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Student Evaluations of Instructor Email Response Speed as Chronemic Expectancy Violations

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Abstract: *Instructional communication researchers have begun exploring the effects of email response speed on student evaluations of their instructors. To date, researchers have concluded that faster response times result in more favorable evaluations. To extend this line of research, this experiment explores student evaluations of instructor response speed through the lens of expectancy violations theory, arguing that eliciting positive evaluations is not just about responding quickly, but rather, responding more quickly than students expect. Results indicated that positive violations of instructor email response speed are evaluated more favorably than negative chronemic violations in terms of instructor credibility and relational closeness. These findings contribute practical implications for instructors inundated with email exchanges with students and offer theoretical nuance to the study of chronemics in instructor-student email communication.*

Keywords: email, response speed, chronemics, credibility, instructor-student relationship

Email has become, and is likely to remain, a predominant text-based computer-mediated communication (CMC) channel in the instructional process (Chang et al., 2016; Conklin & Dikkers, 2021). Even in face-to-face (F2F) classes, there is an increase in students opting to use mediated channels like email to communicate with their instructors (Brooks & Young, 2016; Duran et al., 2005;

Stephens et al., 2009). Accordingly, email is a central communication channel for instructors and students and should be of interest to instructional communication researchers (Bolkan & Holmgren, 2012; Sheer & Fung, 2007; Young et al., 2011).

Text-based CMC, like email, lacks nonverbal components allowed by traditional

F2F interactions in the classroom (e.g., tone of voice, facial expressions, vocal pitch; Stafford & Hillyer, 2012; Walther, 2011). In the absence of these nonverbal cues, communicators (i.e., students) place greater focus on elements that remain (e.g., word choice, communication channel; see social information processing theory; Walter 1992, 1994). Across contexts, one cue that has evidenced importance is the speed at which an individual responds to CMC messages (i.e., chronemics). Quicker CMC response speeds have been associated with more favorable evaluations in customer-service (Jiang et al., 2002), virtual communities (Ridings et al., 2002; Zimmerman & Zimmerman, 2016), and even interpersonal relationships (Walther & Tidwell, 1995). Like other contexts, students generally desire quick replies to their email messages in both F2F and online courses (Argon, 2003; Foral et al., 2010; Johnson & Card, 2007). In fact, it seems like students view email as “a form of telepathy—the instantaneous communication of an uncensored thought, often with the expectation of an immediate response” (Weinstock, 2004, p. 380).

But, how fast is fast enough? Chang et al. (2016) claimed students viewed any response within 24 hours as acceptable. In fact, many instructors seem to abide by a 24-hour response rule in their classrooms (Leidman & Piwinsky, 2009; Pate et al., 2021), whether or not there was an explicit policy included in the course syllabus (Curtis et al., 2013). However, students may enter the classroom with varying expectations about how quickly their instructor should respond to their email messages (Tatum et al., 2018). What one student could view as a prompt response may be perceived as overdue by another. In this way, if instructors hope to elicit positive chronemic evaluations from their students, perhaps it is

more important for instructors to respond to student emails *quicker than expected* rather than simply responding to emails *quickly*. This study seeks to explore this idea by framing student evaluations of instructor email response speeds as expectancy violations. To begin, an overview of expectancy violations theory (Burgoon & Jones, 1976) provides a theoretical lens through which to understand student evaluations of instructor email response speeds. Then, student perceptions of instructors that could be affected as a result of violated chronemic expectations (i.e., credibility and relational closeness) are forwarded.

Expectancy Violations Theory

Expectancy violations theory (EVT; Burgoon & Jones, 1976) defines *expectations* as consistent patterns of predictable behavior for a relationship, context, or individual (Burgoon, 1993). Initially, the theory was developed to explore expectations of personal space in interpersonal interactions (i.e., proxemics), but its application has since been expanded to explain other forms of nonverbal communication such as chronemics. EVT has been used to understand communication in CMC contexts such as modality switching (Jin, 2012; Ramirez & Wang, 2008) and interactions on Facebook (Bevan et al., 2014; McLaughlin & Vitak, 2012).

