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ORIGINAL PAPER

Early Childhood Teachers' Well-Being, Mindfulness, and Self-Compassion in Relation to Classroom Quality and Attitudes Towards Challenging Students

Patricia A. Jennings

Abstract Early childhood teachers are instrumental in creating socially and emotionally supportive learning environments for young children. However, there is a paucity of research examining teachers' psychosocial characteristics in relation to the dimensions of quality learning environments. Furthermore, little is known about the relationship between teachers' psychosocial characteristics and their attitudes about children whose behavior they find challenging. The present study examined data from 35 preschool teachers' self-reports of well-being, mindfulness, and self-compassion in relation to observations of classroom quality and ratings of semi-structured interviews about a child chosen by the teacher as most challenging. Mindfulness, self-compassion, personal efficacy, and positive affect were associated with emotional support while emotional exhaustion and depersonalization were negatively associated with emotional support. Depression was negatively associated with emotional support, classroom organization, and instructional support. With regard to the interview ratings, mindfulness and efficacy were positively associated with perspective-taking and sensitivity to discipline, and depersonalization was negatively associated with sensitivity to discipline. While further research is needed to ascertain causality, these results suggest that teachers' psychosocial characteristics may impact their ability to create and maintain optimal classroom environments and supportive relationships with challenging students. Furthermore, they point to the need for research to examine professional development designed to promote mindfulness, reduce distress, and support teachers' social and emotional competence and well-being.

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Introduction

Today 48 % of three- and four-year-old children in the United States attend an early education program (Davis and Bauman 2013). Consequently, there is growing concern for teacher quality and teachers' capacity to create and maintain high-quality learning environments that support optimal child development. While research on preschool teacher quality has typically focused on predictors such as demographics (such as years of education, age, and years of experience), center structure variables (such as class-size, teacher–child ratio, classroom organization, and materials) (Early et al. 2007), and teacher–student relationships (Jerome et al. 2008), a paucity of research has examined teachers' psychosocial characteristics in relation to teacher and classroom quality.

The Prosocial Classroom theoretical model establishes teacher social and emotional competence (SEC) and well-being as an organizational framework that can be examined in relation to student and classroom outcomes (Jennings and Greenberg 2009) (see Fig. 1). The Collaborative for Academic Social and Emotional Learning (CASEL 2014) defines SEC as involving five major emotional, cognitive, and behavioral competencies: self-awareness, self-management, social awareness, relationship management, and responsible decision-making (Zins et al. 2004). Self-awareness and self-management are two intrapersonal competencies as they support one's ability to reflect upon one's thoughts, feelings, and motives and monitor one's behavior in response to these internal processes. Social awareness, relationship management, and responsible decision-making are interpersonal competencies as they support one's

ability to understand social and emotional dynamics of social situations, to build and maintain supportive relationships with others, and to make decisions that take into consideration the needs and perspectives of others. These competencies are associated with empathy, compassion, perspective-taking, and responsiveness.

The prosocial theoretical model proposes that teachers who are more socially and emotionally competent have more supportive relationships with their students, engage in more effective classroom management strategies, and are more effective teachers of the social and emotional curricula. Teachers who recognize students' emotions and their associated cognitive appraisals are better able to understand their motivations and respond to their needs accordingly. For example, if a teacher understands that a child's difficult behavior and emotional reactivity results from problems he faces at home, she may show greater empathy and be better positioned to help the child self-regulate rather than resort to punitive or coercive methods.

More socially and emotionally competent teachers can better manage their classrooms. Teachers with higher levels of SEC are more authoritative and proactive, noticing changes in children's engagement, and skillfully using emotional expressions and verbal support to promote enthusiasm for learning and to guide student behavior with positive reinforcement rather than punishment.

Finally, teachers' SEC supports their ability to successfully implement social and emotional learning curriculum. Teachers with high levels of SEC are outstanding role models of prosocial behavior. Their SEC supports their ability to apply extensive process-based learning activities in every-day situations as they naturally occur in the classroom.

The prosocial model proposes that teacher–child relationships, classroom management, and social and emotional learning are correlates of a healthy classroom climate. In turn, a healthy classroom climate directly contributes to children's social, emotional, and academic outcomes. Improvements in classroom climate may reinforce a teacher's enjoyment of teaching, efficacy, and commitment to the profession, thereby creating a positive feedback loop that may prevent teacher burnout.

Finally, the model proposes that SEC is context-dependent. The social and emotional skills of the average adult may not be adequate to successfully manage the demands of the classroom. The SEC required for the classroom context can be developed through specific training (see Jennings and Greenberg (2009) for a comprehensive literature review providing empirical support for this theoretical model).

Pianta and Hamre (2009) presented three domains of high quality teacher–student interactions associated with optimal classroom quality: classroom organization, instructional support, and emotional support. High-quality classroom environments support social and emotional development and promote academic success (Crosnoe et al. 2010; Greenberg et al. 2003; Rimm-Kaufman et al. 2002).

