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The Influence of Mindfulness and Emotion Skills Training on Teachers' Classrooms: The  
Effects of the Cultivating Emotional Balance Training

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Abstract

Cultivating Emotional Balance (CEB), an emotion skills and mindfulness intervention, improved wellbeing in a sample of teachers. Two studies examined whether such gain is associated with improvements in classrooms. Study 1 examined post-intervention differences in 20 dimensions of classroom climate ( $N = 21$ ). CEB teachers were rated higher in productivity than controls. Study 2 was a randomized, controlled pilot trial of 35 teachers with longitudinal assessments of classroom climate, wellbeing, and attitudes towards challenging students. Although the CEB group reported more mindful observing compared to the control group at follow-up, the groups did not differ on classroom climate or attitudes.

## 1. Introduction

Today's teachers are leaving the profession at an alarming rate. According to the Center for the Study of Teaching and Policy at the University of Washington (Ingersoll, 2003), approximately 46% of teachers in the United States leave teaching within the first five years. A recent study estimates that teacher attrition costs U.S. public schools more than \$7 billion per year (National Commission on Teaching and America's Future, 2007). Poor emotion management and emotional distress are consistently cited as the primary contributing factors to teacher attrition (Darling-Hammond, 2001; Montgomery & Rupp, 2005). In fact, an international survey of professionals found that teachers reported some of the highest levels of occupational stress (International Labour Office, 1993).

In recent years, teaching has become a much more emotionally demanding profession than in the past. Today's teachers face growing numbers of children who are unprepared for school: many with serious behavior problems as early as preschool (Brauner & Stephens, 2006; Gilliam, 2005; Kaiser et al., 2000; U.S. Department of Health and Human Services, 2000). When teachers lack the training to adequately handle such challenges, they experience emotional distress. Over time, high levels of distress can have an adverse effect on teachers' performance and may eventually lead to burnout (Carson, Templin, & Weiss, 2006; Darling-Hammond, 2001; Montgomery & Rupp, 2005). Consequently, there is growing concern that teacher emotional distress and the resulting attrition may have detrimental effects on educational quality (Travers, 2001). These data indicate a need for professional development that promotes teachers' wellbeing and social and emotional competence.

Social and emotional competence (SEC) is a broad construct viewed as an outcome of Social and Emotional Learning and includes the following 5 major emotional, cognitive, and

behavioral competencies: self-awareness, social awareness, responsible decision-making, self-management, and relationship management (Zins, Weissberg, Wang, & Walberg, 2004).

Jennings and Greenberg (2009) presented the Prosocial Classroom Model that highlights the importance of teachers' wellbeing and SEC in the development of supportive teacher-student relationships and effective classroom management. According to the model, these factors produce a classroom climate that is conducive to learning (see Figure 1). Teachers with high SEC know how their emotions and those of their students' affect teaching and learning: they recognize and effectively use emotions such as joy and enthusiasm to motivate students, inspire learning, and help students engage in the task at hand. This competency helps them build supportive relationships with their students through mutual understanding and cooperation. Moreover, teachers with high SEC model prosocial values and behavior and show respect to others. Most importantly, high SEC teachers can manage their emotions and behavior in healthy ways, even when emotionally aroused by challenging situations. Mastery over these social and emotional challenges results in greater enjoyment and efficacy in teaching (Goddard, Hoy, & Woolfolk Hoy, 2004).

The research to date has primarily involved cross-sectional and correlational methods to examine contextual, organizational and personal factors associated with teachers' emotions, emotional distress, and burnout (see Montgomery & Rupp, 2005 for a meta-analysis of studies on teacher distress). It is difficult to determine causal relationships because there have been so few longitudinal studies. Still, these data suggest that teachers lacking adequate SEC to handle the demands of the classroom have difficulty managing classroom behaviors and maintaining an optimal classroom climate, and this results in emotional exhaustion and provokes a "burnout cascade" (see Jennings & Greenberg, 2009) that can lead to an insensitive approach to

relationships with students, parents and colleagues (called ‘depersonalization’ in the literature), and feelings of professional inefficacy (Byrne, 1994; Maslach, Schaufeli & Leiter, 2001).

Despite growing evidence that teachers regularly experience emotional distress (Carson, Templin, & Weiss, 2006; Chan, 2006; Montgomery & Rupp, 2005; Sutton, 2004) that may negatively impact their teaching and classroom climate (Emmer, 1994; Emmer & Stough, 2001; International Labour Office, 1993), little research has addressed how to enhance teachers’ social and emotional competence and promote wellbeing as a possible means of both reducing emotional distress as well as improving classroom climate. Fortunately, decades of psychological research have generated a knowledge base that can be utilized to promote teacher’s SEC and aid in the development of these competencies (Eisenberg, 2003; Ekman, 2004). Until recently, neither teacher pre-service or in-service programs have utilized this rich source of material to help promote SEC among teachers.

One approach to reducing stress and promoting SEC-like behaviors (such as wellbeing, emotional awareness/regulation, attention regulation and prosocial behavior like empathy and compassion) is through practicing mindfulness and other self-awareness techniques (Carmody & Baer, 2008; Brown, Ryan, & Creswell, 2007; Eisenberg, 2002; Kabat-Zinn et al., 1992; Lutz et al., 2008a; 2008b; Ortner, Sachne, & Zelazo, 2007). A growing body of research suggests that practicing mindfulness regularly may increase awareness of one’s internal experience and promote reflection, attentional skills, self-regulation, caring for others, and resilience in the face of life’s challenges (Davidson, et al., 2003; Davidson & Harrington, 2002; Davidson & Lutz, 2008; Singer & Lamm, 2009). Ekman (2004) has proposed that the focus on automatic biological events such as the breath during one common mindfulness practice fosters greater awareness of automatic emotional reactivity, and promotes greater control over one’s responses.

