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# Mechanisms of Mindfulness in Communication Training

Daniel C. Huston, Eric L. Garland & Norman A.S. Farb

*Mindfulness, an ancient spiritual practice, is becoming an increasingly popular component of communication courses, training individuals to reserve judgment in their dealings with others. However, the effects of mindfulness in communication courses are not well researched. We compared students taking an introductory communication course that included a mindfulness component (N = 20) against a control group of students taking an equivalent course without mindfulness content (N = 24). Both groups improved in their positive reappraisal tendencies following communication training; however, the groups appeared to differ in how they positively reappraised situations. Only the mindfulness group demonstrated improved mindfulness scores following training, accounting for that group's increases in positive reappraisal, and providing evidence for mindfulness training as one mechanism for reducing negative reactivity in communication.*

*Keywords: Mindfulness; Positive Reappraisal; Blame; Mindful Coping Model; Spirituality*

Mindfulness meditation is an ancient spiritual practice introduced over 2,500 years ago as a means of calming the mind and gaining insight into the impermanent and interdependent nature of the self. Over the last few decades, scholars and clinicians in the West have begun to explore secular applications of mindfulness, and have noted the practical benefits of observing thoughts, impulses, and emotions. This ability, nurtured through the practice of mindfulness meditation, appears to help people lead happier, more productive, and fulfilling lives through the process of coming to know

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themselves and realizing they are more than the self-talk they experience, more than the habitual patterns of behavior they have formed over the years. They come to realize they can “let go” of that “chatter” and those “habits” and open to a richer, more complete experience of themselves and the world around them. As a result, they transcend the narrow perspective that had been defining how they perceived themselves and others; they connect to other human beings and more fully experience the world in which they live. This transformation, which some might describe as a spiritual experience, is thought to influence how people communicate: improving accurate expression, increasing understanding, and reducing conflict.

King and Sawyer (1998) advocated the inclusion of mindfulness instruction in the teaching of communication. Since then, interest in mindfulness in education has increased with the development of organizations such as the Association for Contemplative Mind in Higher Education; the Mindfulness in Education Network; and the Collaborative for Academic, Social, and Emotional Learning. However, to date few quantitative studies have examined the impact of mindfulness content in communication training.

Mindfulness in the field of communication has mainly been considered in terms of how consciously people plan their approach to a communication exchange or the extent to which they identify and respond to relevant or irrelevant information in a given situation (Burgoon, Berger, & Waldron, 2000; Folkes, 1985; Langer, Blank, & Chanowitz, 1978). Stroud (2010) describes these early studies as equating mindful communication with “effortful, cognitive processing,” which differs substantially from the operationalization of the construct of mindfulness within the fields of psychology and medicine. Scholars in these fields highlight elements of mindfulness that have been passed down from eastern traditions such as Buddhist meditation practices, emphasizing for instance, the cultivation of an open awareness to present-moment experience without interpretation or attachment to a particular outcome (Kabat-Zinn, 1982). The view of mindfulness that has emerged in these fields recognizes mindfulness as a means of expanding one’s experience of each moment by nurturing qualities such as acceptance and patience (Shapiro & Schwartz, 2000) that allow for observation “of what is occurring both internally and externally” (Brown & Ryan, 2003) and therefore results in increased emotional awareness and increased self-regulation abilities (Brown & Ryan, 2003; Shapiro & Schwartz, 2000; Shapiro, Carlson, & Astin, 2006). Communication scholars are beginning to use the term mindfulness to refer to this kind of expanded awareness and its function in adaptive communication (e.g., Adelman, 2010; Chinn Swartz, 2008; Stroud, 2010; Ucock, 2007). In the present study, we directly tested the hypothesis that this open, non-evaluative form of mindfulness may promote cognitive strategies associated with adaptive communication.

