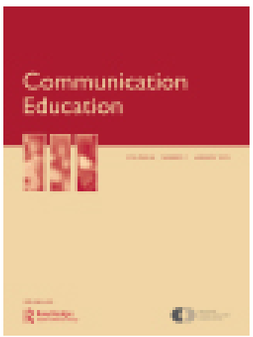

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The Dark Side of Emotion in the Classroom: Emotional Processes as Mediators of Teacher Communication Behaviors and Student Negative Emotions

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Based on emotional response theory (ERT), recent researchers have observed connections between teachers' communication behaviors and students' emotional reactions. In the present study, we further elaborated ERT by exploring the effects of teacher communication behaviors and emotional processes on discrete negative emotions, including anger, anxiety, shame, hopelessness, and boredom. Using cross-sectional survey data, we tested a hypothesized predictive model using structural equation modeling; the model was observed to fit well with the data. When teachers lack immediacy, are unclear, and/or demonstrate poor communication competence, students tend to report heightened negative emotional reactions. These effects are mediated by students' perceptions of social support from their teacher and their perceived need for emotion work in the class. Practical and theoretical implications of these findings are discussed.

Keywords: Classroom Emotions; Negative Affect; Teacher Immediacy; Teacher Clarity; Teacher Communication Competence

Joseph P. Mazer (Ph.D., Ohio University, 2010) is an Assistant Professor in the Department of Communication Studies at Clemson University. Timothy P. McKenna-Buchanan (Ph.D., Ohio University, 2014) is an Assistant Professor in the Department of Communication Studies at Manchester University. Margaret M. Quinlan (Ph.D., Ohio University, 2009) is an Assistant Professor in the Department of Communication Studies at the University of North Carolina at Charlotte. Scott Titsworth (Ph.D., University of Nebraska-Lincoln, 1999) is Dean of the Scripps College of Communication at Ohio University. Correspondence to: Joseph P. Mazer, Clemson University Department of Communication Studies, 407 Strode Tower, Clemson, SC 29634, U.S.A. Email: jmazer@clemson.edu.

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Recent national surveys exploring factors influencing student engagement have highlighted the importance of faculty–student interaction. For instance, the Wabash National Study of Liberal Arts Education (WNSLAE; Blaich & Wise, 2008) found that the frequency of faculty–student interaction was positively related to students' academic motivation, desire to contribute to the sciences and arts, and desire for professional success. To extend the WNSLAE study, the National Survey of Student Engagement (2013) found that perceptions of effective teaching practices varied somewhat by discipline and across other factors such as whether students were fulltime, living on campus, and enrolled in primarily face-to-face or online courses. Although the importance of faculty-initiated communication was highlighted by both studies, there was also recognition that "the quality of students' interaction with faculty and staff matters more than the quantity of these interactions" (Blaich & Wise, 2008, p. 8) because of observed negative associations between the quantity of faculty–student interaction and students' reports of critical and moral reasoning. Consequently, a key question guiding the work of both researchers and practitioners centers on the ways in which the quality of interaction between teachers and students is related to students' engagement in the learning process. In the present study, we addressed this question by exploring how teacher communication behaviors are related to the emotions that students experience in classroom settings.

Instructional communication scholars have contributed meaningful information to the question posed by authors of the Wabash study. For instance, several groups of researchers have explored how teachers' communication behaviors are linked to the emotions students experience in the classroom, reasoning that such experiences have potential positive effects on students' affective engagement and subsequent learning (e.g., Titsworth, Quinlan, & Mazer, 2010). Scholars adopting this perspective have observed that when teachers engage in effective communication behaviors, students tend to perceive the classroom environment as more positive (Titsworth et al., 2010), and report higher levels of cognitive, behavioral, and emotional engagement (Zhang & Zhang, 2013). Conversely, when teachers engage in less effective communication behaviors, students report feelings of injustice and negative emotional responses (Chory, Horan, Carlton, & Hauser, 2014).

The current study contributes to this body of work by exploring connections between students' perceptions of how teachers communicate and their self-reported negative emotions in a classroom setting. Using emotional response theory (ERT; Mottet, Frymier, & Beebe, 2006), Titsworth, McKenna, Mazer, and Quinlan (2013) observed that when teachers enact effective communication behaviors, such as nonverbal immediacy and clarity, and are perceived as communicatively competent, students report positive emotional experiences. Unaddressed by that study was the question of whether poor teacher communication behaviors are related to discrete negative emotions. In the current study, we explored that issue in an attempt to provide a more comprehensive explanation of how the quality of teacher–student interactions can potentially influence factors contributing to student engagement and eventual academic success.

Using ERT as a framework, we isolated three communication behaviors—teacher nonverbal immediacy, teacher clarity, and teacher communication competence—to explore their relationship with five negative emotions reported by students—anger, anxiety, shame, hopelessness, and boredom (Pekrun, Goetz, Frenzel, Barchfield, & Perry, 2011). Because other researchers found that instructors' antisocial communication behaviors are associated with a variety of "destructive emotional and behavioral classroom responses" (Chory et al., 2014, p. 59), we tested a predictive model hypothesizing that when teachers are nonimmediate, unclear, and nonsupportive, students will report higher levels of anger, anxiety, shame, hopelessness, and boredom. A previous study reported that the relationship between teacher communication behaviors and discrete positive emotions were mediated by students' perceptions of social support from the teacher as well as their perceived need for emotion work. We hypothesized the same mediated relationship with negative emotions. Support for the model would expand the explanatory power of ERT by addressing the dark side of students' emotional experiences stemming from interactions with their teachers and would add important information for practitioners attempting to understand processes through which the quality of teacher–student interaction can potentially impact student engagement.

Emotional Processes and Students' Emotional Responses

Mottet and colleagues (2006) advanced ERT as a model through which classroom communication behaviors could be linked to students' emotional responses and subsequent learning. The original ERT framework hypothesized that teacher communication behaviors trigger emotional reactions from students around three dimensions highlighted by Mehrabian (1981)— pleasure, arousal, and dominance. In turn, students' emotional reactions trigger approach or avoidance behaviors by students toward learning. Subsequent research by Titsworth et al. (2010) revised ERT to integrate a more nuanced understanding of emotional processes and responses. Specifically, they concluded that teacher communication behaviors trigger processes through which students perceive higher or lower levels of *emotional support* from teachers, and also perceive a higher or lower need for *emotion work* when interacting with the teacher.