Indeed, research suggests that regular contemplative practice enhances mental health and the ability to regulate distress (Ramel, Goldin, Carmona & McQuaid, 2004; Shapiro, Schwartz, & Bonner, 1998) and may facilitate emotional self-awareness (Brown & Ryan, 2003)

Consequently, mindfulness-based interventions may be ideally suited to support the development of a *mental set* associated with SEC and effective classroom management (Marzano, Marzano & Pickering, 2003).

### *1.1. The Development and Initial Study of Cultivating Emotional Balance (CEB) Program*

In 2000, emotion researchers and practitioners and scholars from various contemplative traditions, including the Dalai Lama of Tibet, met to bridge their respective traditions on the topic of “destructive emotions” (Goleman, 2002). As a result of this meeting, Paul Ekman (at the University of California San Francisco) led a team in developing Cultivating Emotional Balance (CEB), an intervention integrating various meditation practices with knowledge and techniques derived from the scientific study of emotion. CEB was designed to reduce emotional experiences “destructive” to oneself or others and promote experiences beneficial to the self and others.

The 8-week CEB program integrates secularized meditation/contemplative practices with various techniques drawn from Western psychological science designed to promote the understanding and regulation of emotional life. The training involves experiential practices and exercises, movement exercises, didactic presentations and homework related to meditation and emotion (and discussion of homework). It includes training in the features of emotions, their elicitors and consequences, methods for recognizing emotions, understanding relations between emotion and cognition, and techniques for recognizing one’s own emotional tendencies or patterns. The training focuses on attention (concentration, attention and mindfulness), awareness

and understanding of emotions in self and other, and empathy as well as compassion training (see Table 1 for program details). Of the five dimensions of SEC mentioned above, CEB most directly addresses three: self-awareness, social awareness, and self-management.

CEB was tested on a sample of 82 female primary and secondary teachers utilizing a randomized, controlled trial design with a wait list control. Results at both post-training and 5-month follow-up indicated significant improvements favoring the intervention group on depression, trait anxiety, negative and positive affect, mindfulness, and trait rumination (Kemeny et al., 2010). We also found less emotional exhaustion in the CEB group compared to the control group. Except for positive affect, all of these post-intervention improvements were maintained at a 5-month follow-up. In addition, in an experimental task given only at follow-up, intervention teachers showed significantly more compassionate responding to suffering as compared to control teachers.

Herein, we report the results of 2 pilot studies addressing whether the positive effects of CEB on teachers' wellbeing and SEC-related variables might be associated with improvements in the classroom climate: (a) Study 1 used a sub-sample of teachers enrolled in the original CEB trial (described above) and tested whether the observer-rated classroom climates post-intervention were more optimal among the teachers who received the CEB training compared to control teachers (there were no baseline classroom assessments); and (b) Study 2 was a randomized controlled pilot trial utilizing a second, independent sample in which teacher instructional quality was assessed both before and after the CEB intervention.

#### A. Study 1

Study 1 was a sub-study of the larger randomized controlled trial of CEB mentioned above (Kemeny et al, 2010). Following the intervention, a sub-sample of 21 volunteer teachers

(13 intervention group, 8 control group) consented to observations of their classrooms to examine potential differences in classroom climate that might have resulted from CEB. Observers blind to the experimental condition observed and rated each teacher's classroom using two standardized observational measures of classroom climate: the Classroom Assessment Scoring System (CLASS, La Paro & Pianta, 2003) and the Classroom Atmosphere Rating Scale (CARS, Conduct Problems Prevention Research Group, 1999; Solomon et al., 1988). We hypothesized that the teachers in the intervention condition who had received the CEB training would have classrooms that were rated more optimally on the CLASS and the CARS than the control group teachers' classrooms.

## *A.2. Material and Method*

### *A.2.1 Participants*

Eighty-two female school teachers between the ages of 25 and 60 ( $M = 41.05$ ,  $SD = 10.48$ ), with no major physical or mental disorder, living with an intimate partner and not already having a meditation practice were enrolled in the CEB trial and completed the baseline assessments. After their baseline assessments, individuals were randomly assigned to one of two conditions: intervention or wait-list control. After the baseline assessments but before being informed of their randomly assigned group, each CEB participant was told about the classroom observational sub-study and asked if they could be contacted later to be formally enrolled in and consented for the sub-study. Although 82 teachers were involved in the larger trial, only 38 (46%) teachers taught in preschool or elementary (primary) school classrooms for which the CLASS and CARS are valid instruments. Of those potential participants (21 eventually assigned to receive the intervention and 17 eventually assigned to the control condition), 21 agreed to



participate in the classroom sub-study (a 55% participation rate). Of those 21 sub-study participants, 13 were assigned to the intervention group and 8 were assigned to the control group.

#### *A.2.2. Measures*

*Observations.* Each of the teachers' classrooms was observed and rated using the CLASS (La Paro & Pianta, 2003) and CARS (Conduct Problems Prevention Research Group, 1999; Solomon et al., 1988), two well-validated measures that assess classroom climate.

