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Joseph Michael Mooney

Eastern Illinois University

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The Relationship Between Stress, Preventive Coping Resources, and Burnout Among Elementary Teachers

(TITLE)

BY

Joseph Michael Mooney

THESIS

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The Relationship Between Stress, Preventive Coping Resources, and Burnout Among

Elementary Teachers

Specialist in School Psychology Thesis

Joseph Mooney

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Abstract

This study explored the relationship between stress outcomes, preventive coping, and burnout in a sample of 68 elementary teachers. Teacher training in behavioral modification was also examined due to its established role in teacher stress. Results showed that teachers who had greater demands relative to coping resources were more likely to experience two aspects of burnout; emotional exhaustion and depersonalization. A significant relationship was not found with the third component of burnout, personal accomplishment. Preventive coping resources were found to be associated in the expected direction with all three components of burnout. Those individuals with fewer preventive coping resources exhibited more symptoms of burnout, with more emotional exhaustion, depersonalization, and lowered personal accomplishment. Contrary to predictions, the relationship between stress predictions and burnout was not moderated by the influence of preventive coping among this sample.

The Relationship Between Stress, Preventive Coping Resources, and Burnout Among Elementary Teachers

Teaching can be an especially stressful occupation with many teachers leaving the profession prematurely or remaining to perform their duties inadequately. High turnover, along with consistently elevated levels of stress found has led to teaching being the most studied field in regard to burnout research (Maslach & Leiter, 2016). Teachers are especially prone to experiencing stress due to the varied demands which are placed upon them, pressure to perform from multiple sources, and daily interactions with children and other staff members (Kokkinos, 2007; Brunsting, Sreckovic, & Lane, 2014; Dick & Wagner, 2001). Researchers have attempted to combat this problem by exploring the sources of stress, individual factors associated with experiencing stress, and factors that predict burnout or the longer term physical and mental experience resulting from prolonged stress (McCarthy, Lambert, O'Donnell, & Melendres, 2009; Brenner, Sorbom, and Wallius, 1985; Dick & Wagner, 2001). Preventive coping resources may be effective in reducing the amount of burnout experienced among teachers who are in stressful positions (McCarthy, Lambert, O'Donnell, & Melendres, 2009). This study aims to evaluate the influence of preventive coping on the burnout phenomenon, and represents a replication of previous studies (McCarthy, Lambert, O'Donnell, & Melendres, 2009; Ullrich, Lambert & McCarthy, 2012). Stress and its long and short-term outcomes need to be examined together since the most supported models of stress describe the process by which someone experiences stress as being transactional and reliant on the cognitions of the individual (Lazarus & Folkman, 1984). How some individual copes with a stressful event may be determined by experiences which precede the event, learning over time,

and individual differences. To have a good understanding of how stress and its harmful outcomes may impact a group of individuals, measures which are designed with that population in mind need be used which capture the specific stressors, coping resources and burnout symptoms which are likely to be present (Lazarus & Folkman, 1984; McCarthy, Lambert, O'Donnell, & Melendres, 2009).

Stress

Stress, and the mental and physiological reactions to stress have been studied and described considerably. Between individuals, responses to stress appear to be mediated by their ability to cope with the situation, as such, like for like experiences may not elicit equal stress responses between individuals (Lazarus & Folkman, 1984). Further complicating matters, stress responses differ within individuals over time. Situations that previously triggered a stress response for one person may not always since reactions are attenuated by emotions, cognitions and physical state; leading to different results than what occurred in the past (Bakker and Schaufeli, 2000).

The impetus for examining stress is clear: prolonged or pronounced stressful events have been linked to physical complaints such as heart disease and high blood pressure, as well as mental illnesses including depression and post-traumatic stress disorder (Ganster & Rosen, 2013; Dick & Wagner, 2001). Prominent theories regarding stress implicate insufficient resources to cope with situations or tasks when stress is experienced. This makes researching stress perplexing because people perceive, react to, and are affected differently by stressful situations. Lazarus and Folkman (1984) described a transactional model of stress (Ganster & Rosen, 2013) that seamlessly incorporates coping and failure to cope as affecting an individual's stress levels. When some

individual lacks coping strategies for a given situation or the stressor is appraised as exceeding in magnitude their abilities, a stress reaction is triggered (Ganster & Rosen, 2013). This perspective, while logical and supported empirically, makes understanding what is stressful and predicting how people will respond difficult because individuals have unique backgrounds and experiences.

Physiological Response to Stress

When a stressor is perceived, various reactions take place in the human body and are described by the Allostatic Load theory (Ganster & Rosen, 2013). On the surface, the reaction to a stressor is evolutionarily adaptive and serves to activate the fight or flight response and deactivate processes like digestion while activating hormones such as norepinephrine, cortisol, and epinephrine (Ganster & Rosen, 2013; Juster, McEwen & Lupien, 2010). These give increased energy to the muscles and boost cardiovascular function in the anticipation of imminent intense physical activity. Stressors may be objectively affirmed by most bystanders or subjectively perceived, with both potentially causing an allostatic response, to differing extents. Events that trigger the stress response contemporarily likely differ from the context in which it evolved (Ellis, Jackson, & Boyce, 2006). The stress response to a modern stressor in a workplace for example, may not be adaptive in helping combat the situation which has triggered it. It is worth emphasizing that just because a stressor may not be readily apparent or meaningful to those other than the individual experiencing it, does not mean it is less damaging than an obvious stressor. Stress responses may be similar whether the stressor comes from an objective, environmental source or is subjective to the individual with the later capable of eliciting an equal or more extreme response (Ganster & Rosen, 2013). Lazarus and

Folkman (1984) indicates that certain situations, such as the sudden loss of a loved one, are relatively universal and are likely to trigger a stress response. Even in these presumed universal conditions the magnitude and specific characteristics of the response are not the same across individuals (Lazarus & Folkman, 1984). Under normal situations, the body should counteract these responses once the threat is no longer perceived because the prolonged or repeated activation this response is taxing (Ganster & Rosen, 2013). Over time, repeated instances of this stress response are believed to lead to metabolic, cardiovascular, and immune system irregularities (Ganster & Rosen, 2013). Prolonged stress can lead to disease outcomes related to specific systems after continued activation of the stress response for an extended time, such as prolonged elevated blood pressure before diagnosis of cardiovascular disease and potential death (Ganster & Rosen, 2013; Juster, McEwen & Lupien, 2010).

Capturing the physiological and psychological response of stress has been approached in several ways. Cortisol is an important stress hormone released by the Hypothalamic-Pituitary-Adrenal axis (HPA) when a stressor is perceived and allows for energy stores to be released (Ganster & Rosen, 2013). The level of cortisol is not constant for individuals and typically follows a daily pattern, with the highest levels found during waking hours and the lowest just before sleep. Studies which rely on this measure must account for this pattern and measure cortisol levels at strict time intervals. Newer research is often focused on the reactivity and recovery times of cortisol levels for the individual (Ganster & Rosen, 2013). Analyzing the reactivity of the cortisol response may help in validating hypotheses regarding stress inoculation and maladaptive responses to a stressor (Ganster & Rosen, 2013). Likewise, reactivity and recovery time measures

are likely to better capture the differential impact a particular stressor has on an individual and describe in duration how long it took for their body to return to expected cortisol levels.

Using Rating Scales to Measure Stress Among Teachers

Researchers have also taken a combination of self-report as well as physiological measures associated with prolonged activation of the stress response in efforts to explore its relation (Ganster & Rosen, 2013). Self-report scales for stress are often designed with a target population in mind with groups of items focused on capturing stressors that are related to a given profession, or demographic.

