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The Impact of Dialogue Dynamics in Online Service Resolution

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Complaint handling by frontline employees (FLEs) is increasingly occurring in digital channels. Drawing on dialogical interaction analysis, we demonstrate that customer complaints with more negative language are more difficult to solve, but by using dominant language and matching the consumer's linguistic style, FLEs can improve perceptions the complaint was resolved.

[to cite]:

Francisco Villarreal Ordenes, Dhruv Grewal, Lauren Grewal, and Panagiotis Sarantopoulos (2019) , "The Impact of Dialogue Dynamics in Online Service Resolution", in NA - Advances in Consumer Research Volume 47, eds. Rajesh Bagchi, Lauren Block, and Leonard Lee, Duluth, MN : Association for Consumer Research, Pages: 29-34.

[url]:

<http://www.acrwebsite.org/volumes/2551067/volumes/v47/NA-47>

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From Words to Wisdom in Conversational Language and Paralanguage

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Paper #1: Hello! How May I Helo You? How Written Errors Can Humanize a Communicator

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Paper #2: How Concrete Language Shapes Customer Satisfaction

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Paper #3: Nonverbal Mimicry of Textual Paralanguage

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Paper #4: The Impact of Dialogue Dynamics in Online Service Resolution

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SESSION OVERVIEW

Much research has examined the words people use when talking in consumption-related contexts (cf. Berger 2014 review). But when it comes to consumer language, most research is constrained to static contexts such as advertising, online reviews, or sales pitches broadcasted from one to many. Considerably less attention has been paid to the interactive conversations happening among consumers, or between consumers and firm agents in digitally mediated, text-based interactions.

How can we gain wisdom from consumer conversations? This session integrates work examining language and paralanguage to help address this question. Can paralinguistic cues in text messages shift perceptions towards conversation partners, including “artificial” conversants (e.g., AI and chatbots)? Could linguistic signals of employee empathy or involvement boost customer satisfaction? This session examines these and other questions as it presents new insights on language and paralanguage in consumption-related conversations.

First, **Bluvstein, Zhao, Barasch, and Schroeder** investigate how seemingly incidental features in customer service conversations can humanize agents, whether those agents are human or machine (e.g. AI chatbots). They demonstrate that observing conversational “mistakes” (e.g., typographical errors) can make chatbots seem warmer, more human, and increase the sharing of personal information.

Second, **Ordenes, Grewal, Grewal, and Sarantopoulos** demonstrate that dynamic shifts in a service agent’s linguistic style from dominant to submissive language have a positive effect on the customer’s linguistic negativity and judgments that the issue was satisfactorily resolved.

Third, **Luangrath, Peck, Barger, and Haynes** examine mimicry in text-based conversations and find that people mimic the nonverbal paralanguage (e.g. emoticons, ALL CAPS) of their conversation

partner. This behavior is mediated by empathy and, therefore, does not occur when responses will not be seen by its recipient. The authors further reveal a cross-modal visualization effect such that even visual and tactile TPL facilitate auditory processing of messages.

Finally, **Packard and Berger** demonstrate how linguistic concreteness shapes customer satisfaction. Agents speak more concretely (vs. abstractly) are seen as more personally involved in the customer’s specific needs, leading to heightened customer satisfaction, purchase intentions, and real post-interaction expenditures.

In sum, these papers highlight how language and paralanguage enhance social interactions. We hope that this session will attract a wide audience of ACR attendees with interests in social influence, language, interaction modality, consumer experience, machine or AI agent interactions, and those interested in theory domains ranging from dialogical interaction to communication theory, and psycholinguistics to information processing.

Hello! How May I Helo You? How Written Errors Can Humanize a Communicator

EXTENDED ADSTRACT

Written communication is often dehumanizing. The conversational counterpart is removed in space and/or time, which can create detachment (Chafe, 1982). Furthermore, text lacks critical paralinguistic cues (e.g., voice) which convey the presence of a human-like mind (Schroeder & Epley, 2015, 2016).

As a result, text-based communication has been shown to reduce consumer trust, engagement, and willingness to share information or accept advice from an agent (Powers & Kiesler, 2006; Kiesler et. al, 2008; Waytz et. al, 2014). Yet, firms are increasingly conversing with consumers in writing, such as through chat platforms. In some cases, the conversational counterpart is a human; in other cases, it is artificial intelligence (AI).

