Stress and Release: Case Studies of Teacher Resilience Following a Mindfulness-Based Intervention

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This qualitative collective case study investigates elementary teachers' experience with stress and the mechanisms of change related to developing resilience following a mindfulness-based intervention, Cultivating Awareness and Resilience in Education (CARE). Results suggest that the amount of stress teachers experience is less important than how they conceptualize their stress. Teachers who developed resilience exercised mindful awareness and nonreactivity coupled with a healthy distress tolerance and sense of efficacy. Other protective factors included community support, self-care, and sustained use of practices focused on emotion regulation. Combined, these capacities enabled teachers to respond more compassionately to their students. Implications for professional development that fosters teachers' resilience are discussed.

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Attention to teacher stress has increased in recent years (Greenberg, Brown, and Abenavoli 2016; Richards 2012), with growing acknowledgment that the working environments within which teachers operate are fraught with increasingly challenging and often unreasonable expectations, especially in urban schools (Brunetti 2006; Johnson et al. 2012). Challenges may include but are not limited

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to large class sizes (Horng 2009), increasing numbers of students experiencing food insecurity (Fiese et al. 2011), violence in communities (Maring and Koblinsky 2013), major curricular changes like the Common Core that are not accompanied with adequate resources or professional development (Ajayi 2016), and the proliferation of value-added measures and other teacher-evaluation systems that define effective teaching using student test scores (Hanushek and Rivkin 2006; Jacob 2007). It is well documented that chronic teacher stress results in either reduced effectiveness or “burnout” (Jennings and Greenberg 2009; MacDonald and Shirley 2009), consisting of personal exhaustion, cynicism, and decreased sense of efficacy (Maslach et al. 2001).

A number of environmental conditions as well as personal attributes put teachers at risk of chronic stress leading to burnout. Environmental risk factors include lack of administrative support, classroom management issues, a school culture marked by lack of trust, and unsupportive relationships with colleagues (Gibbs and Miller 2014; Gu and Day 2007; Johnson et al. 2012). Personal attributes that may leave teachers more susceptible to burnout include lack of self-efficacy, values or beliefs that run contrary to school mandates, and lack of confidence in one’s own capacity to teach all students (Hollins and Guzman 2005; MacDonald and Shirley 2009). Teachers experience intense stress when they sense they have been stripped of their own moral compass and must choose between complying with school mandates and acting based on their own discernment of how best to serve their students’ needs (Sanger and Osguthorpe 2013; Schussler and Murrell 2016).

In addition to understanding what puts teachers at risk of burnout, it is critical to know what protects them from these stressors, in essence what factors promote resilience. We define resilience as the phenomenon that occurs when teachers experience stress but continue to maintain a sense of purpose or ability to flourish. Resilience is a construct that has been well researched with at-risk children and youth and is supported with empirically validated conceptual frameworks (see Kumpfer 1999; Luthar et al. 2000). However, far less research has examined resilience among teachers. A few studies apply resilience frameworks developed from researching at-risk children and youth to understanding how teachers manage challenges and counteract stressors inherent in their jobs (Doney 2013; Schelvis et al. 2014). However, the mechanisms by which teachers develop and sustain resilience remain to be understood. Furthermore, there is a dearth of empirical research examining the impact of interventions on teachers’ resilience (Beltman et al. 2011; Griffiths 2014).

Recently, mindfulness-based professional development programs geared toward educators have emerged as a means to help teachers develop resilience to stress and improve their overall well-being. These include Comprehensive Approach to Learning Mindfulness (CALM), Stress Management and Relaxation Techniques (SMART), and Cultivating Awareness and Resilience in Education (Schussler et al. 2018).
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(CARE). A nascent research base has begun to examine the impact of some of these programs (Benn et al. 2012; Harris et al. 2016; Jennings et al. 2013). The majority of this research has been primarily quantitative, focusing on pre/post changes or cross-sectional analyses in preselected outcomes, such as physical symptoms (Harris et al. 2016; Jennings et al. 2013), emotion regulation (Abe-
navoli et al. 2013; Benn et al. 2012), mindful awareness (Jennings et al. 2013; Jennings et al. 2011), and compassion (Benn et al. 2012; Roesser et al. 2013). Few studies explore how teachers experienced these changes, why outcomes changed in the ways they did, and how they relate to teachers’ reported feelings of stress. In addition, few studies examine how a mindfulness-based intervention might support teachers’ resilience by building capacity to manage adverse situations (Beltman et al. 2011) and to maintain a sense of well-being (Gibbs and Miller 2014; Tait 2008).

The purpose of this article is to investigate the development of teacher resilience after teachers receive a mindfulness-based intervention (CARE). Couched in a larger efficacy study of 224 elementary teachers (see Jennings et al. 2017), we qualitatively examined teachers’ experiences with stress and the mechanisms of change related to resilience through a collective case study of three purposively selected teachers: one who articulated positive trends toward developing resilience, one who articulated moderate results, and one who articulated little change. Our investigation also details contextual factors surrounding teachers’ experiences with occupational stress to situate the analysis of how mindfulness affected their resilience.

Overview of Relevant Literature

A vast literature on teacher stress and burnout exists, including a plethora of information about the problematic rates of retention caused by a variety of stressors (Borman and Dowling 2008; Myung et al. 2013; Skaalvik and Skaalvik 2010). It can be argued that teaching falls into the category of jobs that “involve high demands and low control” and therefore “present the greatest risk for health, particularly when combined with little support” (Griffiths 2014, 658). Because the CARE program is a mindfulness-based intervention designed to foster teachers’ resilience, we review the extant research in two areas: (1) teacher resilience and (2) mindfulness-based interventions for teachers.

