal account of the time of occurrence of one or more events for some sample of people. Event history models comprise a family of statistical models that describe changes in states over time (Allison, 1984; Tuma & Hannan, 1984).

With event history models, one can test hypotheses concerning the main and/or moderating effect of time on the probability that an event will occur.

The dependent variable in an event history model is the hazard rate, which is a function of the probability that the event (in our study, resolution of a dispute) will happen at a particular time. The parameters of a hazard rate model are states (in our study, resolved or unresolved), time spent in those states (in our study, how many days a dispute remains unresolved after it has been filed for mediation), and the rates of movement from state to state (in our study, how long before a given percentage of disputes is resolved) (see Harrison, 2001; Harrison & Hulin, 1989: 304). Time in a hazard rate model is the interval between the beginning of an observation period (in our study, when the respondent responds) and the occurrence of an event (in our study, the mediator declaring the parties have resolved the dispute and closing the mediation site). This period is the fundamental datum of the modeling procedure (Harrison & Hulin, 1989).

Different theories of the likelihood of dispute resolution lead to differently shaped hazard functions. In continuous time, the hazard rate—the rate at which cases drop out of a sample by (in this study) being resolved—is a conditional, instantaneous rate that can range from zero to positive infinity (Harrison & Hulin, 1989: 305). The survivor function (which is the inverse of the hazard function) reports the probability of a dispute not being resolved beyond a particular time (Tabachnik & Fidell, 2001). In other words, a survivor analysis determines the proportion of disputes that are not resolved and thus “survive” to remain in the population of unresolved cases.

We used Cox regression analysis (Cox, 1972) to test a continuous time model. We were able to use a continuous time model because we had a precise measure of when events occurred. We chose Cox regression because it is a semiparametric model that does not require any assumptions about the shape of the hazard rate function. The likelihood of resolution can increase or decrease or stay the same over time. Parametric forms imply fairly strong assumptions about the shape of the hazard function over time and are the preferred models when one has strong prior evidence about the shape of the function—which we did not have.

Cox regression allows a researcher to incorporate independent variables (called covariates) into a system similar to ordinary least squares (OLS) regression analysis. In Cox regression, the assumption is that the shape of the hazard function is the same (proportional) for cases at different levels of each covariate. However, that assumption can be

tested by adding interaction terms between time and the covariates displaying evidence of nonproportionality. The identification of a time by covariate interaction is a substantive finding (implying in this study that the effect of the covariate depends on the length of time that has elapsed since the respondent answered the claim), and the interaction term is then included in the analysis (Singer & Willett, 1993). We tested interactions between our predictors and time according to the procedure recommended by Tabachnik and Fidell (2001), who advised transforming the time variable using a natural log transformation and then adjusting the  $p$ -values to take into account the number of interactions in the equation (dividing  $p$  by the number of interactions that are in the model). If the interactions are not significant by this criterion, then the assumption of proportionality of hazards has been met.

As in OLS regression, a predictor's coefficient in Cox regression indicates its unique contribution to the model. “Exponenting” the coefficient (using the base of the natural logarithm) provides an estimate of the conditional odds of resolution for a dispute coded one standard deviation above the mean on that covariate relative to a dispute at the mean of that covariate. The odds are conditional in that their interpretation depends on all other covariates being held constant, as in linear regression (Harrison, Virick, & William, 1996). The signs of the coefficients indicate increases in the likelihood of resolution (positive) and reductions in that likelihood (negative). The conditional odds ratio can also be interpreted as a percent increase or reduction (depending on the sign of the coefficient) in the likelihood of resolution.