While “adaptive communication” may be a broad construct, communication efficacy can be measured by the types of cognitive strategies employed by individuals in their communication efforts. One adaptive strategy is positive reappraisal, which is the cognitive process through which stressful events are re-construed as benign, beneficial, and/or meaningful. This strategy (alternately conceptualized as *benefit-finding*) is

associated with decreased distress and enhanced mental health (Helgeson, Reynolds, & Tomich, 2006), and also appears to modulate physiological parameters associated with stress (Bower, Low, Moskowitz, Sepah, & Epel, 2008; Tugade & Fredrickson, 2004). Positive reappraisal is an active, emotion-focused coping strategy (Folkman, 1997) that is often the first step towards a productive reengagement with a stressful situation. For example, in a conflictual interaction, one may first appraise a given communication as a personal attack stemming from disrespect, and then positively reappraise that communication as a brusque expression of concern and care. In reappraising the communication this way, the dyad may be more willing to engage in constructive dialogue around how best to give and receive feedback. Positive reappraisal has been associated with increased communication satisfaction (Corbeil, Quayhagen, & Quayhagen, 1999), and employing a positive reappraisal strategy to cope with an interpersonal offense decreased negative emotion and physiological arousal while exerting salutary effects on heart rate variability and increasing positively-toned communication (Witvliet, Knoll, Hinman, & DeYoung, 2010).

A second candidate measure of communication efficacy is a person's ability to refrain from blaming others for communication difficulty, a form of negative external attribution that has negative impacts on communication (Burr, 1990; Cleaver, 1987; Ford & Ford, 1995). Furthermore, blaming others is a maladaptive strategy that has deleterious effects on mood: compared to participants high in positive reappraisal, participants who frequently blamed others for communication problems demonstrated greater dysphoric symptoms (Schroevers, Kraaij, & Garnefski, 2007). It is theorized that blame often gives rise to anger and interferes with awareness of personal needs during moments of conflict, resulting in communication that is unlikely to help one meet his or her needs (Rosenberg, 2003). Consequently, developing an increased awareness of difficult emotions during interpersonal conflict is key to productive communication. As Goldstein (1993) asserts, the increased awareness afforded by mindfulness makes it possible not only to "initiate effective communication," but to do so "without getting caught in reactive judgments" (p. 152). This emphasis is consistent with a form of communication training called Insight Dialogue (Kramer, 2007) that integrates Buddhist mindfulness practices into interpersonal communication. Key to this training is the notion that human beings are plagued by distorted, automatic thoughts that filter the way we interpret information, often leading to blame, misunderstanding, and suffering.

The present study investigated whether mindfulness strategies acquired through a communication class could account for training-related changes in positive reappraisal and blaming others. According to the mindful coping model (Garland, Gaylord, & Park, 2009; Garland et al., 2010), positive reappraisal can occur when one disengages from automatic negative appraisal (e.g., blaming another for a conflictual interaction) into the state of mindfulness, a state of broadened, metacognitive awareness wherein evaluations of the interaction are suspended. On the other hand, negative emotions induced by relational conflict often linger during a "refractory period" (Ekman, 2003), a period of time during which one is biased towards mood-congruent information and making emotion-consistent appraisals. Mindfulness may

suspend blame-laden appraisals of challenging situations, allowing individuals the cognitive flexibility to more easily attend to the benign or benevolent features of the relationship and the ability to reappraise the interaction as meaningful or even beneficial. Repeated engagement of the state of mindfulness may result in the establishment of mindful dispositionality, which, in turn, could lead to a heightened propensity toward making positive reappraisals of interpersonal communication. Indeed, a recent study found that the stress-reductive effects of increases in dispositional mindfulness were mediated by growth in positive reappraisal over an eight week course of mindfulness training (Garland, Gaylord, & Fredrickson, 2011). Further evidence for the model may be drawn from social psychological research to broaden and build theory (Fredrickson, 2004), which has identified reciprocal relationships between broadened cognition and positive emotions (Burns et al., 2008; Fredrickson & Joiner, 2002). Insofar as mindfulness practice augments positive reappraisal, it may prevent communication difficulties that arise as a result of unconscious, maladaptive patterns of behavior.