Based upon developmental theory and research suggesting that interactions between students and adults are the primary mechanism of student development and learning, the CLASS assesses the quality of teachers' implementation and use of curriculum, the quality of his/her social and instructional interactions with children, and the intentionality and productivity evident in the classroom setting (La Paro & Pianta, 2003). The CLASS rating system consists of 10 items that form 3 factors: (a) Social/Emotional Climate (Positive Climate, Negative Climate [reverse scored], Teacher Sensitivity, and Regard for Student Perspectives); (b) Classroom Management (Behavior Management, Productivity, and Instructional Learning Formats); and (c) Quality of Instruction (Concept Development, Quality of Feedback, and Language Modeling). Each item is rated on a scale from 1 to 7 (1-2 represent a low range, 3-5 represent a mid range, and 6-7 represent a high range). For each of the ten CLASS items, the final item score is an average of the scores from 4 half-hour observational periods. CLASS subscale and factor scores were created by summing the item scores that compose each subscale/factor.

Before the classroom observations were scheduled to take place (fall, 2005), research staff attended a 3-day training workshop in the CLASS led by Dr. Bridget Hamre, one of the CLASS developers. After training, research staff were tested for reliability, and all obtained at

least 80% reliability. A month later, these research staff were tested a second time on a second set of videos and again obtained at least 80% reliability.

The CARS is a 10-item, group level measure that assesses the entire classroom on three dimensions: Disruptive Behavior and Compliance (Students' Level of Compliance, Transitions, and Rule Compliance); Cooperation, Communication and Problem-solving (Cooperation, Problem Solving, and Students' Expression of Feelings); Classroom, Interest Level, Focus, Responsiveness (Students' Interest, Enthusiasm, and Involvement, Classroom On-task Behavior, Classroom Responsiveness, and Classroom Supportiveness). Each item is rated on a scale from 1 to 5 (1 = very high levels, 2 = moderately high levels, 3 = average levels, 4 = moderately low levels, and 5 = very low levels).

For the CARS, the same set of observers studied the CARS manual. Classroom training videos were coded by a certified CARS researcher and each observer. All observers were at least 80% reliable with the CARS master coder on these practice/training videos.

While the CLASS measure focuses on teacher/child interactions, the CARS focuses more on areas of child behavior that affect classroom climate. Both measures assess the level of prosocial classroom behaviors as well as learning-related behaviors such as interest and enthusiasm, focusedness, and on-task behaviors. Observers used the CLASS data they collected to complete the CARS immediately after the observation. This method of using these measures jointly has been used in research involving classroom outcomes (Conduct Problems Prevention Research Group, 1999).

#### *A.2.3. Procedures*

To increase the probability of uniformity of classroom activities across classrooms all observations took place between 9:00am and 12:00pm during the fall of 2005. All observers

were blind to study condition. Following the standard CLASS protocol, the observers rated the classroom every half hour (a total of four times) during the two hour observation using the CLASS scoring sheet, and after the observation they completed the rating sheet for the CARS measure once, based upon their overall impressions of the observation and the data collected on the CLASS. To obtain inter-rater reliability, 10% of the classrooms were rated by two observers, one of which was always a master observer. Each of the other 3 observers rated at least one classroom that was also rated by the master judge. As per measure scoring protocol, all item ratings were within two categories on the rating scale for the three teachers/classrooms that were rated by two observers, yielding a 100% agreement rate for both CLASS and CARS.

*CEB Training.* The CEB training (described above) was offered on 4 weeknights and 4 weekend days over the course of 8 weeks. B. Alan Wallace, Ph.D. and Margaret Cullen, MFT conducted the training. Dr. Wallace is a prominent meditation teacher and Ms. Cullen is a clinical psychologist and a certified Mindfulness Based Stress Reduction (MBSR; Kabat-Zinn et al., 1992) instructor who has taught mindfulness-based trainings for 16 years. Both were part of the original CEB development team.

### *A.3 Results*

In light of the small subgroup sizes, Mann-Whitney U nonparametric tests were conducted to evaluate the hypothesis that those who attended the CEB training would demonstrate more optimal scores on the CLASS and CARS variables than controls teachers (see Table 2). For the CLASS, one significant difference was found between the CEB and control group on productivity: CEB teachers had more productive classrooms ( $Mdn = 5.3$ ) than control teachers ( $Mdn = 4.8$ ),  $Z = -2.67$ ,  $p = .006$ ,  $d = .58$  (Cohen's  $d$  where small = .3, medium = .5 and large = .8). There were no meaningful differences on the other 9 scales of the CLASS. One

marginally significant difference was found on the CARS; the CEB group ( $Mdn = 2.0$ ) handled transitions marginally significantly better than the control group ( $Mdn = 2.0$  as well, while the median was equivalent across groups, the mean rank was lower for the CEB group than the control group as expected),  $z = -1.74$ ,  $p = .12$ ,  $d = .38$ . Recall that lower scores indicate better outcomes on CARS. There were no meaningful differences on the other 9 CARS items.

#### *A.4. Conclusions*

The findings indicate few significant differences in classroom climates of CEB teachers compared to controls. Obviously, the small sample size of the sub-study provided little power to detect significant differences between groups. In addition to the power problem, this pilot observation was also hampered by the absence of baseline assessments: it could be that the groups may have differed prior to CEB training. Furthermore, selection biases may have affected who agreed to observations and thus these findings are tentative and require further confirmation. Overall, findings of the larger CEB study suggest that the CEB training resulted in improvements in wellbeing and several factors related to SEC, namely reductions in depression, anxiety, negative affect, rumination, and increases in mindfulness and positive affect. Despite these limitations, there is some, but limited, evidence from the classroom observations to suggest that CEB training may be associated with improvements in classroom climate. While limited, these findings provided support for taking the next step of proceeding with a randomized controlled pilot study.

