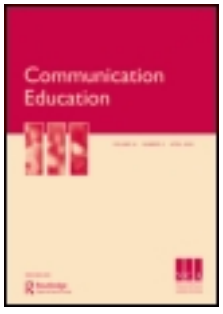

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The Bright Side of Emotion in the Classroom: Do Teachers' Behaviors Predict Students' Enjoyment, Hope, and Pride?

Scott Titsworth, Timothy P. McKenna, Joseph P. Mazer & Margaret M. Quinlan

Although scholars from various fields now argue that emotion is a critical resource for individuals as they learn and make sense of information, the topic is only just emerging as a sustained area of emphasis for instructional communication scholars. Using a sample of 752 students from three universities, we tested a predictive model exploring how teachers' communication behaviors, including teacher immediacy, clarity, and communication competence, potentially influence students' perceptions of emotional experiences in a class, and in turn, how specific feelings of enjoyment, pride, and hope are possibly affected. Results indicated strong support for the model, thereby implying that the theoretical explanation offered by emotional response theory should be expanded to include both the processes and discrete emotions explored in the study. Findings are discussed as they relate to theoretical and practical implications for scholars seeking to better understand the dynamic interplay of emotions in the classroom.

Keywords: Classroom Emotions; Teacher Communication Competence; Teacher Clarity; Teacher Immediacy; Emotional Support; Emotion Work; Emotional Labor

Plato's Chariot allegory, which described a charioteer attempting to control one horse driven by reason and another by emotion, perhaps cemented a conventional dualism in Western thought: that reason and emotion are two opposing and contradictory forces. This dualism has not been kind to emotions, particularly in educational

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settings. For many, emotions manifest as behavioral disruptions stemming from a lack of students' self-regulation (e.g., Perlman & Pelphrey, 2011). Thus, teachers often ask students to control their emotions so that learning can be accomplished. However, a growing body of scholarship describes emotions as critical to learning at the earliest stages of development (Doan, 2010) and beyond (Hascher, 2010). Unlike Plato's allegory, many scholars now view emotion and reason as inseparable and complementary.

Researchers from various fields now argue that emotions are critical resources for individuals as they learn and make sense of information (Csikszentmihalyi, 1997; Fried, 2011; Gardner, 1993, 1999; Mazer, 2012; Titsworth, Quinlan, & Mazer, 2010). In communication, emotion has received considerable attention in interpersonal (Metts & Bowers, 1994), organizational (Scott & Myers, 2005), and persuasion (Jorgensen, 1998) contexts. Recently, Mottet, Frymier, and Beebe (2006) proposed emotional response theory (ERT) as a way of linking classroom communication to students' emotional reactions to learning. Researchers using ERT have examined how teacher communication behaviors are related to positive or negative emotional valence (see Titsworth et al., 2010), whether emotional responses mediate relationships between teachers' communication and students' affect (Wang & Schrodt, 2010), as well as the relationship between students' perceived emotions and self-reports of learning (Horan, Martin, & Weber, 2012; Titsworth et al., 2010). Across such work is inconsistency in describing what constitutes an emotional response. One explanation claimed, "Students experience one of three emotional responses to teacher communication" (Horan et al., 2012, p. 211) by using Mehrabian's (1981) descriptions of pleasure, arousal, and dominance. However, literature from communication (Sanders, 2010) and other fields (Pekrun, Goetz, Titz, & Perry, 2002) suggested that the potential array of emotional responses is much larger. Thus, a critical question surrounding ERT involves understanding how best to characterize students' emotional responses. Work exploring this topic would provide greater explanatory power for ERT while also providing a greater degree of specificity for teachers and other practitioners hoping to use the theory to guide classroom practices.

In the present study, we examined the possible effects of teacher communication behaviors on classroom emotional process and students' reported emotional responses in relation to three discrete positive emotions: enjoyment, pride, and hope. Specifically, we tested a predictive model exploring how teachers' communication behaviors, including teacher immediacy, clarity, and communication competence, potentially influence students' perceptions surrounding the emotional context of the class, and in turn, how their specific feelings of enjoyment, pride, and hope are potentially affected.

Emotion in the Classroom

Interest in classroom emotions stems from a broader program of research highlighting emotions as knowledge-producing resources (see Harter, Norander, &

Quinlan, 2007). This perspective, which is often grounded in narrative theory and/or pragmatism, seeks to eliminate traditional binaries created between reason and emotion, preferring instead to explore how various capacities for knowledge form the basis for peoples' understandings of their experiences (Evans & Cruse, 2004).

In classroom settings, emotions are viewed as essential resources that both enable and constrain the learning experiences of students and teachers. For instance, Sanders (2010) observed that typical high school students experience various positive and negative emotions, ranging from dread and anger to pride, inclusion, and hope. In general, positive emotions tend to result in higher levels of affect, which in turn leads individuals to engage in approach behaviors; negative emotions have the opposite effect such that individuals' affect is lower and they tend to engage in avoidance behaviors (Mottet et al., 2006). These emotional experiences are important because they potentially modify how students encode and retrieve information from long-term memory (Grossberg, 2009; Packard & Cahill, 2001). Specifically, when students are exposed to positive emotional stimuli, they are better able to recall newly learned information (Nielson & Lorber, 2009). Alternatively, Sanders found that when students experience negative emotions, they tend to tune out and shut down, effectively removing themselves from the learning process.

