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**PURDUE UNIVERSITY
GRADUATE SCHOOL
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By Wendy A. Folk

Entitled

Teacher Self-Efficacy, Teacher Attitudes about Reform Accountability Measures, and Teacher Burnout

For the degree of Doctor of Philosophy

Is approved by the final examining committee:

Dr. Marilyn A. Hirth

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Dr. James Freeland

Dr. Matthew Della Sala

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Head of the Departmental Graduate Program

10/27/2015

Date

TEACHER SELF-EFFICACY, TEACHER ATTITUDES ABOUT REFORM
ACCOUNTABILITY MEASURES, AND TEACHER BURNOUT

A Dissertation

Submitted to the Faculty

of

Purdue University

by

Wendy A. Folk

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of

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West Lafayette, Indiana

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When I applied to the Purdue Cohort Doctoral Program in Educational Leadership three years ago, I wrote about “climbing the ladder,” not in the traditional sense, but to experience a broader view, to gain a better understanding of the complexities of public education, and to implement new approaches in response to student needs. This program and the research connected with this dissertation have fulfilled that objective. Along the way, I have had the support of many wonderful people.

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ABSTRACT

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Teacher rhetoric surrounding Indiana's recent education reform policies and teacher accountability measures have indicated a possible increase in teacher burnout and potentially lower levels of teacher self-efficacy. This study examines the relationship between teacher self-efficacy, teacher burnout, and teachers' attitudes about three reform accountability measures – teacher effectiveness ratings, A – F school grades, and performance pay. The study was based on responses from 106 urban elementary teachers in an Indiana school district with more than 15,000 students. Correlations between burnout and self-efficacy were found to be consistent with previous studies, while small correlations were found between teachers' attitudes about the reform accountability measures of school grades and performance pay, and burnout. Multiple regression models used to test the predictability of burnout from teacher self-efficacy and teachers' attitudes about reform measures resulted in few significant predictors from the teacher attitude subscales. Possible implications are discussed relevant to educational leadership, teacher turnover, and constrained professionalism.

CHAPTER 1 INTRODUCTION

School reform advocates across the nation have instituted education policy changes focused on school choice, teacher accountability, and school funding. At the national level, the 2001 reauthorization of the Elementary and Secondary Education Act of 1965 (ESEA), also known as *No Child Left Behind* (NCLB) has driven policy changes to improve educational outcomes for all students, close achievement gaps, and increase equity. NCLB has been further transformed with Race to the Top, a competitive grant program introduced in July of 2009 to award “states that are leading the way with ambitious yet achievable plans for implementing coherent, compelling, and comprehensive education reform” (US DOE, 2014).

In the state of Indiana, the past four years have seen extensive education policy changes that have impacted the daily actions of teachers, as well as their perceptions of their professional careers. Accountability measures such as yearly teacher evaluations that include an effectiveness rating based in part on students’ academic growth, A-F school grades, and teacher performance pay represent accountability measures focused on improving teacher and school performance. When asked to name his biggest accomplishment as the head of Indiana’s schools, former State Superintendent of Schools Tony Bennett answered,

In my four years in Indiana, we were the most aggressive state in the U.S. in terms of driving education reform policy. It would be hard to replicate what was done in Indiana in 2011 [changes in school choice, school accountability, teacher evaluation], and I'm not sure in the near future we will see anything that comes close. It was a comprehensive overhaul (Russo, 2013).

Extrinsic motivators, such as teacher effectiveness ratings, school grades, and teacher performance pay were at the center of this comprehensive overhaul. Given the overhaul of education policies centered on improving teaching in Indiana, there is a need to consider several questions. Are extrinsic motivators aimed at teachers and schools the best way to improve educational outcomes for all students, close achievement gaps, and increase equity? What does research tell us about teachers' motivation? How do teachers feel about the extrinsic motivators used in accountability policies?

Self-determination theory (SDT) provides researchers with a broad framework for the study of motivation, which is pertinent to the study of Indiana's educational reform policies and their accompanying accountability measures. According to Deci and Ryan (2008a & b), SDT views different types of motivations as being more or less effective in leading people to take a course of action. They consider motivation to be either controlled or autonomous, along a continuum that ranges from external regulation, in which a person's actions are based strictly upon rewards or punishments, to intrinsic regulation, which emanates from a person's enjoyment with, or interest in, an activity. Along this continuum lay varying forms of extrinsic motivations that connect, to some degree, with a person's social needs, interests, or values. SDT also posits that autonomy, competence, and relatedness are essential for personal well-being, optimal performance,

and creative problem-solving (Deci & Ryan, 2008a & b). Examining the reform accountability measures through the lens of SDT provides a framework for understanding the relative degree of extrinsic motivation that is associated with the measures, as well as considering the impact these reform measures may have on teachers' well-being and sense of self.

Albert Bandura, the father of social cognitive theory writes, "Ordinary realities are strewn with impediments, adversities, setbacks, frustrations, and inequities." Bandura continues, "People must, therefore, have a robust sense of efficacy to sustain the perseverant effort needed to succeed" (1994, p. 81). For teachers working in urban schools, the adversities and inequities that affect students living in poverty can be especially challenging and deserve examination in light of the accountability measures that are applied equally across the public school arena, despite the socio-economic differences that exist. How do teachers in urban settings view their ability to meet the demands of teaching and produce the desired outcomes? And what about burnout – the emotional exhaustion, the depersonalization, and the loss of self-efficacy that can arise when the impediments, setbacks, inequities, and frustrations become too great?

Previous research has associated burnout with a number of teacher-related outcomes including teacher ill-being, organizational turnover, and absenteeism (Ingersoll, Merrill, & Stuckey, 2014; Martin, Sass, & Schmitt, 2012). A recent review of employment trends within the teaching profession indicates that teachers have been leaving the teaching profession at relatively high rates, and at rates that are increasing (Ingersoll et al, 2014). The authors state, "These changes have large implications...high levels of employee departures are worrisome because they can be a symptom of

underlying problems in how well organizations function, but also because departures can entail costs and other negative consequences for organizations and for the larger system” (p. 26). When we consider the implications of the combination of teacher burnout and high teacher turnover rates for urban elementary schools, the negative consequences can impact young children, teaching colleagues, and the school community.