Feelings of emotional support occur when individuals perceive the messages of others to promote desirable outcomes, including decreased emotional stress, adaptive coping strategies, improved emotional health, and generally supportive interpersonal relationships (Burleson, 2009). Although emotionally supportive communication can occur in various contexts, Titsworth et al. (2010) argued that classroom emotional support reflects the extent to which students perceive that their instructor is available and able to provide emotional support about topics that are directly and indirectly related to school.

Some workplace settings require that individuals suppress actual emotions in favor of socially acceptable but inauthentic emotions (Hochschild, 1983/2003); other professions, such as correctional officers and first responders, require careful monitoring and

management of emotions (Tracy, 2005). These examples illustrate emotion work, the active management of emotional displays, as a key process governing how individuals give meaning to emotional cues in their workplace. Hochschild (1983/2003) explained that emotion work "requires one to induce or suppress feeling in order to sustain the outward countenance that produces the proper state of mind in others" (p. 7). Students may choose to manage the degree or quality of emotion based on their perceptions of whether emotional work could impact their class performance. Additionally, Hochschild explained that "feeling rules are what guide emotion work by establishing the sense of entitlement or obligation that governs emotional exchanges" (p. 56). These rules may be apparent in the classroom and may be mitigated by teachers' misbehaviors.

Titsworth et al. (2010) observed significant relationships between students' perceptions of teachers' communication behaviors and each of the three emotional processes previously described. A subsequent study (Titsworth et al., 2013) observed that when students perceive they have higher levels of emotional support from the teacher, and are required to engage in less emotion work, they have greater enjoyment, hope, and pride associated with the learning experience. They concluded that ERT should be expanded to integrate both the emotional processes of perceived emotional support and emotion work, as well as discrete emotional reactions connected to academic engagement and success.

Pekrun, Goetz, Titz, and Perry (2002) noted that discrete emotions can be classified as either positive or negative, and as either activating or deactivating. Activating emotions are likely related to approach behaviors, whereas deactivating emotions are likely be related to avoidance behaviors (for a discussion of approach vs. avoidance, see Mehrabian, 1981). Positive emotions include enjoyment, hope, pride, and relief; negative emotions include anger, anxiety, shame, hopelessness, and boredom. Although emotions like enjoyment, hope, pride, anger, anxiety, and shame are activating, relief, hopelessness, and boredom are deactivating.

In the present study, we explored activating emotions—anger, anxiety, and shame—and deactivating emotions—hopelessness and boredom—to draw connections between these discrete negative emotions and classroom communication behaviors. The emotion of anger, for instance, has been examined from what students experience when the teacher expresses anger, but not from students' experiences of this emotion (McPherson & Bippus, 2003). Anxiety has been examined in relation to test anxiety, but research has not explored how teachers' communication behaviors might influence this emotion (Pekrun et al., 2004). Additionally, teachers' use of sarcasm or putdowns often leads students to feel shame; however, shame has not yet been proposed as a discrete emotion in instructional communication research. The emotion of boredom often leads to poor classroom performance from students, but research has not examined linkages between teachers' communication behaviors and students' boredom in the classroom (Ruthig et al., 2008). Finally, when teachers fail to stay on topic and are absent from class, students may experience feelings of hopelessness. To date, the emotion of hopelessness has not been examined in relation to communication in the classroom. Using ERT to draw connections between teachers' communication

behaviors and these discrete negative emotions would further develop ERT while also meaningfully contributing to interdisciplinary literature exploring processes of classroom emotions experienced by students.

Teacher Communication Behaviors

The majority of instructional communication research has focused on the positive effects of teacher communication behaviors. Contrary to this pattern, researchers exploring teacher misbehaviors adopt the perspective that poor communication behaviors violate socially acceptable norms for classroom communication (Levine et al., 2000). Using this literature as a conceptual starting-point, we reasoned that ineffective teacher communication—a lack of nonverbal immediacy, clarity, and communication competence—would cause negative emotional reactions from students.

Teacher nonverbal immediacy is the perception of interpersonal closeness that occurs when teachers enact nonverbal behaviors to reduce psychological distance between themselves and their students (see Witt & Kerssen-Griep, 2011). In the current study, we took a similar view of teacher immediacy as an instructional outcome, rather than measuring the instructor behaviors that cue such perceptions. The literature infers that students may perceive psychological distance from teachers who avoid eye contact, lack noticeable facial expressions, and use diminished movement and vocal variety. Conversely, when teachers enact eye gaze, use vocal variety, and move about the classroom, they are typically perceived by students as more immediate, which is associated with positive feelings (Witt & Schrodt, 2006). Thweatt and McCroskey (1998) found that students perceived the least credible teacher as both nonimmediate and misbehaving; they concluded that nonimmediacy behaviors could be considered forms of teacher misbehavior.

Teacher clarity involves various ways in which teachers use examples, descriptions, and explanations to help students understand information (Bush, Kennedy, & Cruickshank, 1977). Unclear teachers would be more likely to disconnect relationships between details and organizing points contained in a lesson, would fail to provide adequate examples, and would be less likely to provide structured transitions from one point to another while lecturing. Gill (1994) found that teachers' accents, which were labeled as a teacher misbehavior, impacted students' comprehension in the classroom. Although clarity can be divided into one or more intermediate constructs such as verbal and written clarity (Titsworth, Novak, Hunt, & Meyer, 2004), clarity is not easily reduced to a sum of parts (Simonds, 1997). Therefore, if unclear teaching is perceived by students as a teacher misbehavior, students will likely experience negative emotional reactions in the classroom.