Although links between communication and emotion have been explored in various organizational contexts (see Miller, Considine, & Garner, 2007), instructional communication scholars have only recently identified emotions as distinct constructs from Bloom's more general notion of affective learning (see Krathwohl, Bloom, & Masia, 1973). Namely, Mottet et al.'s (2006) description of ERT synthesized various strands of instructional communication research to provide a coherent analysis of how teachers' communication behaviors influence students' emotions, which in turn, could influence learning. Using Mehrabian (1981) as a basis, Mottet et al. argued that teachers' behaviors influence students' emotional responses around dimensions of pleasure, arousal, and dominance. Based on those emotional responses, students engage in approach or avoidance behaviors toward the learning situation.

Although recent studies have expanded ERT (see Horan et al., 2012; Titsworth et al., 2010), various questions remain concerning the nature of emotional responses from students—the middle, and arguably, key step in the theory. Whereas Horan et al. (2012) used Mehrabian to conceptually and operationally define emotional responses from students, Titsworth et al. (2010) defined emotional responses as students' perceptions of emotional support from the instructor, emotion work required in the class, and the overall positive/negative emotional valence of the class. Although neither approach is inherently correct or incorrect, the discrepancy highlights need for additional theoretical and empirical work defining what constitutes students' emotional responses to instruction.

Emotional Processes and Emotional Responses

Literature exploring emotions in the workplace and other settings highlights differences between emotional outcomes (or responses) and processes that lead to

those outcomes. For instance, the overall positive or negative assessment of emotions in a particular setting, often referred to as the *emotional valence* (see Nixon, 2009), results from individuals' normative assessments of emotional triggers in a particular setting. Additionally, some workplace settings require that individuals suppress actual emotions in favor of socially acceptable but inauthentic emotions (Hochschild, 1983/2003); other professions, like correctional officers and first responders, require intense monitoring and management of emotions (see 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 found in their workplace. Finally, 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 not part of Mehrabian's (1981) original work, contemporary literature exploring valence, emotion work, and emotional support suggested that these processes should be considered relevant to any theory attempting to explain emotional reactions.

In a 2010 study, Titsworth and colleagues observed significant relationships between students' perceptions of teachers' communication behaviors and each of the three emotional processes previously described. Although these relationships add specificity to our understanding of emotional reactions, emotional valence, emotion work, and emotional support are best understood as lenses for interpreting emotional experiences rather than actual emotional reactions. Thus, to better define emotional reactions, and consequently to further develop ERT, specific discrete emotions should be introduced into the theory.

In fact, the potential number of discrete emotions experienced by students in a classroom setting is large. Pekrun et al. (2002) noted that various emotions can be classified as either positive or negative, and as either activating or deactivating. These dimensions—positive vs. negative and activating vs. deactivating—are conceptually similar to positive/negative valence and approach/avoidance behaviors. That is, activating emotions would likely be related to approach behaviors, whereas deactivating emotions would likely be related to avoidance behaviors. Positive emotions include enjoyment, hope, pride, and relief; negative emotions include anger, anxiety, shame, hopelessness, and boredom. Whereas emotions like enjoyment, hope, pride, anger, anxiety, and shame are activating, relief, hopelessness, and boredom are deactivating. Although there are undoubtedly other emotions experienced by students, this typology provides a sound basis for understanding the constellation of discrete emotions experienced within classroom settings.

In the present study, we focused on positive activating emotions— enjoyment, hope, and pride—because those emotions have meaningful relationships with students' classroom success. The emotion of hope, for instance, is positively associated with college GPA and likelihood of graduating from college (Snyder et al., 2002). Likewise, both enjoyment and pride are positively associated with students' performance on midterm examinations (Pekrun, Elliot, & Maier, 2006). Whereas positive activating emotions are experienced as a result of classroom

interaction, positive deactivating emotions are triggered by specific assessment activities like exams or projects (Pekrun et al., 2002). Because we wanted to explore students' emotional reactions to experiences in particular courses, rather than specific exams or projects, the positive activating emotions were most relevant. Our objective, then, was to examine how teacher communication behaviors and previously described emotional processes are related to these positive activating emotions.

Teachers' Communication and Students' Emotions

Teachers' communication behaviors can meaningfully impact students' emotions in the classroom. Teacher immediacy is typically described as a set of nonverbal behaviors including use of direct eye contact, facial expressions, vocal variety, and movement (Andersen, 1979). Studies have found that teacher immediacy is positively associated with both cognitive and affective learning (Richmond, Gorham, & McCroskey, 1987). When teachers are perceived as immediate, students are more likely to enjoy the class and teacher (Titsworth, 2001) and also report higher levels of motivation (Christophel, 1990). A meta-analysis of 55 separate studies observed a moderate average correlation of .49 between students' perceptions of their affective learning and their teachers' level of nonverbal immediacy (Witt, Wheeless, & Allen, 2004). Moreover, when teachers are perceived as immediate, students tend to report having more positive emotional experiences (Titsworth et al., 2010). Thus, substantial evidence suggested that teacher immediacy is an important outcome impacting the overall socioemotional environment of classrooms.