Teacher Resilience

Teacher resilience lacks a widely agreed-upon definition (Beltman et al. 2011; Schelvis et al. 2014). In their development of a teacher and school resilience
model to help the Netherlands face challenges in its schools, Schelvis et al. (2014) noted that the word “resilience” does not exist in Dutch but cited three words that capture comparable ideas, including *wendbaarheid* (adapting when necessary), *veerkracht* (bouncing back quickly from challenges), and *weerbaarheid* (maintaining confidence when change occurs). The idea of the individual adapting or responding productively to environmental changes is evident throughout the teacher resilience literature, utilizing definitions of resilience that are either explicit (Brunetti 2006; Gu and Day 2007; Tait 2008) or implicit (Griffiths 2014; Howard and Johnson 2004). Brunetti (2006), for example, defines teacher resilience as “a quality that enables teachers to maintain their commitment to teaching despite challenging conditions and recurring setbacks” (813). Persevering can also take the form of recovering, as in the definition of resilience used by Gu and Day (2007): “capacity to continue to ‘bounce back’, to recover strengths or spirit quickly and efficiently in the face of adversity” (1302).

In the prevention science literature, resilience has been defined as an individual’s ability to overcome potential negative trajectories and function adequately despite the presence of risk and/or trauma (Fergus and Zimmerman 2005; Masten 2011). Resilience research, then, investigates mechanisms that promote or inhibit resilience rather than just examining indicators of risk (Saltzman et al. 2011). Resilience can either involve how the individual avoids negative outcomes or realizes positive outcomes (Fergus and Zimmerman 2005), which may take the form of looking at “successful adaptation” (Perkins and Borden 2003, 384) in spite of inordinate adversity. Protective or “promotive” factors must be present for an individual to successfully adapt despite the presence of risk factors. Fergus and Zimmerman (2005) divide promotive factors into two distinct groups: (1) assets—qualities or traits occurring from within the individual—and (2) resources—supports that originate from the environment. When risk factors are present, the probability of a negative outcome varies greatly depending on the protective factors present (Perkins and Borden 2003). In this study we draw from Perkins and Borden’s (2003) framework, conceptualizing resilience as the phenomenon that occurs when teachers experience stress but possess promotive assets that allow them to maintain their sense of purpose.

Literature on teacher resilience adopts a similar approach to the well-established frameworks on resilience of at-risk children and youth by discussing risk and protective factors that reside both in the environment and the individual. Howard and Johnson (2004) claim that teachers can learn skills that nurture their own resilience. One of the individual protective factors frequently noted for improving teacher resilience is efficacy (Doney 2013; Gu and Day 2007, Howard and Johnson 2004; Tait 2008). Teachers who are more efficacious—who have a greater sense of competence, especially in areas such as effective lesson planning and classroom management (Howard and Johnson 2004;
Richards et al. 2014)—are more likely to overcome adversity. Observations and beliefs about what they are already capable of doing affect their beliefs when adverse events occur. According to Gibbs and Miller (2014), “Teachers who can be helped to demonstrate they can produce the outcomes they need may have a greater belief that such effects can be reproduced in the future” (612). Furthermore, efficacy not only predicts resilience but also can build resilience (Gu and Day 2007) by reinforcing itself, similar to Frederickson’s (2004) broaden-and-build theory of positive emotion. In the broaden-and-build theory, positive emotions, such as joy and interest, broaden the psychological mind-set, what Frederickson calls the “thought-action repertoire” (1369), and help build personal resources, which may be needed when one encounters stressful situations. Similarly, efficacy helps build the psychological reserve to enable one’s resilience during stressful incidents.

Other individual protective factors include becoming less emotionally reactive when facing challenging situations (Sharp and Jennings 2016) and learning strategies of self-care (Beltman et al. 2011; Schussler et al. 2016). Howard and Johnson (2004) suggest that mentors working with new teachers should help them learn “strategies of de-personalizing stressful incidents” (415). Depersonalizing simply entails not taking things personally. The stressful incidents will always exist, but educators can alter the way they view such incidents; this approach is also referred to as “reappraisal” (Gross and John 2003; Montgomery and Rupp 2005).

Environmental factors that promote teacher resilience are also suggested throughout the literature. Beltman et al. (2011) note that administrative support was the most highly studied environmental protective factor, with 50% more studies addressing this issue than mentoring and peer support, which were tied for second as the most studied environmental protective factors. School-support protective factors include creating positive experiences to increase teachers’ mastery and efficacy (Gibbs and Miller 2014; Gu and Day 2007), creating development opportunities for teachers (Griffiths 2014), having supportive personal relationships between teachers and administrators (Brunetti 2006; Gibbs and Miller 2014; Howard and Johnson 2004), and teaching in a school with a strong institutional mission that creates a feeling of support among faculty (Gu and Day 2007). Support from colleagues and a sense of support networks within the school culture also serve as vital protective factors for teachers (Doney 2013; Howard and Johnson 2004; Tait 2008).

In sum, resilience encompasses both environmental and individual protective factors that may differ depending on the individual teacher, but it likely includes an individual sense of efficacy and the existence of supportive relationships and mission-driven institutional structures (Gibbs and Miller 2014; Gu and Day 2007; Tait 2008).
Mindfulness-Based Interventions for Teachers

Research on mindfulness-based programs for teachers (CALM, SMART, and other adapted mindfulness-based stress reduction [MBSR] programs) offers some insights into potential protective factors that seem to help teachers build their resilience. These factors include awareness (physical, cognitive, emotional), emotion regulation, and compassion, including self-compassion. CALM involves yoga, somatic breathing, intention setting, and caring practices (Harris et al. 2016); participating educators can attend up to 4 times a week for 20 minutes before school. SMART is based on Kabat-Zinn’s (1990) MBSR program with additional content on forgiveness, emotion theory and regulation, and compassion practices all geared toward teachers (Benn et al. 2012; Roeser et al. 2013). Flook et al. (2010) and Frank et al. (2015) studied separate 8-week MBSR programs adapted for teachers.