Teacher communication competence derives from impressions of individuals' communication effectiveness and appropriateness (Rubin, 1985; Spitzberg & Cupach, 1984). Teachers who lack communication competence would generally be perceived as poor listeners and would have difficulty, or even unwillingness in, expressing relational and substantive messages to students. The underlying dimensions of

teacher misbehaviors suggest the importance of being *effective*, but not indolent or incompetent, and *appropriate,* but not offensive. Glaser-Zikuda and Fuss (2008) explained that when teachers are able to more effectively decode aspects of the communication situation—including their relationships with students—students have a greater sense of well-being in a class. McPherson and Bippus (2003) found that students believed teachers used embarrassment as a strategy to gain their compliance and, as a result, affective learning decreased. These findings underscore the potential influence that teachers' communication competence can have on students' emotional experiences in the classroom.

We hypothesized a causal model where teachers' communication behaviors (i.e., nonverbal immediacy, clarity, and communication competence) potentially influence students' perceptions of emotion work and emotional support. As predicted by the expanded ERT model, those emotional processes should be related to discrete negative emotions like anger, anxiety, shame, hopelessness, and boredom. The hypothesized model is shown in Figure 1.

Previous research provided a strong theoretical basis for paths shown in the model. For instance, Titsworth et al. (2010, 2013) observed positive correlations between the three teacher communication behaviors and students' perceptions of emotional support and negative associations between those same teacher behaviors and students' perceptions of emotion work. Similarly, when teachers are perceived to

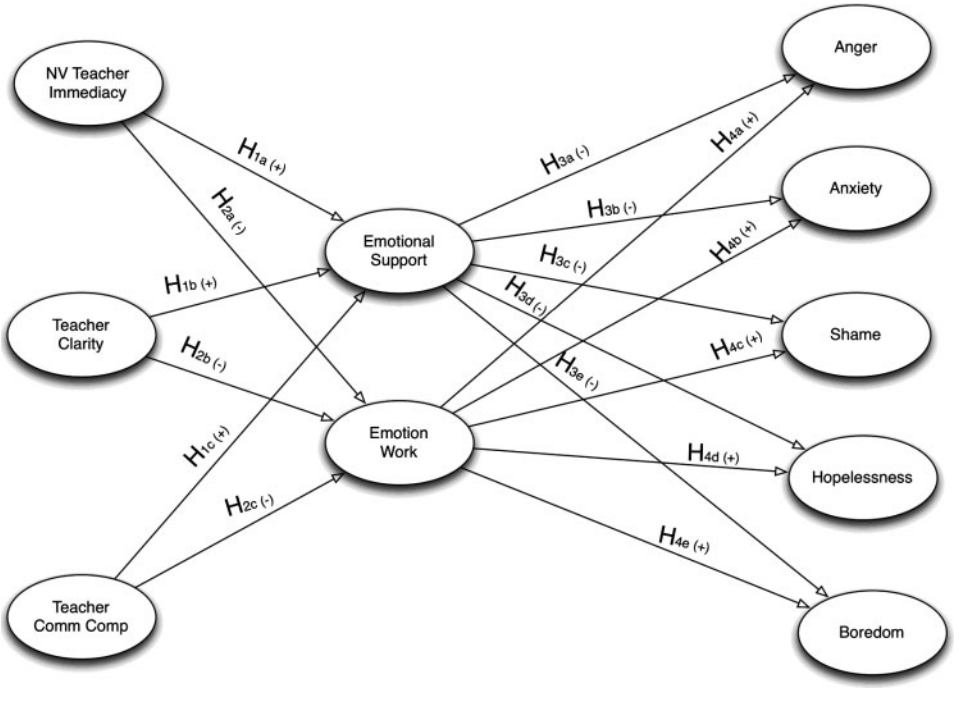

Figure 1 Hypothesized Predictive Model for Negative Emotions.
Note: Covariance paths among exogenous predictors not predicted.

display severe injustice and hurtful communication, students report less perceived emotional support and greater need for emotion work in the classroom (Chory et al., 2014). Thus, in the current study, we expected to replicate the finding that higher levels of nonverbal teacher immediacy, clarity, and communication competence would be associated with greater perceived emotional support and lower levels of perceived emotion work.

H1: Teachers' nonverbal immediacy (H1a), clarity (H1b), and communication competence (H1c) will positively predict students' perceptions of emotional support in a class.

H2: Teachers' nonverbal immediacy (H2a), clarity (H2b), and communication competence (H2c) will negatively predict students' perceptions of emotion work in a class.

In addition, we predicted relationships between these emotional processes and discrete negative emotions. Chory et al. (2014) observed that when teachers present messages of injustice and hurt, students report an overall negative emotional valence for the class. As such, we expected that emotional support would be negatively associated with students' anger, anxiety, shame, hopelessness, and boredom because these emotions are consistent with a negative valence (Pekrun et al., 2002). On the other hand, emotion work was expected to be positively associated with each of the six negative emotions.

H3: Emotional support will be negatively related to students' reports of anger (H3a), anxiety (H3b), shame (H3c), hopelessness (H3d), and boredom (H3e) in a class.

H4: Emotion work will be positively related to students' reports of anger (H4a), anxiety (H4b), shame (H4c), hopelessness (H4d), and boredom (H4e) in a class.

Method

Participants and Target Classes

Participants included 753 students from three large public universities in the United States, with 87 from a Southeastern university, 219 from an Appalachian university, and 446 from a mid-Atlantic university. There were 502 females and 249 males, with one participant not reporting their sex. Participants were, on average, 21.64 years old (SD = 5.26) and were spread evenly across years in school, with a slightly larger number of sophomores (n = 224), followed by juniors (n = 212), seniors (n = 165), and freshmen (n = 151). The average GPA of participants was 3.14 (SD = 1.74). Participants in the study reported a diversity of majors, with a majority majoring in communication (n = 338), followed by arts and sciences (n = 131), health sciences (n = 87), business (n = 69), engineering/technology (n = 68), and education (n = 40). Most students were Caucasian (n = 538), followed by African American (n = 126); no other ethnic group accounted for more than 5% of the total.

