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Published online: 02 Jun 2014.

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Psychological reactance theory (PRT) is largely understudied in the classroom context. In this experiment, we manipulated instructors' use of clarity and forceful language as antecedents of psychological reactance and examined student communication outcomes (i.e., instructional dissent and challenge behavior) as ways in which students restore freedom after experiencing reactance. College students (N = 206) responded to one of four experimental conditions manipulating clarity and forceful language in an instructor's persuasive message to complete an extra assignment. Results revealed positive associations between messages using either unclear or forceful language and student reports of perceived threat, which predicted psychological reactance. Reactance mediated the relationship between students' perceived threat and their intentions to engage in different types of instructional dissent and challenge behavior. This study further supports PRT in the instructional context and adds to the literature on freedom restoration behaviors.

Although persuasive messages, including those used by instructors, may advocate a behavior with the audience's best intentions in mind, the receivers of those messages may perceive the prescribed behavior to infringe upon their autonomy. Psychological reactance theory (PRT; Brehm, 1966; Brehm & Brehm, 1981) supports this notion, positing that when individuals perceive that a persuasive message is imposing on

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their ability to enact free behavior, they experience reactance, which manifests in a motivation to restore their eliminated or threatened freedom. PRT has exceptional explanatory power in the health communication context (for a review, see Burgoon, Alvaro, Grandpre, & Voulodakis, 2002), and has recently been extended to the instructional communication context (Zhang & Sapp, 2013).

Considering that instructors often make requests of their students (Kearney, Plax, Richmond, & McCroskey, 1984, 1985; McCroskey, Richmond, Plax, & Kearney, 1985; Richmond, McCroskey, Kearney, & Plax, 1987; Sprinkle, Hunt, Simonds, & Comadena, 2006), it is surprising that PRT is largely understudied in the classroom context (Zhang & Sapp, 2013). Given that students may perceive these compliance-gaining requests to impinge on their autonomy, it seems likely that the application of PRT to the instructional context is warranted. Thus, this study builds on the work of Zhang and Sapp (2013) in extending PRT to instructional communication by examining how instructors' use of clarity and forceful language in their requests affects students' experience of psychological reactance, and the subsequent behaviors students use to restore freedom. Specifically, we assessed whether students engage in different types of instructional dissent and challenge behaviors as a response to reactance.

Psychological Reactance

Whereas most persuasion theories explain why messages lead to successful influence of attitudes, beliefs, or behaviors, PRT (Brehm, 1966; Brehm & Brehm, 1981) explains why persuasive messages are sometimes ineffective. Brehm (1966) suggested that individuals have a set of "free behaviors" (p. 3), or actions that they have the knowledge, ability, and resources to enact at any time. The theory predicts that when individuals perceive that any of these free behaviors are eliminated or that there exists a threat for their elimination, they experience psychological reactance, which Brehm defines as "a motivational state directed toward the re-establishment of the threatened or eliminated freedom" (p. 15). Dillard and Shen (2005) suggested that psychological reactance is best conceptualized as a combination of negative cognitive and affective states, each of which contributes equally to the drive to regain freedom, and several studies have provided empirical support for this intertwined model (Quick, 2012; Quick & Considine, 2008; Quick & Stephenson, 2007, 2008; Rains, 2013; Zhang & Sapp, 2013).

Due to the resulting motivation to restore an eliminated or threatened freedom, individuals look for ways to regain their autonomy and alleviate their experience of reactance. There are several methods that individuals can exercise in order to do so, the most obvious being *direct* forms of restoration, which include rejecting the message (i.e., either resisting an advocated behavior or engaging in a restricted behavior). Individuals may also engage in several different forms of *indirect* restoration (Brehm, 1966), which entail exercising a freedom or behavior similar to the one that was threatened or eliminated, having another person enact the eliminated or threatened behavior, and/or derogating or acting hostile toward the message source (Burgoon et al., 2002; Grandpre, Alvaro, Burgoon, Miller, & Hall, 2003; Worchel & Brehm, 1970, 1971).