Purpose

The purpose of this quantitative study was to examine the relationship between teachers’ attitudes towards accountability measures, teachers’ self-efficacy, and teacher burnout in urban elementary schools. In addition, this study aimed to determine whether teachers’ attitudes toward accountability measures and teacher self-efficacy predict teacher burnout. Through exploratory demographic data, this study also sought to examine differences in teacher burnout, self-efficacy, and attitudes toward recent accountability measures as they relate to school accountability grades, years of teaching experience, years remaining in teaching, and the grade level of the teacher.

Statement of the Problem

Current teacher staffing research indicates that high-poverty, high-minority, urban, and rural public schools have the highest rates of teacher turn-over, with teachers leaving the profession at ever-increasing rates (Ingersoll et al., 2014). These indicators are represented in the data on low-performing public elementary schools in Indiana. According to the online Indiana Department of Education’s Scoreboard, the 81 public

elementary schools with D or F ratings include 51.8% with greater than seventy-five percent of students qualifying for free lunch, and another 33.3% between fifty-one and seventy-five percent of students qualifying for free lunch. Of the 81 schools represented in the data, 33.3% of the schools have greater than seventy five percent of students identified as minority (Black or Hispanic) and 24.6% with minority populations between fifty-one and seventy-five percent. Urban schools represent 61.7 % of the 81 public elementary schools with a D or F rating, including Indianapolis, Fort Wayne, Evansville, South Bend, and Gary, while 12.3% of the schools are in rural areas.

While each of these school indicators represents complex interactions of social and economic factors, the accountability measures adopted at the state level are equally applied across all social and economic demographics. The accountability measures impact the careers of all teachers, but may result in burnout and turnover for those teachers who are working in low-performing schools.

The negative outcomes of teacher burnout and turnover may also be impacting the development of Indiana's future teaching force. In August of 2015, Indiana State Superintendent of Public Instruction Glenda Ritz announced the formation of a Blue Ribbon Commission to study the challenges associated with recruiting and retaining effective teachers. She stated,

Statewide, Indiana has seen an 18% drop in the number of teachers receiving first time licenses over the last five years. Unfortunately, this problem could get worse as schools of education throughout Indiana are experiencing significant drops in enrollment that will only make it more difficult for schools to fill openings moving forward (2015).

Significance of the Study

This study adds to the discourse of school reform by examining the impact of school reform accountability measures on teachers in urban elementary schools. By understanding the relationship between teacher self-efficacy, burnout, and attitudes about accountability measures for teachers in urban schools, school leaders can maximize the effect of those accountability measures that are found to be most effective, while also developing structures to reduce burnout in an effort to retain effective teachers, thereby positively impacting student performance.

Research Questions

The current study sought to examine the relationship between teacher's attitudes about school reform accountability measures, teacher self-efficacy, and burnout in urban elementary teachers through the following questions:

1. What is the strength of the relationship between teacher attitudes about accountability measures (teacher effectiveness ratings, A- F school grades, and performance pay) and teacher self-efficacy (instruction, classroom management, and student engagement)?
2. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors), and burnout in the Maslach Burnout Inventory (MBI) emotional exhaustion subscale (outcome)?

3. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors), and burnout in the Maslach Burnout Inventory (MBI) depersonalization subscale (outcome)?
4. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors), and burnout in the Maslach Burnout Inventory (MBI) personal accomplishment subscale (outcome)?

Hypotheses

The following hypotheses were tested through this study into the relationship between accountability measures, teacher self-efficacy, and teacher burnout within urban elementary schools:

HO₁: There is no significant correlation between teacher attitudes about accountability measures, as measured by the teacher attitude survey and teacher self-efficacy, as measured by TSES.

HO₂: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures as measured by the teacher attitude survey (predictor), teacher self-efficacy as measured by the Teacher Sense of Efficacy Scale (TSES) (predictor), and teachers' burnout as measured by the Maslach Burnout Inventory (MBI) emotional exhaustion subscale (outcome).

HO₃: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures as measured by the teacher attitude survey

(predictor), teacher self-efficacy as measured by TSES (predictor), and teachers' burnout as measured by the MBI depersonalization subscale (outcome).

HO₄: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures as measured by the teacher attitude survey (predictor), teacher self-efficacy as measured by TSES (predictor), and teachers' burnout as measured by the MBI personal accomplishment subscale (outcome).

Definition of Terms

Throughout this study, the following terms are used to represent the concepts as defined:

Accountability measures – State-required, politically-based tools that are intended to motivate actions and/or indicate the level to which a school or teacher has fulfilled its role to achieve student academic outcomes based on academic standards

A – F school grades – Indiana's school rating system based, at the elementary level, on ISTEP+ scores, growth data, and test participation rates

Depersonalization – the act of losing a personal connection with students, the feeling that their unique characteristics are unimportant, or feeling indifference toward the students, which can manifest itself as negative, callous, or excessively detached response to various aspects of the teaching role

Efficacy – one's belief in his/her ability to produce designated levels of performance that exercise influence over events that affect his/her life

Elementary school – a school that includes a range of grade levels between pre-kindergarten and sixth grade

Exhaustion – the physical or mental feeling of being depleted and having little or nothing left to offer in terms of energy or ability to meet the requirements of a role

ISTEP+ – Indiana’s test for educational progress used in grades 3 – 8 to measure acquisition of academic standards once per year, used in calculating school grades and corporation status as required by NCLB

Performance pay – income that can be gained above and beyond the teacher salary, based on improvements in student performance for teachers rated as effective or highly effective

Teacher burnout – the level to which a teacher feels physically or mentally unable to meet the requirements of his/her role as a teacher

Teacher self-efficacy – the level to which a teacher feels confident in his/her ability to execute the actions required for student learning

CHAPTER TWO LITERATURE REVIEW

This literature review provides a historical and theoretical perspective of the three primary variables investigated in this study: 1) Indiana education reform policies and accountability measures, 2) teacher self-efficacy as a measure of teachers' belief in their abilities to organize and execute courses of action, and 3) teacher burnout as a measure of mental, physical, and emotional outcomes resulting from a mismatch between job requirements and teachers' perceived abilities.

