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When Instructors Self-Disclose but Misbehave: Conditional Effects on Student Engagement and Interest

Dana Borzea & Alan K. Goodboy

This study examined the conditional influence of relevant instructor self-disclosure on student interest (cognitive, emotional) and engagement (silent-in-class, oral-in-class, thinking about course content, out-of-class). College student participants (N = 169) completed a questionnaire on their instructor's disclosures and misbehaviors in class, and their own interest and engagement in a college course. The positive associations between relevant instructor self-disclosure with student interest and engagement were conditional; they were moderated by perceived instructor misbehaviors (antagonism, lectures). Overall, the positive associations were diminished for cognitive and emotional interest when instructors were antagonistic; these associations became nonsignificant, and then negative at higher levels of antagonism. Similarly, the positive associations were diminished for all four types of student engagement when instructors delivered boring and confusing lectures; these associations became nonsignificant at higher levels of lecture misbehaviors, and the associations for silent in-class and out-of-class engagement became negative at very high levels of lecture misbehaviors.

Keywords: Instructor misbehaviors; Instructor self-disclosure; Student engagement; Student interest

To maximize student learning, instructors purposefully use relational teaching behaviors to build interpersonal relationships with their students (Frymier & Houser, 2000). Instructors who adopt a relational approach to teaching (Allen, Witt, & Wheeless, 2006; Mottet & Beebe, 2006) incorporate self-disclosure into their lectures to enhance students'

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understanding of the course content by relating the material to personal experiences (Downs, Javidi, & Nussbaum, 1988). To date, plenty of research advises instructors to "engage in self-disclosure [that is] relevant to the material" (Cayanus, 2004, p. 8); this is well-informed advice because relevant self-disclosure is associated with gains in students' cognitive learning (Cayanus & Martin, 2008). However, instructor self-disclosures that are relevant to class do not always enhance student-learning opportunities. For instance, instructor self-disclosures can be ineffective in class when students perceive them to be ego-inflating, overly personal, or occurring in excess (Cayanus, Martin, & Goodboy, 2009; Sorensen, 1989). Research suggests that the effectiveness of instructor self-disclosure may be contingent upon the degree to which instructors act inappropriately and misbehave in their classrooms (Goodboy & Myers, 2015; Kearney, Plax, Hays, & Ivey, 1991). Therefore, the purpose of this study was to determine if instructor misbehaviors diminish the effectiveness of relevant instructor self-disclosure or, in other words, if instructor misbehaviors moderate the relationships between relevant instructor self-disclosure with student engagement and student interest.

Relevant Instructor Self-Disclosure

Instructor self-disclosure is defined as "teacher statements in the classroom about self that may or may not be related to subject content but may reveal information about the teacher that students are unlikely to learn from other sources" (Sorensen, 1989, p. 260). Instructors often self-disclose to explain course content to students by relating personal information and opinions to the material (Downs et al., 1988). These disclosures typically occur during lectures, class discussions, or when answering students' questions (Goldstein & Benassi, 1994) and result in several beneficial outcomes for students including affective learning (Sorensen, 1989), motivation (Cayanus & Martin, 2008), and participation (Goldstein & Benassi, 1994).

Scholars have researched instructor self-disclosure by examining different dimensions of the teaching behavior (Downs et al., 1988), which varies in frequency, depth, amount, negativity, appropriateness, honesty, and relevance (Cayanus & Martin, 2008; Lannutti & Strauman, 2006). Of the many dimensions of self-disclosure, the dimensions of amount, negativity, and relevance have received the most empirical attention by instructional communication researchers (Cayanus & Martin, 2008). *Amount* refers how frequently an instructor self-discloses, *negativity* refers to the unfavorably perceived valence of the disclosure, and *relevance* refers to the degree to which the disclosure is related to the course content.

Instructors who self-disclose moderate and positive amounts of personal information are perceived by students to be clear, credible, and caring (Cayanus & Martin, 2008; Myers, Brann, & Members of COMM 602, 2009; Sorensen, 1989) and their students benefit from enhanced motivation and affective learning and feel more connected to the instructor (Cayanus & Martin, 2008; Mazer, Murphy, & Simonds, 2007). Of the three dimensions of instructor self-disclosure, the relevance dimension is considered to be the most important for students (Cayanus & Martin, 2008;

Schrodt, 2013) as it conveys course information in a way that students appreciate but also reinforces students' understanding of the material by connecting it to real experiences outside of class (Cayanus & Martin, 2008; Downs et al., 1988; Goodboy et al., 2014; Mazer et al., 2007). On the contrary, irrelevant instructor self-disclosure can violate students' academic expectations because it is viewed as inapplicable within a classroom (Frisby & Sidelinger, 2013; Lannutti & Strauman, 2006). Keeping instructor self-disclosures relevant to student learning, then, is of the utmost importance if they are to be used as effective teaching behaviors (Miller, Katt, Brown, & Sivo, 2014). For instance, Schrodt's (2013) research revealed that inappropriate instructor self-disclosures do not undermine instructor credibility, as long as the disclosures are relevant. Similarly, as Cayanus and Martin (2008) pointed out, instructors should not focus as much on how often they disclose, but rather the degree to which their disclosures are relevant to enhance student-learning outcomes. Indeed, students appreciate instructors who relate the material to issues outside of the course (e.g., students' future lives) by telling personal stories and giving personal examples to supplement the teaching content (Muddiman & Frymier, 2009). Since research clearly suggests that relevant instructor self-disclosure aids in students' cognitive learning (Cayanus & Martin, 2008), we were interested in determining if these disclosures also enhance other student-learning outcomes, specifically, by helping students remain engaged and interested in their coursework.