Like immediacy, teacher communication competence is also predictive of students' emotional experiences. Teacher communication competence (CC) derives from impressions of individuals' communication effectiveness and appropriateness (Rubin, 1985; Spitzberg & Cupach, 1984), including a perceived ability to encode and decode messages effectively (Monge, Backman, Dillard, & Eisenberg, 1982). When teachers encode messages effectively, by being supportive of students' needs, students report higher levels of emotional engagement and lower levels of boredom, anxiety, and frustration (Skinner, Furrer, Marchland, & Kindermann, 2008). Additionally, when teachers are able to decode aspects of the communication situation more effectively, including their relationships with students, students have a greater sense of well-being in a class (Glaser-Zikuda & Fuss, 2008).

Finally, perceptions of teacher clarity result from various ways that teachers use examples, descriptions, and explanations to help students understand information (Bush, Kennedy, & Cruickshank, 1977). Although clarity can be divided into one or more intermediate constructs like spoken and written clarity (Titsworth, Novak, Hunt, & Meyer, 2004), clarity is not easily reduced to a sum of parts; rather, clarity is viewed as an overall impression of how well a teacher negotiates complex meanings with students (Simonds, 1997). When teachers present information clearly, students have greater perceptions of their own well-being (Glaser-Zikuda & Fuss, 2008), and also have higher levels of affect toward the teacher and course (Titsworth & Mazer, 2010).

Based on previous research, we hypothesize a model in which teacher communication behaviors like immediacy, CC, and clarity, are related to students' perceptions of their emotion work and their perceptions of emotional support from their teachers. In turn, students' perceptions of emotional support and emotion work potentially influence discrete emotions experienced by students as a result of classroom communication. The model, shown in Figure 1, adds greater specificity to our understanding of students' emotional responses because both emotional processes and discrete emotions are taken into consideration.

Paths in the depicted structural model have strong theoretical rationale in the literature. Titsworth et al. (2010) observed small to moderate positive correlations between the three teacher communication behaviors and students' perceptions of emotional support; moderate negative correlations were observed between those same teacher behaviors and students perceptions of emotion work. Thus, in the current study, we expected to observe similar findings.

H1: Teachers' nonverbal immediacy (H1a), clarity (H1b), and CC (H1c) will be positively related to students' perceptions of emotional support in a class.
H2: Teachers' nonverbal immediacy (H2a), clarity (H2b), and CC (H2c) will be negatively related to students' perceptions of emotion work in a class.

In addition, we predicted relationships between emotional processes, like perceptions of emotional support and emotion work, and discrete emotional outcomes. The Titsworth et al. (2010) study observed moderate positive associations between perceptions of emotional support and positive emotional valence; perceptions of emotion work were associated with a negative valence. As such, we expected that

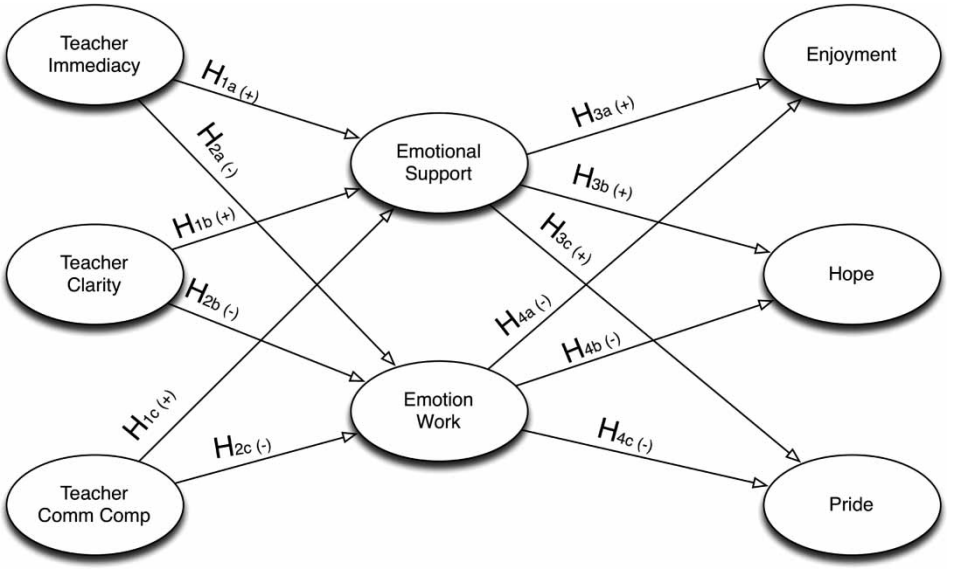

Figure 1. Hypothesized structural model predicting emotional processes and positive emotions. Covariance paths among exogenous predictors not depicted.

emotional support will be positively related to enjoyment, pride, and hope because these emotions are representative of positive valence (Pekrun et al., 2002). On the other hand, emotion work was expected to be negatively associated with each of the three positive emotions.

H3: Emotional support will be positively related to students' reports of enjoyment (H3a), hope (H3b), and pride (H3c) in a class.

H4: Emotion work will be negatively related to students' reports of enjoyment (H4a), hope (H4b), and pride (H4c) in a class.

