



Instructional dissent as an expression of students' class-related achievement emotions

Alan K. Goodboy, San Bolkan, Kevin C. Knoster & Stephen M. Kromka

To cite this article: Alan K. Goodboy, San Bolkan, Kevin C. Knoster & Stephen M. Kromka (2019) Instructional dissent as an expression of students' class-related achievement emotions, *Communication Research Reports*, 36:3, 265-274, DOI: [10.1080/08824096.2019.1634534](https://doi.org/10.1080/08824096.2019.1634534)

To link to this article: <https://doi.org/10.1080/08824096.2019.1634534>



Published online: 01 Jul 2019.



[Submit your article to this journal](#)



Article views: 16



[View Crossmark data](#)



Instructional dissent as an expression of students' class-related achievement emotions

Alan K. Goodboy, San Bolkan, Kevin C. Knoster,
& Stephen M. Kromka

This study examined how college students' class-related achievement emotions are related to their tendencies to dissent about a college course. Student participants (N = 383) completed a survey about their worst course of the semester by reporting on their class-related achievement emotions and how they dissented about their class. Results from ordinary least squares regression analyses revealed that achievement emotions were uniquely associated with instructional dissent: (a) hope, pride, anger, and anxiety predicted expressive dissent scores, (b) anger, hopelessness, and boredom predicted rhetorical dissent scores, (c) and enjoyment, anger, anxiety, shame, and hopelessness predicted vengeful dissent scores. This study provides initial evidence suggesting that students' feelings about a class are tied to their types of complaining.

Keywords: Achievement Emotions; Classroom Complaints; Instructional Dissent; Student Dissent

Students find plenty of reasons to be dissatisfied about their college courses, especially when their grades do not reflect their perceived performance, which often results in a disagreement between the instructor and student (Holmes & Smith, 2003). As Goodboy and Bolkan (2018) put it, “there are innumerable circumstances that displease students and result in the communication of disagreement” (p. 66). This refers to instructional dissent, which occurs “when students express their

Alan K. Goodboy is a Professor of Communication Studies at West Virginia University. San Bolkan is a Professor of Communication Studies at California State University-Long Beach. Kevin C. Knoster and Stephen M. Kromka are Doctoral Students at West Virginia University. *Correspondence:* Alan Goodboy, West Virginia University, 108 Armstrong Hall, P.O. Box 6293, Morgantown, WV 26506-6293. E-mail: agoodboy@mail.wvu.edu

disagreements or complaints about course-related issues” (Goodboy, 2011b, p. 423). Instructional dissent begins when something occurs in a course to trigger students to dissent (Goodboy, 2011a). Practically anything displeasing to students could set off this process, but most students dissent when they believe there is unfairness in the course, including unfair testing, course procedures and policies, and treatment by the instructor (Holmgren & Bolkan, 2014; Horan, Chory, & Goodboy, 2010). Although many students keep their displeasure to themselves and do not dissent (Bolkan & Goodboy, 2013), research to date suggests that students tend to voice dissent in one of three different ways, depending on their motivation and desired outcome. In particular, students communicate *expressive dissent* when they want to vent their course frustrations to others, *rhetorical dissent* when they want to directly fix course-related issues by talking to their instructor, and *vengeful dissent* when they attempt to get their instructor in trouble by spreading negative information about the individual to others.

Goodboy and Bolkan (2018) reviewed the many instructor and student influences that motivate students to voice or withhold their complaints, noting that not all instructional dissent constitutes negative student behavior. Rather, rhetorical dissent can be a productive form of communication by providing students a means to resolve course-related issues with the instructor. Similarly, expressive dissent can also serve a function for students to let go of their frustrations and feel better. However, vengeful dissent is a potentially destructive form of communication considering it is designed to cause harm (Goodboy, 2011a). Although instructors play a large role in fostering or discouraging dissent based on how they teach and communicate in classrooms (e.g., Johnson & LaBelle, 2015; Tatum, Olson, & Frey, 2018), students’ cognitions, attributions, and beliefs about a course are tied to dissent as well (e.g., Goodboy, Bolkan, & Goldman, 2015; LaBelle & Martin, 2014).