Student Engagement and Student Interest

The ideal college classroom contains students who are both interested and engaged in the material they are learning (Mazer, 2013b, 2013c; Schiefele, 1991). Student interest is situational and "describes a short-term psychological state that involves focused attention, increased cognitive functioning, persistence, enjoyment or affective involvement, and curiosity" (Schiefele, 2009, p. 198). Student interest can also be an individual trait described as "a relatively enduring preference for certain topics, subject areas, or activities" (Schiefele, 1991, p. 302). Instructors influence students' situational interest because it "is an emotional state brought about by situational stimuli" (p. 302). Mazer (2012) distinguishes between two types of situational interest that are important for students' learning experiences. Students experience *emotional interest* when they are excited, enthused, and energized by the course material that makes them want to learn (Mazer, 2012). Students experience *cognitive interest* when they have a concrete structural understanding of the course material that gives them a positive emotional response about what they are learning (Mazer, 2012).

Instructors play a major role in stimulating students' emotional and cognitive interest (Hidi & Baird, 1986) as their communication behaviors keep students interested in class (Mazer, 2013b). For instance, instructors who are clear and immediate foster cognitive interest and emotional interest (Mazer, 2013a, 2013c). Instructors who also provide organizational cues and explanative summaries and focus on relevant

information help students understand underlying connections to the material and enhance cognitive interest (Harp & Mayer, 1997; Mazer, 2013a; Titsworth, 2001a).

When instructors use exciting details to explain the information, students become more energized and their enjoyment of the material leads to heightened emotional interest (Harp & Mayer, 1997). Instructors can also stimulate students' emotional interest through their use of immediacy behaviors, including warm vocal cues, eye contact, and personalized examples (Mazer, 2013a). Instructors' use of both verbal and nonverbal immediacy behaviors can impact students' motivation to learn, which in turn results in greater cognitive learning (Allen et al., 2006; Witt, Wheeless, & Allen, 2004). Instructors can use interest cues to heighten students' attention, curiosity, and enjoyment of the subject, which then makes the subject material easier to encode (Harp & Mayer, 1997; Mazer, 2013c; Titsworth, 2001b). Titsworth argued that instructors could increase students' emotional interest through the use of personal stories or examples relevant to the content. Students' positive experiences associated with heightened emotional and cognitive interest can help students remain involved in the learning process and more engaged with the material (Mazer, 2012, 2013b).

Students who are interested in their course, also tend to be more engaged in their coursework (Mazer, 2013a, 2013b, 2013c). Student engagement refers to "the frequency with which students participate in activities that represent effective educational practices, and conceive of it as a pattern of involvement in a variety of activities and interactions in and out of the classroom" (Barkley, 2010, p. 4). Mazer (2012) operationalized four types of student engagement behaviors. *Silent in-class* behaviors involve students listening attentively and giving the instructor their full attention. *Thinking about course content* refers to students thinking about how the material relates to, and might benefit, their professional and personal lives. *Out-of-class* engagement refers to studying, reviewing notes, and talking about course material with other students. *Oral in-class* behaviors refer to students participating and sharing their opinions or thoughts during class.

Instructor behaviors play an influential role in student engagement; students are more likely to be engaged in a respectful and supportive class climate where the instructor is not overly critical or opinionated, values students' comments and engages in student-centered communication (Berdine, 1986). When instructors use relevant self-disclosure in their classroom, students report more empowerment, affective learning, and cognitive learning (Cayanus & Martin, 2008); these gains in learning outcomes are also related to higher levels of interest and engagement (Mazer, 2013b). Accordingly, relevant instructor self-disclosure is an ideal teaching behavior that should foster student interest and engagement by keeping students excited and affectively involved with the material (Mazer, 2013a, 2013b, 2013c). Under normal teaching circumstances, relevant instructor self-disclosure should correlate positively with student interest and engagement, but it is possible that instructors who self-disclose in a relevant manner also misbehave in ways that detract from the learning environment. In other words, instructor misbehaviors likely diminish (or moderate) the associations between relevant instructor self-disclosure with student interest and engagement.

Instructor Misbehaviors

Instructor misbehaviors refer to any instructor classroom behaviors that interfere with student learning (Kearney et al., 1991). In the seminal study on instructor misbehaviors, Kearney and colleagues developed a typology of 28 instructor misbehaviors represented in three categories: instructor indolence (e.g., tardy, disorganized, and information overload), offensiveness (e.g., unreasonable/arbitrary rules, negative personality, and sarcasm/putdowns), and incompetence (e.g., does not know subject matter, boring lectures, and confusing/unclear lectures). Instructor misbehaviors have been associated with decreases in cognitive learning, affective learning, and student motivation (Banfield, Richmond, & McCroskey, 2006; Goodboy & Bolkan, 2009; Zhang, 2007). Although the literature has focused on the original typology of instructor misbehaviors (Kearney et al., 1991), Goodboy and Myers (2015) recently replicated Kearney et al.'s research and found additional instructor misbehaviors that reflected changes in student culture and their expectations about class (e.g., students expect instructors to use technology and promptly reply to e-mails). Goodboy and Myers found that their revised typology reflected two main types of misbehaviors that impede student learning: antagonism and lectures. When instructors misbehave by *antagonism*, they belittle, yell, openly criticize and outwardly disagree with their students by telling them their opinions are wrong. When instructors misbehave during their *lectures*, they teach in a dry and monotone manner, present the material in ways that confuse their students, give boring lectures and present the material too quickly. Both of these instructor misbehavior types are associated inversely with student reports of cognitive learning, affective learning, state motivation, and communication satisfaction (Goodboy & Myers, 2015). Thus, it is likely that the positive effects of relevant self-disclosure on student interest are diminished, or even cancelled out, by instructor misbehaviors because they detract from students' learning experiences and their liking of the content (Goodboy & Myers, 2015). Of the two main types of misbehaviors, instructor antagonism should deplete student interest because it communicates to students that they are not valued or respected by their instructor; it would prove difficult for students to remain interested in their coursework and their instructor's self-disclosures when they feel this way. It is unlikely that relevant instructor self-disclosures maintain students' interest when an instructor is antagonizing; therefore, the following conditional hypothesis is offered:

H1:   The positive relationships between relevant instructor self-disclosure and student interest (emotional, cognitive) will be moderated by antagonism; such that the relationship will be diminished as instructors antagonize students.