Indiana Education Reform

The spring of 2011 saw the adoption of Indiana's landmark education reform acts, focused on kindergarten through high school. House Enrolled Act (HEA) 1003 redirected state funds from public schools to pay for tuition and fees at private schools through vouchers, while HEA 1002 expanded charter schools and virtual charter schools (Hiller, DiTommaso, & Plucker, 2012). Teacher licensing and evaluation were changed through Senate Enrolled Act (SEA) 001, creating the highly effective, effective, improvement necessary, and ineffective teacher ratings; requiring student performance outcomes as one measure of teacher effectiveness; and linking teacher pay to the evaluation system (Hiller, DiTommaso, & Plucker, 2012). SEA 575 restricted the collective bargaining rights of teachers to salary, wages, hours, paid time off, and wage-

related benefits (Hiller, DiTommaso, & Plucker, 2012). Education funding was also impacted by HEA 001, which in part established partial funding for full day kindergarten, established reduced base funding for students, eliminated grants for small schools, and which allowed the Department of Education to bring in private companies to create “turnaround academies” in public schools with five years of poor performance (Hiller, DiTommaso, & Plucker, 2012). In 2011 Indiana also instituted the A – F grading system as a means to report school progress as part of its waiver from some federal requirements of *No Child Left Behind* (IDOE, 2011).

These multiple education policy changes over the past five years have impacted the daily actions and professional careers of teachers across the state. This study will examine the relationship between teacher attitudes about the reform policy accountability measures, teachers’ sense of self-efficacy and teachers’ level of burnout, including whether a predictive relationship exists between teachers’ attitudes toward the accountability measures and teacher self-efficacy, and teacher burnout.

Previous literature examining policy reforms reports problems with the rhetoric surrounding school reform efforts (Carey, 2014; Glynn & Waldeck, 2013), as well as mixed results on the outcomes of education reform measures. Analyzing the evidence from teacher evaluation changes, Hallinger, Heck, and Murphy (2014) found that the proposed theory of action, in which teacher evaluation leads to teacher effectiveness and student achievement, was not supported empirically by the studies they examined. Eisenhart, Cuthbert, Shrum, and Harding (1988) found that educational reforms have little chance for success if they do not match what teachers believe about their work (p. 139), while Gerrard & Farrell (2014) and Placier, Walker, and Foster (2002) examined

the conflicts that have arisen over teacher authority, curriculum reform, and policy-making. Miron and St. John (2003) explored the complexities and mixed results of past educational reforms and their outcomes related to their claims and ideology. These scholarly studies stand in contrast to the literature found through a simple Google search of Indiana education reform. Scholarly-looking works, with titles such as *The Aspirational State: Indiana as America's Leading Education Reform State* (Streeter, 2011) and *Implementing Indiana's Students First Agenda: Early Lessons and Potential Futures* (Manna, Kelley, & Hess, 2012), extoll Indiana's education reform measures from the point of view of the authors of the reform policies.

At the same time, the two leading teacher organizations, the National Education Association (NEA) and American Federation of Teachers (AFT) have added to the discourse through their policy and position statements, calling for changes to the accountability measures, which have been driven by *No Child Left Behind*. In the 2013 NEA policy brief entitled *Multiple Indicators of School Effectiveness*, NEA President Dennis VanRoekel is quoted as saying, "Working with stakeholders, states should develop valid, reliable, and fair measures of schools that lead to transparency, support, and improvement, rather than the unfair labels and punishments we have seen as a result of NCLB" (p. 1). The AFT's 2014 resolution entitled *Real Accountability for Equity and Excellence in Public Education* echoes VanRoekel's beliefs when it states, "the American Federation of Teachers in partnership with parents and other community groups will advocate for the development of "support-and-improve" accountability models to replace the current, failed, "test-and-punish systems" (p. 2).

Recently, Grissom, Nicholson-Crotty and Harrington (2014), published their work on changes to teacher job satisfaction and commitment since *No Child Left Behind* (NCLB) took effect in the 2002 – 2003 school year. The authors utilized a demand-control-support model to analyze teacher job satisfaction and commitment related to changes in job demands, autonomy in the classroom, and support from colleagues and supervisors by comparing data from the National Center for Education Statistic's School and Staffing Survey (SASS). Through comparison of two pre-NCLB data sets collected in 1994 and 2000 and two post-NCLB data sets collected in 2004 and 2008, the authors determined that teacher job satisfaction and commitment to teaching were substantially higher in the years after NCLB was enacted. The authors further found no substantial difference in the study's outcomes for schools with high concentrations of low-income students. They conclude, "Simply stated, our results do not support media accounts, academic reports, or policy rhetoric more generally that portray NCLB as undermining teacher morale and intent to remain in the profession" (p. 432).

This current study's examination of the attitudes of urban elementary teachers towards Indiana's reform accountability measures in relationship to teacher self-efficacy and teacher burnout serves to broaden the understanding of the impact of these policies on teachers. Before attempting to understand the impact of reform accountability measures on teacher attitudes, it is useful to examine the foundational literature associated with teacher self-efficacy and teacher burnout.