Of interest to the current study is the recent evidence that students’ emotions of dissent are associated with the emotions they experience in class. Kennedy-Lightsey (2017) found that students who dissent tend to be emotionally exhausted and experience anger in the classroom; student anger correlated positively with expressive and vengeful dissent, and to a lesser degree, rhetorical dissent. Student anger is important to consider, but it represents one of many discrete emotions students might experience in the classroom. Therefore, the current study examined the full range of students’ class-related achievement emotions as correlates of instructional dissent.

Achievement emotions

Emotions are viewed as “multi-component, coordinated processes of psychological subsystems including affective, cognitive, motivational, expressive, and peripheral physiological processes” (Pekrun, 2006, p. 316). In academia, emotions are often experienced by students as they pertain to a specific course. These emotions are termed *achievement emotions* and are defined as “emotions tied directly to achievement activities or achievement outcomes” (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 15). Students experience achievement emotions in relation to their learning activities, types of instruction they

receive, tests they take, and academic tasks; or in other words, they “feel” certain ways about their classroom undertakings (Pekrun, 2006). Instructional communication scholars typically delineate between students’ positive (enjoyment, hope, pride) and negative (anger, anxiety, shame, hopelessness, boredom) emotional states as discrete student emotions experienced before, during, and after a particular college class (Mazer, McKenna-Buchanan, Quinlan, & Titsworth, 2014; Titsworth, McKenna, Mazer, & Quinlan, 2013). However, achievement emotions about a class can be explained more granularly by examining the valence (positive or negative), activation (activating or deactivating), and object focus (activity, prospective outcome, retrospective outcome) of each emotion (Goetz, Zirngibl, Pekrun, & Hall, 2003). That said, research has indicated when students are focused on an academic activity, they typically experience enjoyment (positive/activating) and boredom (negative/deactivating). When their focus is on prospective and retrospective success (respectively), they experience hope (positive/activating) and pride (positive/activating) about the course. When their focus is on failure, they experience anxiety (negative/activating) or hopelessness (negative/deactivating) for future failures (prospective), and shame (negative/activating) or anger (negative/activating) for failures that have already occurred (retrospective) in the past (Pekrun & Linnenbrink-Garcia, 2012). Thus, students experience physiologically activating or deactivating emotional states in a course based on their feelings that accompany academic successes and failures, coupled with their desire to engage or withdraw from the academic task (Pekrun & Linnenbrink-Garcia, 2012).

Indeed, the achievement emotions perspective captures a broad range of ways students might feel about a specific course (Pekrun, Goetz, Titz, & Perry, 2002) and may be pertinent in explaining why students complain about their coursework (Kennedy-Lightsey, 2017). Students experience achievement emotions as they make value judgments based on the quality of their learning environments (Pekrun, 2006; Pekrun et al., 2007) and ample research suggests that lower quality courses elicit more instructional dissent from students (Goodboy & Bolkan, 2018). It is possible, then, that student dissent co-occurs with achievement emotions derived from their learning environments. Related research suggests this may be the case; Cooper-Hind and Taylor (2012) found that students’ feelings and emotions, mainly frustration and anger, are antecedents to students’ filing a formal complaint against an instructor at a university. Since this area of scholarship remains exploratory, we posed the following research question:

RQ: Which positive (enjoyment, hope, pride) and negative (anger, anxiety, shame, hopelessness, boredom) class-related achievement emotions uniquely associate with student reports of instructional dissent (expressive, rhetorical, vengeful) about a course?

Method

Participants

From an initial sample of 451 participants (partial responses were deleted as listwise deletion was used in the analyses), participants were 383 undergraduate students (148 men, 227 women, 8 participants did not disclose their sex) with ages ranging

from 18 to 44 years ($M = 19.81$, $SD = 2.18$). These students were recruited from a large Mid-Atlantic university and included 137 first year students, 65 second year students, 88 third year students, 78 fourth year students and seven students in their fifth year or beyond. Of the students who had reported a GPA (first semester students could not report a GPA yet), their average GPA was 3.14 ($SD = .55$).

