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The Role of Instructor Humor and Students' Educational Orientations in Student Learning, Extra Effort, Participation, and Out-of-Class Communication

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The Role of Instructor Humor and Students' Educational Orientations in Student Learning, Extra Effort, Participation, and Out-of-Class Communication

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This study used instructional humor processing theory to examine how instructors' humor enhanced students' learning outcomes (i.e., cognitive learning, extra effort) and communication practices both inside (i.e., participation) and outside (i.e., out-of-class communication) the college classroom. These relationships were examined while controlling for students' educational orientations (i.e., learning orientation, grade orientation), which are known to influence students' learning and motivation in their coursework. Hierarchical regression analyses indicated that learning orientation was a positive predictor of students' cognitive learning, extra effort, participation, and out-of-class communication, whereas grade orientation was a negative predictor of participation and out-of-class communication. Results also indicated that after controlling for variance explained by students' learning and grade orientations, instructor humor remained a positive predictor of students' cognitive learning, extra effort, participation, and out-of-class communication.

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In college, the responsibility for student success lies with instructors and students alike. Though this is the case, most instructional communication researchers have focused predominantly on students' perceptions of their instructors' teaching behaviors and student learning (Waldeck, Plax, & Kearney, 2010) without considering how student characteristics may affect these outcomes. Essentially, most studies focus on the ways instructors might improve students' learning environments without studying how the makeup of their students may change these results. This approach to pedagogy is potentially problematic considering that achieving success in the classroom involves a complex set of communication behaviors that encompass a wide variety of student-centered, as well as instructor-enacted, behaviors and characteristics (Houser & Frymier, 2009; Weber, Martin, & Myers, 2011). In short, learning in the classroom may be best explained as a function of students' characteristics—such as their academic beliefs about learning—coupled with effective instructor teaching practices (Buehl & Alexander, 2009).

This study adopted a hybrid approach by examining instructor humor and students' educational orientations together as predictors of student learning and classroom communication. In accord with calls for more theory-based instructional communication research (Mottet, Frymier, & Beebe, 2006; Waldeck, Kearney, & Plax, 2001), this study implemented instructional humor processing theory as a frame to examine how instructor humor predicts student learning (i.e., cognitive learning, extra effort) and communication outcomes (i.e., student participation, out-of-class communication) after controlling for students' educational orientations (i.e., learning orientation, grade orientation).

Instructional Humor Processing Theory

We implemented instructional humor processing theory (IHPT; Wanzer, Frymier, & Irwin, 2010) to frame the relationships among instructor humor usage, student learning, and communication outcomes. Instructional humor processing theory is based on dual cognitive processing assumptions from the elaboration likelihood model (ELM; Petty & Cacioppo, 1981; 1986) and incorporates assumptions about humor from incongruity-resolution theory (LaFave, Haddad, & Maesen, 1996) to provide a theoretical platform explaining its impact during instruction. In its most basic form, IHPT predicts that “specific types of instructional humor should facilitate learning, and other types will not” (Wanzer et al., 2010, p. 6).

According to IHPT, students must initially recognize and resolve incongruity in an instructor's message for it to be perceived as humorous. If the incongruity is recognized by students, it must then be interpreted, and if the incongruity is not resolved, students will be distracted or confused by the message and less able to

process course information. Ultimately, the theory predicts that students form affective responses to humorous messages that are processed and interpreted (i.e., when incongruity resolved) based on whether or not they consider the messages to be appropriate or inappropriate for the classroom. Drawing on ELM assumptions of motivation and ability, IHPT predicts that if students consider a humorous message to be appropriate, positive affect is created which motivates students “to engage in elaboration and to process the humorous message” (p. 7). Moreover, when humor is relevant to the course content (e.g., Frymier & Shulman, 1995; Frymier, Shulman, & Houser, 1996), students’ ability to process humorous messages is enhanced, resulting in student learning. Conversely, when students perceive humor as inappropriate, IHPT predicts that humor will create negative affect and that students will be unmotivated and less able (i.e., distracted) to process instructional messages and decode course content (i.e., no learning or less learning transpires).