Similarly, it is difficult for students to remain engaged in a classroom when the instructor misbehaves during lectures by teaching in a boring, dry, and confusing manner. Teaching in such a manner (e.g., nonimmediate, unclear) has been revealed to disengage students (Mazer, 2013a). Therefore, the following conditional hypothesis is offered:

H2:   The positive relationships between relevant instructor self-disclosure and student engagement (silent-in-class, oral-in-class, thinking about content, out-of-class) will be moderated by lectures; such that the relationships will be diminished as instructors use lecture misbehaviors.

We were also interested in the topics of instructor self-disclosures because not all disclosures are considered by students to be appropriate for the classroom. Instructor self-disclosures are labeled by students as inappropriate when they reveal information that is offensive, too intimate, and irrelevant to course content (Frisby & Sidelinger, 2013). Just as misbehaviors detract from students' learning, instructor self-disclosures that are too opinionated and stray from the focus of the lecture can also detract from students' learning (Goodboy & Myers, 2015). Thus, the content of instructor self-disclosures may be perceived by students to be an instructor misbehavior. Certain topics are perceived to be inappropriate for self-disclosure in class, including politics, religion, personal opinions, and personal problems (Hosek & Thompson, 2009; Javidi & Long, 1989). Thus, the following research question is proposed:

RQ: Which topics of instructor self-disclosure correlate with instructor misbehaviors (i.e., antagonism and lectures)?

METHOD

Participants

Participants were 169 undergraduate students (87 females, 82 males) recruited from an introductory communication studies course at a large Mid-Atlantic university. Students' ages ranged from 18–30 years ($M = 18.98$, $SD = 1.47$). The ethnic/racial distribution was primarily White/Caucasian (89.9%), followed by Black/African American (4.8%), Hispanic (1.8%), Middle Eastern (1.2%), Asian/Asian American (0.6%), and 3 participants did not report (1.8%). Class ranks included 105 freshman, 33 sophomores, 15 juniors, and 16 seniors. Students reported on small-sized classes (30 or fewer students; $n = 46$), medium-sized classes (40–100 students; $n = 43$), and large-sized classes (100+ students; $n = 79$). One participant did not report class size.

Procedures and Instrumentation

Following approval from the university's Institutional Review Board, a questionnaire was administered to measure students' perceptions of relevant instructor self-disclosure, instructor misbehaviors, topics of instructor self-disclosures, student interest, and student engagement.

In order to obtain data from a variety of courses, students were instructed to complete the questionnaire in reference to the instructor of the course they attended immediately prior to the course in which the data were collected (Plax, Kearney, McCroskey, & Richmond, 1986). The following measures were included in the questionnaire. Table 1 reports the means, standard deviations, and alpha reliability coefficients for all measures.

Instructor Self-Disclosure
The Teacher Self-Disclosure Scale (Cayanus & Martin, 2008) was used to measure student perceptions of the relevance of instructor self-disclosures during class.

Table 1 Correlation Matrix

Variables	M	SD	α	1	2	3	4	5	6	7	8	9
1. Relevant Self-Disclosure	4.60	1.53	.91	—								
2. Antagonism	1.15	0.40	.89	-.25**	—							
3. Lecture	2.01	1.01	.87	-.31***	.43***	—						
4. EI	2.97	1.01	.96	.46**	-.21**	-.56***	—					
5. CI	3.66	1.01	.93	.27***	-.06	-.43***	.69***	—				
6. SilentClass	5.60	0.94	.79	.09	.10	-.11	.26**	.34***	—			
7. OralClass	3.71	1.81	.92	.13	-.02	-.12	.22**	.26**	.36***	—		
8. Thinking	4.22	1.58	.90	.27***	-.07	-.24**	.57***	.55***	.45***	.37***	—	
9. OutClass	4.60	1.47	.82	.19*	.12	-.07	.33***	.22**	.55***	.30***	.47***	—

Note. EI = Emotional Interest. CI = Cognitive Interest. SilentClass = Silent in-Class Engagement. OralClass = Oral in-Class Engagement. Thinking = Thinking about Content Engagement. OutClass = Out-of-Class Engagement.
$*p < .05. **p < .01. ***p < .001$, two-tailed.

Students responded to the five items of the relevance subscale using a 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-response format. A sample item is "My instructor links current course content to other areas of content through the use of personal examples." Previous Cronbach's alphas ranged from .80–.93 for relevance (Cayanus & Martin, 2008; Cayanus et al., 2009; Goodboy et al., 2014).

Instructor Misbehaviors

The Instructor Misbehavior Scale (Goodboy & Myers, 2015) contains 13 items that measure instructor antagonism (eight items) and lectures (five items). Responses were solicited on a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*very often*). Sample items included "My instructor criticizes students' responses to instructor comments or questions" (antagonism) and "My instructor teaches in a confusing manner" (lectures). Previous Cronbach's alphas have been .90 and .91 for antagonism and .86 and .87 for lectures (Goodboy & Myers, 2015).