Procedures and measurement

After obtaining IRB approval, participants completed an online survey asking students to report on their “worst” instructor of the semester “to maximize potential instructional dissent episodes resulting from student dissatisfaction” (Goodboy et al., 2015, p. 199). Student participants reported on 63 different subject areas including accounting, chemistry, geography, mechanical and aerospace engineering, and statistics, to name a few. The survey^{1,2,3} included 22 items from the Instructional Dissent Scale (IDS; Goodboy, 2011b), 79 items from the Achievement Emotions Questionnaire (AEQ; Pekrun, Goetz, & Perry, 2005), and several demographic questions.

The IDS uses a 5-point Likert-type response format (1: never, 5: very often) and measures expressive dissent (10 items – e.g., “I complained to others to express my frustration in this course”; $M = 3.02$, $SD = .99$), rhetorical dissent (6 items – e.g., “I expressed my disagreements with my teacher because I wanted something to change in the course for the better”; $M = 2.08$, $SD = .98$), and vengeful dissent (6 items – e.g., “I hoped to ruin my teacher’s reputation by exposing his/her bad practices to others”; $M = 1.61$, $SD = .93$). Using robust maximum likelihood estimation, composite reliability of the subscales was assessed by calculating omega (ω)³ with 95% confidence intervals using the delta method (Raykov & Marcoulides, 2011). The point and interval reliability estimates for the subscales were: expressive dissent ($\omega = .947$; CI: .937, .957), rhetorical dissent ($\omega = .933$; CI: .920, .947), and vengeful dissent ($\omega = .957$; CI: .946, .968).

The AEQ uses a 5-point Likert response format (1: strongly disagree, 5: strongly agree) and measures correlated but distinct (Pekrun, Goetz, Frenzel, Barchfeld, & Perry, 2011) class-related emotions before, during, and after class (learning-related and test-related emotions AEQ items were not included) including enjoyment (10 items – e.g., “I enjoyed being in class”; $M = 2.34$, $SD = .77$), hope (8 items – e.g., “I was optimistic that I would be able to keep up with the material”; $M = 2.71$, $SD = .88$), pride (9 items – e.g., “I was proud of the contributions I made in class”; $M = 2.80$, $SD = .82$), anger (9 items – e.g., “I felt anger welling up in me”; $M = 2.98$, $SD = .88$), anxiety (12 items – e.g., “I felt nervous in class”; $M = 2.97$, $SD = .91$), shame (11 items – e.g., “I was ashamed because others understood more of the lecture than I did”; $M = 2.69$, $SD = 1.01$), hopelessness (9 items – e.g., “The thought of this class made me feel hopeless”; $M = 2.60$, $SD = 1.02$), and boredom (11 items – e.g., “I got so bored I had problems staying alert”; $M = 3.58$, $SD = .91$). The point and interval reliability estimates for the subscales were: enjoyment ($\omega = .913$; CI: .898, .928), hope ($\omega = .917$; CI: .902, .932), pride ($\omega = .910$; CI: .894, .927), anger ($\omega = .904$; CI: .886, .921), anxiety ($\omega = .940$; CI: .930, .950), shame ($\omega = .965$; CI: .958, .972), hopelessness ($\omega = .954$; CI: .946, .963), and boredom ($\omega = .954$; CI: .945, .963).

Results

Zero-order correlations among all variables are reported in Table 1.

