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Faculty verbal messages: scale development and initial validation

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Introduction: This study set out to create a scale of messages faculty use when communicating with students and provide initial validation evidence for that scale.

Methods: Three studies were used to create and initially validate the scale. Study one used focus groups to have students generate a list of 65 messages. Study 2, a survey with exploratory factor analysis, yielded two factors: affirming (items) and disconfirming (items) messages. Study 3 confirmed the factor structure and provided initial construct validation based upon the relationship between messages and relational distance, motives to communicate, learner empowerment, and student motivation.

Results: Withdrawal mediates the relationship between faculty verbal messages and learner empowerment. Faculty verbal messages directly, without mediation, predict student motivation.

Discussion: Faculty verbal messages matter inside and outside the classroom. Both affirming and discomfiting messages can have a positive effect on students' learning/motivation as well as the instructor-student relationship.

KEYWORDS

focus groups, exploratory factor analysis, confirmatory factor analysis, student-instructor relationships, learner empowerment

Introduction

"Thank you for your encouragement. I had a teacher tell me I was retarded and should not be in college, and I thought I should drop out. Thank you for believing in me." No student should ever experience such derogatory messages from teachers. While the extreme nature of the comment is, we hope, uncommon, it is certainly not uncommon for teachers to deliver messages that impact students, both positively and negatively. Conversations between instructors and students often go beyond the course content; in these conversations, relationships begin to form with the messages exchanged becoming more meaningful. Often, a comment made in passing during one of these conversations becomes memorable (Knapp et al., 1981). For example, a common conversation may be

> Student: "Thank you for the feedback on my paper. I have never seen writing as one of my strengths."
>
> Instructor: "You are a very strong writer who can draw the reader in and make them want to read further. Have you considered graduate school or a journalism career?"
>
> Student: "It has taken everything I have just to get through university. See you next class."

Most teachers are likely to forget this conversation 6 months or a year later because they have similar conversations to help build student motivation and efficacy as well as help build

graduate programs; however, the student may not forget it. In the example, a student may recall that single conversation 10 or 20 years later, especially if the student became a lawyer or speechwriter. Despite knowing the influence instructors have on students, many conversations occur with little thought or preparation.

Faculty should be preparing for student conversations, both inside and outside the classroom. Those conversations, more specifically the verbal messages in those conversations, matter and should be intentional with the goal of achieving a combination of identity, relational, and task goals (Clark and Delia, 1979). Meeting relational goals builds stronger connections between faculty and students while meeting identity goals validates the people involved. Student validation and praise were identified as part of every observation of award-winning teachers (Worley et al., 2007). The relational side of being an award-winning teacher must be accompanied by a task orientation for achieving course-learning outcomes.

Communication education research highlights outcomes related to faculty-student communication, some of which include increased student motivation (e.g., Jones, 2008), lowered relational distance (e.g., Hess, 2000), increased perceptions of learner empowerment (Frymier et al., 1996), as well as perceived cognitive and affective learning (e.g., Ellis, 2004; Frymier et al., 1996; Goodboy and Myers, 2008). Measuring learning, or perceived cognitive learning, has been fraught with measurement issues (Violanti et al., 2018), which is why this study focuses on student motivation and learner empowerment. Previous research has also focused on categories of messages (Goodboy and Myers, 2008; Johnson, 2021) rather than messages uttered by instructors in an educational setting. Linking message types to student success is not sufficient; we need to understand the role the verbal messages play in students' positive outcomes (Kranstuber et al., 2012). Thus, the purpose of this study is to create and initially test a faculty verbal messages scale.

Literature review

Faculty-student communication

Often, student-teacher communication is characterized as occurring in the classroom and relating to course content, materials, and expectations. Among the most common, and recognized, faculty messages are student work feedback (Gee, 1972; Nazione et al., 2011; Straub, 1997). Feedback can be written or oral and communicated formally or informally, both in and out of the classroom. While feedback and other course-related communication does make up a portion of student-teacher communication, communication between students and teachers extends beyond course-related topics (tasks) and classroom walls.

Out-of-class communication (OCC) can be initiated by students or faculty, structured or unstructured, and scheduled or impromptu. Moreover, OCC offers great variability in content. While some student-teacher OCC is course related, topics more personal in nature may also surface. According to Jaasma and Koper (2002), OCC consists of six topic areas: course-related inquiries, self-disclosure, small talk, seeking advice, asking for favors, and sharing ideas. Additionally, such communication interactions can take place face-to-face, over the phone, through email or text, or via social media (Aylor and Opplinger, 2003; Myers et al., 2005). A subset of research on OCC is out-of-class support, or OCS. OCS is defined as out-of-class teacher communication using caring messages to validate students and help them cope (Jones, 2008). Positive outcomes, including student satisfaction and motivation to learn (Jones, 2008) as well as student engagement and achievement (Klem and Connell, 2004), are heightened with OCS.

Messages delivered in a positive manner with suggestions for improving the problems are rated positively by students (Straub, 1997). In many ways, these are akin to memorable messages. Memorable messages are understood as those remembered long term (Stohl, 1986) that might influence individuals' behavior and assist students in adapting to college life. The distinguishing factor between memorable messages and other messages is the individual's "retrospective judgment" regarding their significance and memorability (Stohl, 1986, p. 234). Memorable messages have identifying characteristics: (1) personally involving, (2) address a need for help, (3) come from a respected source, and (4) contain features that make it recallable (Knapp et al., 1981).

Teacher confirming and disconfirming messages

Taken from interpersonal communication research, confirmation occurs when teachers utilize messages that indicate students are "endorsed, recognized, and acknowledged as valuable, significant, and individuals" (Ellis, 2000, p. 266). Moreover, teacher confirmation is composed of three dimensions: demonstrating interest in the process of student learning, responding to student questions and/or comments, and utilizing an interactive teaching style (Ellis, 2000). Such behaviors indicate instructors are interested in helping students succeed, genuinely care for the students, and are willing to adapt their teaching practices to create the most conducive environment for learning (Ellis, 2000, 2004).

Sieburg (1985) identified three groups of confirming messages: recognition, acknowledgement, and endorsement. Recognition refers to immediate verbal and nonverbal communication behaviors, those behaviors that create a perception of closeness. Acknowledgement refers to direct and relevant communication messages, affirming the speaker though not necessarily agreeing with the speaker's message. Endorsement refers to communication behaviors that reflect agreement with and/or acceptance of the speaker's message as accurate. In contrast, Cissna and Sieburg (1981) identified three groups of disconfirming messages: indifference, imperviousness, and disqualification. Indifference refers to messages of rejection and denial on presence as well as behaviors of involvement avoidance. Imperviousness refers to discrediting an individual's feelings and expressions. Disqualification refers to denying the significance of another individual by discrediting the speaker or the message.

Typically, teacher confirmation is examined as a set of categories of messages instructors use to affirm students (e.g., Goodboy and Myers, 2008). While looking at international students studying in the United States, teacher confirmation directly impacted classroom connectedness and indirectly influenced classroom communication apprehension and willingness to talk in class (Hsu and Huang, 2017). When instructors use confirming messages, students rate them as being more credible and effective (Schrodt et al., 2006). Additionally, teacher confirmation has been positively associated with student

motivation in the United States (Al-Niarat and Abumoghli, 2019; Croucher et al., 2021). Finally, Burns et al. (2018) found that teacher confirmation positively related to students' attitudes toward communicating with the instructor. Taken together, these studies indicate individual and relational benefits of teacher confirmation.

Student motives to communicate

Five motives for students to communicate with teachers have been identified in previous research: relational, functional, excuse-making, participatory, and sycophancy (e.g., Martin et al., 1999). At their core, relational motives are related to interpersonal connections with the teacher; functional motives are related to course-related information-seeking; excuse-making motives are related to explaining student work; participatory motives are related to demonstration of course-related knowledge; and sycophancy motives are related to making favorable impressions, usually by the student to the instructor (Martin et al., 1999). The motives have also been noted to have some antecedents. These motives have been tied to a number of student outcomes, but those related to this study include affective and cognitive learning (Martin et al., 2002).

Relational distance

Relational distance has been defined in many ways. According to Kreilkamp (1981), relational distance is defined as when people feel far apart, indicating a distancing effect based on emotion. Helgeson et al. (1987) instead focus the definition of relation distance as being based on connections between individuals that could be described as tense, awkward, labored, or forced, indicating strain in the interpersonal relationship. Other definitions of relational distance highlight reductions in or limitations to personal relevance (Roark and Radl, 1984) or intimacy or understanding (Bogardus, 1926). Taken together, the definitions suggest that relational distance indicates a hindered connection between individuals.

Distancing practices are said to be accomplished through cognitive and/or behavioral means and can refer to either relational quality or relational maintenance processes (Hess, 2002). For the purposes of this study, both cognitive and behavioral means are explored in reference to relational distance as a relational maintenance process. Research on relational distance, to this point, has focused primarily on intimate relationships, specifically in mediated contexts, with little focus on communication itself (e.g., Rossetto, 2013). Studies outside of such relationships include workplace relationships, specifically regarding relational distancing as a coping mechanism for dealing with negative, or non-voluntary, relationships where a person has no choice in continuing or maintaining the relationship or was forced into the relationship (Hess, 2000; Thibaut and Kelley, 1986). Hess (2002) identified the drawback of this limited scope because of the relationship relational distance has with various relational outcomes and processes.