Although IHPT suggests that the successful use of humor in the classroom should make students motivated to process course content and feel positive affect, scholars have yet to determine if students respond with favorable classroom behaviors as a result. The current investigation sought to determine whether perceived instructor humor would motivate students to increase their effort in the classroom and to communicate in prosocial ways. One way to operationalize successful humor (i.e., incongruity resolved/positive affect) is by examining instructor's humor orientation.

Humor Orientation

When it comes to student perceptions of instructors, students believe that their best teachers are the ones who use humor (Forston & Brown, 1998). This may be the case because when instructors enact successful humor, their students enjoy their educational experiences and learn more (Booth-Butterfield & Wanzer, 2010; Chesebro & Wanzer, 2006; Wanzer, 2002). One way to study humor in the classroom is by examining humor orientation (HO), which is an individual trait possessed by people who enact humor frequently and successfully (Booth-Butterfield & Booth-Butterfield, 1991). Specifically, “high humor oriented people are those who report employing diverse humor strategies across a variety of situations, whereas low humor oriented people avoid initiating humor attempts and do not try to interact by making others laugh” (Wanzer, Booth-Butterfield, & Booth-Butterfield, 1995, p. 142). The results of numerous studies suggest that competent instructors enact humor as a pedagogical tool (Bruschke & Gartner, 1991; Check, 1986; Korobkin, 1988; Lei, Cohen, & Russler, 2010). This is because when instructors are humorous, they are perceived as enjoyable, entertaining, caring (Torok, McMorris, & Lin, 2004), enthusiastic (Murray, 1983), charismatic, and intellectually stimulating (Bolkan & Goodboy, 2011). Moreover, research suggests that instructor humor puts students at ease (Neuliep, 1991), while not detracting from perceptions of instructor intelligence (Tamborini & Zillmann, 1981). With this information in mind, it is no surprise that instructors who incorporate humor into their teaching receive higher ratings of instruction (Garner, 2006) and teaching

effectiveness (Adamson, O’Kane, & Shevlin, 2005; Bryant, Comisky, Crane, & Zillman, 1980; Downs, Javidi, & Nussbaum, 1988).

As was mentioned, when instructors are humorous, students also learn more, and IHPT provides an explanation of why this may be the case. Although correlational survey studies have linked perceived learning with instructor humor (Gorham & Christophel, 1990; Wanzer & Frymier, 1999), experimental studies have revealed causal increases in learning as well (see Martin, Preiss, Gayle, & Allen, 2006). Specifically, instructor humor increases student performance on exams, especially on knowledge and comprehension items (Hackathorn, Garczynski, Blankmeyer, Tennial, & Solomon, 2011), recall of information (Garner, 2006), and final examination scores (Ziv, 1988). However, these learning increases occur only if students actually perceive the humor to be funny; instructor humor that is irrelevant to instruction is not associated with learning (Wanzer et al., 2010). Consequently, instructors who incorporate successful humor into their interactions and teaching (i.e., those who are high HO) create an encouraging communication environment, enhance attention to and processing of information, and ultimately facilitate student learning.

Although humor in the classroom has been found to lead to student learning, more general support of the theory may be generated if perceptions of humor have positive effects on learning despite the type of student. In other words, for support of IHPT across different types of students, successful humor should be associated with both positive learning efforts and communication responses in the classroom without regard to students’ individual characteristics, such as their educational orientations. Therefore, in the current study, we examined various outcomes of humor usage in the classroom under the assumptions of IHPT while controlling for students’ educational orientations (i.e., learning orientation, grade orientation).

Educational Orientation (Control Variable)

As Eison (1981) noted, “anyone who has ever taught a college class will recognize that some students seem largely preoccupied with the pursuit of grades while others appear genuinely committed to the process of learning” (p. 919). Students who are grade oriented (GO) are primarily concerned with classroom performance and earning grades as a means to graduate, whereas students who are learner oriented (LO) value their educations as an informative venture that is personally and professionally rewarding (Eison, Pollio, & Milton, 1986). In essence, GO students “base their actions on an instructor’s evaluation procedures, and work for grades,” while LO students “are excited by the opportunity to acquire new knowledge, and they find personal enrichment through academic experiences” (Beck, Rorrer-Woody, & Pierce, 1991, p. 35).