Table 1 Zero-Order Correlations

Variables	1	2	3	4	5	6	7	8	9	10
<i>Achievement Emotions</i>										
1. Enjoyment	—									
2. Hope	.75*	—								
3. Pride	.71*	.79*	—							
4. Anger	-.34*	-.34*	-.30*	—						
5. Anxiety	-.14*	-.28*	-.18*	.49*	—					
6. Shame	-.04	-.19*	-.11*	.68*	.80*	—				
7. Hopelessness	-.16*	-.35*	-.28*	.58*	.77*	.72*	—			
8. Boredom	-.48*	-.43*	-.37*	.44*	.22*	.19*	.35*	—		
<i>Instructional Dissent</i>										
9. Expressive	-.27*	-.31*	-.20*	.52*	.46*	.32*	.44*	.32*	—	
10. Rhetorical	.19*	.18*	.14*	.15*	.19*	.19*	.22*	-.09	.33*	—
11. Vengeful	.14*	.04	.08	.23*	.15*	.23*	.27*	.05	.28*	.67*

Note. * = $p < .05$.

We conducted three ordinary least squares regression analyses to examine the unique and simultaneous contributions of achievement emotions (enjoyment, hope, pride, anger, anxiety, shame, hopelessness, boredom) in predicting instructional dissent scores (expressive, rhetorical, vengeful). Unstandardized betas are reported with bias corrected and accelerated bootstrap 95% confidence intervals from 10,000 samples. The regression model for *expressive dissent* was significant; $R^2 = .356$, $F(8, 374) = 25.814$, $p < .001$, with students' pride ($B = .188$ [.014, .361]), anger ($B = .358$ [.223, .489]), and anxiety ($B = .349$ [.175, .528]) serving as positive predictors, and hope ($B = -.188$ [-.355, -.024]) serving as a negative predictor, of their tendencies to vent to others about their course-related frustrations. The regression model for *rhetorical dissent* was significant; $R^2 = .123$, $F(8, 374) = 6.557$, $p < .001$, with students' anger ($B = .169$ [.006, .335]) and hopelessness ($B = .204$ [.029, .379]) serving as positive predictors, and boredom ($B = -.134$ [-.225, -.019]) serving as a negative predictor, of their tendencies to complain directly to their instructor about course-related problems. The regression model for *vengeful dissent* was significant; $R^2 = .149$, $F(8, 374) = 8.171$, $p < .001$, with students' enjoyment ($B = .267$ [.070, .473]), anger ($B = .235$ [.074, .400]), shame ($B = .160$ [.013, .310]), and hopelessness ($B = .209$ [.048, .368]) serving as positive predictors, and anxiety ($B = -.252$ [-.431, -.082]) serving as a negative predictor, of their tendencies to spread negative publicity about their instructor to others. Results of all unstandardized beta coefficients, standard errors, standardized coefficients, and t-values for each achievement emotions are reported in Table 2.

Table 2 Three Ordinary Least Squares Regression Analyses of Instructional Dissent

	Expressive				Rhetorical				Vengeful			
	B	SEB	β	t	B	SEB	β	t	B	SEB	β	t
Enjoyment	-.084	.093	-.066	-.909	.158	.107	.125	1.474	.267	.100	.223	2.672
Hope	-.188	.089	-.167	-2.113	.043	.103	.039	.420	-.077	.096	-.073	-.805
Pride	.188	.087	.156	2.173	.093	.100	.078	.935	.096	.093	.085	1.028
Anger	.358	.062	.318	5.732	.169	.072	.152	2.349	.235	.067	.223	3.501
Anxiety	.349	.086	.323	4.069	.001	.099	.000	.005	-.252	.092	-.249	-2.731
Shame	-.124	.072	-.126	-1.730	.021	.082	.022	.258	.160	.077	.174	2.074
Hopelessness	.052	.075	.053	.685	.204	.087	.214	2.345	.209	.081	.231	2.573
Boredom	.069	.056	.064	1.244	-.134	.064	-.126	-2.100	.004	.060	.004	.071
			$R^2 = .356$				$R^2 = .123$				$R^2 = .149$	

Note. Unstandardized beta coefficients are bolded if different from zero. Variance Inflation Factors for each independent variable are: Enjoyment (VIF = 3.046), Hope (VIF = 3.638), Pride (VIF = 2.979), Anger (VIF = 1.789), Anxiety (VIF = 3.657), Shame (VIF = 3.104), Hopelessness (VIF = 3.539), and Boredom (VIF = 1.532). All VIFs were below 4 indicating that multicollinearity was not an issue in these analyses (O'Brien, 2007).