This study seeks to broaden the scope of relational distance by exploring its role in instructional communication, or more specifically, teacher-student interactions. Like workplace relationships, teacher-student relationships are non-voluntary that require maintenance processes to accomplish personal goals (Poitras et al., 2003). For example, if students do not relate well with the teacher, they must maintain some degree of relationship to complete the course successfully. Hess (2002) identifies three such maintenance strategies: avoidance, disengagement, and cognitive dissociation. Avoidance would involve a student not directly communicating with an instructor, potentially sitting in a corner far away from the instructor, or choosing not to attend class. Disengagement maintenance requires reduced levels of closeness with the instructor that might include using only task-related communication. Cognitive dissociation would consist of mentally distancing oneself from the instructor (e.g., focusing more on perceived differences between the student and instructor, such as politically, geographically, or ideologically).

Student outcomes

Student motivation

Motivation has been defined as the amount of determination one is willing to exert toward achieving a goal (Pew, 2007). Specifically focusing on higher education, preceding research has concluded that both confirming and disconfirming instructor messages affect student motivation (Ellis, 2004; Goodboy and Myers, 2008). Again, confirming messages are those that communicate to the students that they are worthwhile and significant. Instructors can do this by answering students' questions and commenting, establishing a genuine interest in their students, as well as using interactive methods of teaching (Ellis, 2000). For instructors, understanding how to communicate with students properly is vital in developing teacher-student relationships, which then enhance students' motivation. More specifically, instructors with confirming and caring communication behaviors, including out-of-class support (Jones, 2008), motivate students because they feel as if they are being listened to and valued. Student interaction with an instructor can be highly dependent on, and reflective of, their motivation to communicate. Similarly, students are motivated to communicate with their instructors to satisfy needs.

Learner empowerment

Thomas and Velthouse (1990) identified four dimensions of organizational empowerment: meaningfulness, competence, impact, and choice. Frymier et al. (1996) bridged the gap between the organizational and instructional contexts by proposing learner empowerment. They believed learner empowerment reflects intrinsic motivation, personal involvement, and self-efficacy; however, in their learner empowerment research, the choice dimension from the organizational framework was unsupported and eliminated as a learner empowerment dimension. Learner empowerment has been both an outcome and a predictor variable. Factors that influence perceptions of learner empowerment include teaching-learning experiences, learning environment, instructor use of strategic ambiguity, and instructors' authoritative attitudes (Al-Niarat and Abumoghli, 2019; Cakır, 2015; Klyukovski et al., 2016). It has consistently predicted academic performance and learning (e.g., Frisby et al., 2022; Wachira et al., 2019).

Rationale

The way teachers interact with their students shows who the teachers think students are. Teachers, therefore, must carefully consider their messages in these interactions. Do the messages indicate the student is seen as intelligent, valued, and possessing the ability required to succeed; do the messages indicate the teacher sees

a student as worthless, incapable, and lazy; or do the messages fall somewhere between positive and negative, possibly demonstrating strategic ambiguity (Eisenberg, 1984)? How are such messages received? These questions, in combination with the reviewed literature, suggest a need to better understand and measure the faculty verbal messages construct, which could later be used to test relationships among numerous instructional communication outcome variables.

Learner empowerment and motivation are both outcomes associated with strong student-teacher relationships (Al-Niarat and Abumoghli, 2019). Relationships are built upon communication, which is why it is important to draw upon interpersonal communication to examine the student-teacher relationship in the form of relational distance. If the relationship is critical to these two learner outcomes, then there should be a negative relationship between relational distance and both outcomes. Similarly, relationships are built upon the messages and reasons for communicating that the participants bring to the interaction (Burns et al., 2018). This study follows the same path as Klyukovski et al. (2016) in using learner empowerment and student motivation to assess construct validity.

Thus, this study set out to accomplish four main goals: (1) create a list of faculty verbal messages that have been meaningful to college students; (2) to develop a quantitative scale of faculty verbal messages; (3) to explore predictive relationships between faculty verbal messages and student outcomes; and (4) to address measurement concerns raised by Violanti et al. (2018) for widely used instructional communication scales. These goals led to a series of three studies: (1) a focus group study eliciting faculty verbal messages; (2) an exploratory factor analysis study to develop a faculty verbal messages scale; and (3) a self-report study to begin developing the faculty verbal messages scale validity portfolio. One of the ways to begin validating a new scale is to determine whether it performs the way similar measures have. Thus, the third study examined five research questions.

RQ1: What faculty verbal messages do college students report have had a long-term effect on their educational success? (Study 1).

RQ2: What factor structure can be derived from the faculty verbal messages provided by college students? (Study 2).

RQ3: To what extent can the Motives to Communicate, Motivation, Learner Empowerment, and Relational Distance scales be validated with an independent sample? (Study 3).

RQ4: How well do faculty verbal messages predict (a) student motivation, (b) each student motive to communicate, (c) each learner empowerment component, and (d) each relational distance component? (Study 3).

RQ5a: Which model better explains student perceptions of empowerment, one in which the affirming and disconfirming messages are antecedents (see Figure 1) or one in which they are mediators (see Figure 2)? (Study 3).

RQ5b: Which model better explains student motivation, one in which the affirming and disconfirming messages are antecedents (see Figure 1) or one in which they are mediators (see Figure 2)? (Study 3).

Study 1: focus groups

Upon IRB approval, professors invited students from a variety of communication-based courses at a mid-sized public Southeastern University to participate in one of five focus groups for extra credit. The primary purpose of these focus groups was to generate a list of messages learners had heard their instructors use. Interested students contacted the first author to sign up for a time slot that best fit their schedule. At that time, the student was provided information regarding the location and expectations.

Participants

Focus groups consisted of, on average, six participants with a range of participants from 3 to 9 (N = 27). Five to 12 participants per focus group is considered ideal and manageable for everyone to have ample opportunities to participate (Morgan, 1997; Ritchie and Lewis, 2005; Stewart et al., 2007); all but one of the focus groups met this guideline. Of the participants, 5 (19%) were male and 22 (81%) were female with 3 (11%) sophomores, 10 (37%) juniors, and 14 (52%) seniors across a variety of majors. They attended a United States university that is approximately 50% white, 30% African-American/Black, and the remaining 20% a combination of Asian/Asian-American, Hispanic/Latinx, Multi-racial, American Indian, Pacific Islander, Native Hawaiian, and Native Alaskan. The focus group participants approximated these same racial percentages.

Data collection and analysis

At the appropriate time and location, students met in a conference room on campus. As they entered, they were handed an informed consent statement to sign confirming their voluntary participation in the project as well as a separate form to complete for extra credit, which was submitted to the appropriate faculty members upon conclusion of the focus groups. The focus groups ranged from 39 to 82 min with an average duration of 63.6 min.

Each focus group was conducted by the first author and one of two student researchers. Though an interview guide was prepared, each focus group discussion developed naturally with few prompts needed. As part of the interview, students were asked to think about and describe their favorite/best and least favorite/worst teacher (s). For each, they were also asked,

> With these same teachers in mind, was there ever a time that a person said something to you in class, outside of class, in their office or something they wrote on a test or paper that was impactful to you personally, professionally, or academically and had a lasting impact?

As a follow up, students were asked about messages from faculty other than favorite/best or least favorite/worst that stuck with the student. Finally, students were asked for feedback on the kinds of things faculty could say to students that would have lasting impressions, good or bad, with guidance toward referencing what teachers should or should not communicate.

Discussions were audio-recorded and transcribed verbatim by the student researchers, resulting in 69 pages of single-spaced text. The researchers extrapolated messages remembered by the students as verbalized by faculty. Only messages given as direct quotes were extracted from the transcripts and included in the original scale developed and tested in Study 2. A complete list of the original messages is available from the corresponding author.

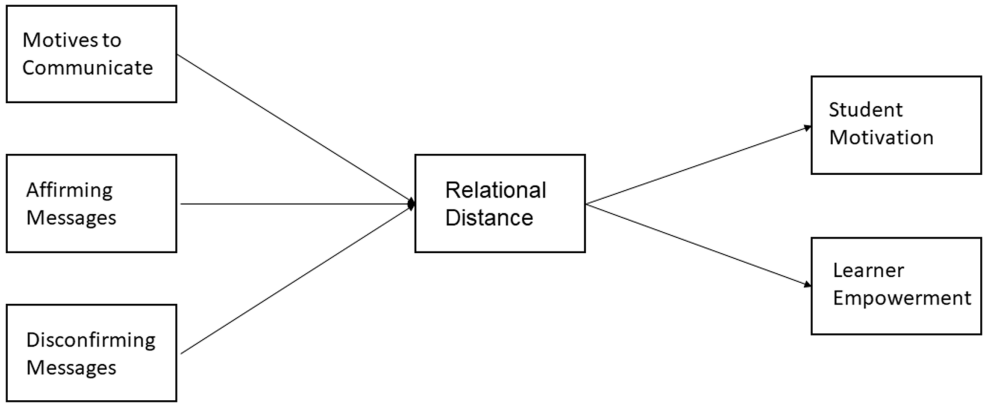

FIGURE 1
Hypothesized relational distance mediation model.

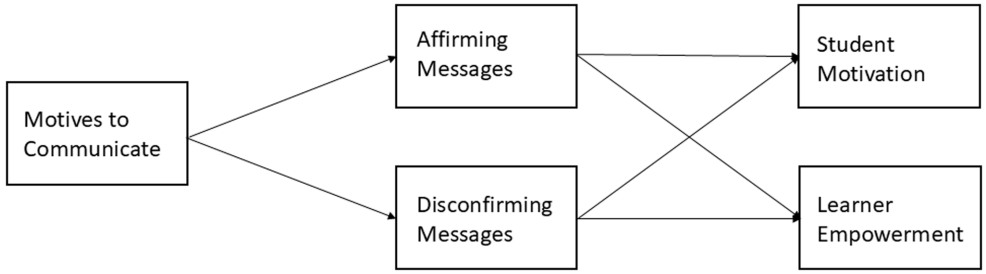

FIGURE 2
Alternative hypothesized messages mediation model.