Researchers have explored many factors of AI agents that may influence users’ perception of their humanness. Some attempts suggest anthropomorphizing the agent by adding seemingly superfluous humanlike features of the agents, such as gender, face and name (Scassellati, 2004; Hoffmann et. al, 2006; Krämer, Lam-chi, & Kopp, 2009). Other efforts emphasize designing algorithms that can interact with humans flawlessly, with no errors. However, according to established psychological theories, to be truly human-like means to make mistakes (Aronson et al., 1966).

We propose a novel research angle for humanizing text: that making a written error and then correcting it should reveal a human-like mind behind the words. In three experiments, we test specifically whether errors lead readers to infer greater humanness from an ambiguous communicator, and whether this leads to behavioral consequences.

First, Experiments 1 and 2 examined whether people who read a written communication script from a customer service agent would share more personal information when the agent made a typographical error (“May I helo you?”) and subsequently corrected it (“Sorry.. Help you”) than when it made no error. To compare the humanizing value of an error with other humanizing cues, we asked 263 online participants in Experiment 1 to examine a message written by an online chat agent. In addition to manipulating whether or not the agent made an error, we also manipulated features of the agent, including

the agent's gender and whether the agent's photo was a real human or avatar. Participants then rated the humanness of the agent and indicated their likelihood to share personal information with it and use it again in the future.

As expected, participants perceived the agent who made an error as more human ($F(1, 258) = 54.85, p < .001, \eta^2 = .17$). The gender and whether or not the agent made an error did not statistically interact with any other factor to influence humanness perceptions. The error also led participants to report significantly greater likelihood to share information with the agent ($F(1, 258) = 6.42, p = .01, \eta^2 = .02$), and to use it again in the future ($F(1, 259) = 8.69, p = .003, \eta^2 = .03$). Perceived humanness mediated the effect of error on both intention to share information ($b = 0.66, SE = .13, 95\% CI [0.41, 0.93]$) and likelihood to use it in the future ($b = 0.88, SE = .14, 95\% CI [0.61, 1.17]$).

Experiment 2 ($n=402$ online participants) used a similar paradigm to measure participants' intention to share personal information using more concrete items (e.g., phone number), as well as the impact of error on social perception of the agent (i.e., warmth and competence). We manipulated the presence of a typo and agent photo with a 2 (photo: avatar vs. human) \times 2 (error: present vs. absent) between-subjects design.

We replicated the effect of error on perceived humanness ($F(2, 398) = 59.80, p < .001, \eta^2 = .13$). Moreover, while the effect of error on sharing behavior was only directional ($F(1, 398) = 2.24, p = .13, \eta^2 = .006$), there was a significant indirect effect of experimental condition on sharing behavior via perceived humanness of the agent ($b = .86, SE = .17, 95\% CI [0.54, 1.25]$). We further found that the error increased the agent's perceived warmth ($F(1, 398) = 10.55, p = .001, \eta^2 = .03$), but did not affect the agent's perceived competence ($F < 1.1$), and that humanness perception of the agent mediated the effect on warmth perception ($b = .55, SE = .82, 95\% CI [0.40, 0.72]$).

Experiments 1 and 2 only included the presence and correction of a typographical error together. To better understand whether it is the error itself or the correction of the error that influences perceptions of humanness, Experiment 3 ($n=391$ lab participants) included a new experimental condition where the agent made but did not correct its error (uncorrected-error) in addition to the previous two conditions (no-error, or corrected-error). Moreover, to increase realism, this experiment introduced a real time chatting experience, where respondents interacted with a customer service agent who asked them personal questions ("Have you ever cheated on an exam?").

Results revealed a significant effect of error on perceived humanness ($F(2, 388) = 4.58, p = .01$); specifically, humanness perception was greater in the corrected-error condition than the uncorrected-error ($p = .01$) and the no-error conditions ($p < .01$). In addition, the effect of error on sharing personal information was marginally significant ($F(2, 388) = 2.78, p = .06$), whereby participants shared more in the corrected-error condition versus the no-error ($p = .03$) and the uncorrected-error ($p = .06$) conditions. There was no difference between the uncorrected-error and the no error conditions for both humanness perceptions and sharing behavior ($ps > .6$). These results suggest that the error alone is not enough to activate these effects; rather, it is the act of correcting one's error that reveals the presence of a conscious mind.