Teacher Self-efficacy

Nearly forty years have passed since Albert Bandura laid the groundwork for teacher self-efficacy while engaged in research on social learning theory (Bandura, 1977). His theory on self-efficacy posited that people's beliefs about their capabilities and the outcomes of their efforts greatly impact their behavior (Usher & Parajes, 2008). Bandura, ranked as the fourth most influential researcher of the twentieth century in a study involving the members of the American Psychological Society (Dittmann, 2002) states, "People process, weigh and integrate diverse sources of information concerning their capability, and they regulate their choice behavior and effort expenditure accordingly." He further stated, "Efficacy expectations are presumed to influence level of performance by enhancing intensity and persistence of efforts" (1977, p 212). This persistence of efforts is an important consideration in teacher efficacy, as daily instruction, student engagement, and classroom management require teachers to persevere within an ever-changing social construct.

Bandura (1986) further developed this self-efficacy construct as a part of his social cognitive theory, which posits that learning occurs in a social context while emphasizing the dynamic and reciprocal interaction between a person, their behavior, and their environment. Bandura hypothesized that self-efficacy beliefs are developed as a person experiences and interprets information from four sources; mastery experiences, verbal persuasion, vicarious experiences, and affective states (Bandura, 1986). While mastery experiences, the degree to which people have previously succeeded on similar or relevant tasks, have been shown to have the greatest correlation to the development of self-efficacy, the effect cannot be viewed as causal. In treatment, Bandura (1977) found

that a person's perceived self-efficacy, rather than his past performance, was a better predictor of behavior toward an unfamiliar situation and that "self-efficacy derived from partial enactive mastery during the course of treatment predicted performance on stressful tasks that the individuals had never done before" (p. 211). The complex interaction of the social cognitive sources of self-efficacy development and self-efficacy as the sum of a persons' belief about their capabilities and ability to succeed in new and challenging situations, cannot be underestimated.

The remaining three sources of self-efficacy, described by Bandura, are derived by both social and physiological experiences. Verbal persuasion and vicarious experiences both emanate from the social realm, when a person receives verbal feedback that results in either positive or negative views of his performance or ability to perform a task, and vicariously as a person views a model or judges his capabilities compared to others (Bandura, 1997). The affective state, consisting of physiological experiences, serves as the fourth source of self-efficacy and includes a change in heartrate, sweating, exhaustion, exhilaration, and other physical signs reflecting positive or negative experiences (Bandura, 1997). It is important to remember that while mastery experiences, verbal persuasion, vicarious experiences, and physiological activity serve as a source for self-efficacy, these same experiences are influenced by a person's self-efficacy. This reciprocity is an important factor in considering teacher self-efficacy in light of education reform policy changes in that teacher self-efficacy is formed through experiences, but also influences new experiences such as changed instructional practice resulting from policy changes. It is also important to note that Bandura (1997) clearly

linked contextual factors and self-efficacy, indicating that self-efficacy operates in tandem with context. In other words, context matters when examining self-efficacy.

Bandura's pioneering work on social cognitive theory and self-efficacy has been expanded and utilized by thousands of researchers during the past 30 years. A search of education and psychology research databases for this literature review yielded a myriad of studies focused on the development of student self-efficacy across a variety of academic fields and in a number of countries around the world. While these studies are important to the overall understanding of self-efficacy, studies directly involved in developing an understanding of teacher self-efficacy and the development of a teacher self-efficacy scale are the focus of this literature review.

The Ohio State University researcher, Anita Woolfolk Hoy, has been in the forefront of teacher self-efficacy research since the early 1990's when she and Wayne Hoy began studies of self-efficacy with college of education students. In an interview with Michael Shaughnessy (2004), Woolfolk Hoy describes her beginning teacher self-efficacy studies, which were based on pre-service teachers' sense of self-efficacy as they learned to motivate students and maintain classroom management. Following initial teaching experiences, Hoy and Hoy re-examined how these beginning teachers' beliefs changed (Shaughnessy, 2004). They also examined school climate related to principal leadership and faculty collegiality (Shaughnessy, 2004). These studies led to further research by the Hoys in conjunction with their graduate students, Megan Tschannen-Moran and Roger Goddard, and included the development of the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001), which is discussed further in Chapter Three.

A longitudinal study by Holzberger, Phillipp and Kunter (2013), examining the relationship between teacher self-efficacy and teachers' instructional quality confirmed the positive relationship between teachers' self-efficacy and their quality of instruction. Holzberger et al. found that teachers with higher self-efficacy beliefs showed higher levels of instructional quality, as measured twice by both teachers and students over the course of one year, in the three dimensions of instructional quality studied; cognitive activation, classroom management, and individual learning support. In line with the previously discussed reciprocal nature of self-efficacy, the researchers could not confirm a causal relationship between self-efficacy and quality of instruction, but found that teacher self-efficacy beliefs changed over the course of a year, with high levels of student activation and classroom management correlated with increased teacher self-efficacy. The work of Holzberger et al. supports Bandura's belief that mastery experiences are a source of teacher self-efficacy and the reciprocal influence that self-efficacy has on mastery experiences.

Klassen and Tze's (2014) meta-analysis examining the relationship between teacher self-efficacy, personality, and external measures of teacher effectiveness, including student achievement and measured teaching effectiveness, is also relevant to this current study in establishing a link between teachers' beliefs about their self-efficacy and teacher effectiveness. This analysis, which included 43 studies representing more than 9,000 participants, suggests that teacher self-efficacy is strongly associated with evaluated teaching performance, and modestly but significantly associated with the achievement levels of students. As this current study seeks to examine the strength of the relationship between teacher self-efficacy and their attitudes about recent education

reform accountability measures, it also seeks to determine whether these teacher attitudes and sense of self-efficacy have a significant predictive relationship to teacher burnout.