Expectations are violated when another person behaves in a way that is not anticipated or typical (Afifi & Metts, 1998). *Positive violations* occur when expectations are exceeded (i.e., an instructor responds to an email quicker than expected), and *negative violations* occur when expectations are not met (i.e., an instructor responds to an email slower than expected). An expectancy confirmation occurs when expectations are matched or

fulfilled (i.e., an instructor responds to an email at the anticipated time). EVT posits that when violations occur, heightened attention is first given to the aspect of the interaction that deviates from expectations (i.e., instructor's response time). Then, individuals process the violation through a process of interpretation and evaluation, subsequently making judgements about the source of the violation (i.e., the instructor; Burgoon & Hale, 1988). Positive violations elicit more favorable evaluations of the source than negative violations, and negative violations elicit less favorable evaluations of the source than positive violations (Burgoon, 1993; Johnson, 2012; Johnson & Lewis, 2010). Kalman and Rafaeli (2011) provided initial support for the extension of EVT to the study of email chronemics, concluding that in the business context, quicker replies (i.e., one day) are generally viewed as more expected and elicit more favorable evaluations than slower replies (i.e., two or more weeks).

Researchers have only recently begun using EVT to understand student response speed evaluations of instructor emails. Martin and Tatum (2017) found that quicker response times (i.e., 10 hours) resulted in higher levels of instructor liking than slower response times (i.e., 14 days), arguing that these differences were a result of violations of student chronemics expectations. Expanding on these findings, Tatum et al. (2018) found the quicker an instructor responds to a student email, the more positively they are evaluated in terms of attraction and credibility. Like Martin and Tatum (2017), this study employed EVT as a theoretical framework for anticipating and understanding student evaluations. While important for forwarding the field's knowledge of chronemics in instructor-student email communication, neither study actually provided a test of EVT; both only compared evaluations of response time rather

than evaluations resulting from violations of student chronemic expectations. Thus, to further this line of research, the present study seeks to compare student evaluations resulting from positive chronemic violations and negative chronemic violations. Specifically, evaluations of instructor credibility and relational closeness are considered.

Credibility

Credibility, conceptualized as a communication source's believability (Frymier & Thompson, 1992; McCroskey & Young, 1981), comprises three dimensions (McCroskey & Teven, 1999): competence (i.e., expertise or knowledge), character (i.e., trustworthiness), and caring (i.e., concern with student well-being). Credible instructors are generally perceived as more understanding (Schrodt, 2003), immediate (Teven, 2001), and just (Chory, 2007), receiving high course evaluations from students (Teven & McCroskey, 1997). Existing chronemics research links slower (faster) email response speeds to lower (higher) perceptions of credibility (Kalman & Rafaeli, 2011; Tatum et al., 2018). Given these findings and the logic proposed by EVT, it seems expected that positive chronemics violations of instructor email response speed will result in higher evaluations of instructor competence, character, and caring than negative chronemic violations:

H1: Positive chronemic violations will result in higher evaluations of instructor credibility - (a) competence, (b) character, and (c) caring - than negative chronemic violations.

Relational Closeness

In addition to influencing perceptions

of credibility, evaluations of instructor response speed could influence student perceptions of the closeness of their instructor-student relationship. *Relational closeness* is conceptualized as a “subjective experience of intimacy, emotional affinity, and psychological bonding with another person” (Ledbetter et al., 2010, p. 8). The instructor-student bond is inherently relational (Mottet et al., 2006), and maintaining a close instructor-student relationship has measured benefits for students (Claus et al., 2012; Tatum, 2021). It seems likely that a students’ evaluation of their instructor’s email response speed could influence their perceptions of relational closeness. Walther and Tidwell (1995) found that slower email messages are perceived as less intimate than quicker messages. In this way, email response speed can serve as a cue for perceptions of immediacy (Ledbetter, 2008). Perhaps responding more quickly to email messages makes instructors seem more responsive, and these perceptions of responsiveness lead to feelings of relational closeness (Reis et al., 2004). As such, framed by EVT, it seems probable that positive chronemic violations of instructor email response speed will result in higher evaluations of relational closeness than negative chronemic violations:

H2: Positive chronemic violations will result in greater perceptions of relational closeness than negative chronemic violations.

Method

Sampling Procedure and Research Design

Upon receiving institutional review board approval, participants were recruited from a large southern university through a research participation system during the

last three weeks of the Fall semester (pre-COVID-19). Students electing to participate received minimal course credit. Participants were randomly assigned to view a vignette in the form of a hypothetical email exchange between themselves and an instructor of an unknown gender from a F2F class. The brief, cordial exchange consisted of an initial email from the student asking to meet with the instructor for clarification about a daily grade assignment, followed by an instructor response agreeing to a meeting (See Appendix 1). To hold constant other factors that may influence chronemic perceptions (Walther & Tidwell, 1995), metadata were not included with either message (i.e., subject lines, email addresses, timestamps, dates). Conditions were identical apart from a statement between the student’s initial message and the instructor’s response that read, “After sending the above email, you receive the following email response from your instructor X hour(s) after you sent the initial email.”