In general, LO students surpass GO students in a variety of academic success measures. For instance, even though GO students are more preoccupied with grades, LO students actually receive higher grades (Page & Alexitch, 2003) and subsequent

grade point averages (Beck et al., 1991). In contrast, GO students perform worse on standardized tests and in-class exams (Beck et al., 1991; Johnson & Beck, 1988; Kauffman, Chupp, Hershberger, Martin, & Eastman, 1987; Milton, Pollio, & Eison, 1986). Moreover, LO students possess better study habits and attitudes, participate more, and rate instructors more favorably than GO students (Eison, 1982). Students' perceived learning outcomes are also affected by their LO/GO. For example, LO is associated positively with affective learning, cognitive learning, state motivation, and learner empowerment (Houser, 2006; Houser & Frymier, 2009). Student communication behaviors are influenced by LO/GO as well. For instance, LO students communicate with instructors in a more open and relationally driven manner (Williams & Frymier, 2007; Wright, 2012).

Collectively, the data suggest that students' educational orientations play a major role in how they perform in school and communicate with instructors (Gorham, 1999). Given these findings, the current study incorporated educational orientation as a known predictor of student learning and communication. Although IHPT focuses on the characteristics of an instructor's humorous message and subsequent student processing, it is important to also consider how students interpret and respond to humor as a result of their characteristics and preferences for learning. Specifically, to provide support of IHPT, this study examined the role that instructors' humor orientation played in fostering learning outcomes and student communication responses after controlling for educational orientation.

Learning and Communication Outcomes

In this study, instructor HO is hypothesized to influence students' motivated efforts and prosocial communication in the classroom for all students, not just GO or LO students. Students' motivated efforts were operationalized by two learning outcomes: cognitive learning and extra effort. Cognitive learning ranges from the simple retention of information to complex synthesis of material (Bloom, Hastings, & Madaus, 1971), whereas extra effort refers to "students' willingness to exert extra effort to meet course objectives" (Walumbwa, Wu, & Ojode, 2004, p. 125). We wanted to measure cognitive learning because we sought to determine if the use of humor would have a tangible impact on students, beyond the arousal of positive affect. Moreover, for comparative purposes, cognitive learning represents a common outcome variable in instructor humor research (Martin et al., 2006) and has been related to a host of instructor behaviors and misbehaviors (e.g., Bolkan & Goodboy, 2009; Goodboy & Bolkan, 2009). Because cognitive learning is influenced by what instructors do in the classroom, including their use of humor (Gorham & Christophel, 1990; Martin et al., 2006; Wanzer & Frymier, 1999), we sought to determine if instructor humor might influence cognitive learning while controlling for students' learning orientations.

H1: Instructor humor will remain a significant and positive predictor of cognitive learning after controlling for students' educational orientations (i.e., learner orientation, grade orientation).

In addition, students' extra effort was selected as a way to test humor's ability to foster motivation in the classroom. In previous studies, student effort has been associated with positive instructor behaviors (e.g., Walumbwa et al., 2004) whereas a lack of effort has been associated with negative instructor behaviors (e.g., Horan, Chory, & Goodboy, 2010). Because Wanzer et al. (2010) postulated that humor should motivate students and because motivated students are known to put in extra effort (e.g., Mottet, Parker-Raley, Cunningham, & Beebe, 2005), we examined whether humor motivated students to expend more effort in their classrooms despite their learning or grade orientations. Thus, we tested the following hypothesis:

H2: Instructor humor will remain a significant and positive predictor of students' extra effort after controlling for students' educational orientations (i.e., learner orientation, grade orientation).

Student communication outcomes were operationalized as participation (for a review, see Rocca, 2010) and out-of-class communication (for a review, see Terenzini, Pascarella, & Blimling, 1999), which are volitional communication choices made by students. Participation refers to comments or questions that students offer or raise in class (Fassinger, 1995a). Out-of-class communication refers to formal or informal interactions between instructors and students during times outside of scheduled class time (Zhang, 2006). Research suggests that when students are motivated by effective communication, they participate in class (e.g., Fassinger, 2000) and interact with their instructors outside of class (e.g., Jaasma & Koper, 1999). Thus, if humor motivates students, it should also influence students' communication. Therefore, we hypothesized:

H3: Instructor humor will remain a significant and positive predictor of student participation after controlling for students' educational orientations (i.e., learner orientation, grade orientation).