Participants answered questions about the teacher in the first class they attended each week, provided that the class afforded an opportunity to interact with the teacher (see Plax, Kearney, McCroskey & Richmond, 1986). The target classes had an average of 87 students enrolled (*SD* = 111.67). There were more female teachers (*n* = 399) than male teachers (*n* = 351) identified in the sample. Most classes were described as lecture-oriented (*n* = 448), with 40% (*n* = 299) described as discussion-oriented. Most students (*n* = 487) were enrolled in their target class because of their major, with a smaller number (*n* = 140) indicating enrollment for general education or other requirements. Based upon an analysis of course titles and numbering conventions, we estimated that 64 different academic fields were represented, with most from Communication (*n* = 333), followed by English (*n* = 39), Mathematics (*n* = 37), Spanish (*n* = 27), and Psychology (*n* = 24).

Procedures and Measures

After obtaining approval from IRB committees at each of the universities, students were contacted just after the midpoint of their academic terms with an invitation to complete an electronic survey with questions for the study; students provided informed consent electronically prior to completing the survey. The survey contained demographic questions, questions about their target class, and five scales selected to assess variables in the study.

Classroom emotions. Students' perceptions of classroom emotional processes were assessed using Titsworth et al.'s (2010) classroom emotions scale. That scale taps three dimensions: *emotional valence* (e.g., "I would generally describe the emotions I feel toward this class as positive"), *emotion work* (e.g., "Interacting with this instructor requires a lot of emotional energy"), and *emotional support* (e.g., "My instructor is willing to discuss my feelings and emotions about school"). Participants used a 5-point Likert scale with response options ranging from *strongly disagree* to *strongly agree*. The measure has performed exceptionally well in confirmatory factor analysis (Titsworth et al., 2013). Cronbach's (1951) alpha reliability estimates for the current study were .82, .68, and .89 for emotional valence, emotion work, and emotional support, respectively. The emotional valence factor was not used in the study because the discrete emotions of anger, anxiety, shame, hopelessness, and boredom provided more robust information about students' emotional responses to teacher communication behaviors.

Achievement emotions. Each of the discrete emotional reactions was assessed using the Achievement Emotion Questionnaire (AEQ; Pekrun et al., 2011). The AEQ uniquely provides information concerning *specific* emotions experienced by students before, during, and after classroom experiences. The current study focused on the negative activating emotions: anger (e.g., "Thinking about the poor quality of the course makes me angry"), anxiety (e.g., "I worry the others will understand more than me"), and shame (e.g., "When I say something in class I feel like I am making a fool

of myself"), as well as negative-deactivating emotions including both hopelessness (e.g., "I have lost all hope in understanding this class") and boredom (e.g., "I get so bored I have problems staying alert"). Students used a 5-point Likert scale with response options ranging from *strongly disagree* to *strongly agree*. Cronbach's (1951) alpha reliability estimates for the AEQ emotions in the current study were .93 for anger, .93 for anxiety, .93 for shame, .89 for hopelessness, and .95 for boredom.

Teacher clarity. The decision to use any particular scale generally is determined based on the level of specificity required for a particular study. We opted to use the 12-item Clarity Behaviors Inventory (CBI) developed by Titsworth et al. (2004) because that scale assesses a range of clarity behaviors across distinct channels. The CBI operationalizes students' perceptions of both teachers' *oral* (e.g., "The teacher explains how we are supposed to see relationships between topics covered in the lecture") and *written* (e.g., "The teacher provides us with written descriptions of the most important things in the lecture") clarity behaviors using a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*. Cronbach's (1951) alpha reliability estimates were strong, with values of .93 and .90 for verbal and written clarity.

Teacher nonverbal immediacy. The 10-item Perceived Nonverbal Immediacy Behavior Scale (PNIB) (McCroskey, Sallinen, Fayer, Richmond, & Barraclough, 1996) was used to assess students' perceptions of their teacher's nonverbal immediacy. Using a 5-point Likert scale with responses ranging from *strongly disagree* to *strongly agree,* students reported the extent to which their teacher displayed various behaviors including eye contact, vocal variety, and movement. Previous estimates of reliability for various versions of scales assessing teacher nonverbal immediacy have ranged from .69 to .89. In the present study, Cronbach's (1951) alpha reliability estimate was .83.

Communication competence. Students rated their teacher's level of communication competence using Monge, Backman, Dillard, and Eisenberg's (1982) Communicator Competence Questionnaire. This scale was used because it was designed to focus on encoding and decoding skills that facilitate interaction between people in role positions similar to the teacher–student relationship (see also Papa & Tracy, 1988). A 5-point Likert scale ranging from *strongly disagree* to *strongly agree* was used to respond to the 12-item two-factor scale: *encoding* (e.g., "My instructor has a good command of the language") and *decoding* (e.g., "My teacher is easy to talk to"). Cronbach's (1951) alpha reliability estimates were .84 (encoding) and .88 (decoding).

Data Analysis

Primary and secondary data analyses were obtained using structural equation modeling (SEM) via LISREL 8.80 for Windows. This analytical approach attenuates for error variance in manifest indicators and also permits holistic assessment of an *a*

priori model like the one proposed in Figure 1. Multiple fit indices were used to assess model fit: (a) model chi-square, (b) the root mean square error of approximation (RMSEA), (c) the nonnormed fit index (NNFI), and (d) the comparative fit index (CFI) (Kline, 2005). A model fits well if the chi-square is not significant or if it meets certain benchmarks on other indices: for the RMSEA statistic, lower values (less than .08) indicate better model fit, whereas higher values (greater than .90; Kline, 2005) for the NNFI and CFI statistics indicate better fit.

The hypothesized model shown in Figure 1 contained 10 latent constructs: (a) teacher nonverbal immediacy, (b) teacher clarity, (c) teacher communication competence, (d) emotional support, (e) emotion work, (f) anger, (g) anxiety, (h) shame, (i) hopelessness, and (j) boredom. Teacher clarity and teacher communication competence were treated as single variables in the measurement model. Three parcels, or "aggregate-level [indicators] comprised of the sum (or average) of two or more items, responses, or behaviors" (Little, Cunningham, Shahar, & Widaman, 2002, p. 152), were created for each construct. The parceling technique reduces the number of manifest indicators for each latent construct, improves reliability, and provides a more precise identification of the latent construct using fewer parameter estimates (Little et al., 2002).