Identifying habitual patterns of thought and reactivity is particularly challenging given the extent to which individuals appear to be influenced by stimuli unconsciously and react to them habitually (Motley, 1986a, b, 1990). At least one study suggests that mindfulness reduces the automatic allocation of attention, reducing automatic response tendencies (Wenk-Sormaz, 2005). The curriculum being examined in this study is designed to help students recognize and modify unproductive, habitual patterns of behavior through the study of mindfulness and communication theory. (For a detailed description of this curriculum see Huston, 2010a, b.) Students learn to “wake up” to the present moment and, as a result, notice how communication concepts such as self-talk and nonverbal behavior act as internal and external influences on their thoughts and emotional reactions. With this awareness, they can then make informed decisions about how to appraise and respond to challenging situations. Through mindfulness students learn to “reenter” difficult situations “from a gathered, deliberate, more spacious and less self-centered perspective” (Williams, Teasdale, Segal, & Kabat-Zinn, 2007, p. 197) that may help them to choose ways of communicating and interacting which allow growth and learning to materialize (Bstan-dzin-rgya-mtsho & Cutler, 1998).

Hence, both Eastern traditions and contemporary secular applications of mindfulness emphasize the role nonjudgment plays in opening one’s awareness and letting go of the initial tendency to blame others that often arises during difficult interactions. Recognizing emotional reactions and positively reappraising the conflict appear to be central to choosing a productive, satisfying response. Mindfulness training may foster awareness of the emotional impulse to react and blame others, promote a positive reappraisal of the situation, and ultimately result in more effective communication.

The aim of the present study is to examine the effects of teaching mindfulness on positive reappraisal among students in an introductory communication course. We hypothesize that, compared to a standard communication curriculum, mindful communication training would result in increased dispositional mindfulness, which

would account for increased use of positive reappraisal and decreased use of blaming strategies in daily communication.

## Method

### *Participants and Study Design*

Students enrolled in five sections of a college communication course offered in the spring semester of 2010 were invited to participate in the study at NHTI, a comprehensive community college in Concord New Hampshire. The study obtained prior review and approval by the Institutional Leadership Team, the IRB for the college, in accordance with the Human Subject Research Protocols established by the college and the Community College System of New Hampshire. Class sections selected to be a part of the study were taught by different instructors. The comparison group for this study was comprised of students from two class sections who received a traditional communication curriculum without mindfulness elements, while the experimental group consisted of students enrolled in three class sections that incorporated mindfulness concepts and practices. From these classes we obtained complete participation from 24 students in the comparison group and 20 students in the mindfulness group. The mindfulness and comparison groups did not differ with respect to age ( $18.8 \pm 1.0$  years vs.  $19.6 \pm 2.2$  years respectively), gender (12 female vs. 10 female), ethnicity, or years of post-secondary education ( $1.4 \pm 0.9$  years vs.  $1.2 \pm 1.1$  years).

The data consisted of three brief paper assessments which were administered during the first half hour of the first day of class and the last scheduled class session of the semester. In an effort to reduce the potential problem of demand characteristics, i.e., students attempting to predict what was being measured and deliberately skew the results, these instruments were administered by personnel of the Office of Institutional Research and Grants, Academic Affairs, distancing the study from the professors and consequently the course material itself. Students were sent a letter from the associate vice president of academic affairs in advance of the start of the semester, inviting them to participate in the study without mentioning what was specifically being measured, other than that the results of the study may be used to improve teaching methodology in college communication classes. Students were assured that their participation was voluntary and confidential, and the human subject research protocols of the college were followed. Participants were advised that their participation would have no impact on their grading performance for the course. Furthermore, students took the pre-test before having met their professors in order to limit their influence. During the management of the post-test, participating professors were careful to treat it as they would any other study being done at the college. It is not uncommon, for instance, for students to complete studies in a class that have nothing to do with the course itself, e.g., studies that measure recreational drug use, use of library resources, or other general-information. The assessment instruments administered at the beginning of the semester included a general

information form which assessed prior meditation experiences and other relevant demographic information, the Five Factor Mindfulness Questionnaire, and relevant items selected from the Cognitive Emotion Regulation Questionnaire. At the conclusion of the semester, the latter two instruments were administered.

### *Communication Curricula*

Course work in both the mindfulness and comparison groups consisted mainly of writing assignments, speeches, and small group work. The number of assignments was nearly identical in both groups.