Teachers who rate high on classroom organization attentively monitor the whole class and proactively re-direct children's attention when necessary to keep students on task and to prevent disruptive behavior. A teacher skilled in providing instructional support observes his or her students and provides scaffolding or other support and direction to promote deeper understanding and engagement in the learning activity. Teachers who are skilled at providing emotional support respond to their students with warmth and sensitivity, and they recognize, understand, and are responsive their students' individual needs and perspectives.

Teachers face challenges that undermine their ability to create and maintain an optimal classroom environment. Increasing numbers of children come to preschool with serious emotion regulation problems that put them at risk for behavioral difficulties and school failure (Gilliam 2005; U.S. Department of Health and Human Services 2000). Indeed, coping with their own negative emotional reactivity in response to student behaviors is a major stressor for teachers that can influence cognitive functioning, self-efficacy, and motivation (Carson et al. 2010; Montgomery and Rupp 2005; Sutton and Wheatley 2003). Furthermore, teachers' self-reported distress in response to challenging student behaviors is associated with the growing rate of preschool expulsions (Gilliam and Shabar 2006). Ultimately, high levels of emotional distress may lead to burnout (Tsouloupas et al. 2010) and a downward spiral of deteriorating teacher performance and child behavior (Osher et al. 2007).

Several studies have explored psychosocial teacher variables in relation to teacher classroom behaviors, classroom quality, and self-reported efficacy. Teachers' depressive symptoms are related to lower levels of classroom quality and teacher–child interaction quality (Hamre and Pianta 2004; Pianta et al. 2005). For example, among a sample of Korean early childhood educators (N=169), depressive symptom severity was negatively associated with affectively demanding self-efficacy domains such as creating positive social contexts and engaging parents in decision-making (Kim and Kim 2010).

Another study involving a large sample of preschoolers (N=2,282) and teachers (N=597) found that teachers who reported lower self-efficacy and higher levels of depressive symptoms and who were observed to provide lower levels of emotional support tended to report more conflict with students than would be expected based upon levels of problem behaviors in their classrooms (Hamre et al. 2008). Self-reports of higher levels of depressive symptoms were identified as a risk to teacher sensitivity among early childhood teachers (Gerber et al. 2007). In contrast, de Schipper et al. (2008) found that positivity and optimism were positively related to high-quality care-giving among a sample of 238 early childhood educators.

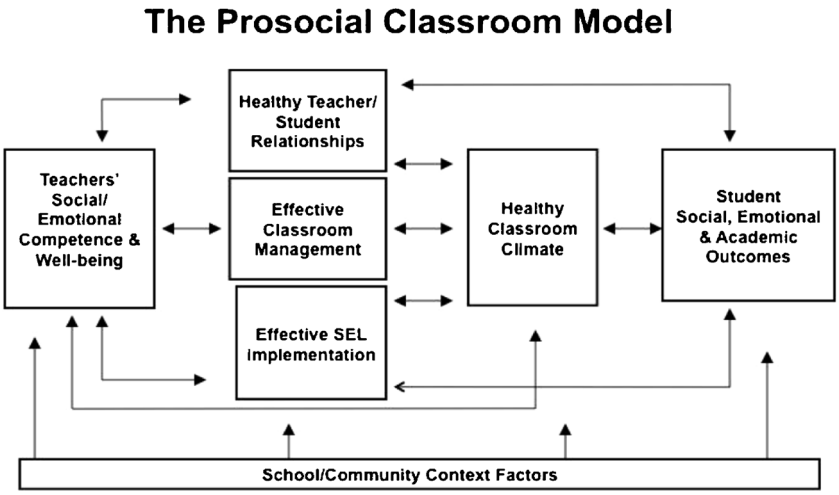

Fig. 1 A model of teacher well-being and social and emotional competence in relation to classroom and student outcomes (Jennings and Greenberg (2009); reprinted with permission from SAGE Publications, Inc.)

While these studies provide preliminary indications of how self-efficacy, depressive symptoms, and affect are related to teachers' caregiving quality, there is value in broadening the investigation to include two constructs that come from the positive psychology literature: mindfulness and self-compassion. Below, we describe each of these constructs and how they may contribute our understanding of SEC.

Mindfulness has been conceptualized as a trait and a state that can be developed with practice (Brown et al. 2007). Mindfulness involves two primary mechanisms: self-regulation of attention and nonjudgmental awareness of experience (Bishop et al. 2004). Regulation of attention promotes awareness of one's emotional, cognitive, and physical experience as it occurs moment to moment. Non-judgmental awareness, characterized by curiosity, openness, and acceptance of that experience, can increase coping by decreasing reactivity (Kabat-Zinn 1994).

While previous research has not explored the relationships between trait mindfulness and teacher quality, individual differences in trait mindfulness have been negatively associated with numerous self-report indicators of stress and positively associated with well-being, suggesting that mindfulness may promote resilience in response to stress (Brown and Ryan 2003; Sirois and Tosti 2012; Tamagawa et al. 2013). In this way, mindfulness may buffer a teacher from the negative effects of work-related stress and may promote the intrapersonal dimensions of SEC, self-awareness, and self-management.