PRT has been widely used in the persuasion and health communication contexts. Since its resurgence in the 1990s, PRT has been applied to examine change in a variety of behaviors, including alcohol consumption (Bensley & Wu, 1991; Dillard & Shen, 2005), smoking (Grandpre et al., 2003), flossing (Dillard & Shen, 2005), exercise (Miller, Lane, Deatrick, Young, & Potts, 2007), and organ donation (Quick, Scott, & Ledbetter, 2011). A variety of message factors have also been explored using a PRT framework. Previous results suggest that lower levels of psychological reactance are elicited through the use of gain-framed messages (Reinhart, Marshall, Feeley, & Tutzauer, 2007), implicitly persuasive and low-controlling messages (Grandpre et al., 2003; Miller et al., 2007; Quick & Considine, 2008; Quick & Stephenson, 2008), and concrete versus abstract language (Miller et al., 2007). Despite this body of research on message factors that evoke or inhibit psychological reactance, PRT has only recently been extended to persuasive messages used in the classroom. Zhang and Sapp (2013) found that instructor use of politeness strategies, high-legitimacy requests, high instructor credibility, and close instructor–student relationships each lowered students' experience of reactance and subsequently resulted in less resistance intentions.

Importantly, Zhang and Sapp's (2013) research provides initial support that PRT can be extended to the classroom context as a mediator of instructional antecedents and student outcomes. More research should be done to determine why students resist instructor requests or engage in alternate freedom restoration behaviors, as well as other message characteristics that trigger the reactance process. Therefore, in the current study, we sought to expand upon the antecedents and outcomes of psychological reactance from Zhang and Sapp. Specifically, we examined teacher clarity and use of forceful language as antecedents of students' experiences of psychological reactance, and the effects of reactance on students' intentions to engage in different types of dissent and challenge behavior in the classroom to restore freedom.

Instructor Clarity

Fundamental to effective teaching is clarity (Civikly, 1992). Although there have been issues regarding its conceptualization (Civikly, 1992; Titsworth & Mazer, 2010), clarity can be defined as instructor presentation of course content in a way that stimulates student understanding (Simonds, 1997a). Moreover, clarity is suggested to be a communicative process through which instructors and students work toward agreement on the meaning of course content (Civikly, 1992; Simonds, 1997a).

The impressive body of research on instructor clarity has consistently demonstrated that clarity is associated with desirable student outcomes. For instance, clarity is related positively to cognitive learning, affective learning, state motivation (Chesebro, 2003; Chesebro & McCroskey, 2001; Houser & Frymier, 2009; Sidelinger & McCroskey, 1997; Titsworth, 2001a, 2001b), cognitive and emotional interest (Mazer, 2012, 2013a, 2013b), and academic self-efficacy (LaBelle, Martin, & Weber, 2013). Additionally, instructor clarity is associated with more efficient notetaking (Titsworth, 2004) and enhances student learner empowerment through perceived

understanding (Finn & Schrodt, 2012). Moreover, instructor clarity appears to discourage undesirable student behaviors, as clarity is related negatively to state receiver apprehension (Chesebro, 2003; Chesebro & McCroskey, 1998) and frequency of students' in-class texting (Johnson, 2013).

A construct similar to clarity has been previously studied as an antecedent to reactance in the health context. Specifically, Miller et al. (2007) examined "lexical concreteness," which they conceptualized as the extent to which a persuasive message incorporated concrete rather than abstract language. They found that messages using concrete language evoked more favorable attitudes toward the message and greater behavioral intention to enact the behavior advocated by the message than messages using abstract language. Moreover, the source of the concrete message was perceived as more credible than the source of the abstract message in terms of expertise and trustworthiness, falling under the category of source derogation in restoring freedom after experiencing psychological reactance.

Importantly, the use of concrete, specific language in persuasive appeals decreases the likelihood of message rejection in the health context, and instructors' use of clarity is associated with positive affect toward the course and the instructor. Thus, it seems likely that clear, concrete messages in the classroom that provide specific details about what the request entails are less likely than unclear messages (i.e., those requiring more inference) to be seen as a threat and subsequently evoke the negative state of psychological reactance. Guided by the two-step process model posed by Quick and Stephenson (2008), the following hypothesis was forwarded:

> H1: Instructor use of clear language will be related negatively with students' perceived threat to freedom.

Forceful Language

According to PRT, individuals are more likely to experience reactance in response to explicitly persuasive and controlling messages (Brehm, 1966). Indeed, several studies examining persuasive health messages using PRT have demonstrated that controlling, dogmatic, and forceful language tends to increase the likelihood that a message will be perceived as threatening to one's free behavior, evoking reactance, and subsequently, that individuals exposed to the message will reject the advocated behavior (Bensley & Wu, 1991; Dillard & Shen, 2005; Grandpre et al., 2003; Miller et al., 2007; Quick & Considine, 2008). In fact, low-controlling language may be the most effective way to reduce the experience of reactance (Miller et al., 2007). Thus, it was pertinent to examine whether this message characteristic holds in instructional settings. The following hypothesis was forwarded:

> H2: Instructor use of forceful language will be related positively with students' perceived threat to freedom.