The mindfulness curriculum includes seven units focused on introducing students to particular communication concepts, guiding them through mindfulness meditation exercises, and assigning Application Journals that ask students to reflect on communication concepts in their lives. The order in which the mindfulness exercises and communication concepts are introduced is designed to scaffold students' understanding and application of key ideas.

Students in the mindfulness group were led through these units each week for seven weeks during the 15-week term and were encouraged to think of the related communication concepts as internal and external influences on their behavior (e.g., "self-talk" is an internal influence; the amount of eye contact someone is or isn't giving is an external influence). Students were encouraged to participate in the in-class guided meditations, and the teachers of these classes recommended that students practice these same meditations, which were available online, as much as possible, ideally daily. No effort was made to determine how often students meditated on their own.

Students in the mindfulness classes were also encouraged to apply the abilities mentioned above to their public speaking and group work, e.g., thinking about symptoms of nervousness (such as blushing cheeks or sweaty palms) as an indication that they may be reacting emotionally to the situation at hand in a way that is not necessarily accurate or productive. Students could then use the recognition of such physiological symptoms as an opportunity to reappraise the situation before they reacted in a manner that might lead to poor communication or performance in the class activity.

### *Measures*

*Mindfulness.* The *Five Facet Mindfulness Questionnaire* (FFMQ; in this sample, total  $\alpha = .81$ ), comprised of 39 Likert-type items rated on a five-point scale (1 = never or very rarely true, 5 = very often or always true), was used to measure trait mindfulness. The FFMQ yields a total score (computed by summing responses across all 39 items) and scores for five internally consistent mindfulness factors each with their own convergent and predictive validity: nonreactivity to inner experience (tapped by items such as "I watch my feelings without getting lost in them"; 7 items, subscale  $\alpha = .76$ ), observing and attending to experience ("I pay attention to sensations, such as the wind

in my hair or the sun on my face”; 8 items, subscale  $\alpha = .83$ ), describing and discriminating emotional experiences (“I’m good at finding words to describe my feelings”; 7 items, subscale  $\alpha = .87$ ), nonjudging of experience (reverse coded item: “I tell myself I shouldn’t be feeling the way that I am feeling”; 8 items, subscale  $\alpha = .83$ ), and acting with awareness (reverse coded item: “I find myself doing things without paying attention”; 7 items, subscale  $\alpha = .91$ ) (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006).

*Cognitive coping strategies.* The *positive reappraisal*, *refocus on planning*, *catastrophizing*, and *blame others* subscales of the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski, Kraaij, & Spinhoven, 2001) were administered to evaluate cognitive coping. The full CERQ consists of 36 Likert-type items that assess how often certain cognitive strategies are employed to cope with stressful life events. The *positive reappraisal* subscale (4 items, subscale  $\alpha = .80$ ) includes items such as “I think I can learn something from the situation,” and “I think I can become a stronger person as a result of what happened.” The *refocus on planning* subscale (4 items, subscale  $\alpha = .73$ ) is comprised of items such as, “I think about a plan of what I can do best” and “I think about how to change the situation.” Items assessing *catastrophizing* (4 items, subscale  $\alpha = .77$ ) include “I keep thinking how terrible it is what I have experienced” and “I often think what I have experienced is the worst that can happen to a person.” The *blame others* subscale (4 items, subscale  $\alpha = .73$ ) includes items like “I feel that others are responsible for what has happened” and “I feel that basically the cause lies with others.” The CERQ has been shown to have good internal consistency and convergent validity with subscales of the SCL-90 (Garnefski & Kraaij, 2007; Garnefski et al., 2001).

### *Analytic Strategy*

Descriptive statistics, paired t-tests, and repeated measures analyses of variance (ANOVA) were used to assess between- and within-groups differences. Pearson correlations were utilized to examine associations between pre-post changes in dispositional mindfulness, positive reappraisal, refocus on planning, catastrophizing, and blaming others.