Topics of Instructor Self-Disclosure

Students were instructed to report how frequently their instructor self-disclosed about 15 topics in class, using a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*very often*). The list of topics was borrowed from several previous studies that mentioned topics commonly discussed in the classroom (see Downs et al., 1988; Frisby & Sidelinger, 2013; Hosek & Thompson, 2009; Javidi & Long, 1989; Myers et al., 2009). The self-disclosure topics included romantic partners, family, personal friendships, political preferences, religious values and practices, hobbies and leisure activities, sexual history, personal problems, risky behaviors (e.g., drinking/smoking/drug use), educational background and experiences, insecurities, social media use, health/mental issues, sexual orientation, and professional failures.

Student Interest

Mazer's (2012) Student Interest Scale was used. Students indicated their agreement regarding interest in the course on a 16-item scale using a 5-point response Likert format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The emotional interest subscale (nine items) consisted of sample items including "I am interested in this class because I feel enthused about being in class" and "I am interested in this class because the material fascinates me." The cognitive interest subscale (seven items) consisted of sample items including "I am interested in this class because the information in the course is useful" and "I am interested in this class because I can understand the flow of ideas." Previous Cronbach's alphas ranged from .95–.96 for emotional interest and .88–.89 for cognitive interest (Linvill, 2014; Mazer, 2012, 2013a).

Student Engagement

Mazer's (2012) Student Engagement Scale was used. Students indicated their agreement regarding their engagement in the course on a 13-item Likert-type scale using a

7-point response format ranging from 1 (*never*) to 7 (*very often*). The silent in-class behaviors subscale consisted of four items (e.g., "Listened attentively to the instructor during class"), the oral in-class behaviors subscale consisted of two items (e.g., "Participated during class discussions by sharing your thoughts/opinions"), the thinking about class content subscale consisted of three items (e.g., "Thought about how the course material related to your life"), and the out-of-class behaviors subscale consisted of four items (e.g., "Reviewed your notes outside of class"). Previous Cronbach's alphas ranged from .77–.88 for silent in-class behaviors, .91–.94 for oral in-class behaviors, .91–.93 for thinking about class content, and .70–.81 for out of class behaviors (Linvill, 2014; Mazer, 2012, 2013a).

RESULTS

Pearson correlations were used to conduct preliminary analyses among the variables included in this study (see Table 1 for intercorrelations).

To test Hypotheses 1 and 2, moderated ordinary least squares (OLS) multiple regressions were calculated. Hypothesis 1 predicted the positive effects of relevant instructor self-disclosure on students' emotional and cognitive interest would be moderated by instructor antagonism. This hypothesis was confirmed by a significant interaction (see Table 2 for model coefficients).

A spotlight analysis (see Figure 1) was used to estimate conditional effects at low, $\theta_{(X \to Y)|M = 1.00} = 0.336$, $SE = 0.047$, $p < .001$, medium, $\theta_{(X \to Y)|M = 1.148} = 0.227$, $SE = 0.046$, $p < .001$, and high, $\theta_{(X \to Y)|M = 1.548} = .116$, $SE = 0.068$, $p = .087$, values of the moderator (antagonism). These conditional effects suggest that as instructor antagonism increases, the positive relationship between relevant self-disclosure and emotional interest decreases to nonsignificant.

In fact, a more detailed examination of the Johnson-Neyman technique revealed that the relationship transitions from positive and significant to nonsignificant when instructor antagonism is reported at a value of 1.518, $\theta_{(X \to Y)} = 0.103$, $SE = 0.128$, $p = .05$, and transitions from a nonsignificant relationship to a negative relationship at a value of 2.849, $\theta_{(X \to Y)} = -.405$, $SE = 0.205$, $p = .05$.

The effect of relevant instructor self-disclosure on students' *cognitive interest* was also moderated by instructor antagonism (see Table 3).

Table 2 Moderation Model for Emotional Interest

	B	SE	t	p	LLCI	ULCI
Intercept	0.786	0.468	1.679	.095	−.138	1.709
Antagonism	0.743	0.338	2.201	.029	.076	1.410
Relevant Self-Disclosure	0.737	0.136	5.407	< .001	.468	1.006
Relevant Self-Disclosure*Antagonism	−0.401	0.115	−3.476	< .001	−.628	−.173

Note. $R^2 = .278$, $F(3, 164) = 21.003$, $p < .001$. ΔR^2 due to interaction = .05.
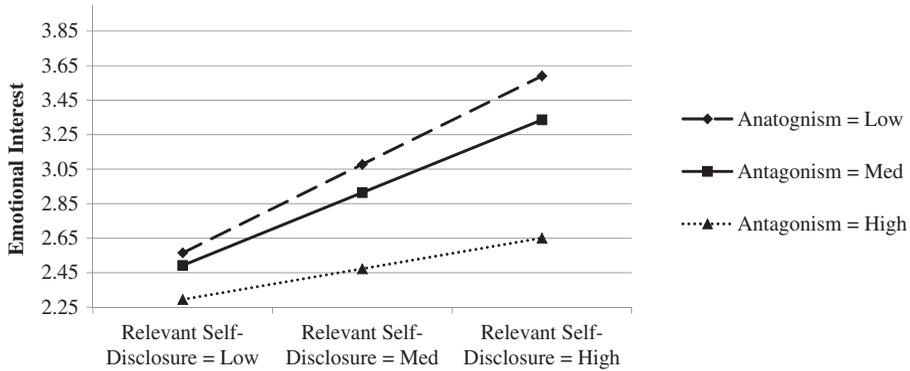
Figure 1 The conditional effects of instructor relevant self-disclosure on emotional interest (moderated by instructor antagonism)
Note. "Low" and "High" represent −1 or +1 standard deviations with "Medium" representing the mean.