Stress research has generated numerous scales to measure its incidence and magnitude, one such measure geared towards teachers is the Classroom Appraisal of Resources and Demands (CARD; Lambert et al., 2001). Lambert, McCarthy, O'Donnell, & Wang (2009) developed their scale to examine potential stressors and resources available to teachers. Transactional models dictate that the experience of stress occurs when stressors exceed individual's coping resources. Because stress among teachers has been studied extensively, a scale that contains situations and items relevant to teachers is needed so long as it has sufficient psychometric properties. One study, conducted by Lambert, McCarthy, O'Donnell, & Wang (2009), sought to expand the validity evidence for the scale to encourage future use. Five hundred and twenty-one teachers working in the United States participated in this study, with all completing the CARD. Thirty-five items are designed to capture the unique demands teachers face, while thirty items are designed to measure the specific resources available to the individual teacher (Lambert, McCarthy, O'Donnell, & Wang, 2009). Participants also completed the MBI (MBI-ES;

Maslach et al., 2001), as well as a brief measure of self-efficacy, self-critical attitudes, the Standard Questionnaire-Teacher Stress and a general health questionnaire. They found that the factor structure of the two subscales were not correlated, indicating they are capturing different constructs (Lambert, McCarthy, O'Donnell, & Wang, 2009).

Additionally, they found that the stress score computed from CARD was associated with all three elements of the MBI. Construct validity was demonstrated by low correlations with the other measures of teacher wellbeing, general health, self-critical attitudes, teacher efficacy and burnout symptoms (Lambert, McCarthy, O'Donnell, & Wang, 2009). They also found support for the notion that the scale will predict who will experience stress (i.e. those who have high demands and low resources) (Lambert, McCarthy, O'Donnell, & Wang, 2009).

McCarthy, Lambert, O'Donnell, & Melendres (2009) examined the influence of experience, stress, and coping on the level of burnout among teachers. Their sample included 451 teachers working in the United States. In continuance of their previous research, the distinguishing variable measured here was years of teaching experience to determine how experience itself relates to teacher burnout. In keeping with the transactional model, they measured teacher's resources and demands with the CARD (Lambert et al., 2001). They also assessed coping behaviors, specifically preventative coping, using the Preventive Resources Inventory (PRI; McCarthy et al, 2002). Finally, burnout was assessed using the Maslach Burnout Inventory- Educators Survey (MBI-ES; Maslach et al., 1996). The MBI is the most frequently used measure among burnout research and addresses three dimensions of burnout, as described by Maslach; emotional exhaustion, depersonalization, and personal accomplishment. Emotional Exhaustion (EE)

is physical and mental exhaustion which exceeds an individual's ability to cope (Maslach & Leiter, 2016). Depersonalization (DP) is a cynical attitude towards ones' work, colleagues, and the meaningfulness of the outcomes of their pursuits which previously felt rewarding and gratifying (Maslach & Leiter, 2016). Personal Accomplishment (PA) is an individual's perception of their ability to be effective within their work and life pursuits and has been renamed to "Professional Efficacy" within some burnout research (Maslach & Leiter, 2016). The MBI-ES consists of 22 self-report items rated along a six-point Likert-type scale. Of these, five items compose the Depersonalization subscale, nine compose the Emotional Exhaustion subscale, and eight compose the Personal Accomplishment subscale. They found that differences in burnout indicators between schools was minimal, with most variance occurring between individuals (84.01%) (McCarthy, Lambert, O'Donnell, & Melendres, 2009). This finding is important considering the relatively large sample size here and suggests school and environmental differences may have little influence on the manifestation of burnout among individuals. Higher emotional exhaustion was found among teachers with more years at current school, higher classroom stress and demands, and less preventive coping skills (McCarthy, Lambert, O'Donnell, & Melendres, 2009). They reasoned that the higher emotional exhaustion score among tenured teachers could be explained by increased responsibilities placed upon them by administration as well as greater numbers of difficult students enrolled in their classes (McCarthy, Lambert, O'Donnell, & Melendres, 2009). Depersonalization was predicted by high classroom stress scores as well as less preventive coping skills, with reduced personal accomplishment being predicted by

heightened classroom demands and lower preventive coping skills (McCarthy, Lambert, O'Donnell, & Melendres, 2009).

The model of stress described by Lazarus and Folkman (1984) has been tested as it applied to teachers. Two studies to assess the validity of this model with specific regard to teachers were conducted by Dick and Wagner (2001). Both studies utilized structural equation modeling to make causal statements about these relationships. The first study operationalized the outcome of long term stress by looking at health outcomes associated with stress as the dependent variable. The independent variables for study one were workload (school specific problems such as student misbehavior which were appraised by the level of perceived stress they caused) and mobbing, which they described as harassment by colleagues and administration and was specific to the ecology of school systems (Dick & Wagner, 2001). Other contextual variables were also considered to examine potential resources that could act as moderating variables. They found support for the theory in that workload and mobbing predicted poorer health outcomes. Social support and self-efficacy were found to act as moderators, in that greater social support and higher rated self-efficacy lead to better health outcomes despite the presence of stressors (Dick & Wagner, 2001). These findings were in agreement, because the transactional model of stress indicates that stress will most likely be experienced when an individual appraises that their resources are insufficient to cope with a given stressor (Lazarus & Folkman, 1984). Their second study retained the first studies variables: physical symptoms, workload, social support, and self-efficacy, and introduced two new variables: coping strategies and burnout. Burnout was measured with the MBI and coping was assessed with a 33-item scale where participants rating their agreement towards

various coping strategies (Dick & Wagner, 2001). The coping strategies described within the survey varied in effectiveness based on previous research. They found support for the theory because teachers who employed effective coping strategies experienced lower burnout. Interestingly, they found that teachers who rated the level of support they received from their principal as high were more likely to employ better coping strategies. Burnout was found to predict stress as well as long term physical health outcomes (Dick & Wagner, 2001).

Burnout Among Teachers

Burnout is described as containing three components, Emotional Exhaustion, Depersonalization, and decreased Personal Accomplishment (Maslach & Leiter, 2016). Over time, individuals may shift from enjoying and feeling rewarded by their work to increasingly negative feelings including that their work and contribution is insignificant (Chang, 2013). The phenomenon of burnout is usually considered to be an outcome condition of prolonged stress experience. Certain professions have been found to be especially susceptible to burnout, with the impact of burnout among those individuals being both adverse for them and those they are in direct contact with as well as larger society since the roles they fill are impactful. Examples of professions commonly included in burnout research are those in helping fields such as doctors, social workers, nurses, and teachers.

Burnout among elementary teachers is especially pronounced even when compared to teachers of other grade levels, with burnout symptoms for teachers as a whole found to be higher than other professions among those sampled for research

(Dicke et al., 2015). One source indicated that 51% of teachers indicated they experienced frequent, high levels of stress (McCarthy, Lambert, & Reiser, 2014).

The effects of teacher burnout on teachers has been explored by several researchers with one such study being conducted by Cenkseven-Onder and Sari (2009). They examined the influence that elevated burnout scores and school life ratings had on subjective wellbeing (Cenkseven-Onder & Sari, 2009). Their study included 93 teacher participants working in Turkey. Measures used included The Satisfaction with Life Scale (SWLS; Diener et al., 1985), the Positive And Negative Affective Schedule (PANAS; Watson et al., 1988), the Quality of School Life Scale (QSLS; Sarie, 2007) (which included six subscales including: Administrator, Teachers, Affects towards school, student-student relationships, status, and curriculum), and the Teacher Burnout Scale (TBS; Zager, 1986). Of note, the TBS differs from the predominant burnout scale, the MBI, and includes four subscales labeled coping with job-related stress, career satisfaction, perceived administrative support, and attitudes towards students (Cenkseven-Onder & Sari, 2009). They found that subjective well-being was predicted by “Coping with job-related stress”, “Status”, and “Curriculum” (Cenkseven-Onder & Sari, 2009). Additionally, they found “Coping with job-related stress” predicted 5% of the variance in life satisfaction and 26% variance in negative affect (Cenkseven-Onder & Sari, 2009). This study helped to elucidate some of the interrelated concepts that are spurred by the diverse and complex demands placed on teachers. Although stress and burnout resulting from teaching has harmful effects on teachers psychologically and physically, it may also undermine their ability to successfully fulfill their teaching duties. It is probable that teachers experiencing burnout are less effective teachers and their reduced effort and

outlook on their profession leads to poorer education for the students they teach (Chang, 2013).