Path analysis via structural equation modeling software (AMOS 17.0) was used to test a hypothetical model in which participation in mindful communication training could lead to change in dispositional mindfulness which in turn could exert direct effects on change in blaming others or indirect effects through increases in positive reappraisal coping. The overall model fit was assessed by examining the chi-square statistic and the Comparative Fit Index (CFI; Bentler, 1990), as well as the Root Mean Squared Error of Approximation (RMSEA) Index (Hu & Bentler, 1998). According to statistical convention (Bentler, 1990; Hu & Bentler, 1998), the CFI has typical values between 0 and 1, with a value close to 1 indicating a good model fit, and RMSEA scores closer to 0 indicate a better model fit. Maximum likelihood estimation (MLE) was used to handle missing data in structural equation models.

## Results

### Main Effect of Training

An initial analysis of within-group training effects for each of the subscales was performed (see Table 1). Both groups reported significant increases in positive reappraisal. In contrast, while the comparison group demonstrated a significant increase in refocusing, the mindfulness group evidenced significant increases in total mindfulness and the observing subscale of the FFMQ.

To look for differential effects of training group on training effects, all subscales and the FFMQ total scores were subjected to 2 (group)  $\times$  2 (pre- and post-training) repeated-measures ANOVA. Main effects of training were found for the refocusing ( $F_{(1,42)} = 8.94, p = .005$ ) and positive reappraisal ( $F_{(1,42)} = 23.50, p < .001$ ) subscales of the CERQ, as well as for the observe subscale of the FFMQ ( $F_{(1,43)} = 8.287, p < .01$ ). However, only the mindfulness group demonstrated significant increases in total FFMQ scores, as evidenced by a significant group by training interaction ( $F_{(1,42)} = 6.885, p < .01$ ). The mindfulness group also reported a marginally significant increase in acting with awareness compared to the control group's marginal decrease ( $F_{(1,42)} = 3.92, p = .054$ ).

### Individual Difference Analysis

To examine whether changes on the CERQ and FFMQ subscales were related, we performed an individual difference analysis on the change scores (post – pre training) for each of the subscales and total FFMQ with Pearson correlations. Correlations in FFMQ and the CERQ change scores are presented for each of the two groups in Table 2.

**Table 1** Changes in mindfulness and communication-related variables pre- and post-participation in a mindful communication curricula and standard communication course (comparison group)

	Comparison group ( $N = 24$ )		Mindfulness group ( $N = 20$ )	
	Pre	Post	Pre	Post
Refocus	13.8 (0.5)	15.3 (0.6)*	13.7 (0.6)	15.1 (0.6)
Reappraise	13.9 (0.5)	15.9 (0.5)*	14.1 (0.7)	16.2 (0.6)*
Catastrophize	7.0 (0.5)	7.7 (0.6)	7.2 (0.5)	6.9 (0.5)
Blame	6.5 (0.4)	6.8 (0.4)	6.8 (0.4)	6.9 (0.4)
FFMQ total	127.3 (2.8)	127.3 (2.9)	126.9 (3.9)	134.0 (3.5)*
Nonreacting	22 (0.6)	21.5 (0.8)	20.9 (0.8)	22.2 (1.0)
Describing	25.7 (1.2)	27 (1.2)	28.9 (1.2)	29.9 (0.9)
Observing	23.1 (1.1)	24.2 (1.0)	25.0 (1.3)	28.5 (1.1)*
Nonjudging	25.6 (1.0)	24.8 (0.9)	23.1 (1.1)	23.7 (1.2)
Act with awareness	27 (1.1)	25.9 (1.1)	25.5 (1.6)	26.2 (1.3)

Note: For each scale, means are presented with standard errors in parentheses.

\* $p < .05$ .