Method

Participants and Target Classes

A total of 752 students from three large public universities participated in this study. About two thirds of the participants came from a mid-Atlantic University ($n = 446$, 60%), with the remaining participants coming from a Midwestern university ($n = 219$, 29%) and a Southeastern university ($n = 87$, 12%). The sample consisted of 502 females (67%) and 249 males (33%), with two participants not reporting their sex. The average age of the participants was 21.64 years old ($SD = 5.26$). Participants were evenly representative of various years in school, with a slightly larger number of sophomores ($n = 224$, 30%), followed by juniors ($n = 212$, 28%), seniors ($n = 165$, 22%), and freshmen ($n = 151$, 20%). Students reported an average GPA of 3.14 ($SD = 1.74$). Students' majors represented a broad array of academic fields, with a majority of participants majoring in various areas of communication ($n = 338$, 45%), followed by arts and sciences ($n = 131$, 17%), health sciences ($n = 87$, 12%), business ($n = 69$, 9%), engineering/technology ($n = 68$, 9%), and education ($n = 40$, 5%). The majority of students were Caucasian ($n = 538$, 72%), followed by African American ($n = 126$, 17%), with no other ethnic group accounting for more than 5% of the total.

Following an approach common in instructional communication research (see Plax, Kearney, McCroskey & Richmond, 1986), students were asked to identify the first class they attend each week in which they had the opportunity to interact with the teacher; that class and teacher were used as references for all questions on the survey. The size of students' target classes was large, with an average of 87 students enrolled ($SD = 111.67$). Sex of the target class teachers was closely split, with 399 female teachers (53%) and 351 male teachers (47%). Given the estimated course sizes, the fact that most of the classes were described as lecture-oriented ($n = 448$, 60%) was expected; however, discussion-oriented classes represented 40% ($n = 299$) of the sample. A majority of students ($n = 487$, 65%) reported they were enrolled in their target class because of their major, while a smaller number of students ($n = 140$, 19%) said that they were taking the class because of a general education requirement. A total of 55 students (7%) reported taking this class for an elective, with an additional 54 students (7%) taking it as part of a minor, and 16 students (2%) taking the target class for other reasons.

Course naming and numbering conventions differed at each of the three universities. As a result, determining the exact number of unique target classes was

not possible. However, after analyzing course titles and prefixes, it was estimated that courses from 64 different fields were represented, the majority from Communication ($n = 333$, 44%), followed by English ($n = 39$, 5%), Mathematics ($n = 37$, 5%), Spanish ($n = 27$, 4%), and Psychology ($n = 24$, 3%).

Procedures and Measures

Institutional Review Board committees at the three universities approved all procedures used in the study. In a period of six weeks, from mid-February through early-April, students were contacted by e-mail and invited to complete an online survey about emotions in the classroom. The range of time for data collection resulted from differing calendars among the universities; at each university participants were invited approximately halfway through the academic term. By collecting data just after the mid-point, students had adequate time to develop perceptions of the teacher and class; this timing also avoided the heightened workload that occurs at the end of the term. After indicating informed consent, students were asked to answer demographic questions, provide information about their target class, and then to answer questions on five different scales selected to assess variables in the study.

Classroom emotions. Students first rated their feelings towards the target class and instructor using Titsworth et al.'s (2010) classroom emotions scale. Specific items include perceptions of *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-type scale with response options ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's (1951) alpha reliability estimates for the current study were .82, .68, and .89 for emotional valence, emotion work, and emotional support, respectively.

Achievement emotions. The second measure was the Achievement Emotion Questionnaire (AEQ; Pekrun, Goetz, Frenzel, Barchfield & Perry, 2011). This questionnaire moves beyond emotional valence to elicit specific emotions students may experience in anticipation of, during, and after classroom experiences in a particular course. The current study focused on the positive activating emotions: enjoyment (e.g., "My enjoyment in this class makes me want to participate"), hope (e.g., "I am optimistic that I will be able to keep up with the material"), and pride (e.g., "I would like to tell my friends about how well I did in this class"). Students used a 5-point Likert-type scale with response options ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's (1951) alpha reliability estimates for the AEQ emotions in the current study were .88 for enjoyment, .66 for hope, and .87 for pride.

Teacher clarity. To assess teacher clarity we used the 12-item Clarity Behaviors Inventory (CBI) developed by Titsworth et al. (2004). Using a 5-point Likert-type

scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), 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. Cronbach's (1951) alpha reliability estimates for the current study were strong, with values of .93 and .90 for verbal and written clarity.

Teacher nonverbal immediacy. Teachers' nonverbal immediacy was assessed using the 10-item Perceived Nonverbal Immediacy Behavior Scale (PNIB) (McCroskey, Sallinen, Fayer, Richmond, & Barraclough, 1996). The PNIB directs participants to use a 5-point Likert-type scale, with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), to report the extent to which their teacher used nonverbal immediacy behaviors. In the current study, Cronbach's (1951) alpha reliability estimate was .83.

CC. Finally, students rated their target class teacher's level of communication competence using Monge et al.'s (1982) Communicator Competence Questionnaire (CCQ). Students were asked to rate, on a 5-point Likert-type scale, the CC of their target teacher using responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The CCQ is a 12-item scale tapping two factors: *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 for the current study were .84 and .88 for the encoding and decoding factors.