Results

Primary Analysis

Metric invariance tests were used to compare measurement across the three institutions to ensure that combining the three subsamples into an overall sample was tenable (Little, 1997). The decision to combine samples was based on analyzing equality of indicator loadings (i.e., weak metric invariance), equality of indicator means (i.e., strong metric invariance), and homogeneity of the variance/covariance matrix among latent constructs. Results of the tests indicated strong metric invariance regardless of institution. A test for homogeneity in the variance/covariance matrix revealed no statistically significant differences among the three institutions, $\Delta\chi^2(19) = 20.32$, $p > .05$. Consequently, any differences between institutions are likely due to chance variation, which supports the decision to analyze all participants within a single model (Ledbetter, 2009).

Following Kline's (2005) recommendation, a two-step procedure was used to assess the hypothesized model. First, a confirmatory factor analysis, using the maximum likelihood method, established fit between manifest indicators and expected latent constructs (i.e., the measurement model). This model demonstrated good model fit, $\chi^2(360) = 1322.96$, $p < .01$, RMSEA = $.060_{[90\%\ \text{CI: } .057:.064]}$, NNFI = 0.99, CFI = 0.99. Modification indices did not suggest any necessary alterations to the model, nor was there a need to allow error terms to correlate. Values in Table 1 display means, standard deviations, and zero-order correlations for all manifest variables. Table 2 reports the measurement model, lambda loadings, and theta epsilon residuals.

Table 1 Descriptive Statistics and Bivariate Correlations Among Manifest Indicators (N = 752)

Variables	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Nonverbal Teacher Immediacy	34.81	5.55	1.00								
2. Teacher Clarity	47.35	9.41	.54	1.00							
3. Teacher Comm. Competence	46.77	8.08	.74	.69	1.00						
4. Emotional Support	26.51	5.88	.51	.42	.62	1.00					
5. Emotion Work	9.82	2.87	−.39	−.38	−.44	−.33	1.00				
6. Anger	18.01	7.14	−.63	−.57	−.67	−.51	.56	1.00			
7. Anxiety	27.26	9.99	−.45	−.35	−.45	−.41	.52	.72	1.00		
8. Shame	23.89	8.52	−.43	−.33	−.42	−.36	.47	.67	.84	1.00	
9. Hopelessness	21.06	6.57	−.52	−.42	−.51	−.37	.51	.81	.83	.74	1.00
10. Boredom	28.77	9.39	−.51	−.46	−.57	−.51	.39	.72	.56	.53	.57

Note. All correlations are significant at $p < .01$.

The second step was to test the hypothesized regression paths depicted in Figure 1. The initial structural model indicated good fit, $\chi^2(375) = 1403.06$, $p < .01$, RMSEA = $.061_{[90\%\ CI\ =\ .058:.065]}$, NNFI = .99, CFI = .99, but also revealed the presence of nonsignificant regression paths from nonverbal teacher immediacy to emotional support and from teacher clarity to emotional support. We followed Kline's (2005) recommendations and trimmed these paths in iterations whereby the path with the lowest parameter z-score was removed until analysis revealed a more parsimonious explanation of the relationship between teacher communication behaviors and emotional processes. The trimmed model (see Figure 2) showed good fit, $\chi^2(377) = 1406.79$, $p < .01$, RMSEA = $.061_{[90\%\ CI\ =\ .058:.065]}$, NNFI = .99, CFI = .99, with a chi-square difference test indicating a nonsignificant decline in fit when compared to the saturated model, $\Delta\chi^2(2) = 3.73$, $p > .05$. The data indicated no need for permitting error terms to correlate. This model accounted for substantial variance in emotional support (R^2 = .52), emotion work (R^2 = .66), and each of the five discrete negative emotions (anger: R^2 = .82; anxiety: R^2 = .51; shame: R^2 = .44; hopelessness: R^2 = .66; boredom: R^2 = .50).

The first hypothesis was partially supported (H1c), with the trimmed model revealing a significant relationship between emotional support and communication competence ($B = 0.60_{[95\%\ CI\ =\ 0.47:0.73]}$, $\beta = .72_{[95\%\ CI\ =\ .55:.88]}$, $p < .01$). Neither nonverbal teacher immediacy ($B = 0.09_{[95\%\ CI\ =\ -0.10:0.30]}$, $\beta = .06_{[95\%\ CI\ =\ -.20:.34]}$, $p > .05$) nor teacher clarity ($B = -0.11_{[95\%\ CI\ =\ -0.24:0.02]}$, $\beta = -.07_{[95\%\ CI\ =\ -.25:.09]}$, $p > .05$) predicted emotional support; thus, H1a and H1b were not supported. The trimmed model indicated that emotion work was significantly predicted by nonverbal teacher immediacy ($B = -0.54_{[95\%\ CI\ =\ -0.31:-0.76]}$, $\beta = -.31_{[95\%\ CI\ =\ -.03:-.61]}$, $p < .01$), teacher clarity ($B = -0.19_{[95\%\ CI\ =\ -0.05:-0.33]}$, $\beta = -.11_{[95\%\ CI\ =\ -.29:-.07]}$, $p < .05$), and teacher communication competence ($B = -0.76_{[95\%\ CI\ =\ -1.02:-0.50]}$, $\beta = -.44_{[95\%\ CI\ =\ -.78:-.10]}$, $p < .01$), providing support for H2. Emotional support was predictive of anger ($B = -0.17_{[95\%\ CI\ =\ -0.42:-0.08]}$, $\beta = -.11_{[95\%\ CI\ =\ -.43:-.22]}$, $p < .05$), anxiety ($B = -0.12_{[95\%\ CI\ =\ -0.26:-0.02]}$, $\beta = -.12_{[95\%\ CI\ =\ -.32:-.08]}$, $p < .05$), shame

Table 2 Measurement Model Estimates for Lambda Loadings and Theta Epsilon Residuals