**Table 2** Individual difference analysis of associations between changes in mindfulness facets and communication-related variables observed among students participating in a mindful communication curricula and standard communication course (comparison group)

	$\Delta$ Refocus	$\Delta$ Reappraise	$\Delta$ Catastrophize	$\Delta$ Blame-Others
Comparison group ( $N = 24$ )				
$\Delta$ FFMQ total	-.01	.01	-.03	.00
$\Delta$ Nonreacting	.09	.26	-.19	-.20
$\Delta$ Describing	-.05	.00	-.17	-.02
$\Delta$ Observing	.03	.52*	-.33	-.46*
$\Delta$ Nonjudging	-.14	-.53*	.32	.56*
$\Delta$ Act w/Awareness	.06	-.10	.28	.03
Mindfulness group ( $N = 20$ )				
$\Delta$ FFMQ total	.52*	.50*	.33	.34
$\Delta$ Nonreacting	.54*	.52*	-.22	.04
$\Delta$ Describing	.61*	.51*	.16	.16
$\Delta$ Observing	.21	.29	.20	.02
$\Delta$ Nonjudging	-.14	.06	.27	.14
$\Delta$ Act with Awareness	.13	-.04	.48*	.54*

\* $p < .05$ .

*Correlations observed among comparison-group participants.* In the comparison group, the FFMQ observing subscale (e.g., “I pay attention to how my emotions affect my thoughts and behavior”) was positively associated with CERQ reappraisal and negatively associated with blaming others, suggesting that the tendency to observe present-moment experience is associated with cognitive strategies characteristic of adaptive communication. Also in the control group, nonjudging (a reverse scored subscale, e.g., “I tend to evaluate whether my perceptions are right or wrong”) was negatively correlated with reappraisal but positively associated with blaming others. This pattern suggests that comparison-group participants who decreased their evaluative tendencies may have simply defaulted to blaming others for events rather than attempting to reappraise their interpretation of these events. In other words, rather than be self-critical of their own maladaptive communication tendencies, participants in the comparison group who became less judgmental of their own thoughts and feelings may have simply allowed themselves to negatively appraise interactions and place blame on others.

*Correlations observed among mindfulness-group participants.* The mindfulness group, who showed a specific increase in FFMQ total scores, demonstrated a strong correlation between such FFMQ increases and CERQ refocus and reappraisal. Among mindfulness-group participants, the strongest associations observed between FFMQ and CERQ subscales were non-reacting (e.g., “I perceive my feelings and emotions without having to react to them”) and describing (e.g., “I’m good at finding the words to describe my feelings”) rather than the observing subscale found in controls, suggesting that one mechanism for the mindfulness training effect may lie in refraining from reacting and articulating one’s feelings instead rather than just

observing emotional reactions. Unexpectedly, increases in acting with awareness (a reverse-scored subscale, e.g., “I rush through activities without being really attentive to them”) was associated with higher catastrophizing and blaming others in the mindfulness group, suggesting that as participants became more mindful, they became increasingly aware of their faults and weaknesses, including catastrophizing and blaming others.

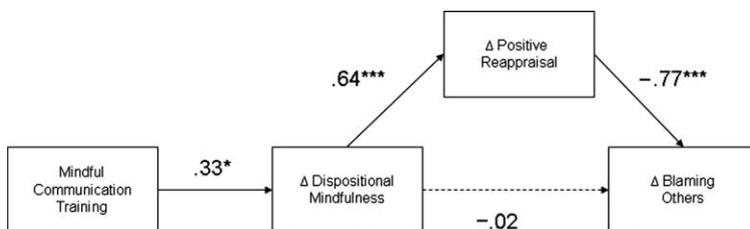
A Fisher’s *Z* transformation was used to determine between-groups differences in the association between reappraisal and nonjudgment,  $r = .59$ ,  $p < .05$ . This finding suggests that the pattern of high nonjudgment predicting low reappraisal found in controls was not apparent in the mindfulness group.

### Path Analysis Results

Next, we conducted a multivariate path analysis of the role of cognitive strategies in mindful communication, where participation in the mindful communication course predicted change in dispositional mindfulness which in turn could exert both direct and indirect effects on change in blaming others through change in positive reappraisal coping. This model exhibited good fit:  $\chi^2/df = 1.34$ ,  $p = .26$ ; RMSEA = .05 (.00, .20), CFI = .99, AIC = 26.68. Results indicated that, relative to the comparison group, mindful communication participants experienced significantly larger increases in dispositional mindfulness over the course, and such increases in dispositional mindfulness were associated with increases in positive reappraisal, which were, in turn, associated with decreases in blaming others (see Figure 1). Overall, the model explained 41% of the variance in changes in positive reappraisal and 57% of the variance in changes in blaming others.