Data Analysis

Structural equation modeling (SEM) via the LISREL 8.80 for Windows software package provided the basis for testing all hypotheses. SEM not only attenuates for error variance in manifest indicators, but also permits holistic assessment of an a priori model like the one proposed in this study (see Figure 1). Four frequently reported indices assessed model fit: (a) model chi-square, (b) the root mean square error of approximation (RMSEA), (c) the non-normed fit index (NNFI), and (d) the comparative fit index (CFI) (Kline, 2005). For the RMSEA statistic, lower values indicate better model fit (specifically, less than .08). For the NNFI and CFI statistics, better fitting models achieve higher values (specifically, greater than .90; Kline, 2005).

As shown in Figure 1, the hypothesized model contained eight latent constructs: (a) teacher immediacy, (b) teacher clarity, (c) teacher CC, (d) emotional support, (e) emotion work, (f) enjoyment, (g) hope, and (h) pride. To create a more parsimonious model, both teacher clarity and teacher CC were treated as single variables in the measurement model. The constructs were identified by creating three *parcels* per construct; parcels are "aggregate-level [indicators] comprising the sum (or average) of two or more items, responses, or behaviors" (Little, Cunningham, Shahar, & Widaman, 2002, p. 152). The parceling technique, which reduces the number of manifest indicators for each latent construct, has several advantages over using

individual items as indicators, including greater reliability, more precise identification of the latent construct, and fewer parameter estimates (Kline, 2005; Little et al., 2002).

Results

Primary Analysis

Given that data were collected across three universities, a series of metric invariance tests compared the three institutions (Little, 1997). This procedure followed a sequential series of model constraints that evaluate 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. These tests indicated strong metric invariance regardless of institution. Tests for homogeneity of the variance/covariance matrix revealed no statistically significant differences for institution, $\Delta\chi^2(19) = 20.32$, $p > .05$. Therefore, any differences between institutions are likely due to chance variation, and all groups should be analyzed in a single structural model (Ledbetter, 2009). Following established two-step procedures for SEM (Kline, 2005), confirmatory factor analysis (using the maximum likelihood method) first established fit of the measurement model (i.e., between manifest indicators and expected latent constructs). This model demonstrated good model fit, $\chi^2(224) = 666.87$, $p < .01$, RMSEA $= .052_{[90\%\ \text{CI: } .048:.057]}$, NNFI $= 0.99$, CFI $= 0.99$, and examination of the modification indices did not suggest any necessary alterations to the model. The data indicated no need for permitting error terms to correlate. Values in Table 1 show means, standard deviations, and zero-order correlations for all manifest variables. Table 2 depicts the measurement model, Lambda loadings, and Theta Epsilon residuals.

Subsequent to establishment of acceptable measurement model fit, we tested the hypothesized regression paths in a structural equation model using the maximum likelihood method (see Figure 1). The initial structural model indicated good fit, $\chi^2(233) = 739.71$, $p < .01$, RMSEA $= .055_{[90\%\ \text{CI} = .051:.059]}$, NNFI $= .99$, CFI $= .99$, but also revealed the presence of nonsignificant regression paths from teacher immediacy to emotional support and from teacher clarity to emotional support and

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

Variables	*M*	*SD*	1	2	3	4	5	6	7
1. Teacher Immediacy	3.86	.71	1.00						
2. Teacher Clarity	3.94	.82	.54	1.00					
3. Teacher Comm. Competence	3.90	.72	.74	.69	1.00				
4. Emotional Support	3.34	.80	.51	.42	.62	1.00			
5. Emotion Work	2.42	.94	−.39	−.38	−.44	−.33	1.00		
6. Enjoyment	3.32	.76	.50	.48	.61	.61	−.33	1.00	
7. Hope	3.52	.63	.43	.42	.53	.47	−.30	.75	1.00
8. Pride	3.59	.72	.47	.45	.55	.49	−.32	.78	.79

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

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

Latent construct Indicator	Lambda	Theta
1. *Teacher Immediacy*		
Indicator 1	.71	.39
Indicator 2	.82	.33
Indicator 3	.85	.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	.93	.15
Indicator 3	.89	.21
4. *Emotional Support*		
Indicator 1	.91	.18
Indicator 2	.88	.22
Indicator 3	.78	.39
5. *Emotion Work*		
Indicator 1	.83	.21
Indicator 2	.84	.29
Indicator 3	.83	.22
6. *Enjoyment*		
Indicator 1	.91	.17
Indicator 2	.82	.33
Indicator 3	.90	.20
7. *Hope*		
Indicator 1	.83	.26
Indicator 2	.86	.27
Indicator 3	.78	.39
8. *Pride*		
Indicator 1	.88	.23
Indicator 2	.80	.35
Indicator 3	.84	.29

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

emotion work. Given the presence of these nonsignificant paths, we followed Kline's (2005) model trimming procedures. Model trimming proceeded 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 data indicated no need for permitting error terms to correlate. The trimmed model (see Figure 2) showed good fit, $\chi^2(235) = 741.13$, $p < .01$, RMSEA $= .055_{[90\%\ \mathrm{CI} = .050:.059]}$, NNFI $= .99$, CFI $= .99$, with a chi-square difference test indicating a nonsignificant decline in fit when compared to the saturated model, $\Delta\chi^2(2) = 1.42$, $p > .05$. This model accounted for substantial variance in emotional support ($R^2 = .48$), emotion work ($R^2 = .62$), and each of the three discrete positive emotions (enjoyment: $R^2 = .53$; hope: $R^2 = .42$; pride: $R^2 = .41$).