Results of these studies indicate that mindfulness-based interventions improved teachers’ awareness, cognitively and/or physically (Abenavoli et al. 2013; Flook et al. 2013; Harris et al. 2016; Roeser et al. 2013). SMART and MBSR participants increased working memory and experienced greater awareness of physical sensations and their physical surroundings (Benn et al. 2012; Flook et al. 2013; Roeser et al. 2013). CALM participants showed a decrease in reported daily physical symptoms, like headaches and stomachaches (Abenavoli et al. 2013; Harris et al. 2016), whereas MBSR participants experienced improvements in sleep quality (Frank et al. 2015). In addition to awareness of their physical condition and physical surroundings, teachers who participated in a mindfulness-based intervention seemed to gain increased awareness of their emotions and heightened ability to regulate their emotions (Benn et al. 2012; Flook et al. 2013; Roeser et al. 2013). CALM participants showed a decrease in reported daily physical symptoms, like headaches and stomachaches (Abenavoli et al. 2013; Harris et al. 2016), whereas MBSR participants experienced improvements in sleep quality (Frank et al. 2015). In addition to awareness of their physical condition and physical surroundings, teachers who participated in a mindfulness-based intervention seemed to gain increased awareness of their emotions and heightened ability to regulate their emotions (Benn et al. 2012; Flook et al. 2013; Frank et al. 2015; Taylor et al. 2016). In fact, Flook et al. (2013) found a reciprocal effect among emotion regulation, burnout, and attention, whereby “an increase in self-reported non-reactivity was associated with reductions in both psychological symptoms and depersonalization and with increases in an objective measure of sustained attention” (189). Depersonalization in Flook’s study is a component of burnout, described as “an unfeeling and impersonal response towards recipients of one’s care” (Maslach and Jackson 1981, 101). In addition, teachers in SMART described greater awareness and control of their “response to salient emotional triggers” (Benn et al. 2012, 1483). Teachers’ capacities for emotion regulation may relate to increased compassion for others, although this causal link is not yet supported empirically (Benn et al. 2012). The studies that measured emotion regulation and self-compassion found gains in positive directions for both (Flook et al. 2013; Frank et al. 2015; Roeser et al. 2013).
Although studies of mindfulness-based interventions for teachers frequently include a measure of “efficacy,” these measures explore different aspects of efficacy, including efficacy in emotion regulation (Benn et al. 2012; Frank et al. 2015; Taylor et al. 2016), forgiveness (Taylor et al. 2016), and teaching (Benn et al. 2012; Harris et al. 2016). It can often be difficult to interpret these efficacy findings, especially when viewed in conjunction with other findings, including aspects of mindfulness. Frank et al. (2015) found, for example, that secondary teachers who participated in MBSR reported greater efficacy in their ability to remain calm and focused on the present when dealing with stressors; however, the teachers did not report increased confidence in their capacity to accept challenging emotions. The researchers concluded that although the participants could cognitively engage in the practice of mindfulness and feel confident in their ability to do so, they likely needed more practice to feel comfortable with the subcomponent of acceptance. In contrast, Harris et al. (2016) found that teachers who participated in CALM reported gains in their distress tolerance, which is their ability to withstand negative emotions, a construct that arguably is similar to mindful acceptance. Although CALM did not affect teachers’ cognitive emotion regulation strategies (e.g., reappraisal and expressive suppression of emotion), Harris et al. concluded that participation “instead helped participants to cope more effectively with negative emotions and distress” (151), which likely relates to their efficacy, although efficacy of emotion regulation was not directly measured. These nuances of how various mechanisms operate together illustrate the need for more in-depth analysis.

The results of mindfulness-based studies for teachers should be taken somewhat cautiously, as the field is growing. In fact, a recent review notes that although outcomes tended to be positive, the quality of studies is “inconsistent,” with a lack of randomized controlled trials (Lomas et al. 2017). Small sample sizes plague a number of studies (e.g., Flook et al. 2013), and measures tend to focus on mental health deficits (e.g., Harris et al. 2016) as opposed to work engagement or flourishing.

CARE for Teachers

CARE is a mindfulness-based professional development program that includes mindful awareness training, emotion skills instruction, and compassion practices. It was developed to improve teachers’ awareness and well-being and to enhance classroom learning environments (see fig. 1). In a previous study of CARE, quantitative results with a cohort of urban and suburban teachers in a small metropolitan area showed that, compared with teachers in the control group, CARE teachers experienced significant improvements in general hurry, certain aspects of mindfulness like “observing” and “nonreactivity,” teaching

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efficacy, and physical symptoms (Jennings et al. 2013). Findings from qualitative studies of this same population involved focus groups exploring teachers’ awareness and mindful nonreactivity to emotional stressors (Schussler et al. 2016). Increased self-awareness of their physical symptoms and typical emotional reactions facilitated teachers’ capacity to regulate their emotions, which they reported positively affected their relationships with colleagues, students, and family members. Efficacy did not emerge, although Schussler et al. (2016) hypothesized that “increased awareness and emotional regulation improves teachers’ effectiveness”; therefore, when teachers were interviewed, they “described experiences that resulted from their increased efficacy but did not explicitly attribute those experiences to greater efficacy” (139).