Table 3 Moderation Model for Cognitive Interest

	B	*SE*	*t*	*p*	LLCI	ULCI
Intercept	1.895	0.461	4.108	< .001	.984	2.806
Antagonism	0.883	0.333	2.651	.009	.225	1.541
Relevant Self-Disclosure	0.548	0.134	4.077	< .001	.282	.813
Relevant Self-Disclosure*Antagonism	−0.345	0.114	−3.032	.003	−.569	−.120

Note: R^2 = .124, $F(3, 164)$ = 7.739, $p < .001$. ΔR^2 due to interaction = .05.

To probe the interaction (see Figure 2), a spotlight analysis was used to estimate conditional effects at low, $\theta_{(X \to Y)|M = 1.00}$ = 0.203, SE = 0.047, $p < .001$, medium, $\theta_{(X \to Y)|M = 1.148}$ = 0.152, SE = 0.045, p = .001, and high, $\theta_{(X \to Y)|M = 1.548}$ = 0.014,
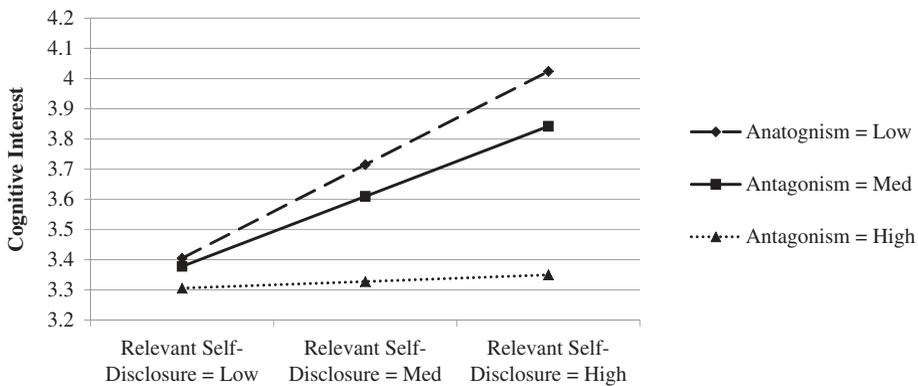
Figure 2 The conditional effects of instructor relevant self-disclosure on cognitive interest (moderated by instructor antagonism)
Note. "Low" and "High" represent −1 or +1 standard deviations with "Medium" representing the mean.

$SE = 0.067$, $p = .83$, values of the moderator (antagonism). These conditional effects suggest that as instructor antagonism increases, the positive relationship between relevant self-disclosure and cognitive interest decreases to nonsignificant.

The Johnson-Neyman technique revealed that the relationship transitions from positive and significant to nonsignificant when instructor antagonism is reported at a value of 1.304, $\theta_{(X \to Y)} = 0.098$, $SE = 0.050$, $p = .05$, and transitions from a nonsignificant relationship to a negative relationship at a value of 2.574, $\theta_{(X \to Y)} = -0.340$, $SE = 0.172$, $p = .05$.

Hypothesis 2 predicted the effect of relevant instructor self-disclosure on students' *silent in-class engagement* behaviors would be moderated by instructor lectures (see Table 4).

To probe the interaction (see Figure 3), a spotlight analysis was used to estimate conditional effects at low, $\theta_{(X \to Y)|M = 1.00} = 0.158$, $SE = 0.068$, $p = .02$, medium, $\theta_{(X \to Y)|M = 2.007} = 0.042$, $SE = 0.050$, $p = .40$, and high, $\theta_{(X \to Y)|M = 3.014} = -0.074$, $SE = 0.064$, $p = .25$, values of the moderator (lectures). These conditional effects suggest that, as an instructor lectures in a boring and dry manner, the positive relationship between relevant self-disclosure and in-class engagement decreases to nonsignificant.

The Johnson-Neyman technique revealed that the relationship transitions from positive and significant to nonsignificant when instructor lectures are reported at a

Table 4 Moderation Model for Silent In-Class Behaviors

	B	SE	t	p	LLCI	ULCI
Intercept	4.561	0.505	9.033	<.001	3.564	5.558
Lectures	0.391	0.191	2.050	.042	.014	.768
Relevant Self-Disclosure	0.274	0.102	2.691	.008	.073	.475
Relevant Self-Disclosure*Lectures	−0.115	0.043	−2.692	.008	−.200	−.031

Note: $R^2 = .055$, $F(3, 165) = 3.232$, $p = .024$. ΔR^2 due to interaction = .04.
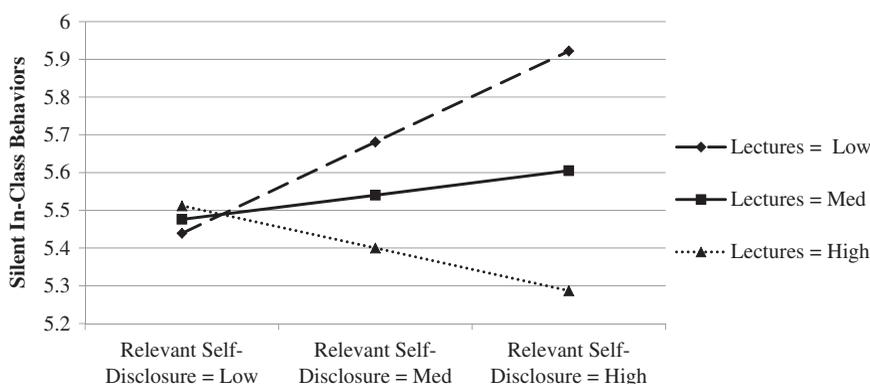
Figure 3 The conditional effects of instructor relevant self-disclosure on students' silent in-class engagement behaviors (moderated by instructor lectures)
Note. "Low" and "High" represent −1 or +1 standard deviations with "Medium" representing the mean.

value of 1.381, $\theta_{(X \to Y)}$ = 0.115, *SE* = 0.058, *p* = .05, and transitions from a non-significant relationship to a significant negative relationship at a value of 4.082, $\theta_{(X \to Y)}$ = -0.197, *SE* = 0.100, *p* = .05.