Discussion

The purpose of this study was to explore possible relationships between students' class-related achievement emotions and reports of instructional dissent. All three types of dissent were associated with achievement emotions, but these emotions accounted for the most variance in expressive dissent, and to a lesser degree, rhetorical and vengeful dissent. The findings for each type of dissent are discussed in turn. First, students were more likely to vent their frustrations about their course when they experienced anxiety, anger, and pride, and were less likely to expressively dissent when they experienced hope. Closer examination of these findings reveals they are activating emotions, suggesting that students who expressively dissent are experiencing physiologically activating states (Pekrun, 2006). Anger and anxiety had the largest beta coefficients. These findings suggest that students might be venting in ways that release their current and future frustrations about the course to dispel these emotions in an attempt to feel better. Increased pride values has a small, positive association with expressive dissent, indicating that students who were proud of their abilities in class were more likely to cathartically vent. This may be the case because these students are proud about their ability to succeed in class, and seek support from known others as a way to bolster their self-image following negative classroom experiences. Likewise, hope has a small and negative association with expressive dissent, indicating that students who were optimistic they were performing well in class did not feel the need to vent.

Second, students were more likely to discuss fixing course issues with their instructors when they experienced hopelessness and anger, and were less likely to rhetorically dissent when they experienced boredom. Hopelessness is a deactivating emotion about a prospective outcome, indicating that students would resort to persuading the instructor in person when they felt that their future in the course was bleak. Anger served a similar function as a negative activating emotion about something current in the course. Interestingly, boredom was negatively associated with rhetorical dissent, indicating that students who found a class dull were less likely to discuss issues in person with the instructor. Perhaps students desired less contact with the dull professor or figured the professor was not going to change their incompetent teaching behaviors (i.e., being boring; Bolkan & Goodboy, 2013) simply because students voiced their concerns.

Third, students were more likely to seek revenge by communicating negative publicity about an instructor when they experienced anger, shame, hopelessness, and enjoyment, and less likely to use vengeful dissent when they experienced anxiety. As a set, these findings suggest that students who experience negative emotions about prospective and retrospective course outcomes (hopelessness and shame) have experienced problems in class and are anticipating future problems. Again, anger was positively related to, and anxiety negatively related to, vengeful dissent. Perhaps feeling nervous, uneasy, and scared about a course inversely associated with vengeful dissent because of feared repercussions for talking badly about the instructor and his/her academic reputation. Such an interpretation would be consistent with the literature on students being aware of the potential costs for complaining (Bolkan & Goodboy, 2013). Surprisingly, enjoyment was positively related to vengeful dissent, which begs the question, why would students who find class exciting

and enjoyable want to spread negative publicity about an instructor? Perhaps their enjoyment creates more investment in the class and subsequently leads to experiences of frustration when instructors behave in ways that create student dissatisfaction. This is of course speculation as this finding is unexpected.

Since students' achievement emotions are associated with their propensity to dissent, what could instructors do to minimize this effect? Pekrun and colleagues offer empirical advice about fostering learning environments that are emotionally-adaptive for students. These scholars (Pekrun, 2006; Pekrun et al., 2007; Pekrun & Linnenbrink-Garcia, 2012) recommend that instructors administer tests that are structured and clear, provide student autonomy in completing assignments, allow for individualistic goal structures in academic tasks, give detailed performance feedback, and provide cognitively activating tasks that students can master. All of these recommendations are educational practices that foster students' achievement emotions in positive ways, which might give students less to complain about.

Although each of the achievement emotions were associated with one or more types of dissent, student anger was significantly correlated with all three types of instructional dissent, replicating Kennedy-Lightsey (2017). Anger can be quite the motivator for students, especially because angry students tend to have higher performance goal expectations in a course and want to outperform their classmates (Pekrun, Elliot, & Maier, 2006). Angry students may find all three types of dissent to be ways to cathartically release their anger, correct performance issues, and then bad-mouth the instructor.