A recent randomized controlled trial of the CARE intervention involved a sample of 224 teachers in 36 urban elementary schools for an efficacy study (see Jennings et al. 2017). We hypothesized that, compared with controls, CARE teachers would show improvements in measures of adaptive emotion regulation, teaching efficacy, mindfulness, psychological distress, and physical distress. Adaptive emotion regulation refers to cognitive reappraisal and emotion suppression (Gross and John 2003). Teaching efficacy refers to teachers’ beliefs about their capacity to positively affect aspects of students’ learning and engagement (Tschannen-Moran and Hoy 2001). Mindfulness involves being aware, non-judgmental, and emotionally nonreactive and then acting from that state of mind (Baer et al. 2004). Psychological distress included teachers’ overall emo-

FIG. 1.—CARE logic model. Reprinted from Jennings et al. (2013).
tional health, burnout, stress, and time pressure. Following a factor analysis, the main outcomes analyzed in the study by Jennings et al. (2017) included adaptive emotion regulation, teaching efficacy, mindfulness, psychological distress, and time urgency. The results showed significant direct effects of the CARE intervention on four of these five factors. After 1 year, teachers showed higher levels of adaptive emotion regulation and mindfulness and lower levels of psychological distress and time urgency on the quantitative measures. Unlike a previous study (Jennings et al. 2013), there was no effect on teaching efficacy. In addition, classroom observations by independent raters showed CARE teachers provided higher levels of emotional support and classroom organization than teachers in the control group (Jennings et al. 2017).

This article focuses on a qualitative analysis of a subsample of teachers from this larger study. Analyzing case studies of individual participants with different experiences is an initial step in beginning to understand not only whether participants demonstrated improvement across measures, as indicated in the quantitative data, but the context and nuance of whether and how those measures synergize into teacher resilience.

Method

Participants

Qualitative data consisted of full interview transcripts from 21 participants selected from the larger study after the collection of all quantitative data. The self-identified racial/ethnic background of the full sample of 224 teachers was 33% white, 31% Hispanic, 26% African American, 4% Asian American, and 5% mixed background. The average age was 41 years, with the age range from 22 to 73. Participants averaged 12.5 years of school teaching and were all at the elementary level. Participants gave active consent to participate in the study, in accordance with university and local department of education institutional review board procedures. Participants for the qualitative interviews were recruited from and demographically mirrored the full study sample. All teachers were invited to participate by indicating their willingness to participate in a 60- to 90-minute phone interview at a time of their convenience. Those who agreed to an interview received a gift card to DonorsChoose. The 21 teachers participating in qualitative interviews completed all intervention activities and measures.

As we coded the interviews, we noticed that the 21 teachers naturally separated into three broad groups: those who articulated very positive changes across a number of measures following CARE ($n = 6$), those who experienced...
some positive changes \((n = 9)\), and those who did not express much change \((n = 6)\). Therefore, we chose to base our analysis on a “collective case study” for which the specific cases were selected “because it is believed that understanding them will lead to better understanding, perhaps better theorizing, about a still larger collection of cases” (Stake 1998, 89). Our purpose was to understand the development of resilience; therefore, it was important to use maximum variation sampling (Patton 1990) to select cases that provided an “intensive, holistic description and analysis of a single instance” (Merriam 1988, 21). We identified the following three teachers (all proper names are pseudonyms) as typical cases for these categories (McMillan 2004).

**Least positive: Taylor.**—Taylor had been teaching 15 years, with 7 years at her current school. On a scale of 1–5, with 5 being the highest, she ranked her stress related to students, the curriculum, and the administration all as 5. Like a few others, there was little to code in a number of major categories; furthermore, she demonstrated little evidence of using the practices learned in CARE outside of the program.

**Moderately positive: Maria.**—Maria had been teaching 10.5 years, almost entirely at her current school. She taught for half a year at another school. She ranked her stress as 2 for students and 3 for the curriculum and administration. Maria showed more evidence of nonreactivity (one aspect of mindfulness) and noted quite a few practices she learned in CARE training.

**Most positive: Ariana.**—Ariana had been teaching for 11 years, all at her current school, the same school as Taylor. Ariana ranked her stress related to the students as 3, the curriculum as 1, and the administration as 3. Ariana’s transcript provided a breadth of concepts requiring coding and more depth in terms of what was being coded, especially regarding emotional awareness. She also noted more sustained practices and more sources of support, including the importance of conducting professional development in the community.

**CARE Professional Development**

CARE for Teachers Professional Development (CARE PD) aims to improve teachers’ social-emotional competence through a variety of pedagogical activities: small- and large-group discussion, direct instruction, mindful exercises, and personal reflection. Activities are presented iteratively to reinforce concepts and skills. The program included 30 contact hours total, which took place in four daylong sessions over a 6-week period and a booster session that took place 2 months after the fourth session. Participants received a workbook and practice CD to initiate their own personal practice beyond the program. They also received coaching calls on the phone.
Interviews

We conducted individual interviews to contextualize teachers’ experience of occupational stress and to clarify the mechanisms of change that contribute to teachers’ development of resilience following CARE. Interviews were semi-structured and took place over the phone at a day and time that participants agreed was convenient for their schedules. Interviews took place almost 1 year after the end of official CARE activities because we wanted to assess which skills and concepts endured over time. The interviewers were a part of the research team; one conducted coaching calls for CARE PD.