#### B. Study 2

Study 2 was a pilot randomized controlled trial of CEB intended to replicate the self-report findings of the original CEB trial and to investigate whether enhancements in psychological variables might be associated with improvements in classroom climate and

teachers' attitudes towards challenging students. We hypothesized that compared to the control group at post-intervention, the CEB group would exhibit: (a) lesser teacher-reported depression, negative affect, anxiety, and rumination, and greater teacher-reported mindfulness; (b) improved observer-rated classroom climates; and (c) improved teachers' attitudes towards students they find challenging.

## *B.2. Material and Methods*

### *B.2.1. Participants*

The 35 teachers enrolled in the study included 23 teachers working in privately-funded independent preschools and 12 early childhood teachers in state-run programs (e.g., Head Start) in the San Francisco area, who had no major mental disorders and did not already have a mindfulness practice. Teachers had a mean age of 45.53 ( $SD = 12.20$ ) and a majority ( $N = 30$ ) were well educated, having earned at least a bachelor's degree.

### *B.2.2. Measures*

*Observations.* Although the CLASS was used in Study 2 as well, in this project, teachers were video-recorded in their classrooms. Video recording for 1.5 hours allowed for four uninterrupted 20-minute segments that were later watched and coded by trained research assistants who were blind to experimental condition using the CLASS.

*Self-report.* To assess the impact of the CEB training on teachers' wellbeing and replicate the findings of the original CEB trial, the self-report battery included the Beck Depression Inventory (BDI; Beck, et al. 1974), the Rumination-Reflection Questionnaire (RRQ; Trapnell & Campbell, 1999), the Positive and Negative Affect Schedule (PANAS; Watson, et al., 1988), and the Trait Anxiety Inventory (TAI; Spielberger, et al. 1970). To assess whether the CEB training resulted in increased mindfulness, the Mindfulness Attention Awareness Scale (MAAS; Brown

& Ryan, 2003) and the Five Facet Mindfulness Questionnaire (FFMQ; Baer, et al. 2004) were also included.

*Interview.* All teachers were asked to participate in a semi-structured interview about their attitudes toward a challenging student. Using the Teacher Relationship Interview (TRI; Stuhlman & Pianta, 2002), teachers were interviewed by phone for approximately one-half hour to elicit reports of their interactions and emotional responses to a student they found challenging. Their responses were audio recorded, transcribed and then coded by the Megan Stuhlman, TRI's developer on the following 9 dimensions: sensitivity of discipline, teacher's role as secure base, perspective-taking, neutralizing negative affect, agency/intentionality, helplessness, anger/hostility, positive affect, and coherence. The coder was blind to teachers' experimental condition.

Cronbach's alphas indicated acceptable internal reliability for most measures (.7 or above). However, the CLASS Concept Development subscale was not reliable ( $\alpha = .42$ ).

### *B.3.3. Procedures*

The pre-intervention assessment included classroom video recorded observation coded using the CLASS, an on-line self-report survey of psychological and demographic variables; and a telephone interview using the Teacher Relationship Interview (TRI; Stuhlman & Pianta, 2002) of attitudes towards challenging students. The classroom video-recording was prescheduled and most occurred between 9:00am and 12:00pm to reduce classroom variability. Research assistants were trained to record as unobtrusively as possible. Upon successful completion of the classroom video, the participant was sent a link to the online survey and asked to complete it within one week of the video recording. After completing the online survey, the TRI teacher

interview was completed. After the TRI, participants were contacted with their random assignment to condition.

The post-training assessment was conducted between March and April 2008 after the CEB training was completed. The post-assessment was identical to the pre-training assessment and research assistants were still blinded to study condition. When conducting the TRI interview, participants were asked to report on the same student they had chosen for the pre-interview. At the end of each interview, the participant was asked to reveal their condition to the research assistant, and if the participant had been in the CEB group, they were asked additional questions to evaluate the program quality, feasibility, and attractiveness. The third assessment, the 3-month follow-up, was identical to earlier assessments but excluded the TRI interview and used non-blinded raters for the CLASS.

*Randomization.* Block randomization was used to ensure a balanced distribution across both groups on baseline variables which were expected to affect the dependent variables (Bloom, 2005): program (participants who were in the same school were randomized into the same condition to avoid “contamination effects”); educational level (a bachelor’s degree or higher/not college graduate); class size (small = > 14 > large); gender (there were three men and they were not all assigned to the same condition); type of school (publicly funded/privately funded, publicly funded programs had high numbers of children from low SES families). We created groups of participants that shared these variables resulting in a total of 7 groups. Participants from each group were randomly assigned to receive the CEB training immediately ( $n = 18$ ) or to the wait list control group ( $n = 17$ ).

*CEB Training.* The CEB training was held over an 8-week span from January to late February, 2008 (4 evening sessions and 4 full-day sessions). Margaret Cullen, MFT, and Marvin

Treiger, Ph.D., MFT, conducted the CEB training. Margaret Cullen was one of the trainers in the original CEB study. Dr. Marvin Treiger, a first-time CEB trainer, has led meditation retreats and courses at the Bodymind Institute and Antioch University since 1995.