Neff (2003) conceptualized self-compassion along three dimensions: self-kindness, common humanity, and mindfulness. Self-kindness refers to the ability to feel warmth and understanding (versus self-judgment) toward one's self when encountering difficulties and suffering. Common humanity refers to the ability to recognize one's experience as part of the common human experience (versus isolation) when facing difficulties. Mindfulness, in this case, refers to the ability to view one's thoughts and feelings from a larger perspective (versus over-identified), not unlike the decentering process described above. Research has shown that self-compassion is positively associated with life satisfaction, happiness, optimism, positive affect, wisdom, personal initiative, curiosity, and exploration and negatively associated with depression, anxiety, negative affect, rumination, and thought suppression (Neff 2003; Neff et al. 2007). Self-compassion may support SEC by promoting intrapersonal dimensions of SEC (self-awareness and self-management), but also the interpersonal dimensions of SEC of social awareness and relationship management.

The literature reviewed above points to the need to further explore teacher characteristics associated with context-specific SEC: mindsets, attitudes, characteristics, and behaviors that contribute to supportive relationships with students and a classroom climate conducive to learning. To this end, the present study explored early childhood teachers' self-reported well-being, mindfulness, and self-compassion in relation to observational measures of classroom quality and teachers' attitudes about a challenging student as reported in a semi-structured interview. The present study utilized data collected at baseline (before randomization) for a randomized controlled trial of a mindfulness-based intervention. The research questions presented here examine the relationships between mindfulness and self-compassion and dimensions of classroom quality and teacher–student relationships in order to better understand the naturally occurring variation in preschools, rather than a test of an intervention designed to enhance mindfulness and self-compassion.

We hypothesized that mindfulness and self-compassion would be significantly correlated with classroom observations of emotional support. We hypothesized that personal and teaching efficacy, positive affect, and personal accomplishment would also be significantly correlated with the emotional support. Finally, we hypothesized that negative affect,

depression, emotional exhaustion and depersonalization would be significantly negatively correlated with emotional support. We hypothesized that mindfulness and self-compassion would be significantly correlated with the perspective-taking and sensitivity of discipline. We also hypothesized that negative affect, depression, emotional exhaustion, and depersonalization would be negatively correlated with perspective-taking and sensitivity of discipline. Furthermore, we expected those participants who scored within the highest quartile on mindfulness and self-compassion would demonstrate significantly higher levels of emotional support than those who scored within the lowest quartile. We expected that those in the highest quartiles would also demonstrate significantly higher levels of perspective-taking and sensitivity of discipline.

Method

Participants

The 35 teachers enrolled in the study included 21 teachers working in privately funded independent preschools and 14 early childhood Head Start teachers from a major metropolitan area in Northern California. Two of the independent preschools each had three participating teachers, all from different classrooms. One independent preschool and one Head Start preschool each had two participating teachers from different classrooms. The remaining teachers were the only participants from their respective preschools.

Teachers had a mean age of 45.53 (SD=12.20 years), were highly experienced (M=15 years of experience, SD=9.30) and fairly well educated which is representative of early childhood professionals in this community. Five teachers had some college; 18 had a college degree; six had some graduate education, and six had a graduate degree. Three teachers were male; nine were Hispanic/Latino; two were Filipino; four were African American, and the remainder was European American. Two worked part time, and the teachers' class sizes ranged from 11 to 34 with an average class size of 19.25 (SD=6.04).

Procedures

Participants were recruited from schools via flyers and group presentations to teachers during faculty meetings. Active consent was obtained in accordance with university Institutional Review Board procedures prior to implementation. No financial or in-kind incentives were provided to participants.

Data were collected from October through December as the baseline for a randomized controlled pilot study of an intervention. The classroom video recording began in early October and was completed by early December. The recording sessions were prescheduled, and most occurred between 9:00 AM and 12:00 PM. Exceptions were in the case that the teacher only taught in the afternoon. Research assistants were trained to keep the teacher as the subject of the recording and to record as unobtrusively as possible. Upon successful completion of the classroom video, the participant was sent a link to the online survey by E-mail and asked to complete the survey within 1 week of the video recording. After completing the online survey, a trained research assistant scheduled a time with the teacher and conducted an interview by phone. All data collection was completed by mid-December.

Research assistants blind to the study hypotheses were trained by a qualified trainer in the pre-K version of the Classroom Assessment Scoring System (CLASS) (Pianta et al. 2008). During the training process, research assistants' reliability was assessed using training videos. Research assistants who scored >0.80 on reliability with these training videos were invited to participate in the research. The research assistant whose scores were most reliable with the training videos was named the master coder. Teachers were video-recorded in their classrooms for 1.5 h, which allowed for four uninterrupted 20-min segments. The video segments were later viewed and coded by the trained research assistants using the preschool version of the CLASS. All video segments were double-coded, and interrater reliability with the master coder was maintained at >0.80. CLASS subscale and dimension scores were created by averaging the two observation scores and summing the item scores that compose each subscale/dimension.

Using the Teacher Relationship Interview (TRI; Stuhlman and 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 Dr. Megan Stuhlman, the primary TRI developer. Because there was only one coder, no interrater reliability could be assessed for this measure.