The interview protocol consisted of questions about what was most enjoyable and most challenging about teaching, sources of stress both before and after receiving CARE PD and the extent to which they felt stressed by each, how they handle stressful situations currently and previously, the role that student and teacher emotions do play and should play in the classroom, why they participated in CARE, how they would describe CARE to others, what was most and least helpful about the program, whether there were any skills they learned in CARE that they continued to use and how, whether they would participate in CARE again and why, and what kind of teacher they thought would most benefit from CARE. The protocol did not include specific questions about the five factors in the quantitative study because individuals may feel social pressure to present themselves in a certain way or may struggle to accurately describe psychological constructs; however, they are adept at revealing these constructs when they describe situations, especially critical incidents such as times of stress (Weiss 1994; Wilson 2002). Participants were encouraged to elaborate on their responses. Interviews were taped and transcribed in their entirety. All identifying information was removed to maintain confidentiality.

Data Analysis

Our coding system was partially emergent and partially a priori (Stemler 2004). We wanted participants’ descriptions of how they managed stress before and after the CARE training, so our coding system began with specific sources of stress: students, curriculum, administration, other school stressors, and non-school-related stressors. It became evident that some participants also described sources of support, so we added this category. To understand resilience, including managing stress and enhancement of well-being, we carefully examined how participants described stressful events before and after CARE and the mechanisms that facilitated or inhibited any changes. Consequently, the bulk of our coding involved “mechanisms of change”—malleable factors that seemed
to affect teachers’ resilience to stress: distress tolerance, mindfulness, physical symptoms, hurry/time pressure, efficacy, compassion/empathy, self-care. Our “mindfulness” code was defined with the subscales of the Five Facets of Mindfulness Questionnaire (Baer et al. 2008), which includes description, observation, acting with awareness, nonjudging inner experiences, and nonreactivity to inner experiences. Most mindfulness codes related to acting with awareness and/or nonreactivity.

The codes we used differed somewhat from the measures used in the quantitative study in an effort to most accurately capture the qualitative data. For example, based on the interview data, we included the following codes: (1) distress tolerance, defined as the degree to which individuals are willing to withstand negative emotions before pushing them away, trying to change them, or becoming absorbed in them (Simons and Gaher 2005); (2) compassion/empathy, defined as “feeling for” or “feeling with” another person out of an interest for the other’s well-being, specifically, “feelings, cognitions, and behaviors that are focused on caring, concern, tenderness, and an orientation toward supporting, helping and understanding the other(s)” (Sprecher and Fehr 2005, 630); (3) self-care, defined as inward compassion—examples include teachers’ recognition of the importance of taking care of themselves or purposeful actions to achieve that end. We also included codes to capture the frequency, nature, and context of adopted practices. Through an iterative process, we developed and refined a codebook based on all codes. Unless otherwise noted, references to coding indicate the qualitative data only.

After working through two interviews to establish our codebook and refine our codes, four coders worked in pairs to code all 21 interviews using NVivo 10. Coding pairs coded individually, wrote memos, then met weekly, via telephone, to reach consensus. All four coders discussed issues that arose in the paired discussions, employing what Campbell et al. (2011) refer to as the “negotiated agreement approach,” which makes sense for semistructured interviews with complex data where “generating new insights” (306) is the primary motive. The codebook was refined and ambiguities regarding the application of constructs to interview data were clarified throughout. Percentage of agreement was calculated at 97%, which is an acceptable threshold and was selected given the complexity of the data set and problems with standardizing the units of meaning (Campbell et al. 2011; Kurasaki 2000).

Using NVivo 10, we conducted matrix analyses indicating prevalence of codes across participants and categories. We ran two kinds of analyses: (1) coded units and (2) “row percentage.” Because a coded unit could be a partial sentence or an entire paragraph, we conducted row percentage analyses in conjunction with calculating the number of coded units because it takes the prevalence of data into account. These analyses helped highlight participants who discussed certain categories more than others and also showed which codes tended to
cluster together for particular participants. After selecting the 3 cases from the 21, we examined the raw data coded within each cell of the matrices to better understand how participants were describing their experiences of stress and mechanisms that affected their resilience.

Results

Results are divided into two broad categories: teachers’ sources of stress (see table 1) and mechanisms of change (see table 2). Darker shadings represent more data within the subcategory, and lighter shadings indicate less. Narrative accounts throughout provide rich insight into the mechanisms underlying how teachers developed resilience following CARE PD.

Source of Stress

Given that Taylor labeled all three areas—students, curriculum, administration—as causing the highest level of stress (5 on a 1–5 scale), one would think she would have the most coded units in these areas. Interestingly, Ariana had the most total coded units for stressors, with the most in all categories except for administration (see table 1). However, the ways that teachers describe these stressors show marked differences. Although Ariana has 3 times as many coded units for “sources of stress—students” as Maria, Ariana’s description of why she is stressed extends beyond herself and her own well-being to a deep concern for the well-being of her students. Ariana notes throughout her interview that many of her students have difficult home situations. Yet, she has high expectations, and her stress seems to result from a strong desire for students to meet these expectations. When explaining how students cause her stress, Ariana said:

I just feel this burden of wanting them to be successful, and it’s not a burden in a sense but I take it on myself even if they have terrible home lives. Even though, intellectually I know that I can’t force this kid to come to school, intellectually I know that I can’t make this person have a better parent, I don’t understand that in the moment. So my stress level, because I take on the role of mother, I take on the role of, “You’re going to do well because it’s what you need to do,” and there’s no rationalizing in that stressful moment with me.