Influence of Burnout on Teaching Efficacy

Reducing teacher burnout has largely been inspired by the desire to improve the working lives and retention in the profession. Recently however, several researchers have examined its possible influence on students. Shen, McCaughtry, Martin, Garn, Kulik, Fahlman (2015) examined the role burnout plays on student motivation. Thirty-three physical education teachers, along with 1,302 high school students comprised their sample. Measurements were conducted twice during a single school year. Burnout among teachers was measured using the MBI-ES. Motivation was examined in accordance with self-determination theory which includes several subtypes of motivation, the focus of their study being that of autonomous motivation. (Shen, et al. 2015). Specifically, they wanted to see if burnout among their teachers a negative impact on their autonomous motivation would have, because autonomous motivation is described as furthered by the environment teachers finds themselves (Shen, et al. 2015). Autonomous motivation is more likely to elicit intrinsic motivation for learning that is often sought among educational settings. Autonomy measures included the Learning Climate Questionnaire that includes six questions and a locus of control causality questionnaire with 12 items. Heightened emotional exhaustion was associated with less perceived autonomy support (Shen, et al. 2015). Likewise, students of teachers with lower rated emotional exhaustion with higher perceived autonomy. Teacher depersonalization predicted lower autonomous motivation, even when controlling for individual motivation at the beginning of the school year (Shen, et al. 2015).

Burnout impacts the teaching ability of individual teachers and likely impacts the students they teach. One study examined contagious propagation of burnout among teachers within schools (Bakker and Schaufeli, 2000). In describing previous work, they explained that regardless of workloads, burnout levels tend to cluster together, supporting the concept that burnout is contagious among colleagues (Bakker and Schaufeli, 2000). They proposed that teachers would have higher scores on the three main components of burnout EE, DP, and PA when they spent greater amounts of time conversing with peers about work problems. Secondly, they proposed that teachers who were predisposed to emotional contagion would have higher levels of burnout indicators. Lastly, they proposed that teachers who are predisposed to emotional contagion and discuss difficult students with their colleagues would be more likely to have higher burnout indicators. In a sample of 154 teachers living in the Netherlands, burnout, social interaction, and emotional contagion were assessed. Measures used included a scale to assess burnout among colleagues, how much participants interacted with their colleagues, and participants level of emotional contagion (Bakker and Schaufeli, 2000). These were then related with the Maslach Burnout Inventory (MBI; Maslach et al., 1996) to see how they predicted burnout. They found that all three burnout indicators were more likely to transfer among colleagues who frequently conversed (Bakker and Schaufeli, 2000). Emotional exhaustion and depersonalization were related to colleagues who frequently conversed and who susceptible to emotional contagion (Bakker and Schaufeli, 2000). When examined as a moderator emotional, contagion did not predict teacher burnout in this study (Bakker and Schaufeli, 2000). Conversing with colleagues can be helpful as a means of social support and has in previous studies predicted lower burnout indicators.

However, here the frequent interaction with peers already experiencing burnout led to burnout being experienced among participants (Bakker and Schaufeli, 2000).

Kokkinos, (2007) examined the influence that personality may have on teacher burnout resulting from stress in the workplace. In examining previous research, they described the relationship of the various dimension burnout and the most commonly described five personality (neuroticism, openness, agreeableness, extraversion, and conscientiousness) traits as clear in some areas and mixed in others (Eysenck & Eysenck, 1985). In accordance with previous research, they hypothesized that teachers who have trouble managing student behavior would experience higher levels of burnout (Kokkinos, 2007). Heightened neuroticism was hypothesized to predict higher levels of depersonalization and EE, while heightened extraversion was predicted to be associated with lower burnout indicators (Kokkinos, 2007). Conscientiousness was hypothesized to be associated with higher levels of personal accomplishment, as was agreeableness, with agreeableness further being associated with lower depersonalization symptoms (Kokkinos, 2007). Their final prediction was those high in openness would be lower in all three components of burnout. Teachers working within Cyprus (447) participated in their study. Participants completed a teacher job stressors scale with 63 items rated on a 5-point scale, which was purported to measure various sources of stress related to teaching. Burnout was measured with the MBI-ES which was first translated into Greek by the study's author (MBI-ES; Kokkinos, 2006; Maslach et al., 1996). Personality was measured with the NEO-Five Factor Inventory, which also had been previously translated to Greek (NEO-FFI; Costa & McCrae, 1992; Panayiotou, Kokkinos & Spanoudis, 2004). They found that overall transactional model of burnout development was supported.

Neuroticism predicted heightened EE and depersonalization and lower PA, thus, negatively affecting all three components of burnout (Kokkinos, 2007). Lower conscientiousness predicted higher depersonalization, with high conscientiousness predicting greater PA (Kokkinos, 2007). Problem behaviors within the classroom and time constraints were the stressor most predictive of burnout (EE and depersonalization) among this sample (Kokkinos, 2007).

Recent Developments with Regard to Burnout Phenomenon

The construct of burnout has grown with continual research and validation, leading to its application to numerous demographics and being differentiated from related constructs including depression (Maslach & Leiter, 2016). The dimension of depersonalization has been retitled as “cynicism” in more recent conceptualizations of burnout which use the MBI scale. This was explained as an effort to better reflect its applicability to other work environments besides those which necessarily interact with people or may be considered helping fields. Efforts have been made to establish measure the absence of burnout and how engaged people are in their chosen profession with measures designed to assess levels of absorption, dedication, and vigor (Maslach & Leiter, 2016). While these dimensions have not been decisively shown as being opposites to that of MBI dimensions, these positive affective states may prove useful in targeting positive behavioral interventions. Other research has sought to develop models by which burnout may form or worsen. These range from the transactional model of stress to the Areas of Worklife (AW) model which describes inconsistencies with person and job variables including: reward, control, values, workload, community, and fairness (Maslach & Leiter, 2016). The influence of burnout has also been explored with recent research

strengthening the association between burnout and turnover, lower quality of work, losses in productivity as well as contagion of undesirable symptoms among colleagues (Maslach & Leiter, 2016). Health concerns associated with burnout have been studied longitudinally and mostly mirror those otherwise related to stress or depression. However, emphasis has been placed on the likelihood of those with burnout later experiencing cardiovascular problems (Maslach & Leiter, 2016). One crucial element of research has been to isolate burnout as a unique phenomenon distinct from those such as job stress, anger, and depression (Maslach & Leiter, 2016). Discriminant validity research has found that the elements the MBI correlated with that of a depression scale to a mild degree with EE having the highest correlation at ($r = .33$) (Maslach & Leiter, 2016). Maslach & Leiter (2016) indicate that recent efforts have been made to diagnose burnout as a disability and that because of this some researchers have attempted to focus only on the EE component. They argue that the simplification of burnout to EE only fails to express the feeling of diminished values, meaningfulness for one's work as well as their ability to work with others and ability to work with others. They further contest that with altering the dimensions that compose burnout, inaccurate diagnosis and ineffectual treatment may follow. An effective use of varying levels of the three components may reside in generating descriptors for subtypes of burnout that are indicated by mostly exhaustion or mostly cynicism. Compared to exhaustion, the effects of cynicism have a more direct influence on an individual's relations within a workplace, whereas exhaustion focused burnout may be associated with the losses in productivity similar to that which is seen among depressed individuals.

Coping

Coping refers to an individual's resources to adapt to situations both within and surrounding an individual that are perceived as stressful (Kim & Duda, 2003). While many different theories have been proposed and research has conducted on which coping strategies people employ and how they function, coping here will be focused on how it functions within the transactional model of stress and coping (Lazarus & Folkman, 1984). Coping strategies are often described as one of the primary influences on the differences in stress response and outcomes between people (Lazarus & Folkman, 1984). Whether the perceived stressor is among those that could reasonably be described as universal, or those that are more specific to the profession of individual, coping strategies are influential in the outcome experiences.