Teacher Burnout

The concept of employee burnout was brought into socio-psychological literature beginning in the 1970's by Herbert Freudenberger, a consulting psychiatrist working at a free drug clinic in New York's East Village (Schaufeli, Leiter & Maslach, 2009). He drew the term *burnout* from the drug culture, where it described the destructive effects of chronic drug use, and applied it to the emotional depletion, loss of motivation, and reduced commitment experienced by the clinic's volunteers (Schaufeli et al., 2009). According to Schaufeli, Leiter, and Maslach (2009) burnout originated in the rapid change in social relationships that took place during the 1960's as human services became "rapidly professionalized and bureaucratized as a result of greater government and state influence" (p. 207). At the same time, Schaufeli et al. indicate that "the cultural revolution of the 1960's weakened the professional authority of – among others – doctors, nurses, teachers, social workers, and police officers" while "empowered recipients expected much more than ever before" (p. 207). As a result, the lack of reciprocity between professionals' efforts and the rewards they received through recognition and gratitude contributed to the development of burnout (Schaufeli et al., 2009).

Like the experience of Freudenberger, social psychological researcher Christina Maslach and her colleagues, working in California in the 1970's, encountered the concept

of burnout through interviews with human service workers who used the term to describe their emotional exhaustion, their crisis in professional competence, and the negative perceptions they developed toward clients or patients (Schaufeli et al., 2009). Maslach extended this research beyond the human service industry and described burnout as “a state of exhaustion in which one is cynical about the value of one’s occupation and doubtful of one’s capacity to perform” (Maslach & Leiter, 1997, p. 20). Since the 1970’s, burnout has become a well-established concept, with an estimated 6,000 plus publications focused on determining the causes, examining the symptoms, and establishing coping and prevention methods (Schaufeli et al., 2009). In addition, studies have linked burnout to other socio-psychological constructs, such as self-efficacy, which will be examined in the next section of this literature review.

Maslach and Leiter’s book on teacher burnout (1997) describes three dimensions of burnout; 1) an erosion of emotions 2) an erosion of engagement with the job, and 3) a problem of fit between the person and the job. These core dimensions are further described and examined in relationship to each other in Maslach, Schaufeli, and Leiter (2001). According to the researchers, physical and mental exhaustion are recognized as the most widely reported aspects of burnout, but should not be considered as the sole dimension unrelated to two other dimensions, depersonalization and inefficacy. The depersonalization dimension, which may result from exhaustion, represents the distance that a teacher may put between herself and her students “by actively ignoring the qualities that make them unique and engaging people” (p. 403) while indifference and cynicism may be reflected in the teacher’s actions and interactions. Maslach et al. (2001) indicate that a strong relationship between exhaustion and depersonalization is found consistently

in burnout research. The third dimension, loss of efficacy, is evident in teachers' reduced sense of personal accomplishment and appears to be a function of exhaustion, depersonalization, or a combination of the two (Maslach et al., 2001). The researchers state, "It is difficult to gain a sense of accomplishment when feeling exhausted or when helping people toward whom one is indifferent" (p. 403).

In *Burnout: 35 years of research and practice*, Schaufeli, Leiter, and Maslach (2009) identified two distinct contributors to burnout in the 21st century; a persistent imbalance of demands over resources, and conflict between and among values and actions. These may be personal values that are in conflict with an organization's missions, visions, or values, or they may be represented by the mismatch between an organization's stated values and its values in action. Schaufeli et al. (2009) indicate that burnout has been researched throughout the world, in a variety of cultures and settings, although the term varies in meaning based on the culture in which it is studied. An outgrowth of burnout research has included the development of medical diagnoses for burnout in some countries, such as The Netherlands and Sweden (Schaufeli et al., 2009). Schaufeli et al. (2009) end their 35 year review of burnout with this remark, "As for the practice of burnout, it remains to be seen if corporations and public sector organizations are willing to provide the necessary resources to maintain extraordinary efforts from their employees, or whether efforts to inspire extraordinary efforts become a new source of burnout" (p. 216).

While Freudemberger, Maslach, Schaufeli, and Leiter have led the way in identifying the concept of burnout and providing scales to measure levels of burnout in many human services and business arenas over the past 35 years, additional research

related to teacher burnout is important for this current study. Hakanen, Bakker, and Schaufeli (2006) developed the Job Demands – Resources Model to examine their hypothesized two parallel processes involved in the work-related well-being among 2038 Finnish teachers. These parallel processes of energy (job demands lead to burnout, which leads to ill health) and motivation (job resources lead to engagement, which leads to organizational commitment) were found to include some cross-links between the processes, such as a lack of resources leading to burnout. The study suggested the existence of these two parallel processes of energy and motivation, although the researchers found that the energy process of demands, burnout, and ill health were more prominent than the motivation processes (Hakanen et al., 2006). This study confirms the importance of examining burnout in the current study in relationship to reform policy measures (demands) and self-efficacy (engagement).

Parker, Martin, Colmar, and Liem (2012) examined an integrative model of teacher well-being which included the process-oriented transactional model of stress and coping, the context-oriented model of self-worth theory, and the mastery orientation versus failure avoidance goal theory. Their research with 430 Australian teachers in non-public schools suggested that a) teachers' goal orientations were strong and consistent predictors of their coping strategies, b) emotion-focused coping was a consistent and strong predictor of teachers' burnout and engagement, and c) problem-focused coping was a relatively weak and inconsistent predictor of teachers' well-being (Parker et al., 2012). The complex interaction of the emotional, contextual, and goal-oriented components in the Parker et al. study reflect the complexity of the self-efficacy, burnout, and policy reforms present in the current study.