The current study follows suggestions by Quick and colleagues (Quick & Bates, 2010; Quick & Considine, 2008; Quick & Stephenson, 2008) to examine psychological reactance as a two-step process. That is, exposure to a persuasive message should result in perceived threat to one's freedom, which in turn should predict the experience of reactance. Accordingly, the following hypothesis was forwarded:

H3:   Perceived threat will significantly predict psychological reactance.

In the second portion of this study, we examined student behaviors that are potential responses to reactance; that is, behaviors that students enact to restore their freedom. To date, research on PRT has focused largely on direct freedom restoration behaviors, despite Brehm's (1966) original proposition that individuals also use alternate behaviors beyond rejecting the behavior advocated by the persuasive appeal. Indeed, Miller et al. (2007) noted that these alternate freedom restoration behaviors are largely ignored in the literature, suggesting that beyond message rejection, reactance may also be followed by hostility toward the source of the message or behaving in ways similar to resisting the advocated behavior. Perhaps, students who perceive a threat to their freedom attempt to regain control through engaging in instructional dissent and challenge behavior, because these behaviors allow students a sense of control in the classroom.

Instructional Dissent

Instructional dissent occurs when "students express their disagreements or complaints about class-related issues" (Goodboy, 2011b, p. 423). Goodboy (2011a) identified three different types of instructional dissent. *Expressive* dissent refers to venting frustrations with the course to gain sympathy from others (e.g., friends and family members). *Rhetorical* dissent involves voicing frustrations about the course directly to the instructor to correct a perceived wrongdoing. *Vengeful* dissent involves retaliating against an instructor with the intent of ruining his or her reputation. Students generally dissent to their instructor, classmates, family, and friends (Goodboy, 2011a).

Common triggers of instructional dissent include unfair testing, unfair grading, teaching style, teacher misbehaviors (i.e., competence, indolence, offensiveness), classroom policies, violating the syllabus, and lack of feedback (Bolkan & Goodboy, 2013; Goodboy, 2011a, 2011b). Other instructor variables that influence student dissent include student perceptions of classroom injustice (Horan, Chory, & Goodboy, 2010) and instructors' responsiveness to feedback (Bolkan & Goodboy, 2013). Additionally, instructor clarity works positively through student academic self-efficacy to increase rhetorical dissent (LaBelle et al., 2013).

Considering these previous results, it seems that psychological reactance may be another variable that influences instructional dissent. A similar construct that has previously been investigated as a form of freedom restoration is organizational dissent, or the experience and expression of disagreement with organizational policies (Kassing, 1997). Olison and Roloff (2012) examined whether college students engage

in organizational dissent in response to the experience of psychological reactance following the hypothetical mandate of a university-imposed exit examination prior to graduation. The results supported that individuals do indeed engage in organizational dissent to restore their loss of freedom. It seems likely that these results would transfer to the instructional setting, and that students would express dissent as a result of psychological reactance toward course policies or practices imposed by the instructor, especially considering that instructional dissent is frequently a student response to perceptions of classroom injustice (Horan et al., 2010). However, scholars have yet to examine student use of instructional dissent as a freedom restoration behavior. Thus, the following hypothesis was forwarded:

> H4: Psychological reactance will mediate the relationships between perceived threat and intentions to engage in vengeful dissent, rhetorical dissent, and expressive dissent.

Challenge Behavior

In addition to dissent, students may engage in different types of challenge behavior as a way to restore their eliminated or threatened freedom in the classroom. Simonds (1997b) conceptualized challenge behavior as a mediation strategy that occurs when "a student behaves contrary to an implicit or explicit classroom expectation" (p. 483). Simonds suggested that challenge behavior may be motivated by uncertainty about classroom expectations or rules. The limited research on challenge behavior has identified other triggers of student challenge behavior. For example, Goodboy and Myers (2008) found that students engage less frequently in challenge behavior when they perceive their instructor to be confirming. Additionally, student challenge behavior is negatively related to instructor immediacy (Goodboy & Myers, 2009) and instructor clarity (Simonds, 1998).

Simonds (1997b) identified four types of challenge behavior that students enact in the classroom. *Practicality* challenges involve student questioning the relevance of the course or related tasks (e.g., questioning how course concepts apply to everyday life). *Evaluation* challenges involve student questioning of testing procedures and grading (e.g., arguing over test questions). *Procedural* challenges involve student questioning of the implicit and explicit classroom rules (e.g., arriving to class late). *Power* challenges involve student attempts at exerting influence over their teacher or their classmates (e.g., challenging the instructor's competence).