In aggregate, these experiments suggest that the way in which communicators write their words—such as making and then correcting a spelling error—can actually influence readers' predictions about whether a communicator is human. While prior research has mostly examined humanizing cues in spoken language, we contribute to a relatively new stream of literature exploring how written language can be humanized. Our results also provide insight into when

people might share personal information, with potential implications for consumer privacy.

How Concrete Language Shapes Customer Satisfaction

EXTENDED ADSTRACT

Consumers tend to agree that if there's one thing that companies could always do better, it's customer service. Accordingly, academics and marketing practitioners are greatly concerned with what they can do to improve the sales and service experience (e.g. Rust & Chung, 2006; Zeithaml, Berry, & Parasuraman, 1996). One of the most important things an employee can do is signal that they are personally involved in the customer's needs (Smith, Bolton, & Wagner, 1999).

But outside of actually saying "I care" are there more natural ways that employees can signal their personal interest in the customer's needs?

This paper examines whether the words they use can help. Specifically, we suggest that speaking more concretely can make customers more satisfied and more likely to purchase. Consider a customer who's interested in buying a shirt. While conversing with the customer, the salesperson might refer to the object in a very concrete way (e.g., "the shirt"), a very abstract way (e.g., "that") or somewhere in between (e.g., "the top" or "the clothing").

We suggest that these small linguistic variations can have an important impact on customers beliefs and behaviors. People tend to think about and describe themselves concretely, yet think about and describe others more abstractly (Eyal and Epley 2010). If concreteness can generate social cognitions, as we suggest, then agents that speak more concretely (less abstractly) about the customer's issues might signal that they are cognitively "closer" to the customer's personal needs. If so, using concrete language should boost satisfaction because it signals that the agent is personally involved and attentive to the customer's specific needs (Smith et al. 1999). More satisfied customers should have more positive intentions towards the firm (Singh and Sirdeshmukh 2000; Smith et al. 1999), and, in turn, may actually spend more with them.

We test these possibilities in four studies combining textual analysis of over 1,000 real customer service interactions in the field with lab experiments.

Study 1 used natural language processing (NLP) to examine 200 customer calls to an online fashion retailer. We used a bootstrapped extension of the MRC Psycholinguistic Database (Paetzold & Specia, 2016) to score over 85,000 English language words for their concreteness. Consistent with our theorizing, agents that used more concrete language on the call were perceived as more satisfied with the agent in an end-of-call survey ($b = .17, t = 2.36, p = .02$). This holds even after controlling for customer, agent, interaction, language features (b range = .08-.13, all $ps < .01$). A dynamic examination of the time-series of conversational turns using vector autoregression confirmed that the importance of employee concreteness also persists after accounting for temporal shifts in customer concreteness and other linguistic features.

Study 2 analyzed nearly 1,000 customer service emails to a consumer durables retailer using the same NLP methods as Study 1. These simpler, text-based email interactions help rule out the possibility that vocal cues or other interaction dynamics drove the results from Study 1. This study also asks whether concreteness impacts purchase behavior. Regression analysis supports the predicted relationship. Customers spent more following calls in which the agent used more concrete language ($b = .08, t = 2.86, p = .004$). This rela-

tionship was robust to a range of controls similar to those included in Study 1.

While the first two studies are supportive, one could wonder whether the relationship is truly causal in nature. To test this and examine the effect's mechanism, Study 3 ($n = 88$ student participants) directly manipulated linguistic concreteness and measured its impact on satisfaction, behavioral intentions and social perceptions. Participants received one of two versions of a pre-tested customer service scenario that differed only in the concreteness of two words used in the employee's response (e.g., "I can cancel them" vs. "I can cancel the shoes"). As predicted, using more concrete language increased customer satisfaction ($F(1, 147) = 9.53, p = .002$) and purchase intentions ($F(1, 147) = 3.52, p = .06$). Further, consistent with our theorizing, mediation analysis confirmed that this relationship was driven by perceptions that the employee was more closely engaged with the customer's needs (satisfaction indirect effect = .22, 95% CI [.08, .38]; purchase intentions indirect effect = .24, 95% CI [.09, .41]). This study also rules out mimicry, processing fluency, and language typicality as alternative explanations.