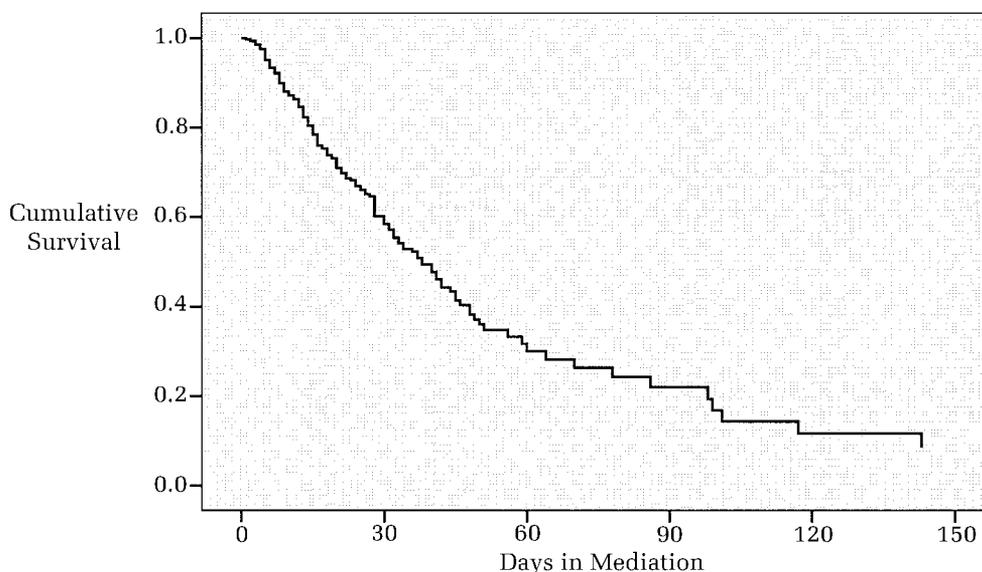
To prepare our data for analysis following the guidelines in Tabachnik and Fidell (2001), we identified 15 cases that were multivariate outliers. We eliminated these cases from the hypothesis-testing analyses along with 7 cases with missing values on our independent variables. Our analysis sample was 364 cases. We then tested for multicollinearity but found it not to be a problem.

We first tested our hypotheses using Cox regression, to determine whether or not the proportional hazard assumption was met with respect to the covariates. Then we tested the significance of the set of interaction terms linking time and the covariates (Tabachnik & Fidell, 2001).

## RESULTS

Figure 1, the survival function (at the mean of the covariates), indicates that resolution of these eBay disputes had a time element. This figure shows

**FIGURE 1**  
**Cumulative Survival Function at Mean of Covariates**



how many cases were surviving (i.e., not yet closed) at any point in time. Disputes could be closed because they were settled or because the mediator declared them closed because disputants were either not responding or had agreed they had reached an impasse. Figure 1 shows that disputes that were not closed relatively quickly became less and less likely to be closed. As can be seen in this figure, the model predicts it will take approximately 40 days to close 50 percent of the cases.

Table 2 reports the results of omnibus tests of model coefficients. The chi-square function in Table 2 ( $\chi^2[12] = 66.30, p \leq .001$ ) confirms the covariates (words used by disputants) had a significant effect on predicting likelihood of resolution. The relative association (measured as  $R^2$ ; Cox and Snell [1989]) between the likelihood of resolution and the covariates was .18. Adding the interactions between the log of time and each of the hypothesized covariates did not add significantly to the prediction (row 2 in Table 2). This finding means that the model did not violate the proportional

assumption of Cox regression. In addition, row 3 in Table 2 shows that adding respondents' reputations and the dollar amount of the dispute to the equation did not add significantly to the prediction.

In subsequent analyses, our focus was on the factors that affected the survival function. Our modeling shows how the use of specific words affected the likelihood that, at any given point in time, a dispute would be resolved rather than closed by SquareTrade without resolution. Of the 364 cases in the analysis sample, 171 (47%) were ultimately resolved, and 193 (53%) did not resolve and were closed by SquareTrade.

The posting of negative feedback, the filer's role as buyer, the filer's expression of firmness, and the respondent's provision of a causal account all significantly increased the likelihood of dispute resolution. The filer's expression of negative emotions and use of commands decreased the likelihood of dispute resolution. Table 3 shows the Cox regression coefficients for the covariates.

Because resolution was coded 1, a positive coef-

**TABLE 2**  
**Omnibus Tests of Model Coefficients**

Model	-2 Log-Likelihood	Overall (Score)			Change from Previous Step		
		Chi-Square	df	Significance	Chi-Square	df	Significance
Base <sup>a</sup>	1,668.02	72.05	12	.00	66.30	12	.00
Time interactions	1,659.69	82.49	24	.00	8.32	12	.76
Controls	1,408.77	75.83	15	.00	5.39	3	.15

<sup>a</sup> Beginning block number 0, initial log-likelihood function; -2 log-likelihood: 1,734.32.