As challenge behavior and instructional dissent are theoretically similar constructs that tend to occur in tandem (Goodboy, 2011b) and because challenge behavior involves testing the limits of the classroom by engaging in behaviors that are restricted by classroom norms and policies, it seems likely that one reason students may engage in challenge behaviors is to restore their sense of autonomy after experiencing psychological reactance toward an instructor's request. Thus, the final hypothesis:

H5:   Psychological reactance will mediate the relationships between perceived threat and intentions to engage in procedural challenges, evaluation challenges, power challenges, and practicality challenges.

Method

Participants and Procedures

After obtaining approval from the university's Institutional Review Board, a sample of 206 participants (127 male, 74 female, and 5 who did not indicate their sex) was recruited from introductory communication classes at a large Mid-Atlantic University. Participants each completed a questionnaire, which included a cover letter explaining the purpose of the study as well as its voluntary and confidential nature. All students who completed the questionnaire during regular class time received minimal course credit. Participants ranged in age from 18 to 33 years with an average age of 20.03 (*SD* = 1.94). The sample consisted of 55 first-year (26.7%), 47 sophomore (22.8%), 46 junior (22.3%), and 48 senior (23.3%) college students, 6 individuals who indicated 'other' (2.9%), and 4 individuals who did not report their class rank (1.9%).

Scenarios

Participants were randomly assigned to read one of four persuasive messages that manipulated clarity (high and low) and forceful language (high and low). The scenarios involved an instructor requesting that students complete an ungraded, extra assignment not required in the course syllabus (see the Appendix). All messages were approximately 100 words in length, which is consistent with previous research that tested PRT using scenarios (Quick & Considine, 2008). Participants were instructed to imagine that they were actually taking the course with the instructor presented in the scenario and that the instructor actually made the request that they read in the scenario. They were prompted to respond to all items in the questionnaire based on their reactions to the message and instructor in the scenario.

Clarity was manipulated based on Titsworth and Mazer's (2010) summary of clarity behaviors. Specifically, four components were incorporated into the low clarity messages, including *uncertainty* (e.g., "I will probably not end up giving you an actual grade for it"), *vagueness terms* (e.g., "I will give you some sort of feedback on it"), *bluffing* (e.g., "This assignment will serve as a review for the next exam so to speak, so obviously it will really be helpful"), and *mazes* (e.g., "It will really be helpful and beneficial"). High clarity messages did not contain these unclear behaviors and instead provided more concrete information and explanations than the low clarity messages (e.g., "This assignment will serve as a review for the next exam because it will reinforce the concepts we have covered in class"). Forceful language was manipulated based on the research designs of Miller et al. (2007) and Quick and Considine (2008). High forceful language messages included controlling, forceful terms such as "ought," "will really," and "must," whereas low forceful language messages included non-controlling,

non-forceful terms such as "might," "could," and "why not?" After reading their respective scenarios, participants completed the measures detailed below.

Instrumentation

Perceived threat. Participants' perceived threat to freedom was assessed using the 4-item scale from Dillard and Shen (2005), which was rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Previous studies have obtained reliabilities ranging from .85 to .90 (Quick, 2012; Zhang & Sapp, 2013). In the current study, the Cronbach's alpha was .85 ($M = 3.91$, $SD = 1.46$). Confirmatory factor analysis (CFA) revealed that the unidimensional scale demonstrated poor model fit, $\chi^2(2) = 34.95$, $p < .001$, CFI = .92, RMSEA = .30, SRMR = .06.

Psychological reactance. Adhering to Quick's (2012) recommendation, this study employed Dillard and Shen's (2005) measure, operationalizing psychological react-ance as anger and negative cognitions. Negative cognitions toward the message were assessed using three reverse-coded items, including "I agree with the message," "I have positive thoughts toward the message," and "I intend to comply with the message." Items were rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Anger toward the message was assessed using a 4-item scale following the prompt, "How did you feel while reading the message?" Sample items include "I felt annoyed while viewing the message" and "I felt angry while viewing the message." Items were rated on a 5-point Likert-type scale ranging from 1 (*none of this feeling*) to 5 (*a great deal of this feeling*).

Consistent with previous research (e.g., Shen, 2010; Zhang & Sapp, 2013), a composite score for psychological reactance was calculated by summing the scores for anger and negative cognitions toward the message. In previous research, a reliability of .89 was obtained for the combined measure (Zhang & Sapp, 2013). The Cronbach's alpha obtained for the current study was .88 ($M = 2.64$, $SD = .97$). CFA revealed that the two-dimensional scale demonstrated acceptable model fit, $\chi^2(13) = 29.45$, $p < .01$, CFI = .99, RMSEA = .08, SRMR = .06.