The effect of relevant instructor self-disclosure on students' *oral in-class engagement* behaviors was moderated by instructor lectures (see Table 5).

To probe the interaction (see Figure 4), a spotlight analysis was used to estimate conditional effects at low, $\theta_{(X \to Y)|M = 1.00}$ = 0.326, *SE* = .130, *p* = .01, medium, $\theta_{(X \to Y)|M = 2.007}$ = 0.124, *SE* = 0.096, *p* = .19, and high, $\theta_{(X \to Y)|M = 3.014}$ = -0.078, *SE* = 0.123, *p* = .53, values of the moderator (lectures). These conditional effects suggest that, as an instructor lectures in a boring and dry manner, the positive relationship between relevant self-disclosure and in-class engagement decreases to nonsignificant.

The Johnson-Neyman technique revealed that the relationship transitions from positive and significant to nonsignificant when instructor lectures are reported at a value of 1.611, $\theta_{(X \to Y)}$ = 0.203, *SE* = 0.103, *p* = .05, and remains nonsignificant at all possible values above 1.611.

The effect of relevant instructor self-disclosure on students' *thinking about course content* was moderated by instructor lectures (see Table 6).

Table 5 Moderation Model for Silent In-Class Behaviors

	B	*SE*	*t*	*p*	LLCI	ULCI
Intercept	1.710	0.967	1.767	.079	−.201	3.620
Lectures	0.660	0.366	1.805	.073	−.062	1.382
Relevant Self-Disclosure	0.526	0.195	2.700	.008	.141	.911
Relevant Self-Disclosure*Lectures	−0.201	0.082	−2.443	.016	−.363	−.038

Note: R^2 = .057, $F(3, 165)$ = 3.309, *p* = .022. ΔR^2 due to interaction = .03.
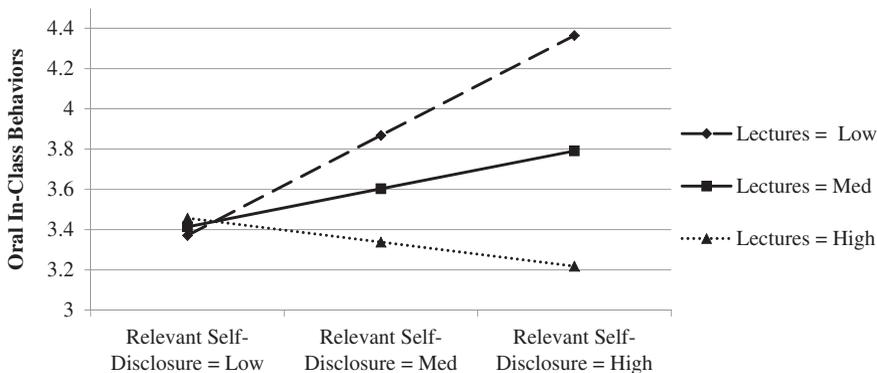
Figure 4 The conditional effects of instructor relevant self-disclosure on students' oral in-class engagement behaviors (moderated by instructor lectures).
Note. "Low" and "High" represent −1 or +1 standard deviations with "Medium" representing the mean.

Table 6 Moderation Model for Thinking About Course Content

	B	SE	t	p	LLCI	ULCI
Intercept	2.431	0.814	2.986	.003	.824	4.039
Lectures	0.322	0.308	1.048	.296	−.285	.930
Relevant Self-Disclosure	0.518	0.164	3.160	.002	.195	.842
Relevant Self-Disclosure*Lectures	−0.143	0.069	−2.068	.040	−.279	−.006

Note: R^2 = .122, $F(3, 165)$ = 7.655, $p < .001$. ΔR^2 due to interaction = .02.

To probe the interaction (see Figure 5), a spotlight analysis was used to estimate conditional effects at low, $\theta_{(X \to Y)|M = 1.00}$ = 0.376, SE = 0.109, p = .001, medium, $\theta_{(X \to Y)|M = 2.007}$ = 0.232, SE = 0.081, p = .005, and high, $\theta_{(X \to Y)|M = 3.014}$ = 0.088, SE = 0.104, p = .40, values of the moderator (lectures). These conditional effects suggest that as an instructor lectures in a boring and dry manner, the positive relationship between relevant self-disclosure and in-class engagement decreases to nonsignificant.

The Johnson-Neyman technique revealed that the relationship transitions from positive and significant to nonsignificant when instructor lectures are reported at a value of 2.454, $\theta_{(X \to Y)}$ = 0.168, SE = 0.085, p = .05, and remains nonsignificant at all possible values above 2.454.

Finally, the effect of relevant instructor self-disclosure on students' *out-of-class engagement* behaviors was moderated by instructor lectures (see Table 7).