### Discussion

We examined whether the promotion of mindfulness as a foundational component of communication curriculum would improve cognitive strategies associated with adaptive communication. We compared two groups of students participating in communication skills courses: a mindfulness group, who received instruction in mindfulness techniques as explicit means of changing communication strategies, and



**Figure 1.** Path analysis of training-related changes in cognitive strategies implicated in mindful communication. \* $p < .05$ ; \*\*\* $p < .001$ .

a comparison group, who received conventional communication skills training. Results indicate that incorporating mindfulness into communication instruction significantly increases students' dispositional mindfulness. Furthermore, training-related increases in dispositional mindfulness are associated with improved use of positive reappraisal that precludes concurrent increases in blaming others.

To the best of our knowledge, the finding of a significant correlation between dispositional mindfulness and positive reappraisal is one of the first to be presented in the literature (cf. Garland et al., 2011). Given that the wording of the FFMQ items does not imply making positive construals of stressful situations, nor does it implicate positive affective processes in general, this finding may help to dispel misconceptions about mindfulness as a blank or neutral state of "nondoing" and relaxation. While mindfulness does appear to nurture what is often referred to as "beginner's mind," by virtue of the reciprocal links between broadened cognition and positive emotion as outlined in the broaden and build theory (Fredrickson, 2004), the state of mindfulness appears to exert a positively-valenced effect on how we interpret and respond to events in our lives (Garland et al., 2009). Furthermore, the positive appraisal experienced by students in the mindfulness group appears to differ significantly from that of the controls. The mindfulness group's ability for increased positive reappraisal was associated with the nonreacting and describing subscales of the FFMQ, suggesting that mindfulness training nurtures positive reappraisal based on increased awareness of emotional impulses which reduces the tendency toward reactivity and an increased ability to describe one's emotions. Such associations were not found in the comparison group, suggesting that mindful communication training may be unique in its integration of nonreactivity and emotional awareness skills into reappraisal strategies.

While both groups demonstrated enhanced reappraisal tendencies consequent to communication training, participants in the comparison group who evidenced increases in reappraisal seemed to judge their thoughts and feelings more harshly. The comparison group may have learned to reappraise situations by scrutinizing their own reactions, rather than constructively focusing on the positive features of the interaction in order to reappraise its meaning. Indeed, judgmental reappraisal may serve to be less productive as a communication strategy, for it appears to illustrate what amounts to a shift in blame from self to others, rather than resulting in increased engagement with others during interactions.

In contrast, participants in the mindfulness group who increasingly engaged in positive reappraisal did so without turning to judgment or blame. The strong fit of the path analysis of training-related changes in factors implicated in mindful communication suggests that mindfulness promotes an adaptive tradeoff between cognitive strategies, promoting positive reappraisal while reducing the tendency to engage in blaming others. While students in both types of communication courses demonstrated improved positive reappraisal tendencies, it seems as though increased mindfulness is one powerful explanatory source of this change. These findings are consistent with Ekman's (2003) emphasis on the importance of observing impulses to react prior to the emotional refractory period so that adaptive reappraisals of stressful

interactions are possible. Our data suggest that mindfulness can be useful not only in observing the impulse to react, but also in reappraising the situation that gave rise to the emotional reactivity. Similarly, the results of our path analysis are congruent with findings from recent path analytic investigations of the role of positive reappraisal as a mediator of the stress-reductive effects of increasing dispositional mindfulness (Garland et al., 2011), and lend further support to the mindful coping model (Garland et al., 2009, 2010).