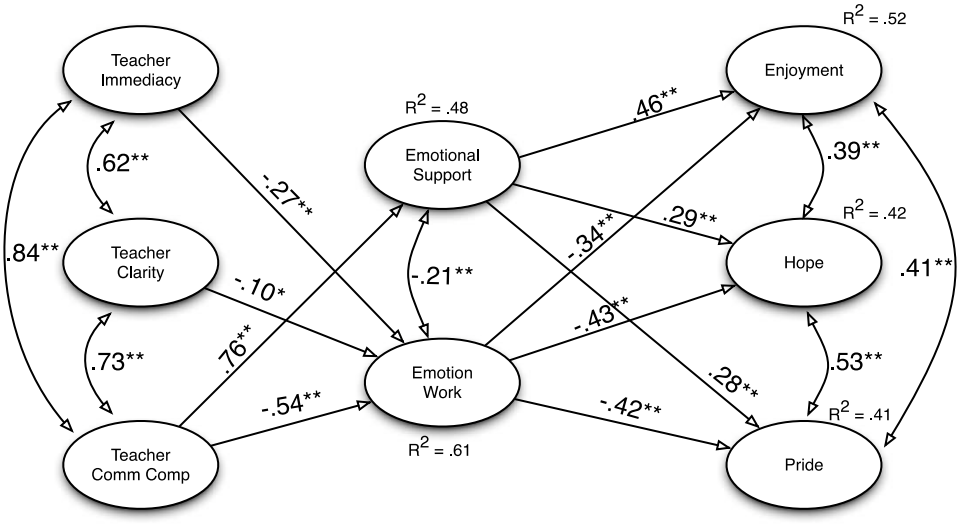

Figure 2. Trimmed structural model predicting emotional processes and positive emotions. $^{*}p < .05$. $^{**}p < .01$. All parameter estimates are standardized.

The first hypothesis was partially supported (H1c), with the trimmed model revealing a significant association between emotional support and CC ($B = 0.51_{[95\%\ \mathrm{CI} = 0.32:0.70]}$, $\beta = .76_{[95\%\ \mathrm{CI} = .56:.96]}$, $p < .01$). Neither teacher immediacy ($B = 0.03_{[95\%\ \mathrm{CI} = -0.17:0.22]}$, $\beta = .02_{[95\%\ \mathrm{CI} = -.22:.26]}$, $p > .05$) nor teacher clarity ($B = -0.12_{[95\%\ \mathrm{CI} = -0.25:0.01]}$, $\beta = -.09_{[95\%\ \mathrm{CI} = -.25:.07]}$, $p > .05$) predicted emotional support, and thus H1a and H1b were not supported. Providing support for H2, the trimmed model indicated that emotion work was significantly predicted by teacher immediacy ($B = -0.43_{[95\%\ \mathrm{CI} = -0.70:-0.16]}$, $\beta = -.27_{[95\%\ \mathrm{CI} = .06:.37]}$, $p < .01$), teacher clarity ($B = -0.24_{[95\%\ \mathrm{CI} = -0.40:-0.10]}$, $\beta = -.10_{[95\%\ \mathrm{CI} = -.30:-.05]}$, $p < .05$), and teacher CC ($B = -0.87_{[95\%\ \mathrm{CI} = -1.52:-0.58]}$, $\beta = -.54_{[95\%\ \mathrm{CI} = -.85:-.24]}$, $p < .01$). As hypothesized (H3), emotional support was positively predictive of enjoyment ($B = 0.48_{[95\%\ \mathrm{CI} = 0.38:0.58]}$, $\beta = .46_{[95\%\ \mathrm{CI} = .33:.59]}$, $p < .01$), hope ($B = 0.27_{[95\%\ \mathrm{CI} = 0.17:0.37]}$, $\beta = .29_{[95\%\ \mathrm{CI} = .13:.44]}$, $p < .01$), and pride ($B = 0.27_{[95\%\ \mathrm{CI} = 0.17:0.36]}$, $\beta = .28_{[95\%\ \mathrm{CI} = .15:.42]}$, $p < .01$). Emotion work also emerged as a significant predictor of enjoyment ($B = -0.31_{[95\%\ \mathrm{CI} = -0.41:-0.22]}$, $\beta = -.34_{[95\%\ \mathrm{CI} = -.47:-.22]}$, $p < .01$), hope ($B = -0.35_{[95\%\ \mathrm{CI} = -0.46:-0.25]}$, $\beta = -.43_{[95\%\ \mathrm{CI} = -.59:-.27]}$, $p < .01$), and pride ($B = -0.34_{[95\%\ \mathrm{CI} = -0.44:-0.24]}$, $\beta = -.42_{[95\%\ \mathrm{CI} = -.56:-.28]}$, $p < .01$), thus fully supporting H4.