Study 4 replicates and extends the causal tests of Study 3, recognizing that linguistic concreteness can vary in different ways. We examined a series of subtle manipulations of nouns, adjectives, and verbs that each slightly increase concreteness, and measure their impact on satisfaction and purchase intentions. Participants received one of six versions of an employee saying they'd help them find a t-shirt in the color they wanted (e.g., "I'll go look for that", "I'll go search for that", "I'll go search for that t-shirt", "I'll go search for that t-shirt in grey"). The pattern of results over the six conditions (linear effects coding) replicated prior studies, finding that concreteness increased customer satisfaction ($b = .10, t = 4.49, p < .001$) and purchase intentions ($b = .09, t = 4.28, p < .001$). Mediation analysis confirmed that perceived involvement mediated concreteness' effect on customer satisfaction (indirect effect = .08, 95% CI [.05, .12]) and purchase intentions (indirect effect = .07, 95% CI [.04, .10]).

This research makes three main contributions. First, we deepen understanding of how language shapes consumer behavior. We demonstrate the important role of linguistic concreteness and the underlying process that drives its impact.

Second, we extend linguistic construal to the domain of social perceptions. While most work on concreteness examines the impact of concreteness on cognition, the present research reveals that people generate social cognitions through the language used by another person.

Third, from a practical perspective, these results have clear implications for improving marketing interactions with customers. Small shifts in the language customer service people use can improve a variety of important downstream marketing outcomes.

Nonverbal Mimicry of Textual Paralanguage

EXTENDED ADSTRACT

This research investigates mimicry of text-based nonverbal communication, termed textual paralanguage (TPL). TPL refers to the written manifestations of nonverbal audible, tactile, and visual communication (Luangrath, Peck, and Barger 2017). Currently in consumer research, there is a growing interest in gaining insights from text-rich data (Humphreys and Wang 2018; Moore and McFerreran 2017; Packard and Berger 2017; Villarroel-Ordenes et al. 2018). Since consumer and brand messages are laden with TPL, we approach the study of language by focusing on how nonverbal cues are expressed and mimicked in text conversations.

It is a natural human tendency to mimic the mannerisms, facial expressions, and postures of those with whom we interact. Previous research into what has been dubbed "the chameleon effect" demonstrates that we mimic nonverbal cues when communicating in-person (Chartrand and Bargh 1999). Here, we investigate whether consumers mimic nonverbal cues when communicating online via text, so we ask: do models of behavioral mimicry apply to nonverbal textual mimicry? For example, if a consumer were to read a brand's tweet "Best. Sale. Ever.", an instance of auditory TPL, is the brand likely to reply with TPL? Whereas in-person mimicry is thought to occur due to a desire to affiliate (Lakin and Chartrand 2003), we expect nonverbal textual mimicry to operate via empathy.

Study 1a examines the extent to which TPL affects empathy. Amazon MTurk participants ($N=309$) were asked to evaluate a tweet: "To celebrate one week of healthy living, we're offering 20% off everything [EVERYTHING, woot woot, :)]." TPL was manipulated at the end of the tweet. Participants responded to "How much does the message help you empathize with the writer?" Results indicate that TPL facilitates empathy ($M_{\text{NoTPL}} = 3.01, M_{\text{TPL}} = 3.65, F(1,308) = 4.40, p = .037$). In study 1b students ($N=430$) were presented with eight tweets that varied in positivity/negativity, sarcasm, and the type of TPL incorporated. Participants empathized more with the writer when TPL was used ($M_{\text{NoTPL}} = 4.23, M_{\text{TPL}} = 5.14, F(1,429) = 38.08, p < .001$). Across instances of TPL, message content, message valence, and diverse populations, we demonstrate that TPL affects the degree to which a reader can empathize with a message.

In Study 2, we examine whether TPL is mimicked. Participants were asked to consider the following scenario: "You heard that one of your favorite music groups will be coming to perform in your city. You would really like to attend, and you decide to send a message and invite your friend, Pat, to attend the concert with you. This is Pat's text message response: I'm sorry I already have plans that day. [*sigh*] Please write a follow-up response to Pat." Manipulation of TPL occurred with the inclusion/omission of "sigh". Participants were much more likely to respond with TPL when the initial text contained TPL ($\beta = .083, t(722) = 3.44, p < .001$). Moreover, individuals high in empathetic concern were more likely to respond with TPL ($\beta = .094, t(722) = 3.82, p < .001$), indicating the importance of empathy in TPL mimicry.