Measures

The present study employed multiple sources and methods of data collection involving video recordings of teachers' classrooms, teachers' self-reports, and interviews conducted with each teacher by phone by a trained research assistant and coded by the interview protocol developer.

Observations Each of the teachers' classrooms was rated using the pre-K version of the CLASS (Pianta et al. 2008), a well-validated observational measure of classroom quality. Based upon developmental theory and research suggesting that student–teacher interactions are the primary mechanism of student learning and development, the CLASS assesses the

quality of teachers' social and instructional interactions with students, the quality of his/her implementation and use of curriculum, and the productivity and intentionality evident in the classroom setting.

The pre-K CLASS rating system assesses three broad domains of classroom climate: (a) emotional support, (b) classroom organization, and (c) instructional support. Each domain is composed of several dimensions that operationalize teacher–student and student–student interactions. Emotional support consists of the dimensions: positive climate, negative climate, teacher sensitivity, and regard for student perspectives. Classroom organization consists of the dimensions: behavior management, productivity, and instructional learning formats. Instructional support is composed of the dimensions: concept development, quality of feedback, and language modeling.

Each dimension is characterized by behaviorally anchored, observable descriptors of classroom interactions (teacher–student, student–student) that guide observers' rating for each dimension. Each dimension is rated on a scale from 1 to 7 (1–2 represents a low range; 3–5 represents a mid range, and 6–7 represents a high range).

Interview Participants were asked to respond to the TRI (Stuhlman and Pianta 2001). The TRI is based upon attachment research indicating that important adult–child relationships give rise to patterns or internal working models of expectations, feelings, and beliefs that guide one's behavior and one's interpretation of another's behavior. As in previous research, Stuhlman and Pianta (2001) found that teachers' narratives elicited via the TRI correlated in the anticipated direction with measures of teachers' behavior in relation to students.

The TRI employs a semi-structured interview which examines nine aspects of teachers' narratives about their relationship with a specific child: sensitivity of discipline (the teacher uses sensitive and proactive management strategies), secure base (the teacher understands that his or her emotional support is important to the student's social, emotional, and cognitive development), perspective-taking (the teacher demonstrates awareness of the child's perspective), neutralizing of negative affect (the teacher avoids negative affect, e.g., emotional suppression), agency (the teacher feels effective in his or her role as the child's educator), helplessness (the teacher feels hopeless or at a loss as to how to deal with the child's behavior or learning challenges), anger/hostility (the teacher expresses anger and/or hostility towards the child), positive affect (the teacher expresses positive emotions about the child), and global coherence (the teacher discusses experiences in a reasonable and understandable manner).

Each dimension, except for coherence, is coded on a 1–7 scale where "1" indicates little or no evidence of the construct and "7" indicates clear evidence of the construct. Coherence involves the teacher's ability to express responses to questions in a coherent manner and is rated on a scale ranging from 1 to 5. At the low end of the scale, a teacher may contradict herself and be very difficult to understand. At the high end, the teacher may provide a clear and well-developed flow of ideas. In the present study, teachers were asked to report about their relationship with a child they found most challenging in their current class. For the purposes of this study, we focused on the dimensions sensitivity of discipline and perspective-taking as they are more theoretically aligned to mindfulness, self-compassion, and well-being than the other dimensions.

Self-Report Teachers were administered a battery of self-report measures utilizing a web-based survey to assess well-being, mindfulness, and self-compassion.

Self-Report Measures of Well-Being A battery of measures assessed teachers' affect, efficacy, depression, and burnout.

The Positive and Negative Affect Schedule (PANAS; Watson et al. 1988) is a measure of two dimensions of affect. Multiple time frame stems have been used with the PANAS. Our participants were asked to rate how they "felt during the past few weeks" on 20 emotions (such as "hostile" and "enthusiastic") using a five-point Likert-type scale (1="very little or not at all", 5="extremely"). Ratings for the ten items belonging to the positive and negative subscales were separately summed to obtain each subscale score. Each subscale score ranges from 10–50, and higher scores reflect more positive/negative affect.

The Teacher Efficacy Scale (TES; Hoy and Woolfolk 1990) is designed to measure teachers' teaching efficacy (TE) and personal efficacy (PE). Examples of TE items (both reverse scored) are: "The amount a student can learn is primarily related to family background" and, "If parents would do more for their children, I could do more." Examples of PE items are: "If I really try hard, I can get through to even the most difficult or unmotivated students;" and, "When I really try, I can get through to most difficult students." Teachers were asked to indicate their personal opinions about ten statements using a scale from 1="strongly agree" to 6="strongly disagree."

The Beck Depression Inventory (BDI; Beck et al. 1961) is a standardized measure of depressive symptoms. Subjects are asked to rate 21 groups of four statements in terms of how they the have been feeling the past week, including today between 0 to 3, with higher scores reflecting greater severity of depressive symptoms (e.g., 0="I don't feel disappointed in myself"; 1="I am disappointed in myself"; 2="I am disgusted with myself"; and 3="I hate myself." Total scores range from 0–63.