Ariana’s description differs from Taylor’s description of how students cause her stress and why she gave it a 5: “Because it can go any kind of way. You have to think about every situation. You have to think about the kid, you got to think

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<th>Coding Reference</th>
<th>Student</th>
<th>Curriculum</th>
<th>Administration</th>
<th>Other School</th>
<th>Stressors</th>
<th>Managing Stress Inside CARE</th>
<th>Outside CARE</th>
<th>Sources of Support</th>
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NOTE—Darker shading represents more data within the subcategory, and lighter shading indicates less.
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<th>Compassion/ Empathy</th>
<th>Self-Care</th>
<th>Community Collegiality</th>
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**NOTE.**—Darker shading represents more data within the subcategory, and lighter shading indicates less.
about their parent, you got to think about another adult seeing it. Something may happen and they may blame you, and next thing you know you got to worry about your job, or you got to worry about going to disciplinary. It’s just a whole lot of things that when a child is out of control, it can open up a whole bunch of different negative experiences.” In reference to a specific student, she said, “I just let him act the way he was acting and let administration handle it, because I didn’t know what to do. They don’t give us any kind of strategies to deal with children that have . . . basic behavior issues.” Both Taylor and Ariana differed from Maria, whose comments mostly had to do with instances where one student’s behaviors would “throw off the equilibrium” for both her and the rest of the class.

For Taylor, the focus was on herself and how she was affected by the actions and behaviors of others. In contrast, Ariana was focused on others. This was evident in Ariana’s description of other school stressors as well. Ariana agreed to assume the role of the lead science teacher for her school, which meant rather than having her own classroom of approximately 30 students, she assumed responsibility for 400. She worried that she could not develop rapport to teach them as effectively as she wanted. She also expressed concern for nontenured teachers with the new teacher accountability policies in the state: “We didn’t know how the system was going to work, how would that impact our jobs, how would that impact tenure possibly for teachers.” Ariana already had tenure, so these changes had less direct effect on her personally, yet she was worried for her colleagues.

Teachers were not specifically asked about sources of support, although Ariana noted a few throughout her interview. Her comments mostly focused on how her administration serves as one of those sources of support. She notes the “freedom” and “lack of micromanagement” as positives for her because she had the flexibility and “encouragement” to try new things. In contrast, Taylor viewed the administration as “trying to catch you doing something” wrong and commented about needing to leave that school. Taylor and Ariana worked in the same school with the same administration, which means they likely either had dissimilar experiences with administrators or they related to the administration very differently, with Ariana viewing the relationship as more supportive and Taylor viewing the relationship as more antagonistic.

Mechanisms of Change

Mechanisms of change consist of the malleable, protective factors contributing to teachers’ resilience and any practices learned in CARE PD that supported this development. Although mindfulness was one of the most prominent outcomes for all three cases, as seen in the lower half of Table 2, the upper half of
Table 2 shows that Ariana and Maria had 2.5 to 3 times as many coding references to mindfulness as Taylor. Many comments were classified as “nonreactivity,” although they were qualitatively different. Taylor’s comments seemed to center on getting out of situations. In describing how she handled a stressful situation with a colleague, she said it was “the straw that broke the camel’s back that made me realize that I’m not going back to that school, no matter what.” She said CARE helped her be nonreactive: “I just kept my mouth quiet because I learned not to be reactive, just to really control myself.” Yet, Taylor’s nonreactivity may have embodied suppression more than purposeful redirection of her emotions. In contrast, Maria describes nonreactivity as a means to pause and then respond more appropriately rather than becoming inwardly angry or resentful: “So when I get aggravated, or agitated by any type of situation, instead of me just flying off the handle, I learned to take deep breaths, kind of relax before I respond. You know, do a little mini time-out for myself.”

The mindfulness code by itself portrayed some interesting differences between the cases. During coding, however, we found it instructive to examine mindfulness, efficacy, and distress tolerance together, as key passages were often multicoded. Furthermore, across participants, these codes interacted to reveal qualitatively different phenomena. For example, although the efficacy code was used across all three teachers, Taylor’s comments represented a lack of efficacy, which related to her acceptance that some situations were problematic (mindfulness—acting with awareness) and nothing could be done (distress tolerance). In describing a stressful situation with a student, Taylor said, “There was a little boy . . . that had some really emotional issues, and I tried to deal with it. I just let him just be, because, again, I didn’t want to react, and I just called administration and I just let the boy carry on and act the way that he was acting because I didn’t know how to handle him. The schools don’t really teach us how to deal with students that have these emotional problems.” When asked if she dealt with these kinds of situations the same or differently from before she received CARE training, she noted, “It’s different. I close my mouth. I don’t say one word. . . . I look at it like you’re damned if you do, damned if you don’t. If I say something it’s a problem. If I don’t say something it’s still a problem.” Taylor’s low sense of efficacy seemed to indicate learned helplessness (Maier and Seligman 1976) whereby she felt no sense of control.

In contrast, Ariana and Maria also demonstrated acceptance that is characterized by mindfulness—acting with awareness, nonreactivity—however, it was associated with greater efficacy. For example, Maria explained a situation with a student and how she handled it differently after CARE: “I was able to walk away from that situation not feeling defeated. . . . I felt that it just means trying to connect with that child and letting her know, ‘It’s OK,’ just trying different options.” At another point, Maria says, “I’m going to move forward, these kids need to learn, and they’re not going anywhere. We’re going to do
what we have to do as professionals, and I just keep moving.” Although her distress tolerance may seem similar to Taylor’s because of the way it is manifesting (i.e., walking away), her heightened efficacy causes her distress tolerance to take on different meaning. The end result was not to give up on the situation but rather to “walk away” from negative emotions that the situation triggered and, if anything, remain resolute in her personal and professional mission to “connect” with and help all her kids “learn.”