Study 2: exploratory factor analysis

Participants

Following IRB approval, students enrolled in a general education communication course at a mid-sized public Southeastern University in the United States were invited to participate in exchange for extra credit. The sample consisted of 29 (19.7%) males and 118 (80.3%) females. Of the 147 participants, 57 (38.8%) are African American/Black, 2 (1.4%) are American Indian, 5 (3.4%) are Asian/Pacific Islander, 66 (44.9%) are Caucasian/White, 11 (7.5%) are Latino/a, and 5 (3.4%) are Other, with 1 not reporting. The sample was overwhelmingly sophomore students ($N = 99$, 67.3%), followed by 32 (21.8%) first-years, 11 (7.5%) juniors, and 4 (2.7%) seniors. Given the course's general education nature and pre-requisites, the prominence of sophomores in the sample was not surprising. While this makes for a homogenous sample in terms of year in school, it allows for more variety in college major, with 18 programs of study represented.

Instrument

The 65 messages identified in Study 1 were randomly combined to create a Faculty Verbal Messages Scale (FVM). The scale is designed to assess the extent to which students would consider the message impactful if it were uttered by an instructor. Sample messages include: "Come by my office hours any time," "If you would have been in class, you would have known that," "I knew you could do it," "Do not stress," "You are too hard on yourself," and "You're really good at that."

Analysis

All collected data were entered into SPSS to perform both descriptive and inferential statistics. According to Nunnally and Bernstein (1994), a comparison of the items for fit and variance is achieved through exploratory factor analysis (EFA). The EFA used principal component analysis (PCA) factoring with Varimax rotation to "maximize the variance of the squared loadings for each item" (DeVellis, 2012, p. 137). Factor retention followed standard requirements (Goodboy and Myers, 2015; Hatcher, 1994; McCroskey and Young, 1979). First, the factor must have an Eigenvalue greater than 1.0. Second, the primary loading must exceed 0.60 with a secondary loading of 0.40 or lower, no cross loadings. Third, the factor must explain at least 5% of the variance. Following Burgoon and Hale (1984), two additional criteria were required. First, a factor had to have at least three items. Second, the scree test had to show each

additional factor was making a reasonable improvement in variance accounted for.

Results

To begin, the factorability of the 65-item messages scale was examined based on the selected criteria. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.750, above the recommended value of 0.6. Additionally, the Bartlett's test of sphericity was significant [x^2 (2,080) = 5948.28, $p < 0.001$]. The scree plot revealed a two-or three-factor solution would be appropriate. Both were run with the three-factor solution explaining slightly more variance (45.88%); however, all items on factor 3 cross-loaded or did not achieve the desired loading of 0.6 with no other loading of 0.4 or above. Results of the two-factor solution were interpretable and accounted for 41.65 percent of the variance. After examining the factor loadings (see Table 1) and the descriptive statistics (see Table 2), 31 items were deleted because they failed to load acceptably on either of the two factors, bringing the scale down to 34 items.

With the factors established, making sense of the factors was the next step. The items in factor 1 aligned with confirming messages and factor 2 with disconfirming messages, which was consistent with message categories of Goodboy and Myers (2008). Therefore, they were labeled as supporting and demoralizing messages. These items aligned as factors because they supported previously theorized conceptions of faculty messages. The scale should be used as a multi-dimensional measure based upon the instrument's subscale reliability and correlation between the factors ($r = -0.29$, $p < 0.01$): Cronbach's alpha of 0.95 (confirming) and 0.92 (disconfirming); using it as a unidimensional scale would obscure the differences between affirming and disconfirming messages. Affirming was chosen over confirming to avoid confusion with perceptions of teacher confirmation and better represent the effect of these messages on students.

Discussion

Of the original 65 measure messages, 34 items remained following the EFA. Some of the lost items could be characterized as advice and were likely found as neither affirming nor disconfirming (e.g., "You have to learn how to take constructive criticism," "Do things your own way, in your own time," and "You should come to my office hours if you need help"). However, while an advice category makes sense on the surface, these items did not load together to support advice as a dimension. Other lost items may have been too vague to determine if they were intended to be positive or negative without being put in context (e.g., "I'm going to treat you all the same," "I'm not changing anything," "Stop overthinking it," and "You can be good, but you can never be perfect"). Lastly, some items may have failed to load because students could not imagine the teacher uttering the message (e.g., "If you do not tell, I will not," "If I see one d&@^ cell phone in here today, I'm going to lose my s&!%!," "I love you," and "It's wrong because my opinion is the only one that matters").

When looking at the results of this study and the resulting measure in relation to previous research, three overarching conclusions are noted. First, the dimensions of confirming messages (demonstrating interest in the process of learning, responding to student questions and comments, and utilizing an active teaching style; Ellis, 2000) are not reflected in the measure. However, this is likely because context was not considered and nonverbal messages were not explored. Future research should include context and nonverbal in conjunction with the verbal messages to see if the three dimensions are reflected.

Second, while the dimensions were not apparent in the measure, the confirming (Sieburg, 1985) and disconfirming (Cissna and Sieburg, 1981) message categories were apparent. Each of the three disconfirming categories was reflected in the resulting measure, but not as subscales. Regarding the confirming categories, two of the three were reflected, but not as subscales. The dimension that was not accounted for was recognition because it is a category centered on nonverbal messages, which were not a part of this study. Future instrument testing should assess whether the five subdimensions can be replicated with actual messages in the same way as they have been hypothesized with message categories.

The measure reflects eight of the 11 memorable message codes: work hard/extra effort, enjoy/relax/acceptance, be yourself/independence, believe in yourself/keep going, negative, academics related, always communicate, and other (Nazione et al., 2011). The codes not reflected in this study are "make the most of your opportunities," "learn from the past," and "use time effectively." While the lack of such codes is somewhat surprising, some may argue that those memorable messages are more likely to come from parents/guardians or other sources and may tie to some of the items previously described as advice. Another possibility is that while such messages are spoken by faculty, the fact that they come from faculty does not qualify them as memorable because students do not consider them significant or feel led to alter behaviors, as they might when coming from other sources. Future research should explore such distinctions in categorizing memorable messages.

Study 3: initial validation

Participants

Following IRB approval, students enrolled in a general education communication course at a mid-sized public Southeastern University in the United States were invited to participate in the online study in exchange for extra credit. The sample consisted of 46 (24.5%) males and 142 (74.5%) females. Of the 188 participants, the sample was overwhelmingly sophomore students ($n = 138$, 73.4%), followed by 21 (11.2%) first-years, 16 (8.5%) juniors, and 13 (6.9%) seniors representing 19 programs of study. Participants were also asked to report on the sex of the teacher and the type of course they attended prior to taking the survey. Participants reported that 71 (37.8%) of the courses were taught by males while 117 (62.2%) were taught by females. Of the courses, 107 (56.9%) were general education courses, 45 (23.9%) were major courses, 5 (2.7%) were minor or cognate courses, 22 (11.7%) were elective courses, and 9 (4.8%) were other. These data were collected at the same institution as the focus groups in study one and approximate those same ethnicity percentages.

Measures

Faculty verbal messages

The Faculty Verbal Messages scale assesses the extent to which students perceive various faculty verbal messages as impactful. For the

TABLE 1 Faculty verbal messages scale factor loadings.

	Factor 1	Factor 2
M37: I knew you could do it.	0.845	−0.233
M42: You can do it.	0.842	−0.182
M43: You are smart.	0.838	−0.168
M23: You will be fine.	0.789	−0.028
M40: You had a great presentation.	0.777	−0.265
M20: Do not stress.	0.774	−0.072
M18: If you need anything, come talk to me.	0.756	−0.313
M38: There was no doubt in my mind that you were going to win.	0.754	−0.114
M22: You can come to me for anything.	0.724	−0.012
M19: Do not worry.	0.718	−0.151
M6: You are really good at that.	0.717	−0.055
M44: You are too hard on yourself.	0.715	−0.014
M16: I am here for you.	0.715	−0.276
M24: Do not compare your journey to anyone else's.	0.650	−0.092
M62: Give it 100%. Even if you fail, you know you tried.	0.644	−0.038
M17: Come by my office hours any time.	0.644	−0.290
M39: I agree with the class.	0.638	−0.083
M63: I am sorry.	0.610	−0.046
M51: There is nothing I can do.	−0.080	0.809
M55: I already said that. You are not listening.	−0.141	0.795
M35: What is it so hard for you to comprehend this?	−0.072	0.788
M54: You are the only one that is confused.	−0.276	0.761
M14: You are not going to make it.	−0.124	0.748
M46: I do not have a problem learning this stuff so you should not either.	−0.160	0.745
M56: I do not know what your problem is.	−0.134	0.722
M4: You should know how to do this. You are a college student.	−0.001	0.710
M27: You all did this assignment wrong.	−0.102	0.681
M50: I am not sure why you are not getting the information.	0.048	0.679
M13: You should change your major.	−0.176	0.668
M3: I just said that.	0.022	0.657
M47: You did not do it the way I wanted you to do it.	−0.064	0.632
M30: You are probably all going to fail.	−0.216	0.631
M41: If you would have been in class, you would have known that.	0.179	0.602
M31: I do not care what you put on your evaluation.	−0.161	0.601

present study, both subscales remained reliable ($\alpha = 0.83$ for affirming messages and $\alpha = 0.88$ for disconfirming messages[1]). One of the measure's primary strengths is its ecological validity as these are actual messages identified by students as being uttered by a faculty member, and the survey asks students to evaluate the messages based upon the instructor who taught the last class they attended. This approach mitigates the flaws found in scenario-based approaches to studying teacher communication behaviors (Goodboy and Myers, 2015). Because this research design offers an accurate reflection of reality, internal validity is also achieved.