The main limitation of this study was that it is unknown why students experienced these achievement emotions that are associated with dissent in the first place. Student participants were instructed to report on their worst course of the semester, which prompted them to reference a class with the most potential for problems, and consequently, the potential to dissent. But we have no idea of knowing what those problems were and why dissent was triggered. Previous scholarship points to various issues that trigger dissent (Bolkan & Goodboy, 2013; Goodboy, 2011a, 2011b; Horan et al., 2010), and understanding the link between achievement emotions and dissent might be easier to do if scholars examine the specific triggering agents preceding these emotions. Thus, a more comprehensive and longitudinal study is needed to track instructional dissent occurring over the course of a semester as a function of achievement emotions, especially student anger, across multiple time points. According to the control-value theory of achievement emotions (Pekrun et al., 2007), student emotions are best modeled as mediators between instruction and learning, so future research should model achievement emotions as mechanisms that are brought on by teaching behaviors (Mazer et al., 2014; Titsworth et al., 2013). Future research should employ qualitative methodologies such as focus groups, to more closely examine why particular course experiences (e.g., courses that students enjoy), might still lead them to dissent. Finally, researchers should consider the reciprocal relationships between achievement emotions and instructional dissent because "academic emotions, their antecedents, and their effects are thought to be linked by reciprocal causation over time" (Pekrun & Linnenbrink-Garcia, 2012, p. 227).

Notes

1. To examine common methods bias, using maximum likelihood estimation, a confirmatory factor analysis with all self-report survey items loading on a general methods factor was not retained, which is evidence against this bias: $\chi^2(4949) = 30,042.481$, $p < .0001$, RMSEA = .115 [90% CI: .114, .116], CFI = .312, TLI = .298, SRMR = .176.
2. Using robust maximum likelihood estimation, a CFA of the IDS yielded the following global fit for a 3-factor model: $\chi^2(206) = 653.156$, $p < .001$, RMSEA = .075 [90% CI: .069, .082], CFI = .913, TLI = .903, SRMR = .071. For the AEQ, a CFA yielded the following global fit for a 9-factor model: $\chi^2(2974) = 6871.650$, $p < .001$, RMSEA = .058 [90% CI: .057, .060], CFI = .823, TLI = .817, SRMR = .072.
3. For a discussion of why coefficient omega is preferred over coefficient alpha for reliability estimation, see Dunn, Baguley, and Brunsten (2014).

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Bolkan, S., & Goodboy, A. K. (2013). No complain, no gain: Students' organizational, relational, and personal reasons for withholding rhetorical dissent from their college instructors. *Communication Education*, 62, 278–300. doi:10.1080/03634523.2013.788198
- Cooper-Hind, H., & Taylor, J. (2012). Student complaints: An accurate measure of student dissatisfaction? *Higher Education Review*, 44, 54–80.
- Dunn, T. J., Baguley, T., & Brunsten, V. (2014). From alpha to omega: A practical solution to the pervasive problem of internal consistency estimation. *British Journal of Psychology*, 105, 399–412. doi:10.1111/bjop.12046
- Goetz, T., Zirngibl, A., Pekrun, R., & Hall, N. (2003). Emotions, learning and achievement from an educational-psychological perspective. In P. Mayring & C. von Rhoeneck (Eds.), *Learning emotions: The influence of affective factors on classroom learning* (pp. 9–28). Frankfurt, Germany: Peter Lang.
- Goodboy, A. K. (2011a). Instructional dissent in the college classroom. *Communication Education*, 60, 296–313. doi:10.1080/03634523.2010.537756
- Goodboy, A. K. (2011b). The development and validation of the instructional dissent scale. *Communication Education*, 60, 422–430. doi:10.1080/03634523.2011.569894
- Goodboy, A. K., & Bolkan, S. (2018). Instructional dissent. In M. L. Houser & A. M. Hosek (Eds.), *Handbook of instructional communication: Rhetorical and relational perspectives* (pp. 65–79). New York, NY: Routledge.
- Goodboy, A. K., Bolkan, S., & Goldman, Z. (2015). Students' imagined interactions as intrapersonal explanations for instructional dissent. *Communication Reports*, 28, 115–127. doi:10.1080/08934215.2014.936563
- Holmes, L. E., & Smith, L. J. (2003). Student evaluations of faculty grading methods. *Journal of Education for Business*, 78, 318–323. doi:10.1080/08832320309598620
- Holmgren, J. L., & Bolkan, S. (2014). Instructor responses to rhetorical dissent: Student perceptions of justice and classroom outcomes. *Communication Education*, 63, 17–40. doi:10.1080/03634523.2013.833644
- Horan, S. M., Chory, R. M., & Goodboy, A. K. (2010). Understanding students' classroom justice experiences and responses. *Communication Education*, 59, 453–474. doi:10.1080/03634523.2010.487282