Brenner, Sorbom, and Wallius (1985) longitudinally examined various sources of teacher stress that were a-priori determined to be especially related to adverse stress outcomes. Pupil relations, peer relations and supervisor relations were examined as they relate to the experience of stress and deleterious health impacts over time (Brenner, Sorbom, and Wallius, 1985). To better understand how these risk factors interact with potential protective factors to differentially impact individuals, they conceptualized the stress reaction as a chain of interacting elements and statistically manipulated these variables to examine their influence. This was in better accordance with the transactional model of stress where an individual's appraisals and resources lead to the experience of stress. Preceding research, they explained, that seeks to identify important stressors was insufficient because it failed to account for individual differences. Sixty-three teachers completed all parts of their study and contributed to their analysis. Measures used

included those meant to capture relations, strain, sleep habits as well as various coping strategies. They posited that coping likely takes place early temporarily in relation to the onset of a stressor, and thus perhaps coping strategies may not be useful in alleviating stress responses that persist long after the discrete experience (Brenner, Sorbom, and Wallius, 1985). They indicated that relations with students is the primary source of stress among most teacher's daily duties with teacher's appraisal of these events as out of or within their control and subsequent coping processes leading to the experience of intermittent and long-term stress reactions. Initial teacher reactions to stress seem to have been critical, because they found minor change when participants were reassessed at the end of the school year.

Stoeber & Rennert, (2008) examined the influence that perfectionism has on coping styles, stress appraisals and burnout among 118 school teachers working in Germany. In accordance with more recent research indicating that perfectionism can have mixed outcomes on stress and burnout when perfectionism is explored as a multidimensional construct, perfectionism was separated into two dimensions, perfectionistic strivings and perfectionistic concerns (Stoeber & Rennert, 2008). With perfectionistic strivings being considered healthy and beneficial to individuals and perfectionistic concerns being considered maladaptive, or neurotic (Stoeber & Rennert, 2008). They found that striving for perfection had a positive relationship with active coping techniques, those generally found to yield better outcome measures on stress and burnout (Stoeber & Rennert, 2008). Perfectionistic concerns meanwhile were associated with fewer challenge appraisals, avoidant coping, all three burnout dimensions, and more threat and loss appraisals (Stoeber & Rennert, 2008). Specific perfectionist concerns

included: pressure from colleagues, pressure from students, and pressure from students' parents (Stoeber & Rennert, 2008). They found that pressure from students' parents was associated with higher burnout dimensions, especially personal accomplishment. Pressure from colleagues however, was associated with lower total burnout, especially personal accomplishment, and emotional exhaustion (Stoeber & Rennert, 2008). The more beneficial personality trait of perfectionistic strivings is described as more related to the self in contrast with perfectionistic concern being related to social constructs or how others will perceive us. They concluded that teachers who reacted poorly to their inability to reach perfection experienced worse burnout outcomes, further they specifically indicated that those teachers who perceive that others expect them to achieve perfection have worse burnout outcomes (Stoeber & Rennert, 2008).

Teacher Training

Because available research has identified students' problem behaviors as one of the most important predictors of stress among teachers, teacher preparation on how to handle problem behavior will be examined here (Kokkinos, 2007; Brunsting, Sreckovic, & Lane, 2014; Dick & Wagner, 2001). Previous research has examined many intraindividual differences that predict stress and burnout levels among teachers, however little research has been conducted that looks at the presence of explicit preservice instruction on individual and group problem behavior management among practicing teachers (Lambert, McCarthy, O'Donnell, & Wang, 2009; Bakker and Schaufeli, 2000). Other variables beyond training likely influence the outcomes of individual problem behavior such as administrative support, severity, and support from colleagues. Despite this acknowledgment of the complicated process of effectively dealing with problem

behavior, it would be beneficial to know what kinds of instructions teachers received, as well as how prepared they feel to deal with problem behavior.

Dicke, Parker, Holzberger, Kunina-Habenicht, Kunter, and Leutner (2015) examined the influence that professional knowledge had on emotional exhaustion and efficacy among teachers over one school year. Self-efficacy was a critical aspect of their study and described as an individual's belief in their capacity to complete the tasks desired of them, with higher self-efficacy guarding against the harmful effects of long term stress (Dicke, et al., 2015). Their study also examined the relationship among various aspects of teacher burnout describing self-efficacy as preceding Personal Accomplishment and Depersonalization (Dicke, et al., 2015). While increasing understanding of the interplay between these constructs, they also examined how educational knowledge impacted teacher's feelings of self-efficacy. One thousand seven hundred and forty teachers working in Germany participated in this study. Measures used included the MBI, the teacher self-efficacy scale Schmitz and Schwarzer (2000), and an educational knowledge scale containing assessment, learning, instruction and educational theory (Kunina-Habenicht et al., 2014). They found that that the EE component of the MBI scale was higher at the end of the school year (Dicke, et al., 2015). Likewise, self-efficacy scores were higher at the end of the year (Dicke, et al., 2015). Those teachers with higher EE scores had lower self-efficacy scores at the end of the year, and teachers with lower EE scores tended to have higher self-efficacy scores at the end of the year. They found that those with higher educational knowledge were more likely to have lower EE, however, predictive effects of educational knowledge on self-efficacy were not found. They explained this latter finding as perhaps being due to those with greater

educational knowledge being more aware of their failings and limitations. They recommend teacher education which promotes positive self-beliefs as well as techniques to maintain well-being as important in reducing the incidence of later teacher burnout (Dicke, et al., 2015).

Summary

Considerable research has been conducted to describe which elements of the teaching experience are considered most stressful and related to higher levels of burnout (Lambert, McCarthy, O'Donnell, & Wang, 2009; Bakker and Schaufeli, 2000). Among those included above are; workload, interactions with peers, students, supervisors, and problem student behavior (Dick & Wagner, 2001; Bakker and Schaufeli, 2000; Brenner, Sorbom, and Wallius, 1985; Kokkinos 2007).

Personality characteristics were also associated with differences in burnout outcomes, with neuroticism being associated with greater burnout symptoms and conscientiousness associated with less burnout symptoms (Kokkinos, 2007). Although personality characteristics which are predictive of worse outcomes may be intractable to change, identifying individuals with these characteristics could guide intervention and prevention resources.

Coping methods or styles that seem to be more efficacious for dealing with stress inducing situations generally tend to favor active coping techniques. Self-efficacy is often examined within stress and burnout research and can be seen as both a precursor and an outcome (diminished) with similarities to the dimension of burnout (Personal Accomplishment) described here. Those who exhibit greater self-efficacy tend to experience less stress and burnout symptoms (Dicke, et al., 2015). It follows that those

teachers with greater skills training and preparedness would be more likely to have greater self-efficacy and in turn experience better stress outcomes.

Recent attention has been given to preventive coping resources that include skills, training, personal, and situational variables that combine to reduce the intensity and likelihood of a given situation being appraised as stressful (Dicke, Parker, Holzberger, Kunina-Habenicht, Kunter, and Leutner, 2015; McCarthy, Lambert, O'Donnell, & Melendres, 2009). It seems that dealing with student misbehavior has been shown to account for considerable variance among teacher specific sources of stress. Teacher training that aims to instruct potential teachers in effectively modifying student behavior may be beneficial in reducing stress and burnout experienced by practicing teachers (Kokkinos, 2007)

Current study

The situations that lead to stress and eventual burnout among teachers are infinitely varied. Likewise, the coping strategies may be similarly diverse, sometimes being uniquely suited for a particular individual and situation. Despite the heterogeneous nature of this phenomena, individual differences may not preclude efforts to identify clusters of especially influential stressors and effective coping tactics that can work for many individuals (McCarthy, Lambert, O'Donnell, & Melendres, 2009). These are needed to avoid the impractical and sometimes unhelpful alternative stance that any given person and situation encountering stress would require an ideographically unique set of interventions to cope with and improve long-term outcomes. Because most of the differences in stress and burnout levels among teachers has been shown to be found between individuals, examining the characteristics that differentiate those who experience

stress from those who do not seems a logical path (McCarthy, Lambert, O'Donnell, & Melendres, 2009).

Hypotheses

1. The transactional model will be supported among the target population of elementary teachers working within Illinois and the surrounding states. Teachers with greater demands relative to resources as identified by the CARD would have higher burnout scores on the MBI-ES.
2. Teachers having fewer preventive resources as identified by the PRI would be more likely to have higher burnout index scores. Likewise, those with higher preventive resources would have lower burnout index scores as measured by the MBI-ES.
3. Teachers identified by the CARD as being likely to experience stress outcomes would have elevated burnout levels, as measured by the MBI-ES, when they have lower preventive coping resources, as measured by the PRI.
4. Teachers who indicate they received explicit training in modifying individual and small group problem behavior and who feel they were prepared to do so in the classroom would have lower stress scores as measured by the CARD and have lower burnout scores as measured by the MBI-ES.