Student motivation scale

The Student Motivation Scale (Christophel, 1990; Rubin et al., 2004) measures how students feel about a particular class. Previous reliability for the 16-item version was reported to be 0.96 (Christophel, 1990), while a Cronbach's alpha of 0.96 was found for this study. A 12-item version (Christophel cited in Rubin et al., 2004), 5-item

1 While we are aware of the work published by Goodboy and Martin (2020) regarding the problematic nature of alpha reliability, these numbers are presented here because they are what is familiar to the people in our field and serve as a data point of comparison. We conducted CFA to address the necessary construct validity concerns (Bowman and Goodboy, 2020).

TABLE 2 Faculty verbal messages scale descriptive statistics.

	Number of items	Mean (SD)	% of variance explained	Skew	Kurtosis	Alpha reliability	Omega reliability
Factor 1 (affirm)	18	101.98 (17.19)	21.12	−1.03	2.112	0.95	0.95
Factor 2 (disconfirm)	16	36.40 (15.01)	19.81	1.19	0.414	0.93	0.93

version (Richmond cited in Rubin et al., 2004), and 4-item version (Beatty and Payne, 1985) have also been used; Cronbach's alpha for these versions were 0.95, 0.92, and 0.86, respectively.

Learner empowerment scale

The original Learner Empowerment Scale (Frymier et al., 1996) included 35 items measuring students' perceived empowerment; we used the revised 18-item version (Weber et al., 2005) with three dimensions: impact, meaningfulness, and competence on a seven-point scale from strongly disagree to strongly agree for consistency. Previous reliabilities were 0.88 for impact, 0.91 for meaningfulness, and 0.92 for competence (Weber, 2004) and validity was ascertained by Frymier et al. (1996); the current study's reliabilities were meaningfulness ($\alpha = 0.89$), impact ($\alpha = 0.70$), and competence ($\alpha = 0.86$).

Relational distance scale

The Relational Distance Index (Hess, 2002) is a 17-item measure of tactics utilized to reduce interaction. Previous reliabilities for the three dimensions were avoidance (0.88), disengagement (0.86), and cognitive disassociation (0.74) (Hess, 2002); this study produced Cronbach's alphas of 0.84, 0.83, and 0.80, respectively. As Hess (2003) did, we also examined the scale using two factors: unfriendly ($\alpha = 0.89$) and withdrawal ($\alpha = 0.77$).

Student motives to communicate

The Student Motives to Communicate Scale (Martin et al., 1999) measures reasons students might interact with their instructors. The 29-item, seven-point Likert-type scale measure includes six factors. Previous reliability was reported to range from 0.81 to 0.90 (Martin et al., 1999, 2002; Myers et al., 2005). These data produced a Cronbach's alpha of 0.93 for relational, 0.87 for functional, 0.82 for excuse-making, 0.86 for participation, and 0.77 for sycophancy motives.

Instrument testing and analysis

Before hypothesis or model testing, CFA using SPSS' AMOS add-on and ordinary least squares estimation were performed to address RQ3. All incomplete data were removed with normality examined for the remaining data. This is the initial validity testing for the Faculty Verbal Messages scale and serves as an independent sample for validity testing the other measures used.[2] During CFA, items that cause a statistically significant amount of residual error can be removed. When completing the validity testing, two criteria were used to determine fit: (1) At least mediocre fit indices for Goodness of Fit Index (GFI) ≥ 0.90, Comparative Fit Index (CFI) ≥ 0.90, Root Mean Square Error of Approximation (RMSEA) ≤ 0.10, and Standardized Root Mean Square Residual (SRMR) ≤ 0.08 (Byrne, 2016) and preferably acceptable fit indices of CFI ≥ 0.95, RMSEA ≤ 0.08, and SRMR ≤ 0.08 (Goodboy and Martin, 2020); and (2) The extent to which fit could be increased by removing items while retaining a parsimonious scale with at least three items (see Tables 3, 4) was the overarching criterion.

As indicated in the tables, only the four-item motivation scale (Beatty and Payne, 1985) and two-factor, eight-item relational distance scale produced acceptable fit indices; however, a covariance issue existed between two relational distance items and therefore, it was respecified along with the other scales (see Table 5). When the scales were respecified, the one-factor Richmond motivation, two-factor messages (affirming and disconfirming), and two-factor relational distance scales indicated the data and model items fit with each other ($p > 0.05$). While this would be considered sufficient to use the respecified model, they also met the preferred fit standards. In the empowerment scale, removing the impact factor produced the best fit with the data, in the motives to communicate scale, the overlap (high correlation and covariance issues) between participation and sycophancy left two options: combine them into a single factor or delete the sycophancy subscale. We opted to combine them into a single factor to maintain as much of the original scale as possible and were able to achieve acceptable fit for the scale. Descriptive statistics and correlations for the final scales are included in Tables 5, 6.

Results

RQ4 asked about the predictive capability of faculty affirming messages. The linear regression analyses demonstrated that affirming messages predicted unfriendly relational distance ($\beta = -0.25$, $F = 12.865$, $p < 0.01$, adj.$R^2 = 0.06$), withdrawal relational distance ($\beta = -0.174$, $F = 5.82$, $p < 0.05$, adj.$R^2 = 0.03$), student motivation ($\beta = 0.20$, $F = 7.48$, $p < 0.01$, adj.$R^2 = 0.03$), functional motives ($\beta = 0.43$, $F = 42.39$, $p < 0.001$, adj.$R^2 = 0.18$), combined participation/sycophancy motives ($\beta = 0.15$, $F = 4.29$, $p < 0.05$, adj.$R^2 = 0.02$), competence empowerment ($\beta = 0.300$, $F = 18.355$, $p < 0.001$, adj.$R^2 = 0.09$), and meaningful empowerment ($\beta = -0.21$, $F = 8.85$, $p < 0.01$, adj.$R^2 = 0.04$) at $p < 0.05$; affirming messages did not predict relational motives or excuse-making motives.

RQ4 also asked about asked about faculty disconfirming messages' predictive ability. The linear regression analyses demonstrated predictions for functional motives ($\beta = -0.21$, $F = 8.46$, $p < 0.01$, adj.$R^2 = 0.04$) and unfriendly relational distance ($\beta = 0.25$, $F = 12.34$, $p < 0.01$, adj.$R^2 = 0.06$) at $p < 0.05$; they do not predict three motives to communicate, student motivation, or student empowerment at this

2 Bowman and Goodboy (2020) argue that scales should not be respecified after validity testing has been established because it capitalizes on sample-specific variance. We argue that none of these scales has reached an adequate number of independent samples to assume that their factor structure holds up to scrutiny.

TABLE 3 CFA validity testing for original scales.

	GFI	CFI	RMSEA	SRMR	χ^2
Messages (18 affirming and 16 disconfirming items)	0.794	0.832	0.058 (0.051–0.065)	0.062	χ^2 (N = 188, 526) = 856.540, p < 0.001
Motives (six relational, six functional, six excuse-making, six participatory, and six sycophancy items)	0.771	0.886	0.078 (0.071–0.086)	0.092	χ^2 (N = 188, 367) = 568.823, p < 0.001
Motivation					
Beatty & Payne (four items)	0.965	0.968	0.175 (0.094–0.269)	0.037	χ^2 (N = 188, 2) = 13.433, p = 0.001
Christophel (12 items)	0.885	0.945	0.099 (0.080–0.117)	0.038	χ^2 (N = 188, 54) = 152.045, p < 0.001
Christophel (16 items)	0.829	0.913	0.106 (0.093–0.119)	0.043	χ^2 (N = 188, 104) = 321.988, p < 0.001
Richmond (five items)	0.969	0.984	0.105 (0.048–0.167)	0.024	χ^2 (N = 188, 5) = 15.325, p < 0.009
Relational distance					
Hess 17 Item (five avoidance, seven disengagement, and five cognitive dissociation items)	0.780	0.877	0.101 (0.088–0.113)	0.072	χ^2 (N = 188, 116) = 335.144, p < 0.001
Hess 8 Item (four unfriendly and four withdrawal)	0.951	0.976	0.073 (0.038–0.107)	0.038	χ^2 (N = 188, 19) = 37.842, p = 0.006
Empowerment (six meaningful, six competence, and six impact)	0.803	0.857	0.097 (0.085–0.109)	0.077	χ^2 (N = 288, 132) = 363.171, p < 0.001

level. The low variance accounted for by both affirming and disconfirming messages individually indicates that they work better in concert with other communication components than alone.

RQ5a asked about the predictive value of affirming and disconfirming messages as a mediator between student motives to communicate and empowerment in comparison to the predictive value of relational distance as a mediator between student motives to communicate/faculty messages and empowerment. These relationships were tested with stepwise linear regression (see Table 7). In the initial regression model (Figure 1), affirming and disconfirming messages along with the four motives were entered in the first step and relational distance in the second step. Regression analysis revealed the motives/messages (F = 17.91, p < 0.001, adj.R^2 = 0.20) model was statistically significant. Adding relational distance did not enhance the predictive capability (ΔF = 2.22, p > 0.05, adj.R^2 = 0.21) even though that model explained the largest percentage of variance.[3] Neither multicollinearity nor autocorrelation was found in the sample data. Taken together, these results indicate relational distance did not mediate the relationship between faculty messages/students' communication motives and perceptions of learner empowerment; additionally, disconfirming messages, relational distance, and student communication motives are unnecessary predictors.