Instructional dissent. Instructional dissent was assessed using the 22-item Instruc-tional Dissent Scale (IDS; Goodboy, 2011b). The scale was adapted to reflect students' intentions to dissent based on the teacher and message presented in the scenario. Responses were rated using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) for the three dimensions of instructional dissent: *expressive* (e.g., "I would talk to other students to see if they also have complaints about this teacher"), *rhetorical* (e.g., "If I wanted my teacher to remedy my concerns, I would complain to him/her"), and *vengeful* (e.g., "I would seek revenge on this teacher by trying to get him/her in trouble"). Previous research has obtained reliabilities ranging from .86 to .96 for the three subscales (Goodboy, 2011b; LaBelle et al., 2013). In the current study, the obtained Cronbach's alpha reliability coefficients were .89 for rhetorical dissent ($M = 2.62$, $SD = 1.03$), .92 for vengeful dissent ($M = 1.94$, $SD = 1.02$), and .93 for expressive dissent ($M = 2.77$, $SD = 1.02$). CFA revealed that

the three-dimensional scale demonstrated acceptable model fit, $\chi^2(206) = 501.71$, $p < .001$, CFI = .96, RMSEA = .09, SRMR = .06.

Challenge behavior. Student challenge behavior was assessed using the 20-item Critical Incidents Frequency Report (CIFR; Simonds, 1997b). The scale was adapted to reflect students' intentions to use challenge behaviors after receiving the message from the instructor presented in the scenario. Reponses were rated using a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*very often*) for the four dimensions of challenge behavior in the classroom: *procedural* (e.g., "I would talk during class"), *evaluation* (e.g., "I would compare my scores with other students"), *power* (e.g., "I would not want to participate"), and *practicality* (e.g., "I would question the importance of the subject matter"). Previous research has obtained reliabilities ranging from .61 to .92 for the four subscales (Goodboy, 2011b; Goodboy & Myers, 2009; Simonds, 1997b). In the current study, the obtained Cronbach's alpha reliability coefficients were .75 for procedural challenges ($M = 1.02$, $SD = .80$), .75 for evaluation challenges ($M = 1.44$, $SD = .84$), .80 for power challenges ($M = .96$, $SD = .86$), and .88 for practicality challenges ($M = 1.13$, $SD = 1.02$). CFA revealed that the four-dimensional scale demonstrated a questionable model fit, $\chi^2(164) = 501.88$, $p < .001$, CFI = .94, RMSEA = .11, SRMR = .07.

Manipulation Check

Before testing the main hypotheses, manipulation checks were conducted to determine whether the independent variables (i.e., clarity, forceful language) were successfully manipulated. Participants were asked to respond to four manipulation check items. The first three items were taken from the Teacher Clarity Short Inventory (TCSI; Chesebro & McCroskey, 1998), and included, "In general, I understand this teacher," "In general, I would say that this teacher's classroom communication is unclear," and "This teacher is explicit in his/her instruction." These three items were chosen from the original 10 items because they most accurately captured clarity in terms of the messages designed for the study, whereas the remaining items from the original measure were irrelevant to the message. The fourth manipulation check item was generated for this study to assess forceful language, and read, "This teacher uses forceful language in his/her instruction." Each of these four items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The three items taken from the TCSI demonstrated acceptable reliability with a Cronbach's alpha of .72.

Results of an independent samples *t*-test revealed that students reported a significantly higher degree of clarity in the high clarity condition ($M = 4.92$, $SD = 1.17$) than in the low clarity condition ($M = 4.09$, $SD = 1.35$), $t(204) = 4.70$, $p < .001$, Cohen's $d = .66$. Additionally, results of an independent samples *t*-test revealed that students reported a significantly higher degree of forceful language in the high forceful language condition ($M = 4.08$, $SD = 1.50$) than in the low forceful language condition ($M = 3.19$, $SD = 1.54$), $t(204) = 4.19$, $p < .001$, Cohen's $d = .59$. Although

the means suggest that the low clarity condition was not necessarily seen as unclear by participants and the low forceful language condition as non-forceful, the significant differences between conditions suggest that the manipulation of clarity and forceful language in the scenarios was successful.

Results

Pearson correlations for the variables measured in this study are contained in Table 1.