Latent construct Indicator	Lambda	Theta
1. *Nonverbal Teacher Immediacy*		
Indicator 1	.78	.39
Indicator 2	.84	.33
Indicator 3	.84	.28
2. *Teacher Clarity*		
Indicator 1	.94	.12
Indicator 2	.96	.07
Indicator 3	.91	.18
3. *Teacher Communication Competence*		
Indicator 1	.89	.21
Indicator 2	.92	.15
Indicator 3	.89	.21
4. *Emotional Support*		
Indicator 1	.84	.18
Indicator 2	.84	.22
Indicator 3	.83	.39
5. *Emotion Work*		
Indicator 1	.83	.21
Indicator 2	.84	.29
Indicator 3	.83	.22
6. *Anger*		
Indicator 1	.91	.17
Indicator 2	.92	.33
Indicator 3	.87	.20
7. *Anxiety*		
Indicator 1	.91	.26
Indicator 2	.94	.27
Indicator 3	.92	.39
8. *Shame*		
Indicator 1	.93	.23
Indicator 2	.90	.35
Indicator 3	.91	.29
9. *Hopelessness*		
Indicator 1	.92	.23
Indicator 2	.82	.35
Indicator 3	.93	.29
10. *Boredom*		
Indicator 1	.93	.23
Indicator 2	.94	.35
Indicator 3	.94	.29

Note: All estimates are standardized and significant at $p < .01$.

($B = -0.16_{[95\%\ CI\ =\ -0.31:-0.02]}$, $\beta = -.17_{[95\%\ CI\ =\ -.36:-.02]}$, $p < .01$), hopelessness ($B = -0.29_{[95\%\ CI\ =\ -0.50:-0.08]}$, $\beta = -.25_{[95\%\ CI\ =\ -.52:-.02]}$, $p < .01$), and boredom ($B = -0.12_{[95\%\ CI\ =\ -0.25:-0.02]}$, $\beta = -.13_{[95\%\ CI\ =\ -.29:-.03]}$, $p < .01$), which is consistent with the third hypothesis. Hypothesis 4 was also supported, with emotion work emerging as a significant predictor of anger ($B = 0.97_{[95\%\ CI\ =\ 0.50:.98]}$, $\beta = .98_{[95\%\ CI\ =\ .42:.99]}$, $p < .01$), anxiety ($B = .66_{[95\%\ CI\ =\ 0.50:0.82]}$, $\beta = .79_{[95\%\ CI\ =\ .57:.98]}$,

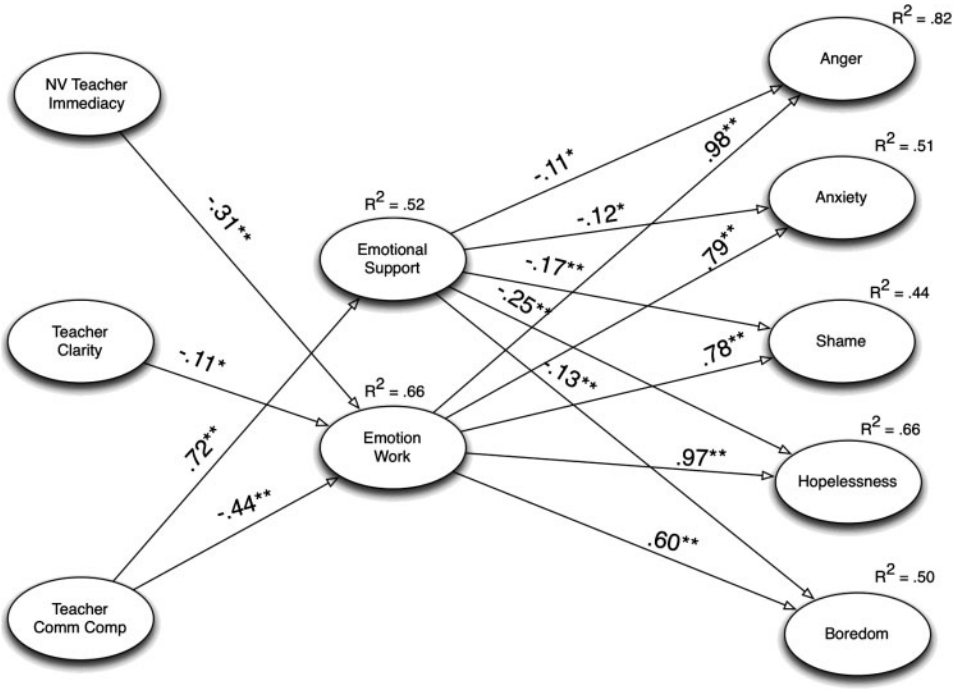

Figure 2 Trimmed Structural Model Predicting Negative Emotions.
Note: All parameter estimates are standardized. Covariance paths among exogenous predictors and endogenous constructs not depicted. *$p < .05$; ** $p < .01$.

$p < .01$), shame ($B = 0.61_{[95\%\ CI\ =\ 0.46:0.76]}$, $\beta = .78_{[95\%\ CI\ =\ .57:.98]}$, $p < .01$), hopelessness ($B = 0.96_{[95\%\ CI\ =\ 0.71:0.98]}$, $\beta = .97_{[95\%\ CI\ =\ .62:.98]}$, $p < .01$), and boredom ($B = .49_{[95\%\ CI\ =\ 0.37:0.63]}$, $\beta = .60_{[95\%\ CI\ =\ .43:.77]}$, $p < .01$).