It was not that teachers who had more positive experiences with CARE uniformly expressed an increase in their sense of efficacy. The results portray more nuance than that. For Ariana, the increase in mindfulness gained from participation in CARE accompanied an awareness of her limitations, what outwardly could seem to be a decrease in efficacy: “So, I definitely think that understanding I’m not an expert, I may be an expert at fractions or something, but I’m not an expert when it comes to everything with teaching, which is kind of an arrogance that you build. . . . You become this ‘I’m superwoman and I can do everything.’” In contrast with learned helplessness, this awareness represented more an acceptance of realistic expectations (mindfulness/nonjudging).

Another interesting pattern involved the “compassion/empathy” category, which involves focusing on another’s well-being. Taylor did not have any coded units in this category, whereas Maria and Ariana had six and five, respectively. Increased compassion/empathy was marked by the teacher’s ability to be “in the moment” with others, especially students, and to treat them more as individuals with particular needs, not just problems that required their attention. Not surprisingly, increases in mindfulness, especially acting with awareness and nonreactivity, seemed to facilitate compassion/empathy. For example, Ariana commented, “You’re so used to the system and the status quo you don’t realize that you’re at a point where you’re not connecting with the kids, even though you think you are. You’re not connecting with their humanity.” As a result of the CARE training, Maria said, “When I did respond to the kids, it was becoming more nurturing, it was becoming more understanding, and becoming more patient. And understanding that, trying to really, really connect with the kids, rather than looking at them as little people. I look at them as a person who, like myself, wanted that attention and really yearned for it and needed it. . . . It did get so much better, so much better.” For Maria and Ariana, awareness extended beyond self-awareness into relational awareness, namely, their ability to extend compassion to their students. But as Ariana and Maria both noted, it was their awareness of a lack of connection that preceded their efforts to connect more meaningfully and act more compassionately.

Of the three teachers, Ariana had significantly more coded units in the “self-care” and “community/collegiality” categories, 3–4 times as many. Sometimes these two categories were interrelated. For example, Ariana said, “My favor-
ite thing that stays with me now, that I still mention to the women who did it with me, was that sense of community that developed because you took time for yourself.” She also noted, “I think it’s healthy to have teachers talk about the stress and not just, ‘my curriculum’s incomplete’ but the frustrations, the pain, the emotional disconnect that they feel sometimes.”

Not surprisingly, Ariana offered the most evidence of sustaining CARE practices even well after the training had ended, including a number of practices that she did in collaboration with other teachers—those who participated in CARE as well as those who did not. For example, she talked about getting colleagues out to go for a walk, without the pressure of time: “We don’t have any goal in mind. We’re not rushing back. We’re going to take the full time to do it, and people actually have built better relationships, which I think helps you manage the stress.” She models mindful nonreactivity to non-CARE participants: “I say to my colleague who hasn’t had CARE, ‘Let’s just chill for a moment or do this or let’s go outside for a walk.’” Maria also practiced self-care, adopting a number of practices from the CARE training, like mindful eating, breathing, and body scan. Across interview participants, breathing was consistently mentioned as a practice that most resonated and that was used with regularity.

Discussion

The purpose of this collective case study is to provide an in-depth analysis of how different teachers manage stress and develop resilience following a mindfulness-based intervention. Investigating patterns of individuals’ subjective experiences is necessary for understanding how the mechanisms of change in a PD program like CARE function to develop resilience, which includes managing stress as well as improving well-being.

Regarding stress, we found that the amounts and sources of stress that teachers experience were less important than how they conceptualized their stress. Initially, it may have seemed that Ariana experienced more stress than Taylor and Maria because she had more coded units for total stress, including more in the “student” subcategory. However, this stress was substantively different than that of the others. The stress Ariana articulated was characterized by a strong concern for students’ welfare and their ability to reach high expectations. A robust personal mission to meet the needs of students is an individual protective factor that seems to buffer against various school stressors. In their study of three resilient teachers, Gu and Day (2007) similarly concluded that despite facing challenges, “determination and sustained commitment to [one’s] professional and moral beliefs” (1313) help teachers to thrive and promote resiliency.
Our results suggest that emotion regulation in the face of pervasive and sometimes intense stressors is also a potent protective factor for teachers (Castro et al. 2010; Howard and Johnson 2004), and it is related to greater mindfulness. The three teachers in this study articulated increased mindfulness, especially in the form of awareness of their emotional states that could impede productive communication and relationships with others. Researchers studying mindfulness-based interventions frequently find improvements in teachers’ emotion awareness following the intervention (Benn et al. 2012; Flook et al. 2013; Frank et al. 2015; Taylor et al. 2016). However, greater emotion awareness is a necessary but insufficient aspect of emotion regulation leading to purposeful action. Ariana and Maria reported that greater emotional awareness led to an ability to respond more appropriately to others, whereas Taylor articulated that she used this awareness to retreat from conflict situations altogether. We hypothesize that to foster resilience effectively, emotion awareness must be coupled with a capacity to respond productively when stressful situations and intense emotions arise.