**TABLE 3**  
**Modeling the Likelihood of Resolution**

Variable	Parameter Estimate	s.e.	Wald $\chi^2_1$ <sup>a</sup>	Risk Ratio Exp $\beta$
Negative feedback	0.74**	.20	13.82	2.10
Filer is buyer	0.57**	.19	9.10	1.76
Filer positive emotions <sup>b</sup>	-0.07	.44	0.02	0.93
Respondent positive emotions <sup>b</sup>	0.23	.29	0.63	1.26
Filer negative emotions <sup>b</sup>	-0.78*	.39	3.90	0.49
Respondent negative emotions <sup>b</sup>	0.03	.35	0.01	1.03
Filer solution <sup>b</sup>	0.25	.34	0.55	1.28
Respondent solution <sup>b</sup>	0.24	.21	1.25	1.27
Filer commands <sup>b</sup>	-0.92*	.41	5.02	0.40
Filer firm <sup>b</sup>	1.45**	.55	6.84	4.25
Respondent firm <sup>b</sup>	-0.53	.49	1.16	0.59
Respondent causal account <sup>b</sup>	0.91*	.40	5.21	2.48

<sup>a</sup>  $n = 355$ .

<sup>b</sup> Logarithm.

\*  $p \leq .05$

\*\*  $p \leq .01$

ficient means that the covariate event increased the likelihood of resolution (e.g., causal accounts), and a negative coefficient means the covariate event decreased the likelihood of resolution (e.g., negative emotion). An interpretation of the .74 coefficient for negative feedback in Table 3 means a change in the value of this covariate from 0 to 1 indicates that a case in which feedback was an issue was almost twice as likely to settle as one without feedback as an issue. This interpretation is based on the risk ratio of 2.1 in the last column of Table 3. Odds or risk ratios are always greater than 1 when regression coefficients are positive and less than 1 when coefficients are negative.

Hypothesis 1, proposing that the expression of positive emotion increases the likelihood of dispute resolution, was not supported by the data. In the results presented in Table 3, neither a filer's (-0.07) nor a respondent's (.23) expression of positive emotion was significantly related to whether a dispute was resolved.

Hypothesis 2 proposed that disputes would be more likely to be resolved when a respondent gave a causal explanation. Table 3 shows that Hypothesis 2 was supported, indicating what the respondent could do to increase the probability of resolution. The risk ratio in Table 3 (2.48) shows that resolution was about two and a half times more likely when the respondent gave a causal account.

Hypothesis 3, proposing that making explicit suggestions for settlement would increase the likelihood of resolution, was not supported. The coefficients in Table 3 show that neither filers' (.25) nor respondents' (.24) actions proposing terms for set-

tlement affected the probability that disputes would resolve. It may be that filers' and respondents' initial ideas for settlement focus on their own interests and do not adequately incorporate the interests of the other party.

Hypothesis 4 predicted that disputants communicating firmness would increase the likelihood of resolution. The data in Table 3 support this hypothesis for filers. When controlling for the other covariates, we found a risk ratio (last column of Table 3) indicating that filers communicating firmness made settlement almost 4.5 times more likely.

Hypothesis 5, proposing that resolution is less likely when disputants communicate negative emotions, was supported for filers. Recall that communicating negative emotions included using words such as "agitated," "angry," "apprehensive," "despise," "disgusted," "frustrated," "furious," and "hate." The risk ratio in Table 3 (0.49) indicates that filers communicating such negative emotions reduced the likelihood of resolution by about half ( $1.00 - 0.49 = 0.51$ ).

Hypothesis 6 predicted that filers making commands would decrease the likelihood of resolution. Table 3 shows that this hypothesis was supported for filers. Recall that commands communicated what the other party should do. The sign of the coefficient in Table 3 was negative (-.92) and the risk ratio (0.40) indicated that filer communicating to the respondent what the respondent *should do* reduced the likelihood of resolution by about two-thirds ( $1.00 - 0.37 = 0.63$ ).