H4: Instructor humor will remain a significant and positive predictor of student out-of-class communication after controlling for students' educational orientations (i.e., learner orientation, grade orientation).

Method

Participants

Participants were 292 undergraduate students (149 men, 143 women) selected from a convenience sample whose ages ranged from 18 to 44 years ($M = 20.18$, $SD = 2.63$). Participants were recruited from two universities, a large northeastern and a western university. The participants' class rankings consisted of 73 freshmen, 81 sophomores, 85 juniors, 42 seniors, eight students in their fifth or sixth year of college, and three unreported, with GPAs ranging from 1.22 to 4.00 ($M = 3.07$, $SD = 0.47$).

Procedures and Instrumentation

Participants completed a questionnaire in reference to the instructor and class they attended immediately before the data collection (Plax, Kearney, McCroskey, &

Richmond, 1986) during the last week of a college semester to ensure that students had adequate time to form perceptions of their instructor's behavior. The questionnaire was comprised of six measures¹: the Humor Orientation (HO) Scale (Booth-Butterfield & Booth-Butterfield, 1991), LOGO-II Scale (Eison et al., 1986), Revised Cognitive Learning Indicators Scale (Frymier & Houser, 1999), Extra Effort Measure (Bass, 1985), Class Participation Scale (Fassinger, 1995b), and Out of Class Interaction Scale (Knapp & Martin, 2002).

The *HO Scale* contains 17 items and measures the degree to which an individual uses humor frequently and effectively. Wanzer and Frymier (1999) have adapted this self-report scale, which typically measures humor as an individual difference, to an other-report scale that measures student perceptions of instructor humor use. Participants were instructed to report on their instructor as the referent in this scale, a model that has proven successful in other studies (e.g., Frymier, Wanzer, & Wojtaszczyk, 2008). Responses were solicited using a 5-point Likert format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items included "My teacher can be funny without having to rehearse a joke" and "My teacher tells stories or jokes very well." Previous reliability coefficients for this scale have been 0.92 (e.g., Wanzer et al., 1995). The obtained Cronbach's alpha in this study was 0.94 ($M = 54.15$, $SD = 15.24$).

The 32-item *LOGO-II* asks participants to report on both attitudes and behaviors that reflect learning orientation and grade orientation. Responses were solicited using a 5-point Likert format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample LO items included "I enjoy classes in which the instructor attempts to relate material to concerns beyond the classroom" and "I stay after interesting classes to discuss material with the instructors." Sample GO items included "I dislike courses in which require ungraded out-of-class activities" and "I cut classes when confident that lecture material will not be on the exam." Previous reliability coefficients of 0.75 and 0.68 have been reported for the learning and grade orientation subscales (Wright, 2012). In this study, the obtained Cronbach's alphas were 0.63 ($M = 55.38$, $SD = 7.10$) for the LO subscale and 0.74 ($M = 40.85$, $SD = 8.53$) for the GO subscale.

The *Revised Cognitive Learning Indicators Scale* includes seven items asking participants to report on behaviors or activities associated with cognitive learning. Responses were solicited using a 5-point Likert-type format ranging from 0 (*never*) to 4 (*very often*). Sample items included "I feel that I have learned a lot in the class" and "I explain course content to other students." Previous reliability coefficients have been 0.84 (Goodboy, 2011) and 0.79 (Goodboy & Myers, 2008) for the summed scale. In the current study the Cronbach's alpha was 0.85 ($M = 17.44$, $SD = 5.80$).

The *Class Participation Scale* contains six items asking participants to report on how frequently they participate during class. Consistent with previous research, five items were used in this study (e.g., Goodboy & Bolkan, 2009). Sample items included "I contribute comments or questions in class" and "I volunteer comments when I know the answer." Responses were solicited using a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*very often*). Previous reliability coefficients have been 0.90 (Bolkan & Goodboy, 2009) and 0.92 (Goodboy & Myers, 2008) for the summed scale. In the current study, Cronbach's alpha was 0.94 ($M = 10.48$, $SD = 5.68$).