Hypothesis 1 posited a negative relationship between instructors' use of clear language and students' perceived freedom threat. Similarly, hypothesis 2 posited a positive relationship between instructors' use of forceful language and students' perceived freedom threat. Because the manipulation checks revealed significant differences between high and low clarity conditions as well as between high and low forceful language conditions, these first two hypotheses were tested using the composite scores for clarity and forceful language. Results of Pearson correlations revealed a significant, negative relationship between clarity and perceived threat ($r = -.35$, $p < .001$) and a significant, positive relationship between forceful language and perceived threat ($r = .38$, $p < .001$). In other words, students who perceived lower instructor clarity tended to report greater perceived threat after exposure to the message. Additionally, students who perceived more forceful language tended to report greater perceived threat after exposure to the message. Based on these results, hypotheses 1 and 2 were both supported.

Hypothesis 3 posited that student reports of perceived threat would predict psychological reactance. Results of a linear regression, $F(1, 191) = 90.34$, $p < .001$, $R^2 = .32$, revealed that perceived threat positively predicted psychological reactance ($\beta = .57$, $t = 9.51$, $p < .001$). In other words, the more perceived threat that students reported after exposure to the message, the more psychological reactance they reported experiencing. Thus, hypothesis 3 was supported.

Hypothesis 4 posited that psychological reactance would mediate the relationship between perceived threat and each of the three dimensions of dissent. Similarly, hypothesis 5 posited that psychological reactance would mediate the relationship

Table 1 Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9
1 Perceived Threat	–								
2 Psychological Reactance	.57†	–							
3 Procedural Challenges	.15*	.26†	–						
4 Evaluation Challenges	.32†	.35†	.66†	–					
5 Power Challenges	.27†	.36†	.72†	.64†	–				
6 Practicality Challenges	.23**	.38†	.63†	.70†	.78†	–			
7 Expressive Dissent	.45†	.45†	.28†	.47†	.41†	.48†	–		
8 Rhetorical Dissent	.14	.23**	.41†	.48†	.44†	.44†	.60†	–	
9 Vengeful Dissent	.19**	.27†	.55†	.45†	.56†	.46†	.44†	.53†	–

Note. *$p < .05$; **$p < .01$; †$p < .001$. Two-tailed.

between perceived threat and each of the four dimensions of challenge behavior. To examine psychological reactance as a two-step process (Quick & Bates, 2010; Quick & Considine, 2008; Quick & Stephenson, 2008) and test reactance as a mediator, regression analyses were conducted with bootstrapping. From recommendations by Preacher and Hayes (2004), Sobel macro was used to obtain standard error estimates and 95% confidence intervals from 5,000 samples (Hayes, 2013). Bootstrapping results (see Table 2) revealed that psychological reactance significantly mediated the relationships between perceived threat and each type of dissent, as well as the relationships between perceived threat and each type of challenge behavior. Hypotheses 4 and 5 were supported.

Post Hoc

To investigate further the complex interrelations between variables in this study, Fisher z-tests were calculated to compare magnitudes of correlation coefficients between psychological reactance and the types of dissent and challenge behavior. Examination of the two-tailed Fisher z-values revealed some significant differences in magnitude based on outcome. Specifically, the correlation between psychological reactance and expressive dissent was significantly stronger than that between psychological reactance and rhetorical dissent (z-value = 2.52, $p < .05$), procedural challenges (z-value = 2.20, $p < .05$), and vengeful dissent (z-value = 2.09, $p < .05$). No other significant differences in the magnitude between correlation coefficients emerged.

Discussion

Psychological reactance theory has been used to explain the ineffectiveness of a variety of persuasive messages in the health context but has only recently been extended to the instructional context. Building upon Zhang and Sapp (2013), the objectives of this study were to expand upon the utility of PRT in the instructional context and to explore restoration behaviors that students enact in response to psychological reactance to restore their freedom, beyond direct resistance of a persuasive message. Results revealed further support for PRT's explanatory power in the classroom, specifically for clarity

Table 2   Bootstrap Analysis of Mediated Effects

Mediated effect		B	SE	95% CI (lower, upper)
1	PT → PR → Expressive Dissent	.103	.033	.042, .171*
2	PT → PR → Rhetorical Dissent	.074	.034	.012, .146*
3	PT → PR → Vengeful Dissent	.089	.036	.024, .161*
4	PT → PR → Procedural Challenges	.077	.025	.029, .128*
5	PT → PR → Evaluation Challenges	.075	.027	.024, .130*
6	PT → PR → Power Challenges	.099	.026	.052, .154*
7	PT → PR → Practicality Challenges	.138	.038	.069, .218*

Note. PT, Perceived Threat; PR, Psychological Reactance; CI, Confidence Interval.
*Indirect effect is significant at $p < .05$ (excluding zero).

and forceful language as antecedents to psychological reactance and instructional dissent and challenge behaviors as outcomes.