McCarthy, Lambert, O'Donnell and Melendres (2009) examined the relationship of 451 elementary teachers' experience, stress and coping resources in 13 elementary schools to their burnout symptoms and found that the greatest variance in burnout symptoms was explained by variances between teachers, rather than between schools. The Preventative Resources Inventory (McCarthy, Lambert, Beard, & Dematatis, 2002) used in this study identified preventative resources to minimize burnout, which included perceived control – the belief that one can cope successfully with life demands and manage situations that could potentially be stressful; maintaining perspectives, attitudes, and beliefs consistent with preventing stressful situations and keeping stress-produced emotions at manageable levels; social resourcefulness – the ability to draw from a social network of caring others who can act as a buffer against life's demands; self-acceptance – the degree to which one can accept and overcome short-comings, imperfections, and limitations in dealing with demanding life situations; and one's perceived ability to recognize, anticipate, and plan for demands and potential stressors. McCarthy et al. (2009) indicate that the teachers' experience of stress appeared to have little to do with differences between the various elementary school contexts. They state, "Most variance was accounted for by individual differences between teachers, suggesting that individual perceptions of the balance between resources and demands were most predictive of burnout" (p. 296). These findings are important to this current study because they reflect the importance of individual teacher's perspectives on the balance between emotional resources and demands in relationship to stress and burnout. Individual teachers in the current study provided self-measures of burnout and their perspectives on school reform accountability measures, which impact the demands of teachers' work.

Teacher Self-efficacy and Burnout

The constructs of teacher self-efficacy and burnout are individually complex and replete with research focused on their historical and theoretical underpinnings as demonstrated in the previous sections of this literature review. In addition, the literature review has linked these concepts to related studies, which add new theories and broaden our understanding of teacher self-efficacy and burnout. This section of the literature review focuses on studies that specifically examine the relationship between teacher self-efficacy and burnout, as is considered in the current study.

Skaalvik and Skaalvik's (2007) study of 244 Norwegian elementary and middle school teachers examined the relationship between self-efficacy and strain factors, perceived collective teacher efficacy, and burnout. The study utilized the Norwegian Teacher Self-Efficacy Scale (NTSES), which includes the subscale of *coping with changes and challenges*, directly related to the Norwegian education reform policies, which have changed the demands put on teachers (Skaalvik & Skaalvik, 2007). Model testing of the NTSES indicated that teacher self-efficacy is a multi-dimensional construct that can be analyzed for research as a latent trait with six subscales. Through structural equation modeling and regression analyses of participant school demographics on measurement subscales, the researchers found a strong relationship between teacher self-efficacy and burnout, although the authors warn that the nature of this relationship is not causal, but is most likely reciprocal, as was previously discussed within the construct of self-efficacy to its four sources. In their 2010 study, Skaalvik and Skaalvik extended their research into the relationship between self-efficacy, collective teacher efficacy, and teacher burnout using the NTSES with 2249 Norwegian teachers in elementary and

middle school teachers, in addition to scales for burnout and school context measures. This study confirmed the use of NTSES as a research measurement tool and found a negative relationship between teacher self-efficacy and two dimensions of the modified burnout subscales - exhaustion and to a greater extent, depersonalization.

In 2012, Carol G. Brown conducted a review of eleven published studies examining the relationship between teacher self-efficacy and burnout. In this study, Brown sought to view burnout as a multi-dimensional concept and confirmed a negative relationship between teacher self-efficacy and burnout as a single concept through the compilation of subscales, as well as the negative relationship between teacher self-efficacy and the burnout dimension of depersonalization in all eleven studies. Ten of the eleven studies also found a negative correlation between teacher self-efficacy and exhaustion in teachers. The burnout subscale of personal accomplishment was found in only six of the eleven studies and shows a negative correlation to teacher self-efficacy, although this relationship is in question based on the measurement tools used and outliers found in the data. Brown's work provides further evidence of the relationship between teacher self-efficacy and burnout, which was considered in the current study as teachers' self-ratings for self-efficacy, using the Woolfolk-Hoy et al.'s Teacher Sense of Efficacy Scale (TSES), and teachers' self-ratings for burnout, using the Maslach Burnout Inventory for Teachers (MBI – Educator Survey), which were analyzed in conjunction with their attitudes about Indiana reform accountability measures.

This literature review provides a historical and theoretical examination of the three primary variables investigated in this study: 1) Indiana education reform policies and accountability measures, 2) teacher self-efficacy, and 3) teacher burnout, while also

examining previously studied interactions between teacher self-efficacy and teacher burnout. The results of these studies indicate significant correlations between subscales of teacher self-efficacy and burnout as analyzed through a variety of quantitative research designs. While the literature review yielded an understanding of the relationship between teacher burn-out and self-efficacy, few studies have investigated the relationship between these two variables and teacher attitudes about school reform accountability measures in education. The landscape of teaching has changed substantially in Indiana with increased emphasis on accountability measures through teacher evaluation, school grades, and performance pay for teachers. What is the relationship between teachers' attitudes about school reform accountability measures, teachers' self-efficacy and burnout in urban elementary schools? This study adds to the literature by examining whether there is a predictive relationship between teachers' attitudes about these accountability measures and teacher self-efficacy, and burnout. Together, the literature provided a basis for this research into teachers' attitudes about school reform accountability measures, teacher self-efficacy, and teacher burnout.

CHAPTER 3 METHODOLOGY

The purpose of this study was to examine the relationship between teachers' attitudes towards accountability measures, teachers' self-efficacy, and teacher burnout in urban elementary schools. Specifically, this study aimed to determine whether teachers' attitudes toward accountability measures and teacher self-efficacy predict burnout. In seeking to answer this question, the three latent variables of burnout - exhaustion, depersonalization, and loss of accomplishment - were examined separately in accordance with the burnout-instrument scoring guidelines. The methods used in this study allow comparison to previous studies that have correlated teacher self-efficacy and burnout, but which did not include the construct of teacher attitudes about school reform accountability measures.

This chapter outlines the methodology employed in this study. The research questions and hypothesis are presented, followed by definitions of the population and the sample included in the study. Then discussion of the instruments used in and developed for this study is included. Lastly, the procedures are delineated and the data analysis strategies are described that sought to answer the following research questions:

1. What is the strength of the relationship between teacher attitudes about accountability measures (teacher effectiveness ratings, A- F school grades,

and performance pay) and teacher self-efficacy (instruction, classroom management, student engagement)?

2. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) emotional exhaustion subscale (outcome)?
3. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) depersonalization subscale (outcome)?
4. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) personal accomplishment subscale (outcome)?

The following hypotheses were tested through this study into teachers' attitudes towards accountability measures, teacher self-efficacy, and burnout in teachers in urban elementary schools:

HO₁: There is no significant correlation between teacher attitudes about accountability measures, as measured by the teacher attitude survey and teacher self-efficacy, as measured by the Teacher Sense of Efficacy Scale (TSES).

HO₂: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures, as measured by the teacher attitude survey (predictor); teacher self-efficacy, as measured by TSES (predictor); and teachers' burnout

as measured by the Maslach Burnout Inventory (MBI) emotional exhaustion subscale, (outcome).

HO₃: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures as measured by the teacher attitude survey (predictor); teacher self-efficacy, as measured by TSES (predictor); and teachers' burnout as measured by the MBI depersonalization subscale (outcome).

HO₄: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures, as measured by the teacher attitude survey (predictor); teacher self-efficacy, as measured by TSES (predictor); and teachers' burnout as measured by the MBI personal accomplishment subscale, (outcome).

Settings and Participants

The potential settings for this study included 17 elementary schools within a single, urban Indiana school district with a student population of more than 15,000 students. This urban setting was chosen due to its size, student diversity, and poverty level, which reflect the out-of-school challenges that are faced by students and teachers in urban schools (Green & Gooden, 2014). According to the Indiana Department of Education Compass data website, the student population during the 2013 – 14 school year was comprised of 36% White students, 35% Black students, 19% Hispanic students, and 9% Multi-racial students. 73% of the students in the district qualify for free or reduced price lunches. School performance grades for the 17 elementary schools include four grade A schools, three grade C schools, six grade D schools, and four grade F schools. These school grades are based on a formula that begins with a preliminary score from the percentage of students that passed the

English/Language Arts (ELA) and Math on the annual ISTEP+ assessment at all tested grades, beginning in 3rd grade (IDOE, 2011). This preliminary score may be raised or lowered based on student academic growth in either language arts or math. High growth of the bottom 25% or high growth in the top 25% will raise the score, while low growth in a significant percentage of all students will result in a lower score. At the elementary level, scores may also be lowered if less than 95% of the students participate in the assessment. The A – F model calculation for 2014, and an example of a school report card, may be found in Appendix A.

The potential participants for this study included an estimated 330 general education classroom teachers and special education resource teachers within the 17 elementary schools described above. General education classroom teachers and special education resource teachers were chosen for this study because their teaching has the most direct impact on student achievement and accountability measures. According to the Indiana Department of Education Compass website, teacher experience for these 17 schools in the 2013 – 14 school year included, 35% with 20+ years of teaching experience, 16% with 16 – 20 years of experience, 14% with 11 – 15 years of experience, 20% with 6 – 10 years of experience, and 15% with 0 – 5 years of experience. Beginning in the 2014 – 15 school year, all teachers in this urban school district were evaluated using a district-developed evaluation process based on the requirements found in the 2011 Senate Enrolled Act 001. The guidelines include yearly evaluations for all teachers, which must reflect the use of objective measures of student achievement and student growth on ISTEP+ to inform the evaluation, as well as “rigorous measures of effectiveness, including observations and other performance measures” (Indiana Code 20-28-11.5).

Following the May 1, 2015 close of the Qualtrics online survey, the respondent data was found to include 106 teachers who completed surveys from the 325 surveys that were sent. The years of experience of the participating teachers mirrored that of the years of experience data for the 325 potential respondents, with 36% of respondents with 21 or more years of experience, 17% with 11 – 15 years of experience, 22% with 6 – 10 years of experience, and 15% with 1 – 5 years of experience. The 10% of participants with 16 – 20 years of experience was slightly less than the 16% of potential respondents within that experience range. Overall, the participating teachers represented the experience levels of the potential pool of participants. Further demographic data regarding the participating teachers is included in Chapter 4.

Instruments

Teacher self-efficacy, teacher attitudes toward reform accountability measures, and teacher burnout were measured using specifically-designed online survey instruments related to each variable. Teacher self-efficacy with its latent variables of instruction, classroom management, and student engagement were measured using the Teacher Sense of Efficacy Scale Teacher (Tschannen-Moran & Woolfolk-Hoy, 2001). Attitudes toward the accountability measures - teacher effectiveness rating system, school accountability grades, and performance pay required the development of a survey instrument by this researcher. Teacher burnout with its latent variables of emotional exhaustion, depersonalization, and personal accomplishment, were measured using the Maslach Burnout Inventory – Educator Survey (Maslach, Jackson, & Schwab, 1986). Finally, exploratory demographic data, including the number of years in teaching, the number of years anticipated for continued

teaching, the current school accountability grade, and the grade level(s) currently being taught was collected within the online survey. The online Qualtric survey system allowed this researcher to acquire the aforementioned research data efficiently and at a lower cost than traditional paper surveys (Fan & Yan, 2010).

The remainder of this section provides an overview of the established scales, Teacher Sense of Efficacy Scale (TSES) and Maslach Burnout Inventory (MBI), along with this researcher's process for developing a reliable and valid measure of teachers' attitudes toward accountability measures.

Teacher Attitude Scale

Central to this study was measuring teachers' attitudes toward accountability measures that are intended to improve educational outcomes for all students, close achievement gaps, and increase equity. These three forms of accountability measures - teacher effectiveness ratings, school grades, and teacher performance pay - impact teachers' collective image as educators through their school grade and impact their personal evaluation and earnings through the teacher evaluation system and teacher performance pay. The initial stages of the teacher attitude survey development focused on forming draft statements that reflect the intention of the accountability measures as identified by the Indiana Department of Education (IDOE), such as "the Department's goal is to assist corporations in developing or adopting (evaluation) models that comply with Public Law 90 and are fair, credible, and accurate" (IDOE, 2012, p.4). By analyzing IDOE documents, this researcher endeavored to adequately represent the constructs of the accountability measures. The draft statements were reviewed by four teachers within the

same urban school district, ranging in experience from 0 – 20+ years. These teachers were provided with basic information about the research, but were not invited to join the study. This review of the draft statements and subsequent revisions increased the likelihood that the survey items were valid reflections of the factors being studied and that the statements were clear, focused on one item at a time, and lacked bias (Bethlehem, 2010; Desimone & LeFloch, 2004; Hinkin, 1998). Due to the differences between each of the accountability reform constructs, the three teacher attitude survey subscales, each with four statements, would be computed as separate sums, rather than as a total sum of the twelve responses. The teacher attitude scale can be found in Appendix B.