Given the prevalence of 24-hour email policies in university classrooms (Curtis et al., 2013), manipulated email response speeds ranged from zero hours to 24 hours. However, because it seemed unlikely that an instructor would respond to an email instantaneously (i.e., zero hours), the zero-hour condition was instead manipulated as ten minutes. Response times were manipulated in four-hour increments (i.e., 7 conditions) to maintain a robust number of participants in each condition based on the anticipated sample size while still promoting variety among potential violation perceptions. Using a single open-ended question, a manipulation check was conducted by asking participants to recall how long it took the instructor to respond to their message (“How long did it take the instructor to reply to the hypothetical email?”). Those failing to recall the correct time were

excluded from analysis ($n = 61$); these excluded participants appeared to be random across chronemic conditions. In the end, each condition had at least 60 participants, with an average of 72 participants per condition.

For hypothesis testing, a simple formula was used to operationalize violation valence (i.e., positive violation or negative violation). At the start of the survey, prior to viewing their assigned condition, participants were asked how long they typically expect their F2F instructors to take when responding to email messages using a single open-ended question (“How long do you typically expect an instructor from a face-to-face class to take when responding to an email message?”; $M = 7.50$ hours, $SD = 7.33$ hours). Then, the time it took the hypothetical instructor to respond in the assigned condition was subtracted from the participant’s expected response speed (Expected Response Time – Response Time in Condition; $M = -4.95$ hours; $SD = 10.64$). Negative chronemic violations occurred most frequently ($n = 330$; 65%), wherein the instructor responded slower than expected. These negative violations ranged from -1 to -36 hours ($M = -8.60$ hours, $SD = 7.32$). Positive chronemic violations were less common ($n = 136$; 26.7%), wherein the instructor responded quicker than expected. These positive violations ranged from 1 to 23 hours ($M = 11.14$ hours, $SD = 5.94$). Participant expectations were considered confirmed when values equaled zero and were not included in data analysis for the present study ($n = 42$; 8.3%).

Participants

Participants ($N = 508$) identified as female ($n = 348$; 68.4%) and male ($n = 160$; 31.4%). Reported ages ranged from 18 to 31 ($M = 18.54$, $SD = 1.23$). Students identified

as Caucasian ($n = 417$; 81.9%), African American ($n = 38$; 7.5%), Asian ($n = 22$; 4.3%), Hispanic ($n = 11$; 2.2%), American Indian or Alaska Native ($n = 3$; .6%), and other ($n = 17$; 3.3%). The sample encompassed 34 unique majors across the university and included various student classifications: first year ($n = 440$; 86.4%), sophomore ($n = 55$; 10.8%), junior ($n = 12$; 2.4%), and senior ($n = 1$; .2%). Compared to other communication channels, on a scale from very unlikely (1) to very likely (5), students communicated most frequently via email ($M = 4.18$, $SD = .77$). They also reported communicating in person before or after class ($M = 3.83$, $SD = 1.01$), through a learning management system ($M = 3.66$, $SD = 1.06$), during office hours ($M = 3.51$, $SD = .99$), via text message ($M = 1.55$, $SD = .91$), on the phone ($M = 1.50$, $SD = .78$), through social media ($M = 1.43$, $SD = .79$), and through video chat ($M = 1.37$, $SD = .74$).

Instrumentation

Instructor credibility. The three dimensions of instructor credibility were operationalized using a combination of two measures (Finn & Ledbetter, 2013), both of which employ semantic differential items with contrasting adjectives placed at opposite ends of a 7-point scale. Instructor caring was measured using Teven and McCroskey’s (1997) Caring Scale ($n = 9$; e.g., “Cares about me – Doesn’t care about me”). McCroskey and Young’s (1981) Teacher Credibility Scale was used to measure instructor competence ($n = 6$; e.g., “Intelligent – Unintelligent”) and character ($n = 6$; e.g., “Untrustworthy – Trustworthy”). All three dimensions demonstrated acceptable reliability in the current study: competence ($M = 5.66$, $SD = 1.09$; $\alpha = .93$), character ($M = 5.48$, $SD = 1.12$; $\alpha = .92$), and caring ($M = 5.29$, $SD = 1.14$; $\alpha = .95$).

Relational closeness. Relational closeness was operationalized using Mottet's (2000) Relational Closeness Scale. This 5-item instrument (e.g., "Close – Distant") asks students to assess their perceived relationship with their instructor with contrasting adjectives placed at opposite ends of a 7-point scale. The scale was reliable in the current study ($M = 5.22$, $SD = 1.09$; $\alpha = .90$).