As hypothesized, instructor use of forceful language was related positively with students' experiences of perceived threat. This is consistent with the body of literature that suggests that messages using forceful, controlling, and dogmatic language usually induce negative affect and cognitions toward the persuasive appeal, and subsequent rejection of the message (Bensley & Wu, 1991; Dillard & Shen, 2005; Grandpre et al., 2003; Miller et al., 2007; Quick & Considine, 2008). Thus, there seems to be overwhelming support that forceful language should be avoided when making requests in the classroom.

Results also suggested that instructor use of clear language was related negatively with students' experiences of perceived threat. This is consistent with Miller et al.'s (2007) examination of lexical concreteness, such that requests worded with specific, detailed language are associated with less perceived threat to one's autonomy than messages that use abstract, vague language and leave the audience with a trace of doubt about the request being made. It appears that instructors' use of clarity when making requests may mitigate perceptions of freedom threat and the experience of reactance, and subsequently decreases students' needs to engage in potentially destructive behavior to regain freedom.

We also found support for the hypothesis that psychological reactance mediates the relationship between students' perceived freedom threat upon exposure to a persuasive message and their intention to engage in different types of instructional dissent and challenge behavior to restore their freedom. Indeed, it seems likely that students' experience of negative affect and cognitions regarding a request from their instructor is associated with an attempt to regain autonomy by exerting control in the form of venting disagreement with course policies and practices and attempting to influence the classroom culture. This result supports Brehm's (1966) original conceptualization of freedom restoration behaviors as any behavior that allows an individual to reestablish autonomy, including behaviors that are on the same level as resisting the behavior advocated in the persuasive message, which Miller et al. (2007) refer to as unintended boomerang effects. Additionally, this finding contributes to the scant research on challenge behavior and fills the call by Goodboy (2012) for mediators of instructional dissent.

Interestingly, significant differences emerged between the different types of dissent and challenge behavior and the magnitude of their relationships with psychological reactance. Students reported a significantly greater intention to use expressive dissent as a response to reactance than for rhetorical dissent, vengeful dissent, and procedural challenge behavior. It appears that students may have a preference regarding which behaviors they would use to restore their autonomy in the classroom, and that this preference may be expressive dissent. This is an important result for instructors to consider, especially because expressive dissent is negatively related to students' learning outcomes (Goodboy, 2011b). Future studies should continue to examine whether individuals have a preference for enacting certain types of freedom restoration behaviors over others.

The current study has several theoretical implications. Although PRT has previously been studied using interpersonal (Brehm, 1966), health (e.g., Grandpre et al., 2003; Miller et al., 2007; Quick & Considine, 2008), and organizational (Olison & Roloff, 2012) communication perspectives, the current study in combination with Zhang and Sapp (2013) extends the utility of the theory into the instructional communication context. Future research should continue to explore teacher behaviors that may evoke or have a mitigating effect on student experience of psychological reactance, and the behaviors that students enact to regain autonomy. Specifically, restoration can be achieved vicariously by having others enact the restricted behavior on one's behalf (Brehm, 1966; Worchel & Brehm, 1971). Rather than focusing on individual behaviors, instructional scholars should examine the classroom as a whole and investigate whether students influence their classmates' resistance-related behaviors upon experiencing psychological reactance. Additionally, because students also use persuasive strategies in the classroom to gain compliance (Golish, 1999), future research should examine student behaviors as antecedents and instructor behaviors as outcomes of psychological reactance. It would be interesting to determine whether instructor resistance to student requests also works through psychological reactance.

Future research should also take a trait approach to psychological reactance in the classroom. Indeed, psychological reactance can be assessed as a trait (Hong, 1992), such that some individuals are more likely than others to be motivated to restore a lost or threatened freedom. Trait psychological reactance has been a significant predicting factor of risky health behaviors including substance use and risky sexual activity (Miller & Quick, 2010). Perhaps individuals who are prone to exercise autonomy are also more likely to engage in behaviors that are detrimental to their own learning or the learning environment.