While the associated changes mentioned above were observed across the fifteen weeks of a mindful communication course, hypothetically these same relationships may hold within micro-analytic analyses of the unfolding of communication processes within a single interaction. For example, a student who took the mindful communication course wrote an Application Journal entry (direct quotations from this entry are quoted below) that exemplifies many of the cognitive strategies described above. She had loaned money to a friend during spring break. After a month had gone by, her friend had only repaid a portion of the debt, yet the student observed her friend spending money on herself while claiming she was broke. On a later occasion when the student observed her friend wearing some new clothes, she noticed herself becoming upset by an increasing awareness of muscular tension in her body. Subsequently, she felt a strong urge to lash out at her friend in accusatory manner; however, realizing that “a situation is more than the emotions you experience first when confronted with a stimulus,” she was able to remain nonreactive as she “looked past the anger.” In so doing, she was able to refrain from blaming her friend for the problem at hand. The student realized that she had never spoken with her friend about how her previous purchases had upset her, and she considered the possibility that her friend was unaware of how much it bothered her to see her buying clothes for herself before repaying the debt. Once she was able to positively reappraise the situation in this manner, she chose to respond assertively rather than aggressively by “speaking [her] emotions instead of bursting out in anger.” This example illustrates one role mindfulness can play in adaptive communication as evidenced by the results of our study.

#### *Limitations and Suggestions for Future Research*

There are several limitations to this study. First, the relatively small sample size may have resulted in a lack of statistical power to detect between-groups differences of smaller magnitude effect sizes. Nonetheless, significant effects of training were identified. Second, the lack of random assignment to mindful communication and standard communication curricula leaves the present findings vulnerable to selection threats to internal validity. Although participants did not significantly differ at baseline on dispositional mindfulness and the other cognitive strategy variables assessed in the present investigation, it is possible that there were systematic differences on unmeasured variables that may have led to the observed between-groups differences. Hence, future studies aimed to evaluate mindfulness as a mechanism for improved communication skills in communication curricula should employ randomized

controlled designs with larger sample sizes. Furthermore, future studies should examine what other factors may be involved in the facilitation of positive reappraisal, in light of the fact that the comparison group evidenced significant improvements in this cognitive strategy. An additional limitation is that the present investigation did not attempt to measure communication skills directly. However, given that the pedagogy of the mindful communication course being studied defines mindful communicators as those who communicate productively as a result of recognizing and responding to the uniqueness of each situation such that responses that are unproductive in one instance may be precisely what is needed in another, designing an instrument that would measure such an ability is a difficult task. A more meaningful assessment methodology may be to observe mindful communication as it occurs (Ucok, 2007). One approach for conducting such analysis may be to measure students' cognitive, emotional, and psychophysiological responses during a challenging interaction. Using micro-analytic research methodologies to probe the unfolding of online emotion regulatory processes over time (for an example of such methods, see Sheppes & Meiran, 2007), randomized experiments could examine the effects of mindfulness practice relative to placebo control on the sequential generation of mindful states and positive reappraisals in coping with communication challenges to offer a fuller test of the mindful coping model. The present investigation, therefore, paves the way for controlled, experimental research.

### *Practical Applications*

The present research suggests that implementing mindfulness training into curricula that is geared toward the advance of practical communication skills may be especially fruitful, particularly for the development of those skills that will help students productively negotiate emotionally charged situations. Given the stress and demands often present in higher education, these communication skills may serve college students particularly well during their interactions with teachers, peers, administrators, and staff as they work toward successful completion of their degree programs. The ability to identify and express emotions exhibited by the mindfulness group in this study is linked with what some researchers refer to as emotional intelligence (Mayer & Salovey, 1997), which has been associated with increased positive affect, decreased levels of depression, and reduced anxiety (Brown & Ryan, 2003), all of which may be useful for achieving satisfying and productive communication exchanges. Furthermore, it is important for communication professors to examine the extent to which traditional classroom activities and coursework may promote a tendency toward students becoming increasingly judgmental of others and/or themselves. The results of this study suggest that such judgments are linked to decreased positive reappraisal, which can increase conflict and interfere with collaboration. Conversely, training in mindful communication may foster learning environments characterized by teamwork and cooperation. In sum, the concept of mindfulness that is beginning to make its way from the health and psychology fields into the study of communication may be particularly useful as a tool for increasing

students' awareness of emotional reactions to interactions, reappraising those interactions as growth or learning opportunities, and regulating verbal interchange in a constructive manner.

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