In Study 3 we expect that TPL will not be mimicked when the message response will not be viewed, since in-person behavioral mimicry tends to occur more frequently in the presence of an interactant partner. This study is a 2 (TPL vs. No TPL) x 2 (viewable vs. not viewable) design. Participants were shown a brand tweet either with or without TPL. Then, participants were asked to create a tweet about their positive experience with the brand, and told "the current algorithm on Twitter would [NOT] allow the brand to see the tweet that you create." Results reveal a significant interaction ($\beta = 1.06, \text{Wald}^2 = 4.187, p = .041$) such that individuals mimic TPL the most when it will be seen by the brand.

Study 4 explicitly tests the empathy account to nonverbal mimicry. Participants ($N=246$) were asked to view and respond to a tweet on their mobile device: One of your favorite restaurants, The Midday Café, is opening in your neighborhood. The café tweets the following: "Come visit our new location on Madison Street. Opening soon (soooooon, [smiling emoji], [high five emoji])." Results demonstrate that TPL facilitates empathy ($\beta = -1.04, SE = .21, p < .001$). Those who viewed the initial tweet with TPL were also significantly more likely to respond with TPL ($\beta = -.30, SE = .11, p = .005$). Mediation analysis reveals a significant indirect effect of TPL on mimicry via empathy [.08, 95% CI [.02, .16]]. Thus, TPL helps facilitate empathy, which encourages mimicry.

Study 5 further demonstrates this causal process by using a concurrent double randomization design to manipulate the mediator (Pirlott and MacKinnon 2016). Empathy was manipulated among participants prior to them viewing a text message from a friend with TPL also manipulated. Manipulated empathy affected the amount of textual paralanguage used in response ($F(1,183) = 3.53, p = .06$), again illustrating empathy's role in facilitating TPL mimicry.

Furthermore, Study 6 demonstrates TPL increases cross-modal visualization, which facilitates empathy, and results in mimicry of nonverbal expressions. Undergraduate students ($N=156$) were asked to respond to a brand tweet as in study 4. Participants rated a series of statements regarding the message: "I feel like I can hear how this would be spoken" (auditory), "I can imagine the facial expression that the speaker would have" (visual), and "I feel physically close to the sender of this message" (tactile). A serial mediational process demonstrates that all types of TPL facilitate auditory visualization, thereby increasing empathy and mimicry [.01, (5% CI .001, .023)].

This research suggests that people engage in nonverbal mimicry in online textual communications, and, unlike behavioral mimicry, this phenomenon occurs due to heightened empathy. We find that mimicry of TPL does not occur when responses will not be seen, and that a cross-modal visualization effect exists such that even visual and tactile TPL facilitate auditory processing of messages. In short, textual paralanguage fundamentally communicates emotion, and we demonstrate here that the power of TPL is in its ability to make a message resonate with a consumer.

The Impact of Dialogue Dynamics in Online Service Resolution

EXTENDED ADSTRACT

In the "always on" digital landscape, responsiveness is critical, and customers seek out platforms that will enable them to obtain a response, often in writing, to establish proof of their agreement or grievance. Many firms thus invest heavily in improving their text-based customer service, such that these investments are expected to increase by 48% by 2020 (Berg, Gilson, and Phalin 2016).

The present research uses a dialogical approach (Kent and Taylor 2002), which considers how service interactions are contingent on relationships of control and trust between speakers, to investigate how FLEs can use language to handle negative emotion in customer complaints, and therefore contribute to service resolution. We make three main contributions.

First, we advance literature on complaining behavior by assessing the effect of negativity in customer complaints language on service resolution. Negative customer language is both harmful to the firm and hard for firm representatives to deal with (Henkel et al. 2017), however its effects have not been studied beyond face-to-face interactions.

Second, we extend the literature on digital customer service by assessing the mitigating role of FLEs' dominance language, contingent on the strength of the customer complaint. Recent research suggests that FLEs should take control of a customer complaint by using more action words (Marinova, Singh, and Singh 2018). We go a step further to posit that FLEs' language dominance can mitigate the influence of more negative complaints on service resolution.