#### *B.4. Results*

Descriptive statistics by group and time are reported in Tables 3 and 4. Groups were compared on stratifying variables used in randomization (gender, college educated, class size, school type), select demographic variables (e.g., years of teaching experience, employment status, household income, number of teacher's children and their ages, meditation experience), and 'outcome' variables from baseline to check for group baseline differences and identify potential covariates. The primary analyses were the Mann-Whitney U non-parametric test for independent groups given the small samples sizes (less than 25 per group) for continuous variables and Chi square tests for categorical variables. There were no baseline differences on any of these variables.

##### *B.4.1. Longitudinal Outcome Models*

Given the small sample size, we applied a non-parametric approach to test longitudinal outcomes by group. The two groups were compared on all outcomes that were first regressed on their baseline values. Specifically, studentized residuals were outputted from linear regressions predicting the post-intervention outcome score from the corresponding baseline status. This same approach was used for each follow-up outcome as well. Mann-Whitney nonparametric tests were then used to compare the groups (CEB versus control) on each residualized outcome. There were no significant differences between the two groups on the CLASS or TRI variables. Therefore, we report only the significant findings for the self-report psychological data.



At the post-assessment, the CEB group self-reported marginally less negative affect on the PANAS ( $Z = -1.82, p = .07, d = .32$ ), and marginally higher levels of observing from the FFMQ compared to the control group ( $Z = -1.72, p = .09, d = .29$ ) (see Table 5). At follow-up, the CEB group also self-reported significantly more observing from the FFMQ compared to the control group ( $Z = -2.10, p = .04, d = .25$ ) (see Table 6).

### *B.5. Conclusions*

The findings of Study 2 suggest that CEB training improved teachers' ability to be mindfully observant but this was only evident at follow-up. Examining the mean level differences on study variables at pre, post, and follow-up, it is noticeable that many favor the CEB group. However, given the study's small sample size few findings reached trends or significance, and no effects were found on the CLASS or TRI.

## 2. Discussion

The purpose of the present studies was to examine whether the improvements in teachers' wellbeing and SEC-related variables that resulted from participation in the CEB training were associated with improvements in teachers' classroom instruction and climate. Study 2 also examined teachers' attitudes towards a challenging student. In both studies, some effects were suggested for teacher reported mindfulness and their affect. In Study 1 (as reported by Kemeny et al., 2010) effects at post-test and follow-up showed substantial affects on depression, anxiety, negative affect, rumination and mindfulness. This study was larger than Study 2 and this may in part account for its stronger findings on self-report measures. In contrast to these effects on self-reports, observations of teachers classroom instruction and relations with students found few effects in the quasi-experimental Study 1, and no effects in the randomized pilot trial of Study 2. Thus, although both studies are small and considered to be pilots, there was little evidence that

CEB training transferred to the manner in which teacher's relate to their students or manage their classrooms.

### *2.1. Limitations of the Study*

Several limitations complicated our ability to adequately test the study hypotheses. The primary limitation of these studies was the small sample sizes; 21 teachers (13 in the CEB group and 8 in the control group) in Study 1 and 35 teachers (18 in the CEB group and 17 in the control group) in Study 2. These sample sizes substantially reduced the power to detect significant differences between the experimental and control groups. However, even when considering mean differences and effect sizes, few trends were promising. We noticed in Study 2, the resistance among both school directors and teachers to the videotaping procedures was a primary obstacle to recruiting the optimal sample size.

Because of the demands of the CEB training and the research protocols, the final study samples were a self-selected group individuals. It is possible that the study attracted better, more confident teachers than average. Unlike in Study 1, very few Study 2 participants reported even modest levels of depression and all the participants scored fairly high on most of the dimensions of the CLASS. Therefore, due to these sample self-selection biases, we may have found ceiling effects on the CLASS data and floor effects on the emotional distress restricting our ability to measure change resulting from the CEB training. Specifically, subsequent analyses indicated that the baseline levels of depressive symptoms (BDI) and negative affect (PANAS) were significantly greater in the original clinical trial than in the subsequent sample and these baseline differences were of at least a moderate size ( $t [df = 115] = 2.56, p = .012, d = .52$ ;  $t [79.7] = 3.56, p = .001, d = .65$ , respectively). While in the original CEB trial, analyses indicated that CEB was significantly effective improving depression for both teachers with non-elevated and elevated

levels of depression (BDI) at baseline, it might be that the level of emotional distress was even more restricted in Study 2. Thus, the ability effect changes in emotional wellbeing and to tie such changes to changes in classroom climate and attitudes was severely hampered in Study 2 due to restricted range on emotional distress in that sample.

It should be emphasized that CEB is a generic training that was not specifically designed to improve teacher classroom performance and/or attitudes towards students. To effect changes in teacher behavior may require that the emotion awareness and mindfulness training be more explicitly linked to the specific challenges of teaching such as dealing with challenging behavior, establishing a warm but firm classroom presence, being aware of and responding to individual student's feelings and needs, and generating and applying the practice of caring for students, their parents, and colleagues. For example, classroom management may be improved if teachers learn to recognize and regulate the emotions and emotional patterns they experience when they interact with challenging students. In so doing they may be able to pause, reflect, and respond to the situation with awareness and compassion rather than automatically reacting which may trigger an intensification of the student behavior that provoked the teacher's emotional response in the first place.