Results

H1 predicted that positive chronemic violations would result in higher evaluations of instructor (a) competence, (b) character, and (c) caring than negative chronemic violations. For H1a, an independent samples t-test revealed that positive violations ($M = 6.03$, $SD = .90$) resulted in significantly higher evaluations of instructor competence than negative violations ($M = 5.47$, $SD = 1.13$) [$t(313.44) = -5.72$, $p < .001$, Hedges' $g = 0.53$]. For H1b, an independent samples t-test revealed that positive violations ($M = 5.89$, $SD = .92$) resulted in significantly higher evaluations of instructor character than negative violations ($M = 5.26$, $SD = 1.15$) [$t(313.05) = -6.21$, $p < .001$, Hedges' $g = 0.58$]. For H1c, an independent samples t-test revealed that positive violations ($M = 5.85$, $SD = .89$) resulted in significantly higher evaluations of instructor caring than negative violations ($M = 5.00$, $SD = 1.15$) [$t(321.44) = -8.59$, $p < .001$, Hedges' $g = 0.79$]. H1 was supported.

H2 predicted that positive chronemic violations would result in greater perceptions of relational closeness than negative chronemic violations. An independent samples t-test revealed that positive violations ($M = 5.71$, $SD = .94$) resulted in significantly higher evaluations of relational closeness than negative violations ($M = 4.98$, $SD = 1.09$)

[$t(289.87) = -7.25$, $p < .001$, Hedges' $g = 0.69$]. H2 was supported.

Discussion

Instructor inboxes are flooded with student messages each day as email remains a primary communication channel for students enrolled in F2F courses. Theoretically, while other studies have used EVT as a framework for understanding the role of chronemics, this is the first to compare positive violations and negative violations of email response speed. Results from this study provide additional evidence that EVT is an appropriate framework for understanding student chronemic expectations for email communication. Instructors who positively violate student email response speed expectations are evaluated more highly in terms of competence, character, caring, and relational closeness than those who negatively violate student chronemic expectations. These findings theoretically extend what is known about student evaluations of instructor response speed and offer practical implications for instructors.

This study's findings run counter to Chang et al. (2016) who suggested students viewed any response within 24 hours as acceptable. In fact, according to this sample, on average, students expected their instructors to respond in less than 7.5 hours. While there was variability in these expectations ($SD = 7.33$ hours), even if instructors respond to messages within 24 hours - a metric that seems to be common among university educators (Curtis et al., 2013) - students may still be dissatisfied. These descriptive results provide initial evidence that students' chronemic expectations for instructors are rapidly changing. For instructors inundated with teaching, service, and/or scholarship, responding within this

narrowing window may prove impossible. And, simply because students expect a response within a particular time period does not mean instructors should bend to students' seemingly unfeasible chronemic desires. Burgoon and Walther (1990) noted that expectations are derived from the context of the interaction (e.g., the university classroom), relational history with the source of the violation (e.g., past interactions with the instructor), characteristics of the source (e.g., the instructor's personality and communication style), and the source's group membership (e.g., instructors in general). So, a conversation at the beginning of a course where instructors communicate with their students about their expectations for response speed has potential to alter students' seemingly synchronous presumptions for this CmC channel (Martin & Tatum, 2017). This adjustment could unburden instructors from feeling obligated to respond immediately and cause students to have more realistic expectations of their instructor's responsiveness.

Importantly, previous research exploring response latency has almost exclusively been concerned with organizational contexts (e.g., corporations; Kalman & Rafaeli, 2011; Kalman et al., 2013; Walther & Tidwell, 1995). However, the results of this study further support the notion that students interpret messages from instructors' response speeds to email messages. Confirming Tatum et al.'s (2018) findings, instructor email response speed has potential to affect student perceptions of instructor credibility. Moreover, student evaluations of instructor email response speed also influence how close students perceive their relationship with their instructor to be, adding to what is known about consequences of instructor email chronemics. The value of instructor-student relationships inside and outside the classroom is indisputable (Frymier & Houser, 2000;

Nussbaum & Scott, 1980), and instructor response speeds to student email messages seem to influence the perceived closeness of these important bonds. To some degree, these evaluations seem to also be a function of violated expectations rather than solely the length of time it takes an instructor to respond. If instructors hope to build or maintain credibility in the eyes of students, they should attend to their inboxes accordingly. Further, if instructors seek to develop close relationships with their students, being attentive to student emails may be necessary.