Efficacy and distress tolerance seem to enable this capacity and thus are critical components of the resilience construct. This finding supports and expands on extant literature highlighting the role of teacher efficacy in predicting and developing resilience (Gibbs and Miller 2014; Gu and Day 2007) by specifying the kind of efficacy needed. In this study, the teacher’s ability to withstand negative emotions and to channel them constructively was more important than becoming aware of what triggered the teacher to respond in a potentially negative way, such as with anger or frustration, or in a way that failed to acknowledge the humanity of the others involved. The teachers could step away in that moment, take a “mini time-out,” but had to be willing to engage and continue working to achieve the best possible outcomes, especially for the students. They needed a strong sense of purpose and the efficacy to believe they were capable of achieving that purpose (Doney 2013; Howard and Johnson 2004; Tait 2008). Ariana’s and Maria’s distress tolerance and efficacy aligned with their mindfulness in this way, but Taylor was lacking in efficacy, and she struggled to think differently about or reperceive (Shapiro et al. 2006) negative emotions. Instead, Taylor engaged in learned helplessness and what appeared to be emotional suppression (Gross and John 2003), whereby there was nothing she could do to improve problematic situations except follow the path of least resistance by disengaging. Her withdrawal from the situation was more permanent, not temporary. It is possible that Taylor’s reaction resulted from her increased mindfulness, specifically greater awareness of her own thoughts. Davidson and Kaszniak (2015) note that “as individuals become more mindful of their internal experience . . . they may actually become more dysphoric, at least in the short term, as they notice how chaotic their minds actually are” (585). However, given her lack of efficacy in effecting change, espe-
cially with challenging students, her increase in self-awareness may not result in greater resilience, given her compromised well-being.

Efficacy may also be important insofar as it relates to personal mission. A low sense of efficacy, expressed by a lack of knowing what to do when problems arise, could relate to an inability to maintain one’s personal mission or a lack of a mission. Although we did not ask participants explicitly about their teaching philosophy or mission, this came through in text coded in the “efficacy” category. For two of the three teachers, positive expressions of efficacy contained representations of a personal mission and the belief in their own skills to fulfill that mission, that mission being to connect with students and help them learn. Like positive emotions that create a productive psychological mind-set in the broaden-and-build theory (Frederickson 2004), we hypothesize that a strong sense of personal mission may be a key promotive factor that develops teachers’ resilience. Future research should investigate the organizational structures that value and promote this kind of teacher efficacy and thus cultivate resilience.

Not surprisingly, Maria and Ariana also showed higher rates of compassion, demonstrated in their desire to humanize their students. Taylor continued to view behavior issues with students through a lens of problems with which she felt ill-equipped to contend, as opposed to challenges she could overcome and personal connections she could improve. We conjecture that teachers’ mindful awareness and nonreactivity coupled with a healthy distress tolerance and sense of efficacy enables their ability to respond to others in a way that recognizes their humanity and maintains effective relationships, which, in turn, improves teachers’ well-being. Teachers may increase their well-being when their own stresses are not all-consuming and they feel more connected, or at least better able to connect, with their students. These results are consistent with previous research of mindfulness-based interventions for teachers (Benn et al. 2012; Taylor et al. 2016). Benn et al. (2012) found that the shift in perception fostered through greater mindfulness allowed teachers to perceive “the other without the veil of clouded judgments,” which likely “encourage[d] individuals to become kinder and more sensitive to the needs of others” (1484). Taylor et al. (2016) concluded that better relationships had the reciprocal effect of reducing teacher stress. Although we are unable to claim causality from the present study, it is worth noting that the teacher who had the lowest prevalence of coding in the compassion category also rated her stresses involving students and administration with the highest number.

The existence of additional protective factors, such as community support and self-care, promotes teachers’ resilience and their ability to capitalize on a mindfulness-based program like CARE. Ariana noted the most sources of support, recognized and practiced self-care, and highlighted the importance of being in a supportive community. It may be that her perception of already being supported and having a community safety net gave her permission to set
appropriate limits on herself, not to engage in learned helplessness but to recognize the boundaries around what she reasonably could accomplish in her role, and to accept and operate within those limits. Because Ariana worked at the same school as Taylor, who did not perceive the support of her administration or note the importance of community support and who engaged in more emotional suppression, the question then is whether a program like CARE can cultivate these protective factors for all teachers. We hypothesize that in addition to helping teachers develop mindful awareness, especially nonreactivity, an effective professional development program that cultivates teachers’ resilience builds on the skills with which the teachers feel less confident (e.g., classroom management) and provides structural supports (e.g., supportive community) that increase teachers’ sense of efficacy. Teachers’ resilience seems to involve both their perception that they can handle adversity and their perception that they work with others who support them.

This research has a number of limitations. As stated previously, the nature of qualitative data does not lend itself to generalizability. Therefore, the experiences of these three teachers do not necessarily represent the experiences of all teachers who participated in CARE. In addition, we chose to present these data in a collective case study, focusing on three teachers in two schools. The experiences of teachers in other schools in the sample and the other teachers interviewed will not be the same. It would also be helpful to conduct multiple interviews over the course of the intervention to qualitatively track the development of resilience over time. Because efficacy emerged as a critical aspect indicating resilience in the present study but was the only factor of five in which the larger sample of 224 teachers did not show statistically significant improvements (Jennings et al. 2017), future research examining occupational stress and resilience should examine efficacy, not just in isolation but in tandem with other constructs. More qualitative and quantitative data are necessary to understand relationships between efficacy and other mechanisms of change, especially mindfulness, emotion regulation, distress tolerance, and personal mission.

Conclusion

The economic costs and loss of human capital resulting from teacher attrition and burnout are substantial (Barnes et al. 2007). According to a report from the Carnegie Foundation for the Advancement of Teaching, “Remarkably little is done to manage the processes by which districts identify, acquire, develop, and sustain . . . teacher human capital” (Myung et al. 2013, 5; emphasis added). These results suggest that CARE may cultivate resilience by improving teachers’ awareness, emotional regulation, and collegiality, which, when coupled with healthy distress tolerance and efficacy, operates as a protective factor against
burnout. A shift in how educators approach professional development may be necessary, focusing on environmental and personal factors that provide teachers a greater capacity to adapt and to meet the needs of their students.

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References


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