The *Extra Effort Measure* was adapted from an organizational context that examined leaders' ability to push subordinates to be their best (Bass, 1985). The scale has been used in previous investigations of instructional effectiveness (e.g., Pounder, 2008) as an indicator of students' extra effort by changing the word "manager" to "teacher." This three-item measure asks participants to report how often their teachers motivate them to put forth extra effort in class, using a 5-point Likert-type response format ranging from 1 (*not at all*) to 5 (*frequently, if not always*). Items included "My teacher makes me do more than I expected I could do," "My teacher motivates me to do more than I originally expected I would do," and "My teacher heightens my motivation to succeed." The reliability coefficient has been reported at 0.85 (Pounder, 2008; Walumbwa et al., 2004). In the current study, Cronbach's alpha was 0.82 ($M = 8.39$, $SD = 3.33$).

The *Out of Class Interaction Scale* contains nine items asking participants to report how frequently they communicate with an instructor outside of the classroom. Responses used a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items included "I often talk to my instructor during his/her office hours" and "I frequently talk to my instructor outside of the classroom." Previous reliabilities have been 0.87 (Martin & Myers, 2006) and 0.84 (Goodboy, Martin, & Bolkan, 2009). The obtained Cronbach's alpha in the current study was 0.84 ($M = 22.55$, $SD = 7.44$).

Results

Intercorrelations between variables are presented in Table 1. The hypotheses were examined using four hierarchical multiple regression analyses. To control for variance explained by educational orientations, both LO and GO were entered into the first block and instructor HO was entered into the second block of the analyses. All four hypotheses received support: instructor HO was a significant predictor of students' cognitive learning, extra effort, participation, and out of class communication after controlling for students' educational orientations. Significant predictors, beta weights, and variance accounted for in each model are presented in Table 2.

For the regression predicting *cognitive learning* ($F[3, 278] = 41.82$, $p < 0.001$, $R^2 = 0.31$, $R^2_{adj} = 0.30$), the results revealed that LO was a significant and positive

Table 1 Correlation Matrix

Variables	1	2	3	4	5	6	7
1. Instructor HO	—						
2. Learner Orientation	0.20*	—					
3. Grade Orientation	-0.05	0.03	—				
4. Cognitive Learning	0.45***	0.41***	-0.07	—			
5. Extra Effort	0.51***	0.37***	-0.02	0.59***	—		
6. Participation	0.26***	0.50***	-0.12*	0.49***	0.43***	—	
7. Out of Class Comm.	0.35***	0.38***	-0.16**	0.45***	0.49***	0.55***	—

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 2 Hierarchical Regression Analysis—Dependent Variables by Independent Variables

	Cognitive learning			Extra effort			Participation			Out-of-class comm.		
	B	SE	β									
<i>Block 1</i>												
LO	0.31	0.04	0.40***	0.39	0.06	0.37***	0.52	0.05	0.50***	0.30	0.04	0.39***
GO	-0.07	0.05	-0.08	-0.03	0.06	-0.02	-0.15	0.06	-0.13*	-0.14	0.05	-0.17**
	$R^2 = 0.17$			$R^2 = 0.14$			$R^2 = 0.26$			$R^2 = 0.18$		
	$R^2_{adj} = 0.16$			$R^2_{adj} = 0.13$			$R^2_{adj} = 0.25$			$R^2_{adj} = 0.17$		
<i>Block 2</i>												
LO	0.25	0.04	0.33***	0.29	0.05	0.28***	0.49	0.06	0.46***	0.26	0.04	0.33***
GO	-0.05	0.04	-0.06	0.00	0.06	0.00	-0.14	0.06	-0.12*	-0.13	0.04	-0.16**
HO	0.36	0.05	0.39***	0.56	0.06	0.45***	0.21	0.07	0.17**	-0.13	0.05	0.28***
	$R^2 = 0.31; \Delta R^2 = 0.14$			$R^2 = 0.33; \Delta R^2 = 0.19$			$R^2 = 0.29; \Delta R^2 = 0.03$			$R^2 = 0.25; \Delta R^2 = 0.07$		
	$R^2_{adj} = 0.30$			$R^2_{adj} = 0.32$			$R^2_{adj} = 0.28$			$R^2_{adj} = 0.24$		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

predictor ($\beta = 0.40$, $p < 0.001$) in Block 1. Moreover, LO remained a significant predictor in Block 2 ($\Delta R^2 = 0.14$, $\beta = 0.33$, $p < 0.001$) in addition to instructor HO, which served as a positive predictor ($\beta = 0.39$, $p < 0.001$).