The current study also has practical implications for instructors. As the body of literature on clarity in instruction suggests, clarity is an effective teaching behavior consistently related to positive student outcomes (Chesebro, 2003; Chesebro & McCroskey, 2001; Houser & Frymier, 2009; Sidelinger & McCroskey, 1997; Titsworth, 2001a, 2001b) that also reduces undesirable student behavior (e.g., challenge behavior; Simonds, 1998). Considering existing clarity research in combination with the results of the current study, instructors should consider the elements of a persuasive appeal that may be perceived as unclear or controlling before delivering the request to a class. This holds true especially in instances where the request may be large, or where the admonished behavior is particularly important to students (i.e., situations that are most likely to intensify the experience of psychological reactance; Brehm, 1966). The current results suggest that doing so will alleviate students' perceived threat and experience of psychological reactance, which in turn is related to a decrease in students' intentions to dissent and engage in challenge behaviors. Indeed, instructors should be aware of messages that evoke psychological reactance, as these requests may elicit student behavior that is potentially destructive. They should also consider drawing from other research on psychological reactance and incorporate these elements into their persuasive requests, such as the use of a short "restoration postscript" at the end of an instructional message that reassures the

audience that it is up to them to decide for themselves whether to enact the advocated behavior (Miller et al., 2007).

This study is not without limitations. One such limitation is the cross-sectional nature of the self-report data, and that participants were asked to respond to questionnaire items based on their reactions to a hypothetical scenario. Although scenarios have been previously used to test psychological reactance (e.g., Miller et al., 2007; Olison & Roloff, 2012; Quick & Considine, 2008; Zhang & Sapp, 2013), observations of actual classroom behavior after the use of a persuasive message, as well as longitudinal studies that document this behavior throughout a semester, may allow a fuller picture of how the experience of psychological reactance affects classroom behavior. Moreover, measuring antecedents of reactance using continuous data, instead of categorical scenarios, would allow researchers to test serial mediation using structural equation modeling, which is more in line with psychological reactance theory. Another limitation was that participants were asked to report on their *intentions* to engage in challenge behaviors and instructional dissent rather than their actual behavior. Although behavioral intentions are the most proximal predictor of actual behavior (Ajzen, 1991; Fishbein & Ajzen, 1975), one should be careful when generalizing the results of the current study. A final limitation was that the CFA of the perceived threat measure yielded a poor fit.

Despite these shortcomings, this study adds to the field of instructional communication by explaining why persuasive appeals used by instructors in the classroom may be ineffective. Additionally, it identifies alternate behaviors that individuals may enact in order to restore their sense of autonomy, which have largely been ignored in existing psychological reactance research (Miller et al., 2007), and it reveals that students may prefer some forms of freedom restoration behavior over others. Although PRT has only recently been extended to the instructional communication context, these results in combination with Zhang and Sapp (2013) provide evidence for the theory's heuristic value and a rationale for future investigation of other antecedents and outcomes of psychological reactance in the classroom. Instructors should be clear and avoid using forceful language when delivering persuasive requests in order to avoid student experiences of psychological reactance.

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Appendix

High Clarity and High Forceful Language

I am assigning an extra paper that is not listed in the syllabus. Although this paper is not required and <u>will not be graded</u>, **you definitely ought to** complete it and turn it in <u>because I can then provide feedback about how well you understand the material, which</u> **will** help with your learning in this course. Additionally, this assignment **will** serve as a review for the next exam <u>because it</u> **will really** <u>reinforce the concepts we have covered in class.</u> **Any sensible person would agree** that completing this assignment is advantageous <u>to your success in this course</u>. Therefore, **you really must** hand in this assignment.

High Clarity and Low Forceful Language

I am assigning an extra paper that is not listed in the syllabus. Although this paper is not required and will not be graded, **it might be a good idea to** complete it and turn it in because I can then provide feedback about how well you understand the material, which **might** help with your learning in this course. Additionally, this assignment **could** serve as a review for the next exam because it **might** reinforce the concepts we have covered in class. **Many people would probably agree** that completing this assignment is advantageous to your success in this course. Therefore, **why not** hand in this assignment?

Low Clarity and High Forceful Language

I am assigning an extra paper that is not listed in the syllabus. Although this paper is not required and <u>I will probably not end up giving you an actual grade for it</u>, you definitely ought to complete it and turn it, <u>and then I will give you some sort of feedback on it</u>. Additionally, this assignment will serve as a review for the next exam <u>so to speak, so obviously it will really be helpful and beneficial</u>. Any sensible person would agree that completing this assignment is advantageous <u>to your success</u>. Therefore, you really must hand in this assignment.

Low Clarity and Low Forceful Language

I am assigning an extra paper that is not listed in the syllabus. Although this paper is not required and I will probably not end up giving you an actual grade for it, it might be a good idea to complete it and turn it in, and then I will give you some sort of feedback on it. Additionally, this assignment could serve as a review for the next exam so to speak, so obviously it might be helpful and beneficial. Many people would probably agree that completing this assignment is advantageous to your success. Therefore, why not hand in this assignment?

Note. Bolded text indicates manipulations of forceful language, and underlined text indicates manipulations of clarity.