To probe the interaction (see Figure 6), $_{(X \to Y)|M=1.00}$ = 0.413, SE = 0.103, $p < .001$, medium, $\theta_{(X \to Y)|M = 2.007}$ = 0.196, SE = 0.076, p = .011, and high, $\theta_{(X \to Y)|M}$ = 3.014 = -0.020, SE = 0.098, p = .84, values of the moderator (lectures). These conditional effects suggest that as an instructor lectures in a boring and dry manner, the positive relationship between relevant self-disclosure and out-of-class engagement decreases to nonsignificant.
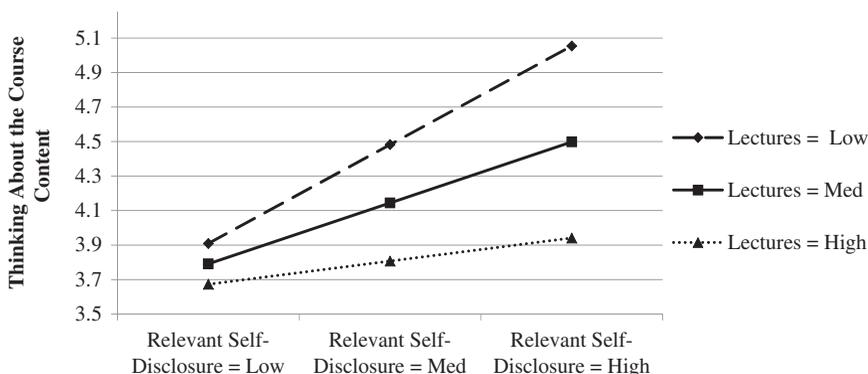
Figure 5 The conditional effects of instructor relevant self-disclosure on students' thinking about the course content (moderated by instructor lectures).
Note: "Low" and "High" represent −1 or +1 standard deviations with "Medium" representing the mean.

Table 7 Moderation Model for Out-of-Class Behaviors

	B	SE	t	p	LLCI	ULCI
Intercept	1.828	0.770	2.375	.019	.308	3.348
Lectures	0.876	0.291	3.010	.003	.301	1.450
Relevant Self-Disclosure	0.628	0.155	4.050	<.001	.322	.934
Relevant Self-Disclosure*Lectures	−0.215	0.065	−3.294	.001	−.344	−.086

Note: $R^2 = .096$, $F(3, 165) = 7.655$, $p < .001$. ΔR^2 due to interaction = .06.
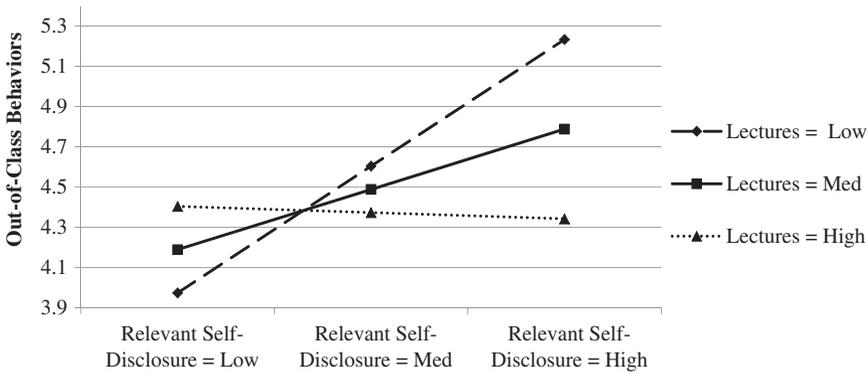
Figure 6 The conditional effects of instructor relevant self-disclosure on students' out-of-class engagement behaviors (moderated by instructor lectures).*Note.* "Low" and "High" represent −1 or +1 standard deviations with "Medium" representing the mean.

The Johnson-Neyman technique revealed that the relationship transitions from positive and significant to nonsignificant when instructor lectures are reported at a value of 2.214, $\theta_{(X \to Y)} = 0.152$, $SE = 0.077$, $p = .05$, and transitions from a non-significant relationship to a significant negative relationship at a value of 4.579, $\theta_{(X \to Y)} = -0.357$, $SE = 0.181$, $p = .05$.

The research question inquired about the self-disclosure topics that misbehaving instructors use. Pearson correlations revealed positive associations between antagonism misbehaviors and self-disclosures about religion ($r = .28$, $p < .001$) and risky behaviors ($r = .16$, $p < .05$). Negative correlations emerged between lecture misbehaviors and instructor self-disclosures about family ($r = -.17$, $p < .05$) and educational background ($r = -.22$, $p < .005$).

DISCUSSION

The purpose of this study was to determine if instructor misbehaviors (antagonism and lectures) moderated the associations between relevant instructor self-disclosure with student interest (emotional and cognitive) and student engagement (silent-in-

class, oral-in-class, thinking about content, and out-of-class). The general findings revealed that these associations were moderated by instructor misbehaviors, which diminished the positive effects of relevant instructor self-disclosure. Specifically, instructor antagonism moderated the relationships with student interest, and instructor lectures moderated the relationships with student engagement. The findings and implications are discussed below.

First, instructor antagonism weakened the positive relationships between relevant self-disclosure and students' emotional and cognitive interest. These findings suggest that relevant self-disclosure keeps students emotionally and cognitively interested only if instructors do not antagonize their students. When instructors begin to antagonize their students, even at very low levels, doing so actually decreases the strength of the relationships between relevant instructor self-disclosure and emotional and cognitive interest; as antagonism is reported at higher levels, the relationship becomes non-significant, and even becomes an inverse relationship at very high levels. In other words, instructor antagonism cancels out any positive effects on student interest, and, at high levels, it actually results in students becoming disinterested.