Method

Participants

Sixty-eight elementary teachers working in the states of Illinois, Wisconsin, Indiana, Nebraska and Minnesota were recruited for participation in this study. Approximately 1,500 teachers were contacted following permission from their respective

schools. Participants from this region were targeted to obtain a regional demographic representativeness for this study. Participants included 64 females, with an average age of 40 and an age range of (22 – 65). Fifty-five participants indicated “European American” as their ethnicity, one indicated “Hispanic” while the remaining participants selected “other.” Other studies have explored the relationships among these variables using these measures (McCarthy, Lambert, O’Donnell, & Melendres, 2009; Ullrich, Lambert & McCarthy, 2012). Permission for soliciting participation from all schools was procured from principals. Explained within the email to principals at prospective schools was the potential incentive for completion of the study. Initial data collection was facilitated by soliciting volunteers from agreeable districts, followed by further collection which involved entering teachers into a gift card drawing. Emails were sent to elementary education teachers teaching grades first through sixth, at schools where the principal or other relevant administrator consented to distribution. Teachers received an email indicating their participation is optional, as well as briefly describing the nature of this research. Interested teachers may follow a link within this email to complete an online survey.

Materials

The School-Age version of the CARD (Lambert, O’Donnell, Kusherman, & McCarthy, 2006) consists of 84 items. This scale was constructed in accordance with the transactional model of stress, wherein an individual appraises available resources when confronted with a demand, and stress is experienced when demands exceed available resources (Lazarus & Folkman, 1984). The items are constructed to capture commonly available resources and demands available within the context of a classroom and

experienced by teachers. Thirty-five items compose the demands scale, with responses provided along a Likert scale ranging from 1 “Not Demanding” to 5 “Extremely Demanding. Thirty items compose the resource scale, with responses provided along a Likert scale ranging from 1 “Very Unhelpful” to 5 “Very Helpful.” Scoring for the CARD is accomplished by calculating the difference between the two scales. Although additional subscales are offered, they were not utilized in this study, because the CARD was used here as an indicator of overall stress and as evidence in support of the transactional model (Lazarus & Folkman, 1984). Factorial support indicates the CARD is measuring distinct constructs with Lambert, McCarthy & Abbot-Shim (2001) describing the correlation between the Demands and Resources scale as between ($r = -.208$ and $-.080$). Reliability evidence is supported by a study conducted by Lambert, McCarthy, O’Donnell, & Melendres (2007), which indicated the Cronbach's Alpha of .92, and .95 for the Demands and Resources scale scores, respectively. Criterion related validity for the CARD is supported by a study conducted by Lambert, Kusherman, O’Donnell, & McCarthy, (2006), as cited in Lambert & McCarthy (2006) among a sample of preschool teachers.

The Preventive Resources Inventory (PRI), contains 82 items that target the ability of individuals to lessen or avoid the harmful stress response from engaging when stress-inducing events occur (McCarthy & Lambert, 2001; Lambert, McCarthy, Gilbert, Sebree, & Steinley-Bumgamer, 2006). Prevention is key here and related to the transactional model, in that an appraisal of available resources occurs when a stressor is perceived (Lazarus & Folkman, 1984). The presence of these resources a priori is predicted to have better outcomes compared to being presented with resources following

an initial appraisal of inadequate resources or a secondary appraisal (Lambert, McCarthy, Gilbert, Sebree, & Steinley-Bumgarner, 2006, Lazarus & Folkman, 1984). Participants select their responses along a Likert-type 5-point scale with a range from 1 “Strongly Disagree” to 5? “Strongly Agree” (Lambert, McCarthy, Gilbert, Sebree, & Steinley-Bumgarner, 2006). The scale includes subscales including: Perceived control, Maintaining Perspective, Social Resourcefulness, Self-Acceptance, and Scanning. Each of these subscales has good internal consistency and are constructed to be related to adaptive coping based on previous research (McCarthy, Lambert, O’Donnell & Melendres, 2009; Lambert, McCarthy, Gilbert, Sebree, & Steinley-Bumgarner, 2006). Only the overall measure will be used in this study to generate simpler analyses and because there is a lack of research to suggest that individual subscales will be associated in distinctive ways, as suggested by McCarthy, Lambert, O’Donnell & Melendres, (2009). Scoring will be accomplished by adding item totals with a higher score indicating a higher overall level of preventive coping techniques. The PRI has demonstrated reliability, discriminant and convergent validity, it has also been shown to discriminate amongst groups reported to have anxiety and depression as well those who utilized less adaptive coping e.g. alcohol consumption (Lambert, McCarthy, Gilbert, Sebree, & Steinley-Bumgarner, 2006).

The Maslach Burnout Inventory - Educator Survey (MBI-ES) is a 22-item scale that includes three dimensions considered necessary to adequately describe the phenomenon of burnout (MBI-ES; Maslach et al., 1996). The dimensions measured by the MBI-ES include depersonalization (DP) supported by five items, Emotional Exhaustion (EE) supported by nine items, and Personal Accomplishment (PA) supported

by eight items. The MBI is the most used burnout inventory in burnout research, with the MBI-ES containing item content specific to the school environment and the demands that teachers face (Kokkinos, 2006; McCarthy, Lambert, O'Donnell & Melendres, 2009). Participants select the frequency they experience various feelings of stress and frustration along a seven-point scale spanning (0) "never" to (6) "every day." Scoring is accomplished by adding item totals for each of the subscales, with DP and EE being indicative of higher burnout and PA being indicative of less burnout, because higher scores on PA are associated with feelings of competence and better long-term stress outcomes (McCarthy, Lambert, O'Donnell & Melendres, 2009). Factorial validity of the subscales is supported by exploratory and confirmatory factor analysis with items loading onto their proposed factors, and a CFI index of .83 and χ^2 of 978.64 when examining a sample from Greece (Kokkinos, 2006). The reliability of the MBI-ES as described by Cronbach's alpha, was found to be .881 for the scale overall and .623, .630, and .859 for the PA, DP and EE scales respectively (McCarthy, Lambert, O'Donnell & Melendres, 2009).

Procedure

Participants following the link were presented first with a consent form describing in greater detail what kinds of questions will be asked, the purpose of the study, expected time to complete, as well as any potential risks or consequences for their participation. By selecting a box on this page and proceeding, participants agreed to have read these statements and consent to the procedures.

Participants first completed a brief demographic survey, including: years spent teaching, grade level taught, gender, and, race/ethnicity information

Participants completed three surveys including: Classroom Appraisal of Resources and Demands School-Age Version (CARD), Preventive Resources Inventory (PRI), and Maslach Burnout Inventory - Educator Survey (MBI-ES). Immediately following the surveys several questions were presented to assess whether teachers received during their education: explicit training to modify interfering problem behaviors in individuals and small groups, and if they feel it prepared them to practically apply it in the classroom. For the questions pertaining to teacher preparation, a Likert like format was used with a range between 1 - 5 with qualitative descriptions which ranged from “Not prepared at all” to “Well prepared.” Participants followed a link within their email to Qualtrics, a platform for online administration of surveys to complete this combined survey after first indicating their consent on the intro page.