Beck et al. (1988) reported an average internal reliability of 0.81 for 15 non-psychiatric samples, and test–retest ranged from 0.60 to 0.83 in non-psychiatric samples. Acceptable

convergent validity was also reported in psychiatric and non-psychiatric samples. Scores between 0 and 9 indicate none or minimal depressive symptoms, 10 and 18 indicate mild to moderate depressive symptoms, 19 and 29 indicate moderate to severe depressive symptoms, and 30 and 63 indicate severe depressive symptoms.

The Maslach Burnout Inventory (MBI; Maslach et al. 1996) is a well-validated measure designed to assess burnout, as characterized by high levels of emotional exhaustion and depersonalization and low levels of personal accomplishment. Subjects rated the frequency of 22 statements using a seven-point Likert-type scale, ranging from 0='never' to 6='every day'. Subscales include emotional exhaustion (nine items such as "I feel like I'm at the end of my rope"), depersonalization (five items such as "I don't really care what happens to some students"), and personal accomplishment (eight items such as "In my work, I deal with emotional problems very calmly.")

Self-Report Measure of Mindfulness The battery included one measure of mindfulness.

The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al. 2006) is a 39-item instrument based on a factor analytic study of five independently developed mindfulness measures. This analysis yielded five factors that represent dimensions of mindfulness mentioned above.

Subjects are asked to indicate how true 39 statements describe their opinions, using a five-point Likert-type scale, ranging from 1="never or very rarely true" to 5="very often or always true". These items form five subscales: observing (eight items such as "I notice the smells and aromas of things"), describing (eight items such as "I'm good at finding words to describe my feelings"), acting with awareness (eight items, all reverse scored, such as "When I do things, my mind wanders off and I'm easily distracted", non-judgmental (eight items, all reverse scored, such as "I criticize myself for having irrational or inappropriate emotions"), and non-reactive (eight items such as "I perceive my feelings and emotions without having to react to them").

Self-Report Measure of Self-Compassion The battery included one measure of self-compassion.

The Self-Compassion Scale (SCS; Neff 2003) measures the degree to which one holds compassionate views of oneself in the midst of difficulty or challenge. Self-compassion involves the ability to express care for oneself when encountering painful situations and identifying personal shortcomings, rather than ignoring them or becoming self-critical. Self-compassion also involves recognizing that suffering and personal failure are part of the shared human experience involving taking a balanced approach to one's negative emotions so that feelings are neither suppressed nor exaggerated. The measure asks subjects to report how they typically act towards themselves in difficult times. Twenty-six items are rated on a five-point Likert-type scale, ranging from 1="almost never" to 5="almost always".

The measure has six subscales: self-kindness (five items such as "I try to be loving towards myself when I'm feeling emotional pain"), self-judgment (five items such as "I'm intolerant and impatient towards those aspects of my personality I don't like"), common humanity (four items such as "I try to see my failings as part of the human condition"), isolation (four items such as "When I fail at something that's important to me, I tend to feel alone in my failure), mindfulness (four items such as "When I fail at something important to me I try to keep things in perspective"), and over-identified (four items such as "When I'm feeling down I tend to obsess and fixate on everything that's wrong"). For the purposes of this study, we used calculated a composite score of self-compassion computed by calculating the mean of the SCS subscales (self-judgment, isolation, and over-identification reverse scored).

Analyses

Prior to conducting analyses, data were inspected and several variables appeared to be skewed. All scale scores were checked for normality using the Kolmogorov–Smirnov statistic and were transformed when necessary. Pearson product–moment correlation analyses were conducted to determine the relationships between the independent variables (self-report measures) and dependent variables (CLASS factor scores and TRI perspective-taking and sensitivity of discipline. Less than 5 % of cases were missing data on any variable. Because of this, listwise deletion was used to address missing data.

To determine whether there were significant differences between those high or low on mindfulness and self-compassion, we created a composite mindfulness score computed by calculating the mean of the five factors, and we divided the sample into quartiles by mindfulness and self-compassion. We then compared the two groups to see if they differed in levels of the other independent variables by conducting a series of *t* tests. First, we compared the high and low mindfulness groups on the three CLASS factor scores. Next, we compared the high and low mindfulness groups on the TRI dimensions of perspective-taking and sensitivity of discipline.

Results

Descriptive statistics are reported in Table 1. The BDI scores ranged from 0 to 29.4 (M=7.05, SD=6.30). Twenty-six participants scored in the none-to-minimal range (0–9); seven scored in the mild to moderate range (10–18), and two scored

Table 1 Descriptive statistics

	Mean	SD	α
Depressive symptoms (BDI)	7.05	6.30	0.89
Positive affect (PANAS)	33.83	6.21	0.84
Negative affect (PANAS)	19.67	5.41	0.81
Teaching efficacy (TES)	3.82	1.10	0.77
Personal efficacy (TES)	4.77	0.95	0.81
Self-compassion (SCS)	3.34	0.65	0.92
Observe (FFMQ)	28.86	4.62	0.77
Describe (FFMQ)	29.20	5.94	0.90
Aware (FFMQ)	27.26	6.14	0.89
Non-judge (FFMQ)	28.82	6.57	0.90
Non-react (FFMQ)	21.00	4.43	0.79
Emotional exhaustion (MBI)	23.83	12.75	0.91
Depersonalization (MBI)	3.80	4.32	0.70
Personal accomplishment (MBI)	40.55	6.31	0.67
Emotional (CLASS)	5.39	0.55	0.72
Instructional (CLASS)	3.04	0.65	0.92
Organization (CLASS)	4.64	0.71	0.78
Perspective-taking (TRI)	4.46	1.15	NA
Sensitivity of discipline (TRI)	4.69	1.15	NA