## *2.2. Conclusions*

Given the daily stressors faced by teachers, Jennings and Greenberg (2009) suggested that promoting teachers' social and emotional competence might help teachers manage their daily stressors, build positive relationships with students, and maintain classroom environments that promote both prosocial behavior and academic success. "The lives of teachers and their concerns with personal and professional improvement have long been put on the 'back burner' of educational policy and research. If we are to improve the conditions of schooling, support the

caring and commitment of teachers, and improve the academic and social-emotional growth of students, these critical research, policy, and practice questions demand greater attention (Jennings & Greenberg, 2009, p. 515)". As far as we are aware, these are the first studies to address teachers' SEC and wellbeing as a means of improving classroom outcomes. While these studies had limitations, they point to the need for a model of teacher facilitation that applies emotion awareness and mindfulness to the specific challenges of teaching. Future work should explore ways to make these connections so teachers can apply emotional awareness, self-regulation, and mindfulness to supporting both their wellbeing and their teaching.

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Table 1.  
*Cultivating Emotional Balance Training Components*

Component	Description
<p>Attention  (concentration, attention  and mindfulness)</p>	<ul style="list-style-type: none"> <li>• Development of stability and vividness of attention through the practice of “shamatha”—attention to the breath.</li> <li>• Development of “inward-outward” attention via the following applications of mindfulness: mindfulness of body, feelings, other mental states including emotions</li> <li>• Bodily movement exercises (yoga and Tai Chi) to prepare the body and mind for meditation, by enhancing relaxation and awareness</li> <li>• Provision of meditation exercises to perform at home, with the aid of audio-recorded instruction</li> </ul>
<p>Awareness and  Understanding of  Emotions</p>	<ul style="list-style-type: none"> <li>• In self: instruction in exercises for recognizing the unique characteristics of four specific emotions (anger, fear, shame, sadness). For each emotion, the trainer discusses the triggers, sensations, functions, and dysfunctions of that emotion and their effects on body, mind and behavior. An emphasis is placed on understanding the cognitive effects of emotions that can be maladaptive. Presentation includes discussion of methods to rapidly recover from negative emotional states. In addition, there are experiential exercises that draw participants’ attention to the sensations associated with each emotion. Homework assignments allow individuals to define their emotional patterns.</li> <li>• In others: training in the recognition of brief facial expressions (using the Micro Expression Training Tool, METT, developed by Ekman). In addition, techniques are used to facilitate listening (individuals are trained to listen fully), particularly to the emotional content of the information.</li> </ul>
<p>Empathy Training</p>	<ul style="list-style-type: none"> <li>• Application of mindfulness training to interactions with students, intimate others, and strangers</li> <li>• Training in awareness and understanding of one’s own emotions and what</li> </ul>

provokes them in order to foster understanding of others' emotional responses

- Training in awareness and understanding of others' emotions via recognition of facial expression of emotion, listening and mindfulness (as above)
- Development of self-acceptance (a non-judgmental stance towards the self) in order to reduce the experience of self-consciousness as well as foster acceptance of others
- Development of acceptance towards others (by increasing forgiveness and decreasing "I-it" relations)
- Training in a secularized version of a Tibetan Buddhist practice (Tonglen) that uses imagery to develop compassion and kindness towards oneself and others
- Cultivation of "loving-kindness", compassion, empathetic joy, and equanimity (impartiality in concern for others)
- Discussion of life goals and values and the importance of a focus on others

Compassion Training (as an extension of the empathy training)

Table 2.

*Mann-Whitney Test of Group Differences for Post Intervention Score in Study 1*

	Control			CEB			<i>U</i>	<i>Z</i>	<i>p</i>	<i>d</i>
	<i>N</i>	<i>M</i> Rank	<i>M</i> dn	<i>N</i>	<i>M</i> Rank	<i>M</i> dn				
CLASS Positive climate	8	12.00	5.38	13	10.38	5.50	44.0	-0.58	0.60	-0.13
CLASS Negative climate	8	11.31	1.00	13	10.81	1.00	49.5	-0.36	0.86	-0.08
CLASS Teacher sensitivity	8	9.88	5.00	13	11.69	5.25	43.0	-0.66	0.55	-0.14
CLASS Regard for student perspectives	8	11.25	5.25	13	10.85	5.00	50.0	-0.15	0.92	-0.03
CLASS Behavior management	8	8.88	5.08	13	12.31	5.75	35.0	-1.26	0.24	-0.27
CLASS Productivity	8	6.44	4.79	13	13.81	5.25	15.5	-2.67	0.006	-0.58
CLASS Concept development	8	10.25	3.75	13	11.46	4.50	46.0	-0.44	0.70	-0.10
CLASS Instructional learning formats	8	10.56	5.00	13	11.27	5.00	48.5	-0.25	0.80	-0.05
CLASS Quality of feedback	8	10.50	4.54	13	11.31	4.75	48.0	-0.29	0.80	-0.06
CLASS Language modeling	8	11.19	4.50	13	10.88	4.13	50.5	-0.11	0.92	-0.02
CLASS Student engagement	8	11.31	5.29	13	10.81	5.25	49.5	-0.18	0.86	-0.04
CLASS Emotional factor score	8	11.06	5.59	13	10.96	5.69	51.5	-0.04	0.97	-0.01
CLASS Management factor score	8	9.31	4.74	13	12.04	5.25	38.5	-0.98	0.34	-0.21
CLASS Instructional factor score	8	10.69	4.42	13	11.19	4.42	49.5	-0.18	0.86	-0.04
CARS Student compliance	8	11.13	2.00	13	10.92	2.00	51.0	-0.08	0.97	-0.02
CARS Handle transitions well	8	13.69	2.00	13	9.35	2.00	30.5	-1.74	0.12	-0.38
CARS Follow rules	8	12.75	2.00	13	9.92	2.00	38.0	-1.09	0.34	-0.24
CARS Student cooperation	4	10.50	2.00	13	8.54	2.00	20.0	-0.85	0.55	-0.21
CARS Attempt to problem solve	3	4.33	2.00	4	3.75	2.50	5.0	-0.37	0.86	-0.14
CARS Express feelings appropriately	3	6.50	2.00	7	5.07	2.00	7.5	-0.78	0.52	-0.25
CARS Level of interest/enthusiasm	8	10.56	2.00	13	11.27	2.00	48.5	-0.34	0.80	-0.07
CARS Class focused & on task	8	12.06	2.00	13	10.35	2.00	43.5	-0.71	0.55	-0.15
CARS Responsive individual needs	8	9.25	2.00	13	12.08	2.00	38.0	-1.11	0.34	-0.24
CARS Supportive students efforts	8	10.00	1.50	13	11.62	2.00	44.0	-0.62	0.60	-0.14
CARS total score	8	12.19	2.12	13	10.27	1.89	42.5	-0.69	0.50	-0.15