We expected that when negative feedback was an issue, resolution would be more likely. This expect-

tation was supported. The risk ratio in Table 3 shows that when feedback was an issue, a case was two times more likely to settle.

We also expected that resolution would be more likely when the filer was a buyer rather than a seller. The risk ratio in Table 3 for when the filer was a buyer and the respondent was the seller is 1.75, indicating that the dispute was 1.75 more likely to settle than when the filer was a seller and the respondent was a buyer. These results suggest an asymmetry in the roles of buyer and seller in this context.

We ran a number of tests to make sure that we were meeting the Cox proportionality assumption. For example, in addition to testing the contribution of the interactions between time and the covariates (Table 2, row 2), we also tested the contribution of interactions between the role of the filer and the other covariates, and between whether feedback was an issue and the other covariates. Neither of these sets of interactions contributed significantly to the prediction of the likelihood of resolution. Nonsignificant results (not displayed) are available from the authors.

## DISCUSSION

This study modeled the effectiveness of online dispute resolution negotiations. It extends prior knowledge by showing that the words disputants exchange affect the likelihood that disputes will be resolved. A major contribution is the evidence that in this online context word use that signals either giving or attacking face has a significant effect on the likelihood of dispute resolution that goes over and above the effects of factors such as whether negative feedback was posted and the role of the filer. These results contribute to dispute resolution theory, to the psychology of word use, and to the literature concerning online negotiation. The results also provide strong guidelines for people resolving disputes online, especially in the context of online trading.

### Contribution of Findings to Theory

Face theory (Goffman, 1967) provided a theoretical explanation for why the words disputants use affect the likelihood of dispute resolution. Communications that attack face, such as negative emotion and commands, may reduce the probability that disputes will be resolved. Communications that give face, such as giving causal accounts, increase the likelihood that disputes will be resolved. This pattern of results confirms the extension of face theory to online dispute resolution. It also indicates

the relevance of the Pennebaker word system to studying social interaction in the context of online dispute resolution negotiations. In the world of online negotiation, where social cues are limited, people appear to draw inferences about the meaning of the words communicated to them, and those inferences predict subsequent behavior (likelihood of resolution) in a temporal pattern that is consistent with predictions drawn from face theory.

Each set of words we studied provides unique insights into the dynamics of face in online negotiations. The strongest evidence that giving face facilitates the resolution of disputes is the positive relationship between causal accounts and the likelihood of resolution. Note the complexity of a causal account—a social account that implies both respect for the other's social identity and acceptance of the fact that a social norm has been violated. The results for firmness are also important. Being firm is not interpreted as an attack on face, since firmness means communicating one's own feelings, not one's feelings toward the other. However, positive emotion did not predict likelihood of resolution as we had expected. It also did not predict settlement in Van Kleef et al.'s (2004) computer-mediated negotiation study. Positive emotions may have failed to predict resolution because the words in the positive emotion lexicon were indicative of a positive attitude during negotiations but did not really convey the respect, status, and appeal that giving face seems to require. Going back to face theory suggests that giving face in the context of dispute resolution negotiations may require a more complex communication, similar to a causal account. It may require an appeal to grant a favor that conveys respect and reminds the other party of his or her responsibility. This implication is consistent with the movement in the emotions literature away from conceptualizing emotional effects in terms of their valence and focusing instead on their unique appraisal patterns (Lerner & Keltner, 2000).

Attacks on face (negative emotions, commands) communicated in the online disputing environment reduced the likelihood of dispute resolution. The words in the negative emotion lexicon are strong, and they are directed at the other party: "agitated," "angry," "apprehensive," "despise," "disgusted," "frustrated," "furious," and "hate." The words in the commands lexicon ("should," "shouldn't," "want," "ought," "need," and "must") tell the other what to do and convey contempt, disdain, and scorn, a message that the recipient does not know what it is socially responsible to do. Our findings are consistent with Morris and Kelt-

ner's (2000) identification of contempt as a powerful social influence.

### Contributions of Findings to Practice

Several findings provide insight into this specific context of online dispute resolution. Other findings may be more generally applied to online dispute resolution negotiations and potentially even to face-to-face negotiations.