The alternate model (see Figure 2) tested messages as the mediator between motives and empowerment. Regression analysis revealed the motives (F = 10.66, p < 0.001, adj.R^2 = 0.17) and motives/messages models were statistically significant (ΔF = 4.71, p < 0.01, adj.R^2 = 0.20). None of the individual motives to communicate is a statistically significant predictor of empowerment. When messages are added to the equation, affirming messages, functional motives and the combined participatory/sycophancy motives are statistically significant predictors. Neither multicollinearity nor autocorrelation was found in the sample data. Taken together, these results indicate that affirming messages may mediate the relationship between functional and participatory/sycophancy motives and empowerment.[4] Overall, instructor messages mediating the relationship between motives to communicate and learner empowerment is the stronger model (see Figure 3).

RQ5b asked about the predictive value of affirming and disconfirming messages as a mediator between student motives to communicate and motivation in comparison to the predictive value

3 With only one statistically significant predictor in Model 1, it is difficult to argue this is the best explanation.

4 A follow-up 5,000-sample bootstrap stepwise regression analysis eliminating disconfirming messages and motives (excuse-making, relational) revealed affirming messages mediated the relationship between functional and participatory/sycophancy motives and learner empowerment [(Motives step: F = 19.45, p < 0.001, adj.R^2 = 0.17); Motives and Affirming Message (ΔF = 7.77; p < 0.001; adj.R^2 = 0.20; part/syc: β = 0.23; t = 3.09, p < 0.01; functional motives β = 0.17, t = 2.04, p < 0.05; affirming β = 0.20, t = 2.78, p < 0.01)].

TABLE 4 CFA validity testing for respecified scales.

	GFI	CFI	RMSEA	SRMR	χ^2
Messages (nine affirming and 10 disconfirming items)	0.913	0.974	0.032 (0.000–0.048)	0.051	χ^2 (N = 188, 151) = 179.030, p = 0.059
Motives to communicate (five relational, five functional, three excuse-making, and seven combined participatory/sycophancy items)	0.880	0.961	0.053 (0.040–0.065)	0.057	χ^2 (N = 188, 164) = 251.366, p < 0.001
Motivation					
Christophel: 12-item (nine items)	0.945	0.985	0.062 (0.029–0.091)	0.033	χ^2 (N = 188, 27) = 46.329, p = 0.012
Christophel: 16-item (eight items)	0.954	0.986	0.067 (0.531–0.101)	0.025	χ^2 (N = 188, 20) = 36.784, p = 0.012
Richmond: 5-item (four items)	0.969	0.999	0.034 (0.000–0.015)	0.010	χ^2 (N = 188, 2) = 2.443, p > 0.296
Relational distance					
Hess 17 Item (three avoidance, three disengagement, and three cognitive dissociation items)	0.934	0.955	0.091 (0.063–0.012)	0.041	χ^2 (N = 188, 24) = 61.138, p = 0.001
Hess 8 Item (three unfriendly and three withdrawal items)	0.981	0.994	0.046 (0.000–0.104)	0.027	χ^2 (N = 188, 8) = 11.231, p = 0.189
Empowerment (four meaningful, four competence)	0.957	0.980	0.066 (0.028–0.100)	0.042	χ^2 (N = 188, 19) = 34.344, p = 0.017

Information regarding which items were retained and which items were deleted from each of these scales is available from the authors. The information is presented here for those who may be interested in using these scales in the future and need an independent sample to justify their measurement choices.

of relational distance as a mediator between student motives to communicate/faculty messages and motivation. These relationships were tested with stepwise linear regression (see Table 7). In the initial regression model (Figure 1), affirming and disconfirming messages along with the four motives were entered in the first step and relational distance in the second step. Regression analysis revealed the motives/messages (F = 4.27, p < 0.001, adj.R^2 = 0.10) model was statistically significant and adding relational distance slightly enhances the predictive capability (ΔF = 4.85, p < 0.01, adj.R^2 = 0.13). Neither multicollinearity nor autocorrelation was found in the sample data. Taken together, these results indicate relational distance, specifically withdrawal, mediates the relationship between faculty messages/students' communication motives and student motivation; additionally, student communication motives and unfriendly relational distance are unnecessary predictors.

The alternate model (see Figure 2) tested messages as the mediator between motives and motivation. Regression analysis revealed the motives (F = 3.42, p < 0.001, adj.R^2 = 0.05) and motives/messages models were statistically significant (ΔF = 5.62, p < 0.01, adj.R^2 = 0.10). None of the individual motives to communicate is a statistically significant predictor of student motivation; when messages are added to the equation, both affirming and disconfirming messages are statistically significant positive predictors. Neither multicollinearity nor autocorrelation was found in the sample data. Taken together, these results indicate motives to communicate are not directly or indirectly related to student motivation. Overall, relational distance as a mediator between motives/messages and student motivation is the strongest model (see Figure 4).[5]

Discussion

This study sought to explore the relationships among faculty verbal messages, students' motives for communicating with their instructors, relational distance, and learner empowerment. Validity testing associated with research question three revealed issues associated with the Motives to Communicate, Relational Distance, Student Motivation, and Learner Empowerment scales, all of which require additional examination with independent samples. It is possible the age of these scales makes them less applicable to today's students; additionally, we may have focused on reliability (alpha in particular) to the detriment of fully developing and retesting the validity profiles over time. Failing to assess scale validity risks

5 A follow-up 5,000-sample bootstrap stepwise regression analysis eliminating motives to communicate and unfriendly relational distance revealed withdrawal mediated the relationship between messages and motivation [(Messages step: F =7.244, p <0.001, adj.R^2 =0.063); Messages and Distance step (ΔF =11.595; p <0.001; adj.R^2 =0.115; affirming β =0.239; t =3.078, p <0.01; disconfirming β =0.194, t =2.531, p <0.05; withdrawal β =−0.242, t =−3.460, p <0.001)].

TABLE 5 Descriptive statistics for all measured variables.

Variable	Min	Max	Mean	Stan Dev	Skewness (std. error)	Kurtosis (std. error)
Affirming	4.00	7.00	6.22	0.67	−1.18 (0.18)	1.18 (0.35)
Disconfirm	1.00	5.60	2.24	0.79	1.06 (0.18)	1.72 (0.35)
Relational	1.00	7.00	3.57	1.55	0.24 (0.18)	−0.46 (0.35)
Functional	1.80	7.00	5.45	1.17	−0.40 (0.18)	−0.43 (0.35)
Excuse	1.00	7.00	3.31	1.62	0.30 (0.18)	−0.71 (0.35)
Part/Syc	1.00	7.00	4.18	1.32	0.13 (0.18)	−0.22 (0.35)
Motivate	1.00	7.00	4.85	1.68	−0.52 (0.18)	−0.65 (0.35)
Unfriendly	1.00	7.00	1.85	1.20	1.82 (0.18)	3.22 (0.35)
Withdraw	1.00	7.00	2.33	1.31	1.33 (0.18)	1.67 (0.35)
Meaning	2.50	7.00	5.49	1.10	−0.56 (0.18)	−0.06 (0.35)
Comp	1.00	7.00	5.07	1.38	−0.59 (0.18)	−0.16 (0.35)

TABLE 6 Correlations for measured variables.

Variable	Aff	Dis	Unf	With	Mot	Rel	Func	Exc	Part/ Syc	Comp
Dis	−0.44**									
Unf	−0.25**	0.25**								
With	−0.17*	0.04	0.66**							
Mot	0.20**	0.08	−0.14	−0.28**						
Relate	−0.06	0.09	0.13	−0.06	0.18*					
Func	0.43**	−0.21**	−0.09	−0.17*	0.20**	0.30**				
Exc	−0.02	0.13	0.22**	0.04	0.005	0.37**	0.16*			
Part/Syc	0.15*	−0.002	0.08	−0.11	0.22**	0.67**	0.50**	0.42**		
Comp	0.30**	−0.10	−0.15*	−0.23**	0.56**	0.21**	0.40**	0.04	0.33**	
Meani	0.26**	−0.04	−0.12	−0.20**	0.70**	0.24**	0.28**	0.02	0.30**	0.61**

N = for all correlations; *$p < 0.05$; **$p < 0.01$.
Aff, Affirming messages; Dis, Disconfirming messages from faculty verbal messages scale; Unf, Ufriendly; and With, Withdrawal from the relational distance scale; Rel, Relational, Motives; Func, Functiona Motivesl; Exc, Excuse-making Motives; and Part/Syc, Participation/Sycophancy from the Motives to Communicate Scale; Comp, Competence and Mean, Meaningfulness from the Learner Empowerment Scale.

publishing findings that will not withstand scrutiny across samples and contexts.

Research questions

Affirming faculty messages predicted student motivation, motives to communicate with an instructor (functional and participatory/sycophancy), learner empowerment (meaningfulness, competence), and relational distance (unfriendly and withdrawal). Generally, the variance accounted for was small, which is not surprising. A single message type or set of messages is likely to be only one piece of a very complex relationship between students and faculty. Psychologists have been studying motivation for centuries; if it were as simple as using affirming messages, many researchers would find themselves looking for new topics to study. Communication researchers have been touting the importance of supportive communication for decades and these results lend additional credence to the importance of such messages with a new generation of students (e.g., Cissna and Sieburg, 1981; Ellis, 2000; Worley et al., 2007). Not surprisingly, affirming messages did not predict excuse motives for communicating; we would not expect affirming messages to lead to negative interactions between students and instructors; what is surprising is that affirming messages did not predict relational motives for communicating. Given that affirming messages should strengthen the relationship, it is unclear why students who communicate with their instructors to build connections would not also rate affirming messages highly, a topic which should be explored in future research.

Disconfirming messages predicted functional motives and unfriendly relational distance. Not surprisingly, disconfirming messages did not predict learner empowerment. When a relationship is built around negative messages that tell people how inadequate they, and their work, are, it is unlikely anyone would feel empowered. Disconfirming messages predicted unfriendly relational distance but not withdrawal. It is possible that students withdraw from the relationship by creating distance for a complex set of reasons and

TABLE 7 Stepwise regression results.