Statistical Treatment

Initial analyses explored the influence of demographic factors including sex, years spent teaching, grade level, and race on differing levels of stress and burnout as measured by the CARD and MBI-ES respectively. To evaluate hypothesis (1) “Teachers with greater demands relative to resources as identified by the CARD would have higher burnout scores on the MBI-ES,” correlation analyses were used to evaluate the relationship between teacher stress as measured by the CARD and teacher burnout as measured by the MBI-ES. To evaluate hypothesis (2) “Teachers having fewer preventive resources as identified by the PRI would be more likely to have higher burnout index scores,” correlation analyses were used to evaluate the relationships between preventive coping resources as measured by the PRI and teacher burnout as measured by the MBI-ES. To evaluate hypothesis (3) “Teachers identified by the CARD as being likely to

experience stress outcomes would have elevated burnout levels, as measured by the MBI-ES, when they have lower preventive coping resources, as measured by the PRI,” GLM univariate analyses were computed using SPSS and used to evaluate whether the teachers identified as likely to experience stress outcomes, as identified by the CARD, would have higher burnout measures as measured by the MBI-ES only when they have lower preventive coping resources, as measured by the PRI. To evaluate hypothesis (4) “Teachers who indicate they received explicit training in modifying individual and small group problem behavior and who feel they were prepared to do so in the classroom would have lower stress scores as measured by the CARD and have lower burnout scores as measured by the MBI-ES,” correlation analyses were used to evaluate whether those teachers who received explicit training had lower stress and burnout scores, as measured by the CARD and MBI-ES respectively. Correlation matrices across all study variables: teacher training, stress, preventive coping resources, and teacher burnout were generated. All statistical tests had an alpha level of .05.

Results

Table 1 includes means and standard deviations across all scored study variables.

Table 1

Means and Standard Deviations for all Study Variables

Measure	Mean	Standard Deviation
CARD	-5.43	31.68
PRI	325.84	35.23
Emotional Exhaustion	4.26	1.28
Depersonalization	2.41	1.12
Personal Accomplishment	5.83	.73
Teacher Preparation	3.17	.77

To assess hypothesis 1, Pearson's r correlations were calculated for the CARD and the three MBI-ES subscales. Greater demands relative to resources on the CARD was significantly associated with greater likelihood to report elevated Emotional Exhaustion scores on the MBI-ES, $r(66) = .54, p < .001$ and were significantly more likely to report elevated Depersonalization scores, $r(66) = .32, p = .007$. CARD scores were not related to Personal Accomplishment, $r(66) = .03, p = .79$.

To assess hypothesis 2, Pearson's r correlations were calculated for the PRI and MBI-ES. Participants with more preventive coping resources were significantly likely to have lower Emotional Exhaustion scores, $r(66) = -.66, p < .001$, lower Depersonalization scores, $r(66) = -.42, p < .001$, and higher Personal Accomplishment scores $r(66) = .272, p = .02$.

To assess hypothesis 3, univariate GLM analyses were computed to determine if greater demands relative to resources on the CARD would be associated with elevated burnout, only when they lack sufficient preventive coping resources as measured by the PRI. It was found that the influence of Preventive coping did not significantly moderate the relationship between stress outcomes by the CARD and burnout indices.

For Emotional Exhaustion (see Table 2), the main effect of an individuals' demands exceeding their resources was not significant, while preventive coping resources explained a significant proportion of the relationship. When the preventive coping was introduced as a moderator between the score generated by the CARD and Emotional Exhaustion, it did not account for a significant amount of variance in the relationship.

Table 2

Regression for Emotional Exhaustion

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	59.298 ^a	3	19.766	25.079	.000
Intercept	58.046	1	58.046	73.648	.000
Preventive Coping	17.526	1	17.526	22.238	.000
CARD	.069	1	.069	.087	.769
Interaction	.481	1	.481	.610	.438
Error	50.441	64	.788		
Total	1342.716	68			
Corrected Total	109.739	67			

For Depersonalization (see Table 3), the main effect of an individuals' demands exceeding their resources was not significant, while preventive coping resources explained a significant proportion of variance. When preventive coping was introduced as

a moderator between the score generated by the CARD and Depersonalization, it did not account for a significant amount of variance in the relationship.

Table 3

Regression for Depersonalization

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	17.833 ^a	3	5.944	5.720	.002
Intercept	20.927	1	20.927	20.137	.000
Preventive Coping	6.981	1	6.981	6.717	.012
CARD	.082	1	.082	.079	.780
Interaction	.006	1	.006	.005	.942
Error	66.513	64	1.039		
Total	480.840	68			
Corrected Total	84.345	67			

For Personal Accomplishment (see Table 4), the main effect of an individuals' demands exceeding their resources was not significant, while preventive coping resources explained a significant proportion relationship. When the preventive coping was introduced as a moderator between the score generated by the CARD and Personal Accomplishment, it did not account for a significant amount of variance in the relationship. Together, these results did not support the third hypothesis that preventive coping would moderate the relationship between stress outcomes and burnout was not supported.

Table 4

Regression for Personal Accomplishment

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.400 ^a	3	1.133	2.252	.091
Intercept	7.439	1	7.439	14.780	.000
Preventive Coping	2.477	1	2.477	4.921	.030
CARD	.039	1	.039	.077	.782
Interaction	.007	1	.007	.014	.905
Error	32.213	64	.503		
Total	2349.016	68			
Corrected Total	35.613	67			

To assess hypothesis 4, Pearson's r correlations were calculated between teacher preparation, CARD, and the three MBI-ES subscales. Teacher preparation was not significantly associated with stress outcomes as measured by the CARD $r(66) = -.20, p = .11$. Those who rated themselves higher on teacher preparation scored significantly lower on Emotional Exhaustion, $r(66) = -.26, p = .03$. However, teacher preparation was found to be unrelated to both Depersonalization, $r(66) = -.17, p = .17$, and Personal Accomplishment, $r(66) = .18, p = .13$.

Discussion

The first hypothesis predicted that those likely to experience stress outcomes (participants whose demands were higher relative to resources as measured by the CARD) would have higher burnout. This hypothesis was supported for both Emotional Exhaustion and Depersonalization measures of burnout. These are important components of burnout that reflect an individual's feelings of exhaustion that exceed one's coping abilities and a cynical attitude towards one's work (Maslach & Leiter, 2016). The third

component of burnout, Personal Accomplishment, was not found to be related to the CARD scores among this sample. It was expected that CARD scores would show an association with lower Personal Accomplishment when teachers experience higher demands than resources.

These findings show support for the transactional model of stress given that the CARD captures both stressors and an individual's resources that they perceive as available to them (Lazarus & Folkman 1984; McCarthy, Lambert, O'Donnell & Melendres, 2009). The likelihood of experiencing both Emotional Exhaustion and Depersonalization increases when someone perceives that they lack the necessary resources to cope with stressors. This statement is supported by burnout research and accounts for what typifies feelings of burnout (Maslach & Leiter, 2016). Regarding Personal Accomplishment, it may be that this aspect is more difficult to capture. The participants for this study may have systematically rated themselves differently on their feelings of Personal Accomplishment. Because this aspect contains elements of productivity and ability to fulfill their roles, individuals may have been likely to rate themselves higher along this dimension due to social desirability. The individuals in this study may have maintained their feelings of accomplishment despite experiencing other burnout symptoms. Alternatively, those low in Personal Accomplishment may have already left the profession.

The second hypothesis predicted that those with more preventive coping resources would have lower burnout scores, and this was supported for all three aspects described by the MBI-ES. Those with more preventive coping resources had lower Emotional Exhaustion, and Depersonalization and had higher Personal Accomplishment. This

supports the premise of preventive coping because it is presumed that individuals with more preventive coping resources would be less likely to experience long-term stress outcomes (Lazarus & Folkman, 1984).

Preventive coping resources can be understood within the transactional model of stress because they capture an individual's ability to prevent stressful reactions from occurring and are proposed to lessen the influence of stressful events (Lazarus & Folkman 1984; McCarthy, Lambert, O'Donnell & Melendres, 2009). The results of this study support the notion that those with more preventive coping resources may be at reduced risk for experiencing stress outcomes including burnout. The importance of this should be examined with future research to isolate which strategies are especially beneficial in reducing burnout outcomes. Dissecting aspects of preventive coping as defined by subscales within the PRI has yet to be researched extensively (McCarthy, Lambert, O'Donnell & Melendres, 2009). There is a lack of research utilizing the subscales of the PRI because there is no reason to believe that any specific subscale is superior to another. Future research may be directed at assessing if any specific dimensions captured by the subscales within the PRI are more effective, in order to provide recommendations to teachers.