In addition to direct effects on positive emotions, the model also left the possibility that teacher communication behaviors are indirectly predictive of positive emotions via emotional processes. LISREL's additional parameter option allows for a direct test of such specific indirect pathways. Sobel tests revealed significant indirect effects on students' enjoyment for teacher immediacy ($B = 0.13_{[95\%\ \mathrm{CI} = 0.04:0.22]}$, $\beta = .09_{[95\%\ \mathrm{CI} = .02:.21]}$, $p < .01$), teacher clarity ($B = 0.06_{[95\%\ \mathrm{CI} = 0.03:0.12]}$, $\beta = .04_{[95\%\ \mathrm{CI} = .03:.13]}$, $p < .01$), and teacher CC ($B = 0.77_{[95\%\ \mathrm{CI} = 0.64:0.91]}$, $\beta = .53_{[95\%\ \mathrm{CI} = .35:.71]}$, $p < .01$). With

respect to students' hope, teacher immediacy ($B = 0.15_{[95\%\ CI = 0.05:0.25]}$, $\beta = .12_{[95\%\ CI = .04:.27]}$, $p < .01$), clarity ($B = 0.04_{[95\%\ CI = 0.02:0.08]}$, $\beta = .03_{[95\%\ CI = .02:.09]}$, $p < .05$), and CC ($B = 0.59_{[95\%\ CI = 0.46:0.72]}$, $\beta = .45_{[95\%\ CI = .25:.65]}$, $p < .01$) served as indirect predictors. Teacher immediacy ($B = 0.15_{[95\%\ CI = 0.05:0.25]}$, $\beta = .11_{[95\%\ CI = .02:.25]}$, $p < .01$), teacher clarity ($B = 0.04_{[95\%\ CI = 0.02:0.08]}$, $\beta = .03_{[95\%\ CI = .04:.09]}$, $p < .05$), and teacher CC ($B = 0.58_{[95\%\ CI = 0.45:0.70]}$, $\beta = .44_{[95\%\ CI = .27:.62]}$, $p < .01$) also indirectly predicted students' pride. The results suggest that emotional support and emotion work may mediate the relationship between teacher communication behaviors and positive emotions.

Secondary Analysis

To determine whether or not direct effects remained after accounting for indirect paths, and 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 positive emotions. This model demonstrated good fit, $\chi^2(224) = 666.87$, RMSEA $= .053_{[90\%\ CI = .048:.057]}$, NNFI $= .99$, CFI $= .99$, but also produced a significant decline in model fit, $\Delta\chi^2(11) = 74.26$, $p < .01$, suggesting that the initial trimmed model is most appropriate. In this saturated model, teacher clarity directly predicted students' enjoyment ($B = 0.16_{[95\%\ CI = 0.03:0.29]}$, $\beta = .11_{[95\%\ CI = 0.06:0.28]}$, $p < .01$) and teacher CC emerged as a direct predictor of students' enjoyment ($B = 0.44_{[95\%\ CI = 0.20:0.68]}$, $\beta = .30_{[95\%\ CI = 0.03:0.62]}$, $p < .01$), hope ($B = 0.44_{[95\%\ CI = 0.18:0.70]}$, $\beta = .34_{[95\%\ CI = 0.06:0.73]}$, $p < .01$), and pride ($B = 0.31_{[95\%\ CI = 0.07:0.55]}$, $\beta = .24_{[95\%\ CI = 0.10:0.57]}$, $p < .01$). All other direct paths were not significant.

Discussion

The principal objective of this study was to test a hypothesized model in which teacher communication behaviors predict emotional processes, which in turn, predict discrete emotional outcomes. The model tested extends ERT (Mottet et al., 2006) in two ways. First, conceptual understanding of what constitutes emotional response is better aligned with contemporary research in communication (e.g., Miller et al., 2007) and other fields (e.g., Pekrun et al., 2011) describing emotionality as a complex set of processes and outcomes stimulated by sociocommunicative experiences. Second, by including both emotional processes (perceived emotion work and perceived emotional support), as well as discrete emotions (hope, enjoyment, and pride), emotional responses can be described in greater detail. The data provided strong support for the model, thereby implying that the theoretical explanation offered by ERT should be expanded to include both the processes and discrete emotions explored here.

For teacher communication behaviors, each of the three behaviors had significant paths leading to emotional processes. Specifically, significant negative paths were observed between each of the three teacher communication variables and students'

perceived emotion work. These paths provided support for Hypotheses 1a, 1b, and 1c. Stated simply, students perceived less need to manage their emotions when their teachers were immediate, presented information clearly, and had high CC. One explanation for these paths could be that when teachers are generally competent communicators and are perceived as both immediate and clear, students may perceive the teacher as more predictable and sincere. As teachers enact these positive communication behaviors, the range of possible student responses is perhaps narrowed (see Watzlawick, Beavin, & Jackson, 1967), thereby potentially reducing the perceived need to present inauthentic emotions. Such a possibility is consistent with the explanation that individuals tend to behave in ways that reciprocate the perceived behaviors of others (see Mehrabian, 1981) through approach or avoidance behaviors (see Mottet et al., 2006).

A strong positive path was observed between teacher CC and emotional support. This finding supported Hypothesis 2a. When teachers were perceived as competent communicators through their decoding and encoding behaviors, students reported greater levels of emotional support from the teacher. This path is consistent with studies concluding that teachers' supportive behaviors may influence how students characterize their relationships with teachers (Skinner et al., 2008). When teachers engage in competent encoding and decoding behaviors, it is likely that students perceive the relational dynamic with their teacher as more personal and supportive. Contrary to Hypotheses 2b and 2c, teacher immediacy and teacher clarity did not have observed relationships with emotional support. One potential explanation could be that teacher CC includes elements of decoding, or listening (see Monge et al., 1982) whereas immediacy and clarity both assume more active message-producing behaviors. Perceptions of emotional support are perhaps predicated first on perceptions that the teacher is an effective listener and can adapt messages using those listening skills.