Model	Adj.R^2	*F* (sig)	*B* (stan)	*t* (sig)	Confidence interval
Empowerment model 1					
Step 1: motives and messages	0.204	8.969***			
Part/Syc motive			0.197	1.977*	0.007–0.342
Excuses motive			−0.125	−1.711	−0.186 to 0.017
Functional motive			0.167	2.009*	−0.010 to 0.326
Relational motive			0.126	1.392	−0.044 to 0.220
Affirming			0.245	3.064**	0.149–0.655
Disconfirming			0.070	0.951	−0.078 to 0.285
Step 2: motives, messages and relational distance	0.214	7.731***			
Part/Syc motive			0.191	1.919	0.005–0.329
Excuses motive			−0.111	−1.512	−0.179 to 0.027
Function motive			0.153	1.854	−0.019 to 0.320
Relational motive			0.024	1.336	−0.049 to 0.210
Affirming			0.224	2.781**	0.097–0.614
Disconfirming			0.063	0.839	−0.102 to 0.277
Unfriendly			−0.004	−0.045	−0.206 to 0.193
Withdrawal			−0.137	−1.509	−0.300 to 0.059
Empowerment model 2					
Step 1: motives	0.171	10.684***			
Part/Syc			0.224	2.205*	0.029-0.352
Excuses motives			−0.127	−1.716	−0.189 to 0.013
Functional motives			0.261	3.390*	0.100-0.393
Relational motives			0.073	0.084	−0.075 to 0.172
Step 2: Motives And Messages	0.204	8.989***			
Part/Syc			0.197	1.977*	0.005-0.338
Excuses motives			−0.125	−1.711	−0.186-0.014
Functional motives			0.167	2.009*	−0.001-0.317
Relational motives			0.126	1.392	−0.047-0.218
Affirming			0.245	3.064**	0.151-0.655
Disconfirming			0.070	0.951	−0.069-0.289
Motivation Model 1					
Step 1: Motives and Messages	0.095	4.271***			
Part/Syc			0.167	1.238	−0.088 to 0.421
Excuses Motives			−0.125	-1.557	−0.286 to 0.042
Functional Motives			0.073	0.578	−0.180 to 0.321
Relational Motives			0.125	1.195	−0.085 to 0.325
Affirming			0.622	2.917**	0.225-0.983
Disconfirming			0.437	2.621*	0.137-0.776
Step 2: motives, messages and relational distance	0.132	4.552***			
Part/Syc			0.119	1.137	−0.104 to 0.401
Excuses Motives			−0.105	−1.352	−0.266 to 0.501
Functional Motives			0.030	0.342	−0.199 to 0.292

(Continued)

TABLE 7 (Continued)

Model	Adj.R^2	*F* (sig)	*B* (stan)	*t* (sig)	Confidence interval
Relational Motives			0.105	1.107	−0.905 to 0.307
Affirming			0.219	2.585*	0.145-0.905
Disconfirming			0.188	2.388*	0.103-0.704
Unfriendly			0.030	0.300	−0.264 to 0.360
Withdrawal			−0.236	−2.473*	−0.578 to 0.301
Motivation Model 2					
Step 1: Motives	0.049	3.422*			
Part/Syc			0.158	1.451	−0.064 to 0.376
Excuses motives			−0.106	−1.341	−0.269 to 0.060
Functional motives			0.111	1.353	−0.068 to 0.396
Relational motives			0.077	0.801	−0.127 to 0.290
Step 2: motives and messages	0.095	4.271***			
Part/Syc			0.249	1.238	−0.091-0.429
Excuses motives			0.205	−1.557	−0.282 to 0.040
Functional motives			0.132	0.578	−0.173 to 0.325
Relational motives			-0.121	1.195	−0.079 to 0.322
Affirming			0.051	2.917**	0.233-0.998
Disconfirming			0.111	2.621*	0.144-0.770

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. Confidence intervals (5,000 bootstrap samples).

disconfirming messages are only one aspect of that decision. For example, students may seek distance because they do not possess similar identity markers to the instructor, perceive a lack of nonverbal immediacy cues or too much self-disclosure in the classroom (Sidelinger et al., 2015), or even perceive too much hierarchical difference between the instructor and student.

When addressing learner empowerment, affirming messages mediated the motive (functional and participator/sycophancy)-empowerment relationship. Students who engage in proactive communication by focusing on functional, participatory, and sycophancy motives perceive greater learner empowerment. Because empowerment is a relational construct, it makes sense that instructor affirming messages would mediate this relationship. What is less clear is why relational motives for communicating had so little direct or indirect predictive ability.

Student motivation was best explained by a model in which withdrawal relational distance mediated the relationship between messages and motivation. Interestingly, in these data, both affirming and disconfirming messages had a positive effect on motivation. These findings contradict previous research on the importance of confirmation over disconfirmation (Ellis, 2004; Goodboy and Myers, 2008; Jones, 2008). Disconfirming messages may motivate students because they feel the need "to prove a faculty member wrong" after earning a poor grade or receiving negative feedback on an assignment. The move toward standardizing education and "no child left behind" has anonymized K-12 education specifically, and to a certain extent serves as educational baggage when students enter higher education; students may appreciate any individualized attention they can gain, regardless of whether it is negative. Students who are more relationally withdrawn from the instructor are less motivated (Seifer, 2004). Looking for ways to heighten students' engagement (Mazer, 2013) and minimize their withdrawal is a valuable place to begin for those who are seeking motivation as a student outcome.

Based on previous conceptualizations of relational distance (Hess, 2000, 2002, 2003; Thibaut and Kelley, 1986), disconfirming messages should predict greater relational distance while affirming messages should predict less relational distance. When exploring relational distance in an instructional communication context, both affirming and disconfirming messages were found to predict relational distance. Potential power distance and/or expectation effects may be occurring, as this specific student population may be socialized to perceive and expect greater distance between teachers and students. On this campus, in comparison to the faculty, the students primarily identify as racial minorities with a high number of first-generation college students. The Institution has been recognized as part of the First Scholars Network Member by the Center for First-generation Student Success. For this reason, students may feel they have little in common with their teachers. If such perceptions and expectations are at play, students would likely perceive greater distance regardless of whether the messages are affirming or disconfirming. Supportive of previously theorized conceptions, disconfirming messages were found to have a moderate, statistically significant, positive relationship with relational distance. Given that disconfirming messages suggest devaluation of, or disregard toward, the student, these results are not surprising.

Contributions

This study set out to develop and initially validate a faculty verbal messages scale. In doing so, three main contributions to the literature

emerge from the findings. First, students can recall specific interactions with instructors and memorable messages from those interactions. Sometimes the messages are positively valenced and sometimes they are negatively valenced. Regardless of the valence, those messages impact the way students behave and interact both inside and outside the classroom. The opening example was a learner trying to persevere and overcome the negative implications of a memorable message; other learners would have potentially given up and assumed they were not academically able to complete their higher education journey.

Second, affirming and disconfirming messages can be documented. While the confirmatory factor analysis removed additional affirming and disconfirming items from the scale to achieve acceptable fit in the validity testing, we are moving toward a parsimonious scale that transfers across samples. The core remaining items (e.g., "you are smart") have a broad appeal across students from different backgrounds in the United States. The items being deleted are likely more individualized and reflect a specific set of background experiences (e.g., "I do not care what you put on your evaluation") may be seen as something more instructors would not say, something that is specific to a particular context where student evaluations carry little or no weight in a faculty member's position, or something that only matters if the student and instructor already have an antagonistic relationship.

Third, we are beginning to see a picture of how positivity overpowers negativity when it comes to leaner empowerment while both positivity and negativity predict motivation. Affirming messages consistently are the strongest predictor of whether students feel what they are learning is meaningful and whether they have confidence in their competence regarding the topic. When students choose to communicate in the classroom to be interactive and accomplish task-related goals, this also leads to feelings of empowerment. On the motivation side, both affirming and disconfirming messages can motive students in a class. One of the primary issues with motivation is that it is more of an individual construct than a global one—some people use affirming messages to energize them to achieve goals and others use disconfirming messages with the goal of proving the person who said it wrong.

Overall, the relationships among faculty verbal messages, students' motives for communicating, relational distance, student motivation, and learner empowerment were not particularly strong, potentially indicating a lack of practical significance (Kirk, 1996). Mediating or moderating variables not explored here may be necessary; future research should explore such models and possible interaction effects beyond the messages themselves. It may also be that these outcomes are not as sensitive to faculty verbal messages when the messages are specified as opposed to students' ratings of message types. Future research should consider, and potentially test against each other, models with specific messages as well as types of messages.