Additional parameter options in LISREL allowed evaluation of indirect effects of the three teacher communication behaviors on discrete emotions experienced by students. Sobel tests revealed significant indirect effects on students' anger from nonverbal teacher immediacy ($B = -0.71_{[95\%\ CI\ =\ -0.85:-0.39]}$, $\beta = -.31_{[95\%\ CI\ =\ -.72:-.21]}$, $p < .01$), teacher clarity ($B = -0.25_{[95\%\ CI\ =\ -0.44:-0.07]}$, $\beta = -.11_{[95\%\ CI\ =\ -.36:-.07]}$, $p < .01$), and teacher communication competence ($B = -0.83_{[95\%\ CI\ =\ -0.90:-0.20]}$, $\beta = -.36_{[95\%\ CI\ =\ -.82:-.10]}$, $p < .01$). With respect to students' anxiety, teacher immediacy ($B = -0.35_{[95\%\ CI\ =\ -0.51:-0.20]}$, $\beta = -.25_{[95\%\ CI\ =\ -.45:-.05]}$, $p < .01$), clarity ($B = -0.13_{[95\%\ CI\ =\ -0.22:-0.03]}$, $\beta = -.09_{[95\%\ CI\ =\ -.21:-.03]}$, $p < .01$), and communication competence ($B = -0.38_{[95\%\ CI\ =\ -0.54:-0.21]}$, $\beta = -.27_{[95\%\ CI\ =\ -.48:-.05]}$, $p < .01$) served as indirect predictors. Nonverbal teacher immediacy ($B = -0.33_{[95\%\ CI\ =\ -0.47:-0.19]}$, $\beta = -.24_{[95\%\ CI\ =\ -.43:-.06]}$, $p < .01$), teacher clarity ($B = -0.12_{[95\%\ CI\ =\ -0.20:-0.03]}$, $\beta = -.09_{[95\%\ CI\ =\ -.20:-.02]}$, $p < .01$), and teacher communication competence ($B = -0.30_{[95\%\ CI\ =\ -0.45:-0.15]}$, $\beta = -.22_{[95\%\ CI\ =\ -.42:-.02]}$, $p < .01$) indirectly predicted students' shame. Sobel tests also revealed significant indirect effects on students' hopelessness for nonverbal teacher immediacy ($B = -0.52_{[95\%\ CI\ =\ -0.74:-0.30]}$,

$\beta = -.30_{[95\%\ CI = -.60:-.05]}$, $p < .01$), teacher clarity ($B = -0.19_{[95\%\ CI = -0.32:-0.05]}$, $\beta = -.11_{[95\%\ CI = -.29:-.07]}$, $p < .01$), and teacher communication competence ($B = -0.43_{[95\%\ CI = -0.67:-0.20]}$, $\beta = -.25_{[95\%\ CI = -.57:-.11]}$, $p < .01$). With respect to students' boredom, nonverbal teacher immediacy ($B = -0.27_{[95\%\ CI = -0.38:-0.15]}$, $\beta = -.19_{[95\%\ CI = -.35:-.03]}$, $p < .01$), clarity ($B = -0.10_{[95\%\ CI = -0.17:-\ 0.02]}$, $\beta = -.07_{[95\%\ CI = -.16:-.02]}$, $p < .01$), and communication competence ($B = -0.51_{[95\%\ CI = -0.65:-0.37]}$, $\beta = -.36_{[95\%\ CI = -.54:-.18]}$, $p < .01$) served as indirect predictors. Based on these findings, it is possible that emotional support and emotion work may mediate the relationship between teacher communication behaviors and negative emotions experienced by students.

Secondary Analysis

Following Kline's (2005) advice to test multiple theoretically relevant models, we also computed a model with both direct and indirect paths from teacher communication behaviors to negative emotions. In this saturated model, nonverbal teacher immediacy directly predicted students' anger ($B = -0.33_{[95\%\ CI = -0.56:-0.10]}$, $\beta = -.19_{[95\%\ CI = -0.22:-0.15]}$, $p < .01$), shame ($B = -0.25_{[95\%\ CI = -0.46:-0.04]}$, $\beta = -.19_{[95\%\ CI = -0.22:-0.16]}$, $p < .01$), and hopelessness ($B = -0.36_{[95\%\ CI = -0.59:-0.13]}$, $\beta = -.24_{[95\%\ CI = -0.27:-0.20]}$, $p < .01$). Teacher clarity directly predicted students' anger ($B = -0.18_{[95\%\ CI = -0.33:-0.03]}$, $\beta = -.10_{[95\%\ CI = -0.12:-0.08]}$, $p < .01$) and boredom ($B = -0.12_{[95\%\ CI = -0.25:-0.01]}$, $\beta = -.09_{[95\%\ CI = -0.11:-0.07]}$, $p < .05$). All other direct paths were not significant. The model demonstrated good fit, $\chi^2(360) = 1322.96$, RMSEA = $.060_{[90\%\ CI = .057:.064]}$, NNFI = .99, CFI = .99, but also produced a significant decline in model fit, $A\chi^2(17) = 83.83$, $p < .01$. Because the saturated model resulted in significantly reduced fit and lacked parsimony, the initial trimmed model was retained.

Discussion

The principal objectives of this study were twofold. First, we wanted to contribute to growing national discussion of student engagement by exploring whether a lack of communication effectiveness on the part of teachers can potentially contribute to a lack of engagement on the part of students. Second, we sought to extend ERT (Mottet et al., 2006) by exploring whether discrete negative emotions (anger, anxiety, shame, hopelessness, and boredom) are related to teachers' communication behaviors and emotional processes identified in the revised theory (Titsworth et al., 2013). Analyses of the data provided meaningful information relevant to both objectives. Following a narrative summary of results, we return to these practical and theoretical implications.

Hypotheses 1 and 2 were generally supported. Teacher communication competence was the only communication behavior significantly related to students' perceived emotional support. However, lower levels of nonverbal teacher immediacy, teacher clarity, and teacher communication competence were associated with higher levels of perceived emotion work on the part of students. Whereas previous studies had

observed relationships between effective communication from teachers and positive emotional reactions from students (Titsworth et al., 2010, 2013), those studies did not specifically identify possible relationships with negative student emotions. Because studies exploring teacher misbehaviors found that lack of clarity, impersonal communication, abusive communication, and other indicators of poor communication skills diminished students' affect (Goodboy & Bolkan, 2009), we reasoned that a lack of nonverbal immediacy, clarity, and competence on the part of a teacher could trigger emotional processes that heighten students' anger, anxiety, shame, hopelessness and boredom in a class. Hypotheses 3 and 4 were supported by results observed in the structural model.

As noted in Figure 2, all path coefficients from emotional support and emotion work were significant and in the hypothesized direction. Generally speaking, the positive path coefficients from emotion work to the five negative discrete emotions were strong, with no value lower than .60 and several above .90. Although the negative path coefficients from emotional support to the discrete emotions were comparatively much smaller, with values ranging from –.11 to –.25, all were significant. Tests also revealed significant indirect paths from the teacher communication variables to the five discrete emotions. Notably, the variance accounted for in each of the endogenous constructs was quite large. For example, approximately 82% of the variance in students' perceived anger could be explained by variables in the structural model.