BDI Beck Depression Inventory, *PANAS* Positive and Negative Affect Schedule, *TES* Teacher Efficacy Scale, *SCS* Self-compassion Scale, *FFMQ* Five Factor Mindfulness Questionnaire, *MBI* Maslach Burnout Inventory–Educators' Survey, *CLASS* Classroom Assessment Scoring System, *TRI* Teacher Relationship Interview

in the moderate to severe range (19–29). None scored in the highest level representing severe depressive symptoms (30–63).

Classroom Quality

The Pearson correlation coefficients between the CLASS domain scores and the independent variables are reported in Tables 2, 3 and 4. Table 2 contains the correlations between the CLASS domain scores and the FFMQ factors and self-compassion. Three of the five FFMQ factors and self-compassion were significantly correlated with emotional support: describe (r=0.52, p<0.01), awareness (r=0.50, p<0.01), non-judge (r=0.59, p<0.01), and self-compassion (r=0.38, p<0.05). None of the correlations between the FFMQ factors and self-compassion and classroom organization and instructional support were significant.

Table 3 contains the correlations between the CLASS domain scores and personal and teaching efficacy (TES), positive affect (PANAS), and personal accomplishment (MBI). Personal efficacy and positive affect were significantly correlated with emotional support (r=0.39, p<0.05 and r=0.40, p<0.05, respectively).

Table 2 Pearson product–moment correlations between mindfulness, self-compassion, and CLASS domain scores

Domain	Emotional support	Classroom organization	Instructional support
FFMQ observe	0.23	−0.01	0.20
FFMQ describe	0.52**	0.28	0.27
FFMQ awareness	0.50**	0.25	0.30
FFMQ non-judge	0.59**	0.11	0.09
FFMQ non-react	0.29	0.06	0.08
Self-compassion	0.38*	0.18	0.02

*p<0.05 (two-tailed), **p<0.01 (two-tailed)

Table 4 contains the correlations between the CLASS domain scores and negative affect (PANAS), depression (BDI), emotional exhaustion (MBI), and depersonalization (MBI). Depression was significantly negatively correlated with all three dimensions of the CLASS: emotional support (r=−0.42, p<0.05), classroom organization (r=− .45, p<0.01), and instructional support (r=−51, p<0.01). The two MBI factors, emotional exhaustion and depersonalization, were significantly negatively correlated with emotional support (r=−0.35, p<0.05 and r=−0.46, p<0.01, respectively).

Teacher Attitudes About a Challenging Child

The Pearson correlation coefficients between the TRI interview scores on perspective-taking and sensitivity of discipline and the independent variables are reported in Tables 5, 6 and 7. Table 5 contains the correlations between the five factors of the FFMQ and self-compassion and the two TRI scores. Observe was significantly correlated with perspective-taking (r=0.37, p<0.05), and awareness was significantly correlated with sensitivity of discipline (r=0.41, p<0.05).

Table 6 contains the correlations between the TRI interview scores and personal and teaching efficacy, positive affect (PANAS), and personal accomplishment (MBI). Personal and teaching efficacy were both significantly correlated with

Table 3 Pearson product–moment correlations between efficacy, positive affect, and personal accomplishment and CLASS domain scores

Domain	Emotional support	Classroom organization	Instructional support
TES personal efficacy	0.39*	0.15	0.08
TES teaching efficacy	−0.21	−0.15	0.01
PANAS positive affect	0.40*	0.18	0.20
MBI personal accomplishment	0.23	−0.13	0.01

*p<0.05 (two-tailed)

Table 4 Pearson product–moment correlations between negative affect, depression, emotional exhaustion, and depersonalization and CLASS domain scores

Domain	Emotional support	Classroom organization	Instructional support
PANAS negative affect	−0.15	−0.17	−0.22
BDI depression	−0.42*	−0.45**	−0.51**
MBI emotional exhaustion	−0.35*	−0.32	−0.41*
MBI depersonalization	−0.46**	−0.25	−0.15

*$p<0.05$ (two-tailed), **$p<0.01$ (two-tailed)

sensitivity of discipline ($r=0.40$, $p<0.05$ and $r=0.35$, $p<0.05$, respectively). None of the independent variables was correlated with perspective-taking.

Table 7 contains the correlations between the TRI interview scores and negative affect (PANAS), depression (BDI), emotional exhaustion (MBI), and depersonalization (MBI). Depersonalization was significantly negatively correlated with sensitivity of discipline ($r=-0.46$, $p<0.01$).