For the regression predicting *extra effort* ($F[3, 278] = 45.54$, $p < 0.001$, $R^2 = 0.33$, $R^2_{adj} = 0.32$), the results revealed that LO was a positive predictor ($\beta = 0.37$, $p < 0.001$) in Block 1. In Block 2 ($\Delta R^2 = 0.19$), LO ($\beta = 0.28$, $p < 0.001$) remained a significant predictor and instructor HO served as a positive predictor ($\beta = 0.45$, $p < 0.001$).

For the regression predicting *participation* ($F[3, 248] = 37.20$, $p < 0.001$, $R^2 = 0.29$, $R^2_{adj} = 0.28$), the results revealed that LO was a significant and positive predictor ($\beta = 0.50$, $p < 0.001$) in Block 1 and that GO was a negative predictor ($\beta = -0.13$, $p < 0.05$). In Block 2 ($\Delta R^2 = 0.03$), LO ($\beta = 0.28$, $p < 0.001$) and GO ($\beta = -0.12$, $p < 0.05$) remained significant predictors, and instructor HO served as a positive predictor ($\beta = 0.17$, $p < 0.01$).

For the regression predicting *out-of-class communication* ($F[3, 277] = 30.76$, $p < 0.001$, $R^2 = 0.25$, $R^2_{adj} = 0.24$), the results revealed that LO was a significant and positive predictor ($\beta = 0.39$, $p < 0.001$) and GO was a negative predictor ($\beta = -0.17$, $p < 0.01$) in Block 1. In Block 2 ($\Delta R^2 = 0.07$), LO ($\beta = 0.33$, $p < 0.001$) and GO ($\beta = 0.16$, $p < 0.01$) remained significant predictors and instructor HO served as a positive predictor ($\beta = 0.28$, $p < 0.001$).

Discussion

Following admonitions from our field to conduct more theory-based research, this study implemented assumptions from IHPT (Wanzer et al., 2010) to investigate

how instructor humor related to indicators of student learning and communication outcomes. Students' LO and GO were incorporated to extend this line of research and afford a more complete picture of the instructor-student interaction. The results of this study provide evidence that the enactment of successful instructor humor is associated with learning and communication outcomes for both LO/GO students. However, as should be clear from our results, LO/GO play a role in these outcomes independently.

Summary of Findings

First, we found that LO positively predicted cognitive learning in our sample whereas having a GO did not. This finding is expected given that cognitive learning is operationalized via indicators which include behaviors such as talking about course content, explaining course content to other students, and comparing course material to other information learned. It seems that students who desire to learn are motivated to participate in these types of interactions and engage with classroom material (Houser, 2006; Houser & Frymier, 2009). Interestingly, instructors' HO also played a role in cognitive learning for our participants, above and beyond students' educational orientations. Consistent with IHPT, students reported higher levels of cognitive learning when engaged by humorous instructors who enhance motivation and arousal with their communication and material. This result makes sense considering that humorous instruction may be more memorable, interesting, and involving, and therefore students—regardless of their LO or GO—may be more likely to elaborate on this material on their own.

Next, our results indicated that LO predicted extra effort for our participants whereas GO did not. These results did not change when coupled with HO; however, HO did add predictive power to the model. These results suggest that although GO students do not necessarily put forth extreme effort in the classroom on a normal basis, humorous teachers may improve these students' choices regarding work ethic in class. Such an improvement might be because humorous instructors are also perceived as charismatic (Bolkan & Goodboy, 2011), and research has consistently demonstrated that charismatic instructors are able to elicit extra effort from their students (e.g., Bolkan & Goodboy, 2009). Additionally, students who are taught by humorous teachers have positive emotional experiences such as pleasure and enjoyment (Booth-Butterfield & Wanzer, 2010; Chesebro & Wanzer, 2006; Wanzer, 2002). If this is the case, students may be more likely to approach their instructors (Mottet et al., 2006), which would provide opportunities for positive instructional influence.