The third hypothesis predicted that participants who had greater demands than resources would experience higher burnout, only when they had lower preventive coping resources. This was not supported with this sample across any of the components of burnout measured by the MBI-ES. This moderating relationship has been found successfully in other research conducted by McCarthy, Lambert, O'Donnell, & Melendres, (2009) and Ullrich, Lambert & McCarthy (2012) who had significantly larger

populations in their studies. It remains to be explored in future research with a greater sample size whether the same would be found among the population examined in this study.

Conceptually, the influence of preventive coping works within the transactional model at the level of appraisal, where an individual makes an initial and sometimes subsequent assessments of their ability to cope with a given situation or stressor (Lazarus & Folkman, 1984). These components are presumed to be especially important as they represent skills and knowledge that can be built preemptively and utilized in the moment rather than brought to bear in a reactive manner. If supported with further research, preventive coping resources may represent a cost efficient and effective means to reduce the long-term impact of stressful work conditions among teachers.

The fourth hypothesis predicted that those who had indicated they had more preparation regarding handling problem behaviors would be less likely to experience stress, and less likely to experience burnout symptoms. This hypothesis was not supported among this sample for prediction of stress, as measured by the CARD. Teacher preparation was associated with lower levels of Emotional Exhaustion but was unrelated to either Depersonalization or Personal Accomplishment. Like preventive coping resources, it seems that teacher preparation can be conceptualized as a means of reducing long-term stress outcomes by providing resources in the form of training prior to entering the work environment. This was proposed as an important aspect because problem behavior is often found to be a significant source of stress among teachers in previous research (Kokkinos, 2007; Brunsting, Sreckovic, & Lane, 2014; Dick & Wagner, 2001).

Given the complex and individualized nature of stress as conceptualized within the transactional model, it seems worthwhile to pursue those elements of prevention that work well for most people (Lazarus & Folkman, 1984). Teachers may benefit from greater knowledge regarding behavior modification and how it can help to eliminate disruptive and interfering behaviors in the classroom, which in turn may benefit their level of stress experienced.

Limitations

This study was limited by the number of participants which were successfully recruited. Given the length of the survey individuals may have been reluctant to participate voluntarily, and those that may have differed in some way from those who elected not to participate. Because the data is correlational in nature, causal relationships cannot be described. This sample derived for this study was predominately female with a higher ratio of female to male teachers than would be expected given national averages among elementary education. Another possible limitation lies in the selection itself, given the high attrition rates for new teachers, those who may have experienced the most burnout may have already left the profession (Maslach & Leiter, 2016).

Implications and Considerations for Future Research

This study supports the use of the CARD and PRJ as screening tools for identifying the signs and symptoms of teacher stress, and for predicting the risk factors that are positively associated with stress and burnout. Such measures could be targeted as earlier assessments of conditions that predict burnout outcomes, because it is presumed that burnout develops over time with prolonged stressful life events (Maslach & Leiter, 2016). Future research may examine the courses in teaching training programs to explore

how educational differences may impact teachers' experience of burnout symptoms over time. Other areas which may be targets for research regarding these concepts include general education versus special education settings, rural versus urban and public versus private. It would be worthwhile to examine how individual's opinions and experiences differ as they transition from college to practicing teachers.

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Appendix A

Email to Principals and Superintendents

I am Joseph Mooney, a graduate student pursuing my specialist's degree in school psychology. I am writing to express interest in contacting teachers working in your school or district to request their participation in my research study on the relationship between stress, coping resources and burnout among elementary teachers. My faculty sponsor, Jeffrey R. Stowell Ph.D., and I are interested in this area of study to better understand which resources may help teachers better cope with stressful experiences incurred within their profession and perhaps reduce potential burnout symptoms. With your permission I would distribute emails that briefly describe my study and invite them to volunteer. If interested, teachers will be able to follow a link within their email that will provide them with additional information about the research and allow them to complete the online surveys that we anticipate will take approximately 30 - 45 minutes of their time.

I appreciate your consideration,

Sincerely,

Joseph Mooney

If you have any questions or concerns about this research, please contact:
Primary investigator: Joseph M. Mooney, Phone: 608-554-5188 Email: jmmooney@eiu.edu
Faculty Sponsor: Jeffrey R. Stowell Ph.D. Phone: 217-581-2279 Email jrstowell@eiu.edu

Appendix B

Email to Teachers

Hi there, I am Joseph Mooney, a graduate student pursuing my specialist's degree in school psychology. I am writing to invite you to participate in my online research study on the relationship between stress, coping resources and burnout among elementary teachers. My faculty sponsor, Jeffrey R. Stowell Ph.D., and I are interested in this area of study to better understand which resources may help teachers better cope with stressful experiences incurred within their profession and perhaps reduce potential burnout symptoms. If interested, please follow the link below which will provide additional information about the research and allow you to complete the survey which we anticipate will take approximately 30 - 45 minutes of your time. For your time, you will have the option to enter to win one of (3) 25\$ Amazon gift cards at the end of the survey.

The survey can be found by following this link

http://eiu.col.qualtrics.com/jfe/form/SV_5tg7QLBTAEzftNb

I appreciate your consideration,

Sincerely,

Joseph Mooney

Appendix D
Survey

Classroom Appraisal of Resources and Demands

**Classroom Appraisal of Resources and Demands
(CARD)
School-Age Version**

*Developed by Richard G. Lambert, Ph.D. University
of North Carolina at Charlotte Christopher
McCarthy, Ph.D. University of Texas at Austin
Martha Abbott-Shim, Ph.D. Quality Counts, Inc.
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We are interested in learning about the demands of your classroom and teaching responsibilities, and the resources you have to handle those demands. Your responses will be kept strictly confidential and anonymous. No information about your individual responses will be shared with anyone. We appreciate your time in completing this questionnaire.

Tell us about the children in your classroom.

1. How many children are in the classroom?

2. How many children have come from homes in which English is not the primary language? # _____
3. How many children are developmentally behind most of the other children?

4. How many children have learning disabilities?

5. How many children have physical disabilities?

6. How many children are gifted or talented?

7. How many children are homeless or transient?

8. How many children have poor attendance?

9. How many children have behavior problems?

10. How many children are performing below grade level?

Tell us about yourself.

11. How many years have you worked as a teacher?

12. How many years have you worked at your current school or program?

13. What is the highest degree you have completed? High school ____ Technical School ____ AS ____
BS ____ M.S./M.ED ____ Ph. D. ____

14. In what fields were your degree(s)?

15. Are you currently working toward a degree?

Yes ____ No ____

16. If yes, what degree and in what field? Please specify.

17. What is your age?

18. What is your gender?

Male ____ Female ____

19. What is your ethnicity? European American ____ African American ____ Hispanic ____
Asian ____ Other ____

Are there any other features of your classroom that make it unique?

Using the scale below, rate how **demanding** your classroom or teaching responsibilities are in these areas.

1 = Not Demanding 2= Occasionally Demanding 3 = Moderately Demanding 4 = Very Demanding 5= Extremely Demanding

20. Number of children in the classroom.
21. Children with limited English skills.
22. Children from diverse cultural backgrounds.
23. Range of developmental levels.
24. Number of children performing below grade level.
25. Children with learning disabilities.
26. Children with physical disabilities.

27. Gifted and talented children.
28. Homeless or transient children.
29. Children with poor attendance.
30. Disruptive children.
31. Children who do not follow directions.
32. Children with problem behaviors.
33. Children who require more time and energy than most children.
34. Paperwork requirements.
35. Number of program / administrative disruptions to the daily schedule.
36. Amount of physical classroom space.
37. Classroom environment conditions (heating, cooling, lighting, etc.).
38. Availability of instructional resources (supporting materials, teacher guides, etc.).
39. Availability of instructional materials (non-consumable materials; manipulatives, books).
40. Availability of instructional supplies (consumable materials; pencils, paper, markers, etc.).
41. Availability of instructional technology (computers, software, printers, scanners, etc.).
42. Instructional materials and resources that are out dated (not the current editions, etc.).
43. Time and effort working with protégé teachers (teachers you are mentoring).
44. Meetings you are required to attend.
45. Time spent performing non-teaching related duties (monitoring bus, cleaning, etc.).
46. Parent conferences and contacts.
47. Formal testing and objective assessments.
48. Portfolios, performance assessments, or teacher ratings of children's achievement.
49. Grading student work.
50. Preparing lessons.
51. Setting up the classroom for instructional activities.
52. Preparing classroom materials.
53. Externally imposed changes to the expectations for your job performance.
54. Overall how demanding is your classroom?
55. Aides/ assistants.
56. Parent volunteers in the classroom.
57. Parent support of school learning activities (field trips, providing materials, etc.).
58. Parent support of learning activities at home (homework, enrichment activities, etc.).
59. Adult mentors from the community.
60. Administrators at your school.
61. Support personnel for children with learning disabilities.