MRank = mean rank. Exact 2-tailed significance level was not corrected for ties.

*d* is Cohen's (1988) effect size indicator, where .1 is a small effect, .3 is a medium effect, and .5 is a large effect

CLASS = the Classroom Assessment Scoring System; CARS = the Classroom Atmosphere Rating Scale.

Note: Lower scores indicate better outcomes on CARS

Table 3. *Descriptive Statistics by Group and Time for Self-report Measures in Study 2*

Measure	Control												
	Baseline			Post			Follow up			Baseline			
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
BDI depression	17	7.39	5.79	17	6.28	5.32	16	6.32	5.31	18	6.72	6.9	17
RRQ trait rumination	17	3.25	1.01	17	3.19	0.92	16	3.21	1.00	18	3.4	0.74	17
PANAS positive	17	34.61	6.34	17	35.88	5.21	16	34.63	6.94	18	33.09	6.16	17
PANAS negative	16	19.31	5.34	17	20.53	6.73	16	18.39	7.55	18	19.99	5.62	17
TAI anxiety	17	39.13	8.49	16	40.69	8.09	15	39.31	9.55	18	38.25	9.82	17
MAAS mindfulness	17	4.19	0.91	16	4.15	0.86	16	4.24	0.95	18	4.24	0.94	17
FFMQ observe	17	28.35	4.65	17	26.88	3.84	15	26.6	3.38	18	29.33	4.68	17
FFMQ describe	17	28.47	6.35	17	28.73	6.87	15	27.37	5.12	18	29.89	5.62	17
FFMQ awareness	17	27.59	5.91	17	27.94	7.24	15	28.2	5.47	18	26.94	6.51	17
FFMQ non judgmental	17	29.59	7.22	17	30.86	5.75	15	29.6	6.3	18	28.09	6.00	17
FFMQ non reactive	17	21.23	4.27	17	22.28	4.73	15	21.73	4.86	18	20.78	4.68	17
CLASS Positive climate	17	5.26	0.82	16	5.38	0.84	16	4.95	0.97	18	5.31	0.67	14
CLASS Negative climate	17	1.40	0.50	16	1.44	0.86	16	1.55	0.78	18	1.21	0.35	14
CLASS Sensitivity	17	5.04	0.77	16	5.05	1.14	16	4.46	0.84	18	4.69	0.84	14
CLASS Respect Student Perspectives	17	4.94	0.89	16	4.82	0.90	16	4.20	1.01	18	4.51	0.83	14
CLASS Behavior Management	17	5.03	0.89	16	5.05	0.85	16	4.41	0.92	18	5.29	0.67	14
CLASS Productivity	17	4.61	0.96	16	4.88	0.90	16	3.78	1.10	18	4.56	0.95	14
CLASS Instructional learning formats	17	4.26	0.94	16	4.58	1.01	16	3.66	1.09	18	4.1	0.76	14
CLASS Concept development	17	2.46	0.45	16	2.69	0.66	16	2.18	0.76	18	2.45	0.4	14
CLASS Quality of feedback	17	3.18	0.73	16	3.83	0.89	16	3.34	1.03	18	3.51	0.77	14
CLASS Language modeling	17	3.18	0.97	16	3.58	0.79	16	3.19	1.12	18	3.46	0.84	14
CLASS Emotional factor	17	5.46	0.59	16	5.46	0.81	16	5.02	0.77	18	5.33	0.51	14
CLASS Management factor	17	4.63	0.78	16	4.83	0.78	16	3.95	0.97	18	4.65	0.67	14
CLASS Instructional factor	17	2.94	0.68	16	3.36	0.69	16	2.90	0.92	18	3.14	0.63	14

*Note.* BDI = Beck Depression Inventory; RRQ = Rumination-Reflection Questionnaire; PANAS = PANAS positive and negative affect sched Scale; MAAS = Mindfulness Attention Awareness Scale; FFMQ = Five Factor Mindfulness Questionnaire; CLASS = The Classroom Assessment

Table 4. *Descriptive Statistics by Group and Time for Teacher Attitudes about Difficult Student from TRI in Study 2*