These results are meaningful for educators and administrators interested in student engagement. When teachers are perceived as nonverbally nonimmediate, lacking in clarity, and lacking in communication competence, it is probable that students in their classes will report heightened deactivating emotions like shame, boredom, and hopelessness as well as heightened activating emotions like anxiety and anger. Higher levels of these negative emotions are detrimental for students because they are associated with lower levels of achievement and could potentially diminish students' self-concepts as learners (Goetz et al., 2012). These findings, coupled with those observed by Zhang and Zhang (2013), suggest that teacher communication, both positive and negative, plays a vital role in student engagement because of how they influence students' affect and emotions in the classroom. Scholars and practitioners interested in the topic (e.g., Blaich & Wise, 2008; National Survey of Student Engagement, 2013) would benefit from greater attention to this connection.

In addition to providing useful practical information, these findings further support and illuminate ERT (Mottet et al., 2006). Taken alongside previous findings showing that effective teacher communication is associated with positive emotions such as enjoyment, hope, and pride (Titsworth et al., 2013), we can now conclude that the opposite is also probable—poor communication from teachers can potentially lead to negative emotional reactions from students. Collectively, the body of literature using ERT is beginning to elucidate a robust connection between teachers' communication and students' emotional reactions. Chory and colleagues (2014) found that when teachers engage antisocial messages of injustice (e.g., criticizing students in a rude way), their students tend to report negative emotional

reactions including feelings of hurt, higher levels of emotion work, and less perceived social support. When teachers are more nonverbally immediate, clear, and communicatively competent, their students tend to report more positive emotional reactions (Titsworth et al., 2013); when those behaviors are not enacted, students report more negative emotions, as shown in this study. The relative positive or negative emotions experienced by students are related to their perceptions of cognitive, affective, and behavioral learning (see Horan, Martin, & Weber, 2012; Titsworth et al., 2010). Based on these research findings, the links between teacher communication behaviors, students' emotional reactions (including processes driving those reactions), and subsequent learning appear evident. Thus, the explanatory value of ERT is increasingly well supported by empirical studies. Although continued validation and refinement of the theory would be productive, strands of scholarship should increasingly turn to practical implications of the theory.

In relation to the present study, teachers who are ineffective communicators potentially risk very negative emotional reactions from students. What factors might moderate those emotional reactions? Emotions are often viewed in the social sciences as individual orientations that mediate individuals' reactions to cues in the environment (e.g., Lecheler, Schuck, & de Vreese, 2013). Indeed, ERT presumes that emotions (and related processes) mediate the relationship between teachers' communication and students' behavioral reactions to learning. Concealed by this supposition is the possibility that additional factors moderate emotional processes and reactions to teacher communication or other environmental cues. For instance, Walsh and Bartikowski (2013) found that both gender and age moderate the relationship between emotional labor experienced by employees and their intention to quit their job. What factors might moderate the relationship between ineffective teacher communication and processes that lead to negative emotions? Stephanou (2011) observed that students' self-beliefs, beliefs about their teachers, and beliefs about their classmates are related to the emotions they feel toward the class. Similarly, most communication studies exploring students' emotions are based on students' perceptions of their teachers. Future research should focus on how students' perceptions of their teachers and other students potentially moderate or mediate the teacher behavior–student emotion connection. Using multilevel modeling tapping observational or self-reported data on teacher behaviors could begin to address this question. Scholars should also explore how other concepts such as self-regulation, academic preparation, learning styles, and interpersonal orientations (e.g., empathy) could act as potential mediating/moderating variables.

The presumed link between students' emotions and learning outcomes has strong support in interdisciplinary literature. In addition to studies in communication (e.g., Horan et al., 2012), biomedical research (e.g., Grossberg, 2009) has shown that emotional triggers can influence the strength with which individuals learn information. Despite these findings, additional attention should be paid to how emotions manifest themselves in learning activities. For instance, note-taking is a self-regulated learning behavior influenced by the academic goals of the student (Bernacki, Byrnes, & Cromley, 2012). To what extent do emotions experienced by students influence

specific behaviors like note-taking, and do the academic goals of the student moderate those relationships? This same question could be asked of any number of learning activities beyond note-taking and would be a fruitful avenue for researchers attempting to document applied implications of ERT.

Last, an increasing body of literature has explored how the sociocultural environment in the classroom influences teachers' emotions (e.g., Carlyle & Woods, 2002; Zembylas, 2013). Recognizing that teachers are emotional beings while enacting their academic roles, these studies highlight the need to consider both the teachers' emotions and how they influence the social dynamic of their classes, as well as how larger social forces (e.g., conflict, high-stakes testing) could influence the emotional experiences of teachers and students. We echo Chory and colleagues' (2014) call for greater attention to instructor assessment and training. Helping instructors deploy effective communication skills and model emotional intelligence for students could capitalize on the benefits of emotionality while also abating potential negative outcomes.

While the current results add meaningful information to our understanding of emotions in the classroom, claims must be tempered based on the parameters of the study. The data were cross-sectional in nature and allowed for robust testing of the hypothesized model, but they did not permit conclusions pointing to causality. In addition, data for the current study were collected at a particular point in time—just after the midpoint of the course. Because data were not collected over the entire course of the term, potential mediating variables that could influence these relationships could not be assessed. For instance, the natural stress and anxiety surrounding large end-of-term projects could potentially influence students' emotions in ways that trump observed teacher effects. In light of these and other potential limitations, subsequent studies should explore alternate explanations that could be subsumed into the ERT framework.

As noted by Pekrun et al. (2011), negative emotions such as anger, anxiety, shame, hopelessness, and boredom are linked to students' use of learning strategies, self-regulation of learning, and academic performance. Findings from the present study suggest that teachers' communication behaviors and subsequent socioemotional processes are strongly related to students' negative emotions. These findings, coupled with other literature in instructional communication, highlight the relevance of communication behaviors for scholars and practitioners attempting to further understand processes influencing student engagement, learning, and academic success.

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