- Johnson, Z. D., & LaBelle, S. (2015). Examining the role of self-disclosure and connectedness in the process of instructional dissent: A test of the instructional beliefs model. *Communication Education*, 64, 154–170. doi:10.1080/03634523.2014.978800
- Kennedy-Lightsey, C. D. (2017). Instructional dissent as a conversation or resources for emotionally exhausted students. *Western Journal of Communication*, 81, 188–205. doi:10.1080/10570314.2016.1245438
- LaBelle, S., & Martin, M. M. (2014). Attribution theory in the college classroom: Examining the relationship of student attributions and instructional dissent. *Communication Research Reports*, 31, 110–116. doi:10.1080/08824096.2013.846257
- Mazer, J. P., McKenna-Buchanan, T. P., Quinlan, M. M., & Titsworth, S. (2014). The dark side of emotion in the classroom: Emotional processes as mediators of teacher communication behaviors and student negative emotions. *Communication Education*, 63, 149–168. doi:10.1080/03634523.2014.904047
- O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity*, 41, 673–690. doi:10.1007/s11135-006-9018-6
- Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, 18, 315–341. doi:10.1007/s10648-006-9029-9
- Pekrun, R., Elliot, A. J., & Maier, M. A. (2006). Achievement goals and discrete achievement emotions: A theoretical model and prospective test. *Journal of Educational Psychology*, 98, 583–597. doi:10.1037/0022-0663.98.3.583
- Pekrun, R., Frenzel, A. C., Goetz, T., & Perry, R. P. (2007). The control-value theory of achievement emotions: An integrative approach to emotions in education. In P. A. Schutz & R. Pekrun (Eds.), *Emotion in education* (pp. 13–36). Amsterdam, Netherlands: Academic Press.
- Pekrun, R., Goetz, T., Frenzel, A. C., Barchfeld, P., & Perry, R. P. (2011). Measuring emotions in students' learning and performance: The achievement emotions questionnaire (AEQ). *Contemporary Educational Psychology*, 36, 36–48. doi:10.1016/j.cedpsych.2010.10.002
- Pekrun, R., Goetz, T., & Perry, R. P. (2005). *Achievement emotions questionnaire (AEQ) user's manual*. Munich, Germany: University of Munich.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Positive emotions in education. In E. Frydenberg (Ed.), *Beyond coping: Meeting goals, visions, and challenges* (pp. 149–173). Oxford, England: Oxford University Press.
- Pekrun, R., & Linnenbrink-Garcia, L. (2012). Academic emotions and student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 259–282). New York, NY: Springer.
- Raykov, T., & Marcoulides, G. A. (2011). *Introduction to psychometric theory*. New York, NY: Routledge.
- Tatum, N. T., Olson, M. K., & Frey, T. K. (2018). Noncompliance and dissent with cell phone policies: A psychological reactance theoretical perspective. *Communication Education*, 67, 226–244. doi:10.1080/03634523.2017.1417615
- Titsworth, S., McKenna, T. P., Mazer, J. P., & Quinlan, M. M. (2013). The bright side of emotion in the classroom: Do teachers' behaviors predict students' enjoyment, hope, and pride?. *Communication Education*, 62, 191–209. doi:10.1080/03634523.2013.763997