Differences Between Those High and Low on Mindfulness and Self-Compassion

Ten participants scored within the top quartile, and eight scored within the bottom quartile on the composite score for mindfulness. Nine participants scored within the top quartile and ten within the bottom quartile for self-compassion. The remaining participants scored within the middle two quartiles on each variable.

The top quartile and the bottom quartile on mindfulness significantly differed on mean levels of emotional support (M=5.65 and M=4.82, respectively) [t (16)= 3.32, $p<0.01$]. The top quartile and the bottom quartile on self-compassion did not significantly differ on mean levels of the CLASS domain scores.

The top quartile and the bottom quartile on the composite mindfulness score significantly differed on mean levels of perspective-taking (M=4.90 and M=3.63, respectively) [t (16)=2.63, $p<0.05$]. The top quartile and the bottom quartile on self-compassion did not significantly differ on either of the TRI scores.

Table 5 Pearson product–moment correlations between mindfulness, self-compassion, and TRI scores

Domain	Perspective-taking	Sensitivity of discipline
FFMQ observe	0.37*	0.32
FFMQ describe	0.08	−0.02
FFMQ awareness	0.31	0.41*
FFMQ non-judge	0.03	0.03
FFMQ non-react	0.20	0.13
Self-compassion	0.10	0.01

*$p<0.05$ (two-tailed)

Table 6 Pearson product–moment correlations between efficacy, positive affect, and personal accomplishment and TRI scores

Domain	Perspective-taking	Sensitivity of discipline
TES personal efficacy	0.05	0.40*
TES teaching efficacy	0.29	0.35*
PANAS positive affect	0.27	0.16
MBI personal accomplishment	0.23	0.20

*$p<0.05$ (two-tailed)

Potential Moderators

To examine whether teacher and classroom variables were related to the outcome variables and therefore potential moderators, Pearson product–moment correlation analyses were conducted to determine the relationships between teachers' years of experience, age, level of education, and the dependent variables (CLASS factor scores and TRI interview scores). Similar analyses were conducted to determine the relationships between class size and the dependent variables. No significant correlations were found among these variables, and therefore, no partial correlational analyses were performed to control for these demographic variables.

Discussion

The results of the present study support previous research suggesting the important role teachers' psychosocial characteristics may play in their ability to establish and sustain a classroom climate conducive to learning and to build and maintain supportive relationships with the children for whom

Table 7 Pearson product–moment correlations between negative affect, depression, emotional exhaustion, and depersonalization and TRI scores

Domain	Perspective-taking	Sensitivity of discipline
PANAS negative affect	−0.14	−0.25
BDI depression	−0.22	−0.30
MBI emotional exhaustion	−0.26	−0.30
MBI depersonalization	−0.30	−0.46**

**$p<0.01$ (two-tailed)

they care, especially those whose behavior they find challenging. Unique to this study are the findings that mindfulness and self-compassion may make important contributions to these competencies.

Classroom Quality

To explore the relationships between the independent variables and the CLASS, we conducted a series of Pearson product–moment correlation analyses. We hypothesized that the FFMQ five factors of mindfulness and self-compassion would be significantly correlated with the emotional support domain of the CLASS. In partial support of our hypothesis, three of the five factors (describe, awareness, and non-judge) and self-compassion were significantly correlated with emotional support. These four factors may reflect the CASEL (2014) social and emotional intrapersonal competencies of self-awareness and self-management discussed in the "Introduction." In this way, mindfulness and self-compassion may make valuable contributions to the social and emotional competencies teachers need to create and maintain an emotionally supportive classroom.

We hypothesized that personal and teaching efficacy (TES), positive affect (PANAS), and personal accomplishment (MBI) would also be significantly correlated with emotional support. Of these, only personal efficacy (TES) and positive affect were found to be significantly correlated with emotional support. It is likely easier for an individual to provide emotional support when reporting more positive feelings on the PANAS such as enthusiastic, strong, alert, and determined. The items that compose the personal efficacy factor of the TES include items that describe emotionally supportive teacher behaviors (e.g., "When I really try, I can get through to most difficult students") as opposed to the teaching efficacy items that are more focused on instruction (e.g., this reverse scored item: "The amount a student can learn is primarily related to family background"). The items that make up personal accomplishment (MBI) are more focused on an individual's sense of accomplishment, rather than their ability to provide emotional support. This may explain why only personal efficacy was correlated with emotional support.

Finally, we hypothesized that depression (BDI), emotional exhaustion (MBI), and depersonalization (MBI) would be significantly negatively correlated with emotional support. Depression was significantly negatively correlated with all three of the CLASS domains. Emotional exhaustion was significantly negatively correlated with emotional support and instructional support, and depersonalization was significantly negatively correlated with emotional support. The finding that depression was significantly correlated with all three CLASS domains is concerning. All three correlations are relatively large ranging from −0.42 (emotional support) to −0.51 (instructional support). Furthermore, none of the teachers in the sample scored in the highest level of the BDI. This suggests that even moderate levels of depression may have a negative affect on teachers' ability to provide emotional and instructional support and effectively manage classroom behavior. It is also notable that depersonalization was significantly related to emotional support and emotional exhaustion was significantly related to both emotional and instructional support. It makes sense that these two dimensions of burnout might impair a teacher's ability to provide both emotional and instructional support.