Antagonizing instructors belittle, criticize and argue with their students (Goodboy & Myers, 2015), and therefore, they may not want to hear personal stories from their instructor who is disrespectful of them. These antagonizing instructors are damaging the effectiveness of an otherwise effective teaching behavior. Relevant instructor self-disclosures heighten students' interest, which motivates students to want to learn more about the content, but when students do not feel their views are valued, these disclosures hinder students' interest. Instructors who are antagonistic when they teach argue with students and tell them their opinions are wrong. This antagonistic communication relies on instructors' use of legitimate power (i.e., using their position and authority as an instructor) when they belittle their students and tell them their ideas are inferior. Instructor antagonism highlights the status differential between instructors and students instead of making students feel as equals in the classroom (Goodboy & Myers, 2015). Indeed, students appreciate instructor self-disclosures that function to minimize the status difference between students and instructors (Myers et al., 2009).

Second, lecture misbehaviors weakened the positive relationships between relevant self-disclosure and student engagement. Specifically, our findings suggest that relevant self-disclosure keeps students engaged only when instructors lecture in an entertaining, clear, and lively manner. Conversely, when instructors begin to lecture in a boring and unorganized manner, the relationships between relevant instructor self-disclosure and student silent in-class and out-of-class engagement become weaker, and, at higher levels of lecture misbehaviors, their silent in-class and out-of-class engagement actually decreases. However, when instructors begin to lecture in a boring and unorganized manner, the relationships between relevant instructor self-disclosure and student oral in-class engagement and thinking about the course content become weaker and, at higher levels, become nonsignificant. Unlike the conditional effects discovered for silent in-class and out-of-class engagement, these relationships do not become inversely related at high levels of lecture misbehaviors.

One explanation for these moderated effects on engagement is a reciprocity effect within the classroom. In interpersonal relationships, the reciprocity effect refers to the idea that the self-disclosure of one individual will facilitate a comparable self-disclosure from the other (Cozby, 1973). In the classroom, Goldstein and Benassi (1994) argued that instructors' self-disclosures encourage student participation because the interpersonal features of a classroom likely produce a reciprocal effect between instructors' self-disclosures and students' willingness to participate in class. That is, if students believe that their instructor is not putting in the time to prepare for class nor the effort to lecture in an exciting manner, then students will put forth an equal (and minimum) amount of effort. Instructors who are not fully engaged in their lectures should expect students who are not engaged in their coursework.

Additionally, instructors who give boring lectures are likely to provide dull self-disclosures in class. Boredom in class has been shown to impede students' engagement (Skinner, Furrer, Marchand, & Kindermann, 2008). Moreover, instructors who engage in lecture misbehaviors present the material too quickly, making it difficult for students to take notes (Goodboy & Myers, 2015). These misbehaving instructors confuse students when they try to fit too much content into one lecture (Therrell & Dunneback, 2015). Relevant instructor self-disclosure might lose its effectiveness when students are either bored with the disclosures or have trouble processing too much course material; these possibilities occur when instructors are limited by their lecturing capabilities.

The extant research demonstrates student-learning outcomes associate with instructors' use of relevant self-disclosure in class (Cayanus & Martin, 2008; Downs et al., 1988; Myers et al., 2009). However, the results from this study should urge instructors to think about how even slight misbehaviors in class may cancel out positive effects. Just as other effective teaching behaviors (e.g., immediacy) are not able to surmount the effects of instructor misbehaviors (Kelsey, Kearney, Plax, Allen, & Ritter, 2004; Thweatt & McCroskey, 1998), relevant instructor self-disclosures fail to overcome misbehaviors' negative effects on learning outcomes as well. Thus, it is important for instructors to be conscious of their disclosures and accompanying teaching behaviors and to even avoid certain topics of disclosure. The results of this study suggest that instructors should avoid disclosing about religion and risky behaviors (drinking, smoking, drug use) as misbehaving instructors prefer these topics and instead, disclose about their family and educational background.

There are several limitations in this study. First, student reports of instructor misbehaviors were relatively low in frequency (c.f. Goodboy & Myers, 2015; Kearney et al., 1991). Second, although we attempted to capture all of the possible classroom self-disclosure topics, instructors can self-disclose about virtually anything. The 15 topics included in our study represent some but not all possible topics. Third, we did not control for students' individual interest, which is a trait-like individual difference. Some students might be interested and engaged in all of their coursework, despite their instructor's behaviors. This may be especially true for self-regulated students who monitor their learning environments and work hard in any class (Pintrich, 2004). Fourth, we did not structure our study using a theoretical framework. A lack of theoretical research has been a major criticism of instructional communication (Waldeck, Kearney, & Plax, 2001). Also, there could be rival explanations for the relevant self-disclosure and student interest

and engagement links. Due to this study's inability to establish causal claims, there could potentially be missing explanatory variables not included in this investigation.

Future researchers should conduct experimental studies that manipulate real instructor self-disclosures within actual classroom environments. Our study investigated outcomes of student interest and student engagement, but experimental studies could allow for the investigation of cognitive learning by administering exams to students. Future researchers might also consider adopting an observational approach for data collection. Actual observations of instructors and students in live classrooms would allow researchers to code student-engagement behaviors.

Conclusion

The relational approach to teaching has much value for both instructors and students (Mottet & Beebe, 2006). Collectively, our findings suggest that if instructors misbehave, even in the slightest, students become less interested or engaged in their courses and relevant self-disclosure loses its effectiveness. Instructors should use relevant self-disclosure in their courses but should also be mindful that their disclosures are only effective when they do not antagonize their students and only if they lecture in a clear, prepared, and exciting manner.

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