All predicted paths between emotional processes (emotional support and emotion work) and discrete emotions were significant, thereby providing support for hypotheses 3a, 3b, and 3c as well as hypotheses 4a, 4b, and 4c. Generally speaking, when students perceive more emotional support from their teachers, they tend to also report greater levels of enjoyment, hope, and pride. On the other hand, when students perceive that they must actively manage their emotions in a class, their enjoyment, hope, and pride are lower. Pekrun and colleagues (2011) noted that emotions like enjoyment, hope, and pride, are activated when "the individual feels in control of . . . activities and outcomes that are subjectively important" (p. 38). When students have greater levels of perceived emotional support and less need to manage their emotions through various forms of emotion work, their sense of control is likely higher, thus making the activation of positive emotions more likely.

By testing both indirect and direct effect models, we conclude that the best description of students' emotional responses would include mediated effects of teacher communication behaviors on discrete achievement emotions, with emotional processes serving as the mediating variables. This conclusion stems from both theoretical and practical grounding. First, emotional processes, like perceptions of

support and emotion work, provide lenses for understanding relational dynamics. Based on other studies showing that processes like emotional labor can shape perceptions of work-life (Zhang & Zhu, 2008), it is reasonable to expect that those same lenses would influence achievement emotions like enjoyment, hope, and pride. Second, data in the present study point to greater explanatory power for a mediated model. Although a model containing both indirect and direct paths provided a good fit with the data, the fully mediated model (i.e., with only indirect paths between teacher communication behaviors and achievement emotions) accounted for a larger number of significant paths. Thus, in addition to being more parsimonious, the mediated model provides greater explanatory power. Future studies should continue exploring potential mediation effects using more robust statistical procedures, like bootstrapping, which do not make assumptions about normality in the sampling distributions of the indirect effects (see Hayes, 2009). Whereas the Sobel tests used in the current study provide initial evidence of mediation, bootstrapping could provide a more powerful and valid estimate of these effects.

ERT, as first conceived by Mottet and colleagues (2006), provided an initial theoretical rationale for exploring connections between classroom communication, students' emotions, and learning outcomes. As with any theory, data should be used to expand, modify, and refine the theory as necessary. Other studies attempting to test aspects of ERT produced mixed results. For instance, Wang and Schrodt (2010) tested a mediating model in which students' emotional intelligence and emotional contagion mediate relationships between teacher communication and students' affective responses; their results did not support the mediated model. Using Mehrabian's (1981) dimensions of pleasure, arousal, and dominance as indicators of emotional response, Horan and colleagues (2012) used path analysis to explore whether instructors' messages elicit emotional responses from students and subsequently influenced perceived learning; six models tested in that study did not achieve acceptable fit. Assessing these studies alongside the current findings, one potential conclusion is that ERT should be modified to define emotional responses with greater precision. Rather than relying on student characteristics like emotional intelligence or emotional contagion, or broad dimensions like pleasure, arousal, and dominance, emotional response should be conceptualized as a process in which perceived emotional support and emotion work potentially lead to discrete emotions such as pride, hope, and enjoyment.

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 collection approach allowed for robust testing of the hypothesized model, but did not permit conclusions pointing to causality. For instance, a reasonable possibility exists that when students have positive experiences in classes, stemming from any number of possible cues, they tend to remember their teachers in more positive ways. In addition, the current study collected data at a particular point in time—just after the mid-point 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.

In addition to addressing the aforementioned limitations, other potentially meaningful questions remain with respect to ERT and emotionality in the classroom. The intention of this study was to focus explicitly on students' emotional reactions to teachers' communication behaviors. As such, a complete model of ERT was not tested because actual student behaviors, the third-order variables in the theory, were not included in the design. Subsequent studies should identify methods for assessing student learning, or other behaviors relevant to learning, and expand the model tested here to include those behaviors. In the current study we assessed only positive activating emotions. Pekrun and colleagues (2011) noted a wide array of negative emotions that are also present in instructional settings. Future work should assess the model tested here with negative emotions included to determine whether similar patterns emerge. Coupled with the current study, such information would provide teachers with highly detailed strategic knowledge about how to best target specific emotional outcomes for students. Finally, the current study relied on self and other-report data about individual students and individual teachers. The socioemotional environment of a classroom involves not only dyadic relationships between teachers and students, but also a larger socioemotional climate associated with the class as a whole. Future studies should use multilevel modeling to account for both individual and group drivers of students' emotional experiences.

As noted by Pekrun and colleagues (2011), achievement emotions like hope, enjoyment, and pride, are linked to students' use of various learning strategies, self-regulation of learning, and academic performance. The current study suggests that teachers' communication behaviors, and subsequent socioemotional processes, are strongly related to achievement emotions. The expanded notion of ERT proposed here has important theoretical and practical implications for scholars seeking to better understand the dynamic interplay of emotions in the classroom.

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