Limitations

This study set out to address three limitations of previous research (using inconsistent learning scales with questionable validity, using messages rather than message categories, and providing an independent sample with a new generation of students for validity testing of previous instructional communication scales). In alleviating these limitations, additional limitations arose beyond the information provided about future research. One limitation is the homogeneity of the sample regarding year in school. Future research should explore a larger, equally divided sample among years in school to see if outcomes change with age and experience as well as messages' perceived valence. A second limitation is the oversampling of female students in comparison to male students, which may skew the results if they rate their experiences differently. Interestingly, a series of independent samples t-tests to determine the veracity of this concern indicated no differences between the sexes at $p < 0.05$ except for affirming and disconfirming messages (the difference for these two variables was females scoring affirming messages higher by 0.3 and males scoring disconfirming messages higher by 0.4). On a seven-point scale, these differences may not be practically meaningful in the classroom and should be further investigated with more balanced samples and careful attention to the role of instructor sex in interpreting messages (e.g., "You can come to me for anything" may be perceived differently by female students if uttered by a male instructor than a female instructor). Also, it is possible students who are more removed from their K-12 standardized education may perceive themselves to have more influence in the classroom and view disconfirming messages differently in terms of motivation and motives for communicating. Similarly, an equitable distribution of the type of class was not achieved in this study and should be explored given that major and minor classes are seen as the more important college courses and therefore are likely to report greater impact from those messages than

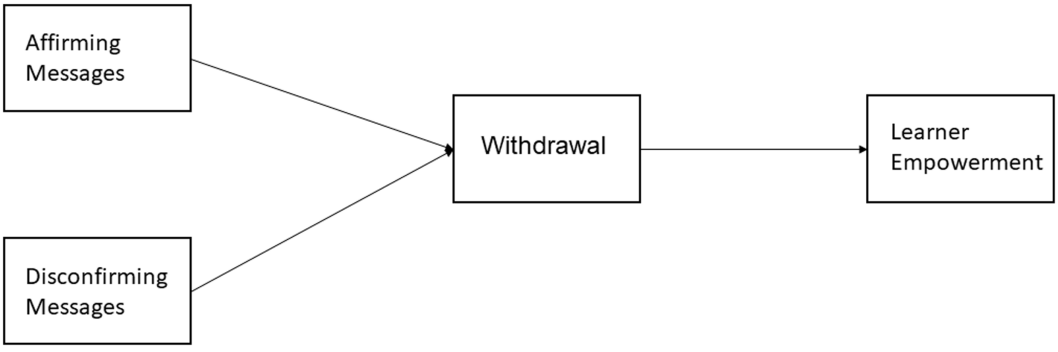

FIGURE 3
Supported learner empowerment model.

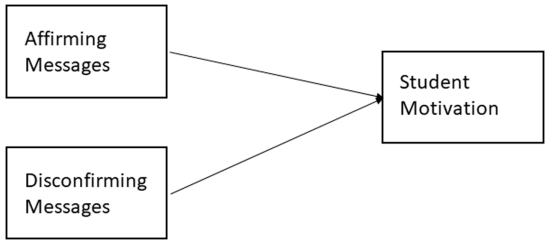

FIGURE 4
Supported motivation model.

general education or elective courses. While offering extra credit for participation in research may be considered an undue incentive that impacts the study's findings, this was one option students could choose for extra credit; other options would have provided them with the same minor amount of points for the course. Given the increasing diversity of course modalities, this potential confounding variable, along with class size, should be investigated in future research. Finally, strong correlations between motivation and empowerment indicate some potential measurement model issues that would be more pronounced in a structural equation modeling study. A better understanding of the causal direction of the relationships among the variables studied here is necessary to help instructors better utilize their affirming and disconfirming messages to achieve desired student, classroom, and relational outcomes.

Practical implications

Instructional communication centers on studying communicative factors in the process of teaching and learning in educational settings. Similar to manager-employee relationships in workplace contexts (Stohl, 1986), teachers tend to focus more on disconfirming messages when providing student feedback than affirming messages, such as, "This is what you did not do, and this needs be to fixed." Affirming, or positive, feedback messages tend to be less in quality and quantity and they are likely more generic in nature, such as "You did a good job on this assignment." Taking the time to provide specific affirming messages positively impacts student perceptions of empowerment, and ultimately their learning. For example, adding a phrase that starts with because to any of the affirming messages shows care and concern for a learner. That feedback might be "You are smart because I have not heard that argument about the connection between Artificial Intelligence generators and loneliness." Another possibility might be "I agree with the class and disagree with the textbook. It goes to show that people are human and can be friends or colleagues without thinking exactly the same way on everything."

Those affirming messages can also lead to more effective teacher-student interactions where potential problems can be alleviated before they negatively impact learning. For example, students who feel more connected to their instructors are more likely to use relational and functional motives for communicating these interactions can help clarify confusing content or provide guidance on learning activities by utilizing functional motives for communicating. Each interaction also strengthens the relational motives for communicating. Disconfirming messages, which may seem relatively benign in this study, are positively associated with creating relational distance between faculty and students. That distance minimizes the likelihood that learners will use functional motives for communicating by seeking out help with assignments or course content.

Beyond using more affirming messages and minimizing disconfirming messages, faculty should be having the conversations with their students that help build relationships. For the foreseeable future, many of the students in our classrooms will have lost basic relationship-building and communication skills during the social distancing and lockdown efforts enacted to minimize the spread of COVID-19, the global health pandemic. Helping learners strengthen their communication skills allows them to utilize appropriate motives for communicating with their instructors, which in turn helps, them be more motivated in the classroom. These increased communication skills also build their efficacy, strengthen their perceptions of being empowered in the classroom, and enhance their lifelong learning.

Finally, faculty should maximize the benefits of less lecture-based classrooms and maximize classroom environments that focus on encouraging students to utilize both participatory and functional motives for communicating. Substantive learner-learner and learner-instructor interactions strengthen learner empowerment and, by extension, learning. Not every lesson of every course must be interactive for these benefits to be realized. Being intentional about creating an environment where students feel comfortable contributing to discussions, answering questions or asking questions about assignments all have positive impacts.

Conclusion

Three overarching conclusions emerge from these findings. First, both affirming and disconfirming messages can have positive effects on student motivation. Second, instructional communication research still suffers from consistency in validating research instruments; validity provides researchers with confidence in the findings associated with the conceptual and operational definitions utilized. Finally, there are likely many more components working in conjunction with faculty messages in the classroom and instructor-student relationships; a stronger theoretical conceptualization of those relationships and the different contexts is needed to help students and faculty achieve desirable outcomes and avoid undesirable ones. Just as faculty memorable messages may catalyze students to action, they should also catalyze researchers to further contemplate these relationships.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by University of South Carolina—Upstate. The studies were conducted in accordance with the local legislation and institutional requirements. The ethics committee/institutional review board waived the requirement of written informed consent for participation from the participants or the participants' legal guardians/next of kin because it was an online survey for studies 2 and 3; study 1 used written consent for the focus groups.

Author contributions

MV: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. MG: Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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References

Al-Niarat, T. F., and Abumoghli, F. (2019). Factors influencing nursing students' empowerment: A literature review. *Open J. Nurs.* 9, 1240–1251. doi: 10.4236/ojn.2019.912090

Aylor, B., and Opplinger, P. (2003). Out-of-class communication and student perceptions of instructor humor orientation and socio-communicative style. *Commun. Educ.* 52, 122–134. doi: 10.1080/03634520302469

Beatty, M. J., and Payne, S. K. (1985). Is construct differentiation loquacity?: a motivational perspective. *Hum. Commun. Res.* 11, 605–612. doi: 10.1111/j.1468-2958.1985.tb00063.x

Bogardus, E. S. (1926). Social distance in the city. *Proc. Publ. Am. Sociol. Soc.* 20, 40–46.

Bowman, N. D., and Goodboy, A. K. (2020). Evolving considerations and empirical approaches to construct validity in communication science. *Ann. Int. Commun. Assoc.* 44, 219–234. doi: 10.1080/23808985.2020.1792791

Burgoon, K., and Hale, J. L. (1984). The fundamental topoi of relational communication. *Commun. Monogr.* 51, 193–214. doi: 10.1080/03637758409390195

Burns, M. E., Houser, M. L., and Farris, K. L. (2018). Theory of planned behavior in the classroom: An examination of the instructor confirmation-interaction model. *High. Educ.* 75, 1091–1108. doi: 10.1007/s10734-017-0187-0

Byrne, B. M. (2016). Structural Equation Modeling With AMOS: Basic Concepts, Applications, and Programming, Third Edition. New York, NY, USA: Routledge.

Cakır, S. G. (2015). Authoritative approach and student empowerment among university students. *Procedia Soc. Behav. Sci.* 186, 151–154. doi: 10.1016/j.sbspro.2015.04.078

Christophel, D. M. (1990). The relationship among teacher immediacy behaviors, student motivation, and learning. *Commun. Educ.* 39, 323–340. doi: 10.1080/03634529009378813

Cissna, K. N., and Sieburg, E. (1981). "Patterns of interactional confirmation and disconfirmation" in Bridges Not Walls: A Book About Interpersonal Communication. ed. J. Stewart (New York, NY, USA: McGraw-Hill), 429–438.

Clark, R. A., and Delia, J. G. (1979). Topoi and rhetorical competence. *Quarterly Journal of Speech.* 65, 187–206. doi: 10.1080/00335637909383470

Croucher, S. M., Rahmani, D., Galy-Badenas, F., Zeng, C., Albuquerque, A., Attarieh, M., et al. (2021). "Exploring the relationship between teacher confirmation and student motivation: The United States and Finland" in Intercultural Competence Past, Present and Future. eds. M. D. López-Jiménez and J. S. Torres (Gateway East, Singapore: Springer), 110–120.

DeVellis, R. F. (2012). Scale Development: Theory and Applications. *3rd* Edn. Thousand Oaks, California, USA: Sage.

Eisenberg, E. M. (1984). Ambiguity as strategy in organizational communication. *Commun. Monogr.* 51, 227–242. doi: 10.1080/03637758409390197

Ellis, K. (2000). Perceived teacher confirmation: The development and validation of an instrument and two studies of the relationship to cognitive and affective learning. *Hum. Commun. Res.* 26, 264–291. doi: 10.1111/j.1468-2958.2000.tb00758.x

Ellis, K. (2004). The impact of perceived teacher confirmation on receiver apprehension, motivation, and learning. *Commun. Educ.* 53, 1–20. doi: 10.1080/0363452032000135742

Frisby, B., Tatum, N., Galy-Badenas, F., and Bengu, E. (2022). Testing the applicability of the instructional beliefs model across three countries: The role of culture as a theoretical parameter. *J. Intercult. Commun. Res.* 51, 1–21. doi: 10.1080/17475759.2021.1990109

Frymier, A. B., Shulman, G. M., and Houser, M. (1996). The development of a learner empowerment measure1. *Commun. Educ.* 45, 181–199. doi: 10.1080/03634529609379048

Gee, T. C. (1972). Students' responses to teacher comments. *Res. Teach. Engl.* 6, 212–221.