Teacher Attitudes About a Challenging Child

To explore the relationships between the independent variables and the TRI challenging child interview scores perspective-taking and sensitivity of discipline, we conducted a series of Pearson product–moment correlation analyses. We hypothesized that the FFMQ factors and self-compassion would be significantly correlated with the perspective-taking and sensitivity of discipline dimensions of the TRI. However, only observe was significantly correlated with perspective-taking and awareness was significantly correlated with sensitivity of discipline. The observe dimension of the FFMQ reflects the ability to notice thoughts, feelings, and physical sensations. This may help an individual decenter in order to take a broader perspective on a challenging situation. In order to manage behavior with sensitivity, a teacher needs to have a high degree of awareness of themselves and the child, so it makes sense that the awareness dimension would be related to sensitivity of discipline.

We hypothesized that personal and teaching efficacy (TES), positive affect (PANAS), and personal accomplishment (MBI) would be significantly correlated with perspective-taking and sensitivity of discipline. However, only the significantly correlations were between the two efficacy factors and sensitivity of discipline. This finding has face validity; the TES includes a number of items related to sensitive (and insensitive, reverse-scored) teacher disciplinary behavior.

Finally, we hypothesized that negative affect (PANAS), depression (BDI), emotional exhaustion (MBI), and depersonalization (MBI) would be significantly negatively correlated with perspective-taking and sensitivity of discipline. While only depersonalization was significantly negatively correlated with sensitivity of discipline, this finding is important. In reviewing the teacher burnout literature, Jennings and Greenberg (2009) found that, when teachers lack the social and emotional competence to effectively manage their classrooms, they experience emotional exhaustion, which eventually leads to the tendency towards depersonalization, a callous and hostile attitude towards their students. It make sense that

this would also lead to less sensitive approaches to discipline which may be harmful to young children.

Differences Between Those High and Low on Mindfulness and Self-Compassion

As expected, those participants who scored within the highest quartile on a summary measure of the FFMQ mindfulness demonstrated significantly higher levels of emotional support on the CLASS than those who scored within the lowest quartile. However, contrary to our expectations, this was not the case for those who scored high on self-compassion. This finding is surprising since we found a significant correlation between self-compassion and emotional support.

As expected, those in the highest quartiles of mindfulness demonstrated significantly higher levels of perspective-taking. However, contrary to our expectations, there were no differences in sensitivity of discipline. Furthermore, there were no differences in perspective-taking or sensitivity of discipline between those high and low on self-compassion.

Limitations

Several limitations require mention. First, the sample size (N= 35) is small which limits the interpretation and generalizability of these findings. Correlations provide an understanding of relationships but do not demonstrate causal directionality. Therefore, it is possible that teachers with inherently difficult classrooms due to factors beyond their control were consequently more unhappy, more burned out, less mindful, less self-compassionate, and less efficacious. Furthermore, the data do not provide a level of detail to explore the various mechanisms that may be involved in teachers' well-being and SEC in relation to their classroom quality and relationships with challenging students. Future research with larger samples should explore possible mediating mechanisms and moderators. For example, perhaps well-being factors mediate a causal relationship between mindfulness and classroom climate and supportive teacher–student relationships. A randomized controlled trial of an intervention designed to enhance mindfulness may answer these questions.

Because we collected no data about the individual children reported on by the teachers, we could not assess the degree and frequency of difficulty the teacher actually experienced with the reported child. Future research with larger samples and data on student behaviors and characteristics may allow for a more comprehensive analysis of these relationships. Finally, the present study relied on teachers' self-reports to assess social and emotional characteristics. We suggest that future research consider employing other methods to test the reliability of self-report data such as reports by others (e.g., partner, student, principal), observations in other contexts, and interview methods that focus on these factors.

Implications

Research on teachers' social and emotional characteristics in relation to classroom quality and relationships with challenging students is scant. However, these findings suggest that teachers' social and emotional characteristics may play a critical role in teacher and classroom quality. They suggest that mindfulness and self-compassion are important contributors to social and emotional competence. They also suggest that, by supporting teachers' well-being and social and emotional competence, we may improve their performance and improve classroom quality.

Interventions that prevent depression and promote mindfulness and self-compassion may be particularly helpful. However, such interventions will need to be developed and tested using a randomized, controlled design to confirm this hypothesis. This work is in its early stages, although preliminary results are promising (Benn et al. 2012; Jennings et al. 2011, 2013; Roeser et al. 2012, 2013). Indeed, mindfulness may be a key variable of interest, since it has been linked to so many indicators of well-being. It is possible that teachers who are more mindful are able to self-regulate better providing a buffering effect against the stressors of managing a classroom full of young children.

To conclude, while research has demonstrated that early childhood teachers may deal with highly stressful emotional situations in ways that compromise their ability to create and maintain quality learning environments and to provide support to the children under their care, there is a paucity of research aimed at understanding and supporting teachers' social and emotional competence and well-being as means of promoting resilience and improving their performance and the performance of their students. As educators and policymakers focus on developing metrics of teacher quality, these factors should be included for further consideration.

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