62. Support personnel for children with physical disabilities.
63. Support personnel for gifted or talented children.
64. Support personnel for children with limited English skills.
65. Support personnel for children from diverse cultural backgrounds.
66. Support personnel for children with problem behaviors.
67. Support personnel for children performing below grade level.
68. Support personnel for computers and instructional technology.
69. Counselors or family services workers.
70. Special area teachers (art, music, PE, etc).
71. Other teachers (peers).
72. Mentor teachers.
73. Staff development opportunities.
74. Materials for children with learning disabilities.
75. Materials for children with physical disabilities.
76. Materials for gifted or talented children.
77. Materials for children with limited English skills.
78. Materials for children from diverse cultural backgrounds.
79. Materials for children with problem behaviors.
80. Materials for children performing below grade level.
81. Instructional resources provided by your school or program (supporting materials, teacher guides, etc.).
82. Instructional materials (non-consumable materials, manipulatives, books).
83. Instructional supplies provided by your school or program (paper, pencils, markers, etc.).
84. Overall, how would you rate the resources available to help you with the demands of your classroom?

Do you spend your own money for classroom supplies and materials? Yes No

If you answered yes, how much money do you typically spend during the academic year? \$ _____

Help us to understand your plans for next year. This information will not be shared with anyone.

I intend to continue teaching. Yes No

If you answered no, please check the primary reason for your decision.

- Promotion out of the classroom.
- Continue my education but plan to return to teaching.

- Personal reasons (family move, spend more time with children, pregnancy, family illness, retirement, etc.).
- Professional reasons (pursuing another career, no longer like teaching, stresses of teaching, low pay, lack of recognition, etc...).
- Other (please specify)_____

If the demands of your classroom were fewer, and resources were more abundant, how would your teaching be different?

Do you have any additional comments about the demands of your classroom?

Do you have any additional comments about resources that are helpful to you in dealing with the demands of your classroom?

Preventive Resources Inventory
Preventive Resources Inventory

*Developed by Christopher McCarthy, Ph.D.
 University of Texas at Austin Richard G.
 Lambert, Ph.D. University of North Carolina
 at Charlotte Not for use without permission of
 the authors*

Using the scale below, please rate the extent to which you agree or disagree with the following statements by circling a response.

1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
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1. I know how to delegate tasks to others.
2. I can trust my own judgement
3. I know how to pick the right coping strategy for the right situation.
4. I know how to make social situations more comfortable.
5. I know who I am.
6. I know how to think about situations in a positive way.
7. I see problems as opportunities to learn and grow.
8. When new information comes my way, I can recognize when it will be important to me.
9. I use humor to keep difficulties from becoming stressful.
10. My sense of humor keeps my stress level under control.
11. I can communicate my needs to others.
12. I am able to divide up tasks with others in a way that benefits others.
13. I can handle stressful situations.
14. I can recognize when someone is about to become unhappy with me.
15. I am able to ask for emotional support.
16. I believe the difficulties I am facing will not last forever.
17. I know how to make others feel comfortable.
18. I am comfortable with the circumstances in my life.
19. I am able to recognize when I need to take action to avoid causing stress in my life.
20. I am good at finding novel ways to resolve obstacles in my life.
21. I have others to call upon when needed.
22. I know how to handle stress.

23. I have goals that keep me focused.
24. I can solve most of the problems I face.
25. I know how to keep my options open.
26. I have mutually supportive relationships.
27. I am good at identifying things that will cause stress in the future.
28. I can learn new tasks.
29. I know my own limits.
30. I am able to reduce my daily demand level by planning ahead.
31. If I fail in one situation, I know I can still succeed in other situations.
32. I know I can't be all things to all people.
33. By organizing and planning my day, I am usually able to keep my daily demands from becoming stressful.
34. I know how to prepare for stressful situations.
35. I lead a well-rounded life.
36. I can adapt to change.
37. When problems come up in one area they don't affect my overall happiness.
38. I can handle most things.
39. I do not want to trade my life for anyone else's life.
40. I have enough money for my needs.
41. I am able to prevent stress by having clear values in my life.
42. I am a flexible person.
43. I know how to learn from my mistakes.
44. I am able to reduce stress in my life by focusing on my values.
45. I am able to reduce stress in my life by focusing on my priorities.
46. I can recognize events or situations that may cause stress in my life.
47. I can accept the fact that things will not always turn out the way I want.
48. I am in control of my life.
49. I usually succeed at whatever I try.
50. I accept my imperfections.
51. I am able to use constructive criticism.
52. I am able to see difficult situations on the horizon.

53. I am able to avoid causing myself stress by keeping things in perspective.
54. I am frequently able to diffuse stressful situations by acting quickly.
55. Other people consider me helpful.
56. I am usually able to leave space in my daily schedule to tackle important tasks.
57. I keep failures and difficulties in perspective.
58. I am grateful for who I am.
59. I know when getting more information will help me avoid problems.
60. I have friends and relatives that can help me avoid trouble in my life.
61. I accept the input of others.
62. I recognize situations that may add to the stress in my life.
63. I am better than most people at anticipating situations that will cause stress.
64. I stay organized.
65. I ask for help.
66. I know when I need to "go with the flow" to prevent a situation from becoming stressful.
67. I know what is best for me.
68. I monitor my environment for potential sources of stress.
69. I may not always get what I want.
70. I have strengths, which allow me to overcome obstacles.
71. I am able to pace myself to get things done in a timely manner.
72. I usually don't create stress for myself by putting things off.
73. I usually follow through on the plans I make.
74. I form mutually beneficial relationships with others.
75. I use humor to keep others at ease.
76. I have limitations.
77. I can identify when my approach to problem solving is not working.
78. I am able to prevent stress by accepting responsibilities rather than avoiding them.
79. I can find the bright side to most situations.
80. I can laugh at myself.
81. I know how to plan the use of my time so difficult problems get handled.

82. I can usually see many ways to attack a problem.

Do you have any additional comments regarding how you can prevent stress?

Fall, 2004 Thank You

Teacher Preparation Questions

Behavior modification involves altering behavior by applying principles of learning. It usually incorporates the use of positive or negative reinforcement of a desired behavior and extinction or punishment of undesired behavior. Explicit behavior modification differs from what is usually considered classroom management of group behavior as a whole when it is targeted toward modification of a particular student's disruptive and inappropriate behavior. The following questions aim to assess your behavior modification training during your formal education as well as how prepared you feel to implement these practices.

Did you take a course that taught you explicit methods for modifying the behavior of individual students? (Y/N)

Did you take a course in classroom management while earning your teaching degree? (Y/N)

How much training in classes and practical experience did you receive during your schooling that specifically targeted behavior modification of individuals? (1-5)

1. None
2. Very little
3. A moderate amount
4. A Fair amount
5. Considerable training

How prepared did you feel to handle problematic student behavior when transitioning from student teaching to full time employment as a teacher? (1-5)

- (1) Not prepared at all
- (2) Very little preparedness
- (3) Moderately prepared
- (4) Fairly prepared

(5) Well prepared

How prepared did you feel to handle problematic student behavior during your first three years of teaching? (1- 5)

(1) Not prepared at all

(2) Very little preparedness

(3) Moderately prepared

(4) Fairly prepared

(5) Well prepared

How prepared do you feel at this time to handle problematic student behavior? (1-5)

(1) Not prepared at all

(2) Very little preparedness

(3) Moderately prepared

(4) Fairly prepared

(5) Well prepared