Third, we advance the literature on service resolution by studying FLEs use of linguistic style matching (LSM). Greater LSM, or similarity in people's uses of function words, signals verbal synchrony, prompting perceptions of trust (Scissors, Gill, and Gergle 2008). We propose that FLEs can leverage LSM to mitigate the effects of strongly negative customer complaints.

Study 1 uses social media data from Twitter and Facebook, examining 1,142 complaint-initiated dialogues between a customer and FLE's from retail accounts. For our dependent variable, service resolution, we rely on crowdsourcing, such that for each dialogue, we asked three independent members of Amazon Mechanical Turk to read it and indicate, "Do you think the solution offered met customer needs?" (1 = "definitely not," 5 = "definitely yes"). Then, we measure the customer sentiment strength of each dialogue (i.e., how negative was the complaint) by using SentiStrength, a computerized text analysis tool (Thelwall, Buckley, and Paltoglou 2011). To assess FLEs' use of dominance in their language, we rely on Mohammad's (2018) dictionary of dominance, which lists 20,007 English words and their dominance scores, ranging from 0 (low) to 1 (high). Finally, we derive the degree of linguistic style matching (LSM) between the customer and FLE by relying on LIWC dictionaries (Tausczik and Pennebaker 2010), which are widely applied in marketing research.

Our modelling approach includes brand fixed effects and we standardized all the predictor variables. We control for several dialogue characteristics such as compensation, apology, product or process complaint, number of messages, use of pictures, etc. We specified three hierarchical models. As predicted, greater sentiment strength in customer complaints has a negative effect on service resolution ($\beta = -.06; SE = .02, p < .05$). We also find a significant main effect of FLE dominance ($\beta = -.07; SE = .03, p < .05$). The customer sentiment strength \times FLE dominance interaction is marginally significant ($\beta = .04; SE = .02, p < .10$). We also find a significant customer sentiment strength LSM interaction ($\beta = .08; SE = .02, p < .001$).

With Study 2a and b, we replicate these findings in two controlled experiments that affirm that the effects in Study 1 are causal (vs. correlational) in nature. In study 2a and 2b, 394 and 395 MTurk workers respectively participated in two surveys for nominal payment. Both studies used a 2x2 between subjects design. We used identical dialogues from study 1 and only manipulated the level of sentiment strength, FLE dominance and LSM. MTurk workers reported the extent to which they believed that "the solution offered by the employee met customer needs" (1 = "strongly disagree," 5 = "strongly agree"). Both study 2a and 2b corroborated the findings of study 1.

In Study 3, we investigate a firm-owned, live chat platform maintained by a Fortune 500 consumer goods firm. We study both the text-based interactions on this platform and consumer responses to a post-service survey. We use the same operationalizations as in Study 1 for the linguistic predictor variables. The dependent variable is the customer response to the survey question, "Did we offer solutions that met your needs?" (1 = "strongly disagree," 5 = "strongly agree"). We also controlled for interactions that started with a chatbot rather than with a live agent, and the severity of the complaint. The results support our assertions. Greater customer sentiment strength has a negative effect on service resolution ($\beta = -.18; SE = .06, p < .01$); and we find a significant positive main effect for FLE dominance ($\beta = .14; SE = .07, p < .05$) and a significant negative main effect for LSM ($\beta = -.18; SE = .07, p < .01$). Furthermore, the customer sentiment strength \times FLE dominance interaction is significant ($\beta = .11; SE = .06, p < .10$). We also find a significant customer sentiment strength LSM interaction ($\beta = .14; SE = .07, p < .05$).

These findings support our prediction that customer complaints with greater sentiment strength result in problems that are harder for FLEs to resolve. The effect of customer sentiment strength is moderated by FLE dominance: when customers express strong or moderate sentiments, a more dominant FLE can be more successful in meeting those customers' needs. Greater similarity in the language

used by FLEs while handling customer demands also mitigates the effect of greater negativity on customer complaints. Specifically, for customers expressing neutral or weak sentiment strength, lower LSM between the customer and FLE can be more successful, but for customers expressing stronger sentiment strength, a greater degree of LSM is more effective.

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