Dispute resolution in this context was not particularly swift (50 percent of the cases took up to 40 days to settle), and it was decidedly patterned. Disputes that did not resolve relatively quickly became less and less likely to be resolved. Certainly, some effect on the likelihood of resolution can be attributed to the normal delays inherent in online communications. But SquareTrade's open-ended procedures may also have contributed. At SquareTrade, closing a case is the mediator's call. Mediators close a case when, after several attempts, they fail to get one or the other party to respond, but they are unlikely to close when parties are responding but not progressing. Also, mediators are concerned about their settlement rates and may keep cases that are not progressing open in hopes of later breakthrough and settlement.

The data also suggest that disputants in this context can increase their chances of getting resolutions. This advice is as follows: If you file a claim, also file negative feedback to turn the negotiation into a multi-issue negotiation. In filing your claim, exert control over your language; do not express negative emotion; do not issue commands; in short, do not attack the other's face, but at the same time be firm. In responding to a claim, provide a causal account. If you are a seller making the claim, it cannot hurt to file it and to follow the strategic advice given above, but be aware your chances of a swift settlement are poor.

The practical advice emanating from this study that may extend beyond this context of online dispute resolution includes the following: understand the incentives of the system in which you are disputing, and try to put issues on the table to transform the negotiation into a multi-issue negotiation. Watch your language: avoid attacking the other's face either by showing anger or contempt; avoid signaling weakness; and be firm in your claim. Provide causal accounts that take responsibility and give face. None of these actions need to be limited to dispute resolution negotiations in online environments.

### Strengths, Limitations, and Opportunities for Further Research

These data from the SquareTrade Web site were highly appropriate for testing hypotheses about factors affecting the likelihood of resolution in online negotiations. Although the context of this study, online dispute resolution, certainly had an impact on the temporal pattern we identified—and we would not expect disputes in other types of systems to follow the same pattern (i.e., 40 days to settle 50 percent)—we would expect dispute resolution in other systems to follow temporal patterns. Knowing a temporal pattern provides a standard for judging whether to continue in a current process or switch to another. In the situation studied here, where there was no alternative process, the temporal pattern allowed judging whether to cut losses and concede, or absorb them and withdraw. Knowing the temporal pattern of dispute resolution may also be useful in setting deadlines in lieu of using the open-ended SquareTrade process. Deadlines do encourage settlement (Moore, 2004).

The study also provided an opportunity to evaluate hypotheses about the effect of words that real disputants use on the likelihood of dispute resolution. The data were from the first social interchange between the disputants in their process of filing for mediation. Thus, the emotions, both explicit and subtle, that were communicated were all very real. In each case we coded the first communication that was for both the eyes of the other disputant and the eyes of the mediator. Such a public communication might inhibit the expression of anger and contempt. Nevertheless, disputants who were not inhibited reduced their likelihood of dispute resolution. It is possible that the effects we found would have been even stronger if we had been able to monitor all communications between the parties, especially the private ones conveyed before the opening of the mediation site.

Our results may not generalize to face-to-face dispute resolution negotiations. Compared to our online negotiation context, face-to-face negotiations involve stronger social presence and communications that are shorter and punctuated by interruptions and turn taking (Barsness & Bhappu, 2004; Friedman & Currall, 2003). Social presence seems to reduce the expression of extreme emotion (Barsness & Bhappu, 2004; Friedman & Currall, 2003). The punctuated nature of face-to-face social interaction may also have a negative effect on reading the subtle signals of respect and disrespect embedded in the written communications that we studied. A written medium allows a disputant to craft a claim or response so as to signal social intention. It

also allows a respondent to read and reread and therefore be more likely to understand the signal than one present in fleeting face-to-face interaction (possibly to the point of obsessing on the written signal [Friedman & Currall, 2003]). Therefore, the effect on the likelihood of dispute resolution of subtle emotional expressions embedded in verbal communication may not be as strong in a face-to-face situation as the effect that was found here. Instead, in face-to-face communication nonverbal behavior may be the major factor carrying emotional expression (Morris & Keltner, 2000); yet verbal or nonverbal communications that give or attack face may impact the effectiveness of dispute resolution negotiations.

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