This study represents the first chronemic research to explore microlatencies in email communication. Previous research exploring response speeds in email communication has not investigated the nuances of how small intervals of time (i.e., hours) may affect receiver interpretation of messages. Findings suggest that even within a 24-hour period, there are significant differences in how response speeds are interpreted. For instructors, even a matter of hours could significantly change how students interpret their email response. Initially categorized as an asynchronous form of CMC, these results suggest email usage seems to approach the boundaries of synchronicity (Walther, 1995). Email has evolved from technology that is attended to on occasion (i.e., checking one's physical mailbox) to a form of communication that actively interjects itself into the life of users. While these findings are informative for instructional practitioners and researchers, the exploration of microlatencies represents a significant contribution to CMC chronemic research as a whole.

Limitations and Future Directions

The results of this study must be interpreted in light of its shortcomings. First, the experimental nature of the study brings

about anticipated limitations, as vignettes may never fully capture the true nature of the passage of time or the experience of actual email communication between an instructor and student. Pertinent factors such as class size, course subject, a pre-existing instructor-student relationship, and the frequency of class meetings were ignored. Further, although offering additional experimental control, the exclusion of metadata (i.e., subject lines, email addresses, timestamps, dates) likely affected the believability of the email exchange and thus the ecological validity of the study. Future studies should seek to explore actual instructor-student email exchanges as they occur in real-time to better account for these factors.

Second, the present methodology eliminates meaningful context surrounding students' chronemic expectations and instead relies on their general expectations and evaluation of an unknown instructor. In reality, every "classroom is unique, thus perceptions of appropriateness and effectiveness of certain behaviors vary from classroom to classroom" (Generous et al., 2015, p. 129). While EVT research does support the notion that individuals hold general expectations towards various groups that inform evaluations (Burgoon & Walther, 1990), students likely have distinctive expectations for each instructor based on past interactions. Additional research is needed to better understand how student response time expectations change over time based on their interactions with a specific instructor.

Third, while novel, this study's method for operationalizing violation valence is limiting. In past research, scholars have relied on single items or brief scales (e.g., Burgoon & Walther, 1990) to measure participant perceptions of violated expectations. However, the present method assumed violated expectations of

participants based on time differentials rather than having participants report their own subjective violation experiences. In this way, the present categorization of participants could lack construct validity. Future research should further scrutinize and evaluate this method of violation operationalization. Similarly, although commonplace is existing EVT research (e.g., Dragojevic et al. 2019), the extent of chronemic violations was ignored in this study, oversimplifying the nuance of EVT. Indeed, not all violations, whether positive or negative, have the same violation extent (Affifi & Metts, 1998). For example, although both are negative violations, the extent to which an instructor replying one hour late negatively violates a students' chronemic expectations is not the same as an instructor replying 20 hours late. As framed by EVT, extremely negative violations should be evaluated less favorably than minimally negative violations (Burgoon, 2005). As such, researchers could explore if there is an association between the extent of violations, treated as a continuous variable, and students' subsequent evaluations of instructors.

Fourth, expectancy confirmations were not explored in this study. Less is known about how source evaluations resulting from expectancy confirmations compare to those of positive or negative violations. According to EVT, positive violations should produce more favorable evaluations than expectancy confirmations, and negative violations should produce less favorable evaluations than expectancy confirmations (Burgoon, 2015). However, a paucity of research employing EVT actually empirically tests these propositions (e.g., Andersen et al., 1998; Bartholow et al., 2001). Future research should fill this gap by exploring expectancy confirmations in instructor-student email chronemics research.

Conclusion

When responding to student emails, how fast is fast enough? As noted by Weinstock (2004), students “live in a world of invisibility and speed. No longer shackled by cables, cords, or wires, [they] move unhindered through invisible streams of data that surround and traverse . . . homes, workplaces, [classrooms,] and bodies” (p. 365). If instructors hope to elicit positive email response speed evaluations, the question posed above has a unique answer for each student. Being fast enough is not just about responding quickly, but rather, responding more quickly than students expect.

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Appendix 1

Email Vignette Template

Imagine you are a student contacting your instructor via e-mail about an upcoming assignment for a face-to-face course. In order to get some clarification about the assignment, you send the following e-mail:

From: Taylor Jones

To: Dr. Morrison

Dr. Morrison,

My name is Taylor Jones. I am a student in your COMM 211 Public Speaking Class.

I have a brief question about one of the daily work assignments for this class and need some help with the instructions. Can I stop by your office in the near future to get some clarification?

Please get back to me at your earliest convenience.

Taylor Jones

After sending the above e-mail, you receive the following e-mail response from your instructor #### hours after you sent the initial e-mail:

From: Dr. Morrison

To: Taylor Jones

Taylor,

Absolutely. Feel free to stop by my office before or after class this week. If you are unavailable at those times, we can work to make an appointment at a time that works for both of us.

See you in class tomorrow.

Dr. Morrison