We also found that students in our sample who were LO tended to participate more in class compared to students who were more GO. On the face of it, this result may seem unsurprising insofar as students who participate more often are likely to learn more (Bolkan & Goodboy, 2009). However, because GO students do not find studying interesting or pleasant, they may not know the material as well as their classmates and are therefore less confident in their responses, hence

non-participation. GO students are also more likely to feel irritated when communication in class is about material not likely to be on exams. Such students may perceive their participation to be superfluous and may not contribute because they perceive talk to be a wasted resource in the hunt for higher grades (unless, of course, participation is a requirement for their grades). Nevertheless, our results indicate that humorous teachers can influence even GO students to participate in class despite their tendency to withhold involvement. Humorous instructors appear to be able to generate interest in the course material and themselves. If classroom discussions are pleasant and arousing, students may be more motivated to share their experiences, not because they will lead to better grades but simply because doing so is enjoyable.

Finally, and perhaps unsurprisingly, both educational orientations predicted our participants' likelihood to seek communication with their instructors outside of class, in opposite directions. This pattern makes sense insofar as LO students are individuals who enjoy applying course concepts beyond the classroom and who stay after class to talk to instructors about the course material, while GO students are not. Still, though GO students may be less likely to seek communication with their instructors, our results demonstrate that humorous instructors influence all students to engage in this behavior, beyond the effects of learning or grade orientation. The effect is congruent with results from Aylor and Oppliger (2003), who found that instructor HO predicted formal and informal out-of-class communication. In our study, this effect held true for both LO and GO students.

Implications

As they pertain to the collective results, two major sets of findings are apparent from the regression analyses. First, students in our sample reported they learned more, exerted extra effort, participated more, and talked with their instructors outside of class more when they were LO, but they participated less and talked less with their instructors outside of class less when they were GO. These findings are in line with previous research that found LO students engage in "on-target" behavior such as taking notes, paying attention, and asking questions, whereas GO students engage in more "off-target" behaviors such as reading a newspaper or talking to classmates (Milton et al., 1986, p. 159). Coinciding with Milton et al.'s findings, this study provided additional data that suggest LO students communicate in efforts to remain "on-target" and embrace the learning process. Thus, as it pertains to these results, this study provides additional evidence that LO students are better suited to succeed in college classes, a fact supported the GPA data².

The second major set of findings revealed that after controlling for students' LO/GO, instructors' HO was related positively to all four student learning and communication outcomes (i.e., cognitive learning, extra effort, participation, out-of-class communication). Specifically, when instructors were perceived to employ humor in the classroom, both LO and GO students participated more, worked harder, and reported increased out of class communication with the instructor, although the effect was stronger for those who appreciated learning. Moreover, consistent with

predictions from IHPT, both LO and GO students reported higher levels of cognitive learning when engaged by a humorous instructor.

According to IHPT, these results make sense because instructors who use humor ultimately enhance students' motivation and ability to process the course material (Wanzer et al., 2010). As it relates to previous work then, the results of the current study extend IHPT research insofar as cognitive learning is not the only outcome that is enhanced by successful instructor humor use. Instead, students are also motivated to exert extra effort in their coursework and communicate in ways that are linked to learning by participating and communicating with their instructor outside of class. According to IHPT, if students are more motivated and able to learn because they possess positive affect resulting from appropriate instructor humor, they may also communicate as engaged and interested students who enjoy the learning process.

Ultimately, based on the results, it appears that student characteristics may play more of a moderating role in student processing of instructor humor and that the enactment of successful instructor humor is more important for students' learning than the actual characteristics. IHPT predicts and explains how students process instructor humor, and the theory could be extended to include student characteristics that enhance or diminish student affect, processing, ability, and motivation. Indeed, there are many student educational and information processing variables (e.g., need for cognition, cognitive complexity) beyond LO/GO that should influence how students interpret instructor behavior. This idea remains consistent with the propositions of IHPT, in that both message characteristics and student characteristics may matter for humor to enhance learning outcomes.