Variable	Control						CEB					
	Baseline			Post			Baseline			Post		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Sensitivity of Discipline	17	4.88	1.05	16	5.00	0.89	18	4.50	1.10	14	5.21	1.42
Secure Base	17	3.76	1.56	16	3.81	1.33	18	3.22	1.67	14	4.00	1.71
Perspective Taking	17	4.41	1.06	16	4.69	1.20	18	4.50	1.25	14	4.93	1.39
Neutralizing Negative Affect	17	2.29	1.05	16	2.00	0.97	18	1.89	1.02	14	2.29	1.33
Agency/Intentionality	17	4.41	1.28	16	4.88	1.31	18	3.78	1.22	14	5.00	1.36
Helplessness	17	3.12	1.27	16	2.75	1.39	18	4.22	1.59	14	3.21	1.53
Anger/Hostility	17	3.29	1.26	16	3.75	1.18	18	4.11	1.41	14	3.43	1.16
Positive Affect	17	3.88	1.45	16	4.13	1.41	18	3.33	1.37	14	3.93	1.54
Coherence	17	3.71	0.69	16	3.88	0.81	18	3.61	0.98	14	3.79	0.80

*Note.* TRI = Teacher Relationship Interview

Table 5. *Mann-Whitney Test of Group Difference for Residualized Post-Intervention Outcomes in Study 2*

	Control		CEB		<i>z</i>	<i>p</i>	<i>d</i>
	N	MRank	N	MRank			
PANAS							
Positive	17	19.15	17	15.85	-0.96	0.34	.16
Negative	16	20.16	17	14.03	-1.82	0.07 <sup>†</sup>	.32
FFMQ							
Observe	17	14.56	17	20.44	-1.72	0.09 <sup>†</sup>	.29
Describe	17	16.41	17	18.59	-0.64	0.54	.11
Act with Awareness	17	15.12	17	19.88	-1.40	0.17	.24
Non-judging	17	16.38	17	18.62	-0.65	0.52	.11
Non-reacting	17	16.68	17	18.32	-0.48	0.63	.08

Note. <sup>†</sup>  $p < .10$

*d* is Cohen's (1988) effect size indicator, where .1 is a small effect, .3 is a medium effect, and .5 is a large effect  
Outcomes residualized on baseline value.



Table 6. *Mann-Whitney Test of Group Difference for Residualized Follow up Intervention Outcomes in Study 2*

	Control		CEB		<i>z</i>	<i>p</i>	<i>d</i>
	N	MRank	N	MRank			
PANAS							
Positive	16	15.56	16	17.44	-0.57	0.59	-0.10
Negative	15	15.80	16	16.19	-0.12	0.92	-0.02
FFMQ							
Observe	15	12.47	16	19.31	-2.10	0.04*	-0.38
Describe	15	13.93	16	17.94	-1.23	0.23	-0.22
Act with	15	14.30	16	17.59	-1.01	0.32	-0.18
Awareness							
Non-judging	15	14.13	16	17.75	-1.11	0.28	-0.20
Non-reacting	15	16.23	16	15.78	-0.14	0.89	-0.03

Note. \*  $p < .05$

*d* is Cohen's (1988) effect size indicator, where .1 is a small effect, .3 is a medium effect, and .5 is a large effect  
Outcomes residualized on baseline value.

## The Prosocial Classroom Model

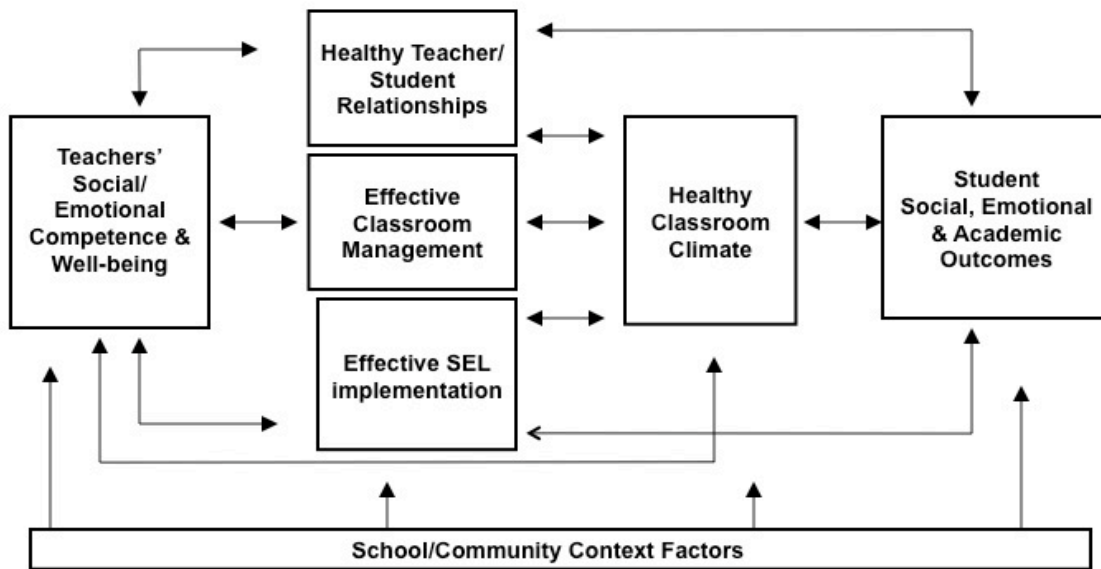


Figure 1. A Model of Teacher Well Being and Social and Emotional Competence, Support and Classroom and Student Outcomes

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