Goodboy, A. K., and Martin, M. W. (2020). Omega over alpha for reliability estimation of unidimensional communication measures. *Ann. Int. Commun. Assoc.* 44, 422–439. doi: 10.1080/23808985.2020.1846135

Goodboy, A. K., and Myers, S. A. (2008). The effect of teacher confirmation on student communication and learning outcomes. *Commun. Educ.* 57, 153–179. doi: 10.1080/03634520701787777

Goodboy, A. K., and Myers, S. A. (2015). Revisiting instructor misbehaviors: a revised typology and development of a measure. *Commun. Educ.* 64, 133–153. doi: 10.1080/03634523.2014.978798

Hatcher, L. (1994). A Step-by-Step Approach to Using SAS for Factor Analysis and Structural Equation Modeling: SAS Institute.

Helgeson, V. S., Shaver, P., and Dyer, M. (1987). Prototypes of intimacy and distance in same-sex and opposite-sex relationships. *J. Soc. Pers. Relat.* 4, 195–233. doi: 10.1177/0265407587042006

Hess, J. A. (2000). Maintaining nonvoluntary relationships with disliked partners: An investigation into the use of distancing behaviors. *Hum. Commun. Res.* 26, 458–488. doi: 10.1111/j.1468-2958.2000.tb00765.x

Hess, J. A. (2002). Distance regulation in personal relationships: The development of a conceptual model and a test of representational validity. *J. Soc. Pers. Relat.* 19, 663–683. doi: 10.1177/0265407502195007

Hess, J. A. (2003). Measuring distance in personal relationships: The Relational Distance Index. *Pers. Relat.* 10, 197–216. doi: 10.1111/1475-6811.00046

Hsu, C. F., and Huang, I. T. (2017). Are international students quiet in class?: The influence of teacher confirmation on classroom apprehension and willingness to talk in class. *J. Int. Stud.* 7, 38–52. doi: 10.32674/jis.v7i1.244

Jaasma, M. A., and Koper, R. J. (2002). Out-of-class communication between female and male students and faculty: The relationship to student perceptions of instructor immediacy. *Women's Stud. Commun.* 25, 119–137. doi: 10.1080/07491409.2002.10162443

Johnson, Z. D. (2021). Student-to-teacher confirmation: An initial investigation of the types of messages and outcomes. *South Commun. J.* 86, 387–401. doi: 10.1080/1041794X.2021.1941226

Jones, A. C. (2008). The effects of out-of-class support on student satisfaction and motivation to learn. *Commun. Educ.* 57, 373–388. doi: 10.1080/03634520801968830

Kirk, R. E. (1996). Practical significance: a concept whose time has come. *Educ. Psychol. Meas.* 56, 746–759. doi: 10.1177/0013164496056005002

Klem, A. M., and Connell, J. P. (2004). Relationships matter: Linking teacher support and student engagement and achievement. *J. Sch. Health* 74, 262–273. doi: 10.1111/j.1746-1561.2004.tb08283.x

Klyukovski, A. A., and Medlock-Klyukovski, L. A. (2016). Instructor strategic ambiguity: Delineation of the construct and development of a measure. *Commun. Educ.* 65, 253–271. doi: 10.1080/03634523.2016.1142097

Knapp, M. L., Stohl, C., and Reardon, K. K. (1981). "Memorable" messages. *J. Commun.* 31, 27–41. doi: 10.1111/j.1460-2466.1981.tb00448.x

Kranstuber, H., Carr, K., and Hosek, A. M. (2012). "If you can dream it, you can achieve it." Parent memorable messages as indicators of college student success. *Commun. Educ.* 61, 44–66. doi: 10.1080/03634523.2011.620617

Kreilkamp, T. (1981). Psychological distance in Conceptual Encounter: A Method for the Exploration of Human Experience. (ed.) RiveraJ. de (Pleasantville, New York, USA: University Press of America), 273–342

Martin, M. M., Myers, S. A., and Mottet, T. P. (1999). Students' motives for communicating with their instructors. *Commun. Educ.* 48, 155–164. doi: 10.1080/03634529909379163

Martin, M. M., Valencic, K. M., and Heisel, A. D. (2002). The relationship between students' communication apprehension and their motives for communicating with their instructors. *Communication Research Reports* 19, 1–7. doi: 10.1080/08824090209384826

Mazer, J. P. (2013). Validity of the student interest and engagement scales: associations with student learning outcomes. *Commun. Stud.* 64, 125–140. doi: 10.1080/10510974.2012.727943

McCroskey, J. C., and Young, T. J. (1979). The use and abuse of factor analysis in communication research. *Hum. Commun. Res.* 5, 375–382. doi: 10.1111/j.1468-2958.1979.tb00651.x

Morgan, D. L. (1997). Focus Groups as Qualitative Research. New York, NY, USA: Sage.

Myers, S. A., Martin, M. M., and Knapp, J. L. (2005). Perceived instructor in-class communicative behaviors as a predictor of student participation in out of class communication. *Communication Quarterly.* 53, 437–450. doi: 10.1080/01463370500102046

Nazione, S., Laplante, C., Smith, S. W., Cornacchione, J., Russell, J., and Stohl, C. (2011). Memorable messages for navigating college life. *J. Appl. Commun. Res.* 39, 123–143. doi: 10.1080/00909882.2011.556138

Nunnally, J. C., and Bernstein, I. H. (1994). Psychometric Theory.New York, NY, USA: McGraw-Hill.

Pew, S. (2007). Andragogy and pedagogy as foundational theory for student motivation in higher education. *InSight* 2, 14–25. doi: 10.46504/02200701pe

Poitras, J., Bowen, R. E., and Byrne, S. (2003). Bringing horses to water? Overcoming bad relationships in the pre-negotiating stage of consensus building. *Negot. J.* 19, 251–263. doi: 10.1111/j.1571-9979.2003.tb00782.x

Ritchie, J., and Lewis, J. (2005). Qualitative Research Practice: A Guide for Social Science Students and Researchers. London, UK: Sage.

Roark, A. E., and Radl, M. C. (1984). Group process: a systematic analysis. *J. Spec. Group Work* 9, 192–203. doi: 10.1080/01933928408412528

Rossetto, K. R. (2013). Relational coping during deployment: Managing communication and connection in relationships. *Pers. Relat.* 20, 568–586. doi: 10.1111/pere.12000

Rubin, R. B., Palmgreen, P., and Sypher, H. E. (2004). Communication Research Measures: A Sourcebook, vol. *1*. New York, NY, USA: Routledge.

Schrodt, P., Turman, P. D., and Soliz, J. (2006). Perceived understanding as a mediator of perceived teacher confirmation and students' ratings of instruction. *Commun. Educ.* 55, 370–388. doi: 10.1080/03634520600879196

Seifer, T. L. (2004). Understanding student motivation. *Educ. Res.* 46, 137–149. doi: 10.1080/0013188042000222421

Sidelinger, R. J., Nyeste, M. C., Madlock, P. E., Pollak, J., and Wilkinson, J. (2015). Instructor privacy management in the classroom: Exploring instructors' ineffective communication and student communication satisfaction. *Commun. Stud.* 66, 569–589. doi: 10.1080/10510974.2015.1034875

Sieburg, E. (1985). Family Communication: An Integrated Systems Approach. New York, NY, USA: Gardner Press.

Stewart, D. W., Shamdasani, P. N., and Rook, D. W. (2007). Focus Groups: Theory and Practice. Thousand Oaks, California, USA: Sage.

Stohl, C. (1986). The role of memorable messages in the process of organizational socialization. *Commun. Q.* 34, 231–249. doi: 10.1080/01463378609369638

Straub, R. (1997). Students' reactions to teacher comments: An exploratory study. *Res. Teach. Engl.* 31, 91–119. doi: 10.58680/rte19973873

Thibaut, J. W., and Kelley, H. H. (1986). The Social Psychology of Groups. Livingston, New Jersey, USA: Transaction Books.

Thomas, K. W., and Velthouse, B. A. (1990). Cognitive elements of empowerment: An "interpretive" model of intrinsic task motivation. *Acad. Manag. Rev.* 15, 666–681. doi: 10.5465/amr.1990.4310926

Violanti, M. T., Kelly, S. A., Garland, M. E., and Christen, S. C. (2018). Instructor clarity, humor, immediacy, and student learning: Replication and extension. *Commun. Stud.* 69, 251–262. doi: 10.1080/10510974.2018.1466718

Wachira, W., Ochieng, V., Muasya, G., Musyoka, W., Odek, A., and Sang, W. (2019). Social media, learner engagement, empowerment and academic performance among university students. *Int. J. Multidiscip. Curr. Res.* 7, 50–56. doi: 10.14741/ijmcr/v.7.1.11

Weber, K. (2004). The relationship between student interest and teacher's use of behavior alteration techniques. *Commun. Res. Rep.* 21, 428–436. doi: 10.1080/08824090409360007

Weber, K., Martin, M. M., and Cayanus, J. L. (2005). Student interest: A two-study re-examination of the concept. *Commun. Q.* 53, 71–86. doi: 10.1080/01463370500055996

Worley, D., Titsworth, S., Worley, D. W., and Cornett-DeVito, M. C. (2007). Instructional communication competence: Lessons learned from award-winning teachers. *Commun. Stud.* 58, 207–222. doi: 10.1080/10510970701341170