Limitations

The current study is not without its limitations. First, although the direction of causality seems clear (e.g., student effort does not cause instructors to be humorous; rather, the opposite occurs), the cross-sectional survey design limits claims that can be made. Second, instructor HO was measured as a general perception wherein instructors enact humor successfully and frequently during the semester. Specific categories of humorous messages were not measured such as impersonations, personal anecdotes, or jokes (e.g., Gorham & Christophel, 1990) nor was negative humor. However, Booth-Butterfield and Wanzer (2010) noted that "higher humor-oriented individuals use more diverse categories than lower humor-oriented individuals; that is, they are less likely to rely on one form of humor enactment" (p. 226). Therefore, students who reported on instructors probably reacted to a variety of humorous tactics. Third, the alpha reliability of the LO subscale was not high, which is consistent with previous reports of its internal consistency in the 0.60 to 0.70 range (e.g., Williams & Frymier, 2007; Wright, 2012). Future research may consider refining the LOGO-II to increase reliability in subsequent use. Fourth, the regression models did not account for a large amount of variance; it is likely that many other student characteristics (e.g., students' intrinsic motivation) and other effective instructor behavior (e.g., clarity) interact to urge students to exert extra effort and

communicate with their instructors. Finally, this study examined students' perceptions of the learning environment and humor, and it would be useful to gauge instructors' perceptions as well. It is likely that low HO teachers believe they are doing an adequate job instructionally, despite not incorporating laughter. Further, there is no concrete evidence that humor can be effectively trained. Although communication training has achieved improvements in other areas (i.e., conflict management and public presentation), the challenge of upgrading teachers' humor use has yet to be directly addressed.

To the extent that they are able, instructors should incorporate appropriate humor in their classrooms because the preponderance of outcomes reflect greater student learning in theoretically coherent and predictable patterns. This is not to say that teachers should saturate their classes with funny stories or video clips (Wanzer, 2002). But varied forms of humorous material and enhancements can improve classroom interactions and outcomes. Although instructors may employ a variety of humorous strategies (Booth-Butterfield & Wanzer, 2010), most instructors use funny stories, funny comments, jokes, and professional humor (Torok et al., 2004). Instructors may want to incorporate these methods of humor in appropriate ways (Frymier, Wanzer, & Wojtaszczyk, 2008; Wanzer, Frymier, Wojtaszczyk, & Smith, 2006). This is particularly true considering the current study suggests that both LO and GO students not only learn more but are motivated to contribute extra effort into their coursework and remain active learners by interacting with their instructors.

Future Research

An important facet of this research was employing theory as a foundation to predict and explain outcomes. Though HO enhanced positive student behaviors overall in this study, a more complete realization of IHPT may be accomplished by incorporating additional discrete characteristics in the interactive process. Moreover, to echo Wanzer et al.'s (2010) suggestion, research should examine the extent to which humor fosters student learning that endures well after the semester is over. It is possible that students of humorous instructors recall course content in the long term when longitudinal assessments are employed.

Conclusion

As we noted at the outset of this study, IHPT posits that successful instructor humor motivates students to learn. Although most instructors prefer their students to be LO instead of GO (Pollio & Beck, 2000), the fact remains that many college students care about little about learning and are more concerned about the grades they receive. IHPT predicts that students become more motivated to process course content because positive affect is created when their instructors use successful humor, and fortunately, this study suggests that such humor motivates all students (even the GO ones) to be more actively involved in the learning process, which ultimately reinforces the predictions of IHPT found here.

Notes

- [1] To ensure the dimensionality of these measures in our survey, we conducted a confirmatory factor analysis using a model with each of the variables predicted by their indicators. Results suggested that the model fit the data reasonably: $\chi^2 = 5848.60$, d.f. = 2534, $p < 0.01$, SRMR = 0.08, CFI = 0.93, RMSEA = 0.07.
- [2] Although GPA can be considered an academic performance outcome of students' LO/GO, we opted to omit GPA from the regression analyses as we were only interested in variables related to the specific class reported on during data collection. GPA is an imperfect, cumulative measure of success across many classes. However, to provide more complete detail, students' self-reported GPA was related negatively with GO ($r = -0.19$, $p < 0.01$) but was not significantly related to LO ($r = 0.10$, $p = 0.12$).

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