Teacher’s Sense of Efficacy Scale (Tschannen-Moran & Woolfolk-Hoy, 2001)

The Teacher Sense of Efficacy Scale (TSES) has been used extensively in previous studies examining teacher self-efficacy and burnout (Brown, 2012). In order to examine the questions in this study and make comparisons to previous studies related to teacher self-efficacy and teacher burnout within the current era of school reform accountability measures, this researcher employed the TSES (12-item) short form, found in Appendix C, which has been found to be appropriate for use with inservice teachers and reduced the survey time commitment for respondents in this study compared to the TSES (24-item) long form.

TSES was developed by Megan Tschannen-Moran and Anita Woolfolk-Hoy in response to “persistent measurement problems” (2001, p. 783) found in previous measures of teacher self-efficacy, the beginnings of which can be found in Rand researchers’ use of two questions to identify whether the locus of control for student

learning lay within or outside of the teacher's abilities. Prior to their development of the TSES at the Ohio State University, Tschannen-Moran and Woolfolk-Hoy examined work by Gibson and Dembo (1984), Guskey and Pasaro (1994), and Coladarci and Fink (1995) that demonstrated the conceptual confusion around self-efficacy. Working with inservice teachers, Tschannen-Moran and Woolfolk-Hoy conducted three separate studies in an effort to develop a reliable and valid measure of the teacher self-efficacy construct (Tschannen-Moran & Woolfolk-Hoy, 2001). Tschannen-Moran and Woolfolk-Hoy's third study resulted in a self-efficacy 24-item (8 items per construct) instrument containing three subscales – instruction, classroom management, and student engagement - which were tested through principal-axis factoring with varimax rotation, and yielded factor loadings ranging from 0.50 to 0.78. An efficacy subscale score was computed for each factor with reliabilities of 0.91 for instruction, 0.90 for classroom management, and 0.87 for engagement. Based on the high reliability, the researchers hypothesized that a shorter scale was possible and used the four items in each subscale with the highest factor loadings to construct a 12-item scale. The 12-item and 24 item instruments were subjected to two separate factor analyses with preservice ($N= 111$) and inservice teachers ($N= 255$). Principal-axis factoring with varimax rotation revealed the same three strong factors for inservice teachers, the subject of this current study, accounting for 65% of the variance in teachers' responses on the 12-item short form. A second factor analysis using principal-axis factoring on one factor revealed a reliability of 0.90 for the 12-item scale, indicating that either a single score or subscale scores could be used reliably with this instrument (Tschannen-Moran & Woolfolk-Hoy, 2001). In this current study the mean subscale scores were used for analysis in accordance with the TSES scoring guide.

Validity of the TSES short form was assessed through correlation to existing self-efficacy measures, with a significant correlation of 0.61 $p < 0.01$ (2-tailed). The instruments and scoring guide are found in Appendix D. The scale is constructed as a 9-point Likert-type instrument in which participants respond to questions, such as “How much can you do to get children to follow classroom rules?” (Tschannen-Moran & Woolfolk-Hoy, undated), with a range of responses from 1- *nothing* to 9 - *a great deal*. The scoring guide instructs users to compute unweighted means for the subscale scores for indicated items and includes the researchers’ note, “Because this instrument was developed at the Ohio State University, it is sometimes referred to as the Ohio State Teacher Efficacy Scale. We prefer the name, Teachers’ Sense of Efficacy Scale” (undated, p.2).

Reliability coefficients for the TSES short form subscales, consisting of 4 items per subscale, based on this study’s teacher sample were reflective of those identified in the Tschannen-Moran and Woolfolk-Hoy study. In the current study, Cronbach’s alpha, ranged from $\alpha = .764$ for both the engagement subscale and the instruction subscale to $\alpha = .821$ for the management subscale. Item-total correlations for each of the three subscales ranged from .460 to .684, all well above the accepted reliability threshold of .30 (Field, 2006).

Maslach Burnout Inventory – Educator Survey (Maslach, Jackson, & Schwab, 1986)

The 22-item Maslach Burnout Inventory – Educator Survey (MBI) is considered the standard in the field and most reliable measure of burnout (Brown, 2012; Schuafeli,

Leiter, & Maslach, 2009). It uses a 6-point Likert scale ranging from 0 – *never* to 7 – *every day* for participant responses to statements, such as, “I don’t really care what happens to some students.” There are nine items in the emotional exhaustion (EE) subscale, five items in the depersonalization (D) subscale, and eight items in the personal accomplishment (PA) subscale. The MBI is copyright protected; therefore the full instrument may not be shared in this research (see Appendix E). According to the MBI manual (3rd ed.) each subscale is considered separate so that subscale scores cannot be combined into a composite score. Instead, the developers translate the average rating for each subscale into high, moderate, and low degrees of experienced feeling for individuals. When used as a burnout scale for a group of respondents, as in this current study, scores for each subscale are treated as aggregates for the subscale. Means and standard deviations for each subscale were computed and compared to normative data provided by the developers. The normative data for the teacher survey ($n = 4,163$) include emotional exhaustion subscale, $M = 21.25$, $SD = 11.01$; depersonalization subscale, $M = 11.00$, $SD = 6.19$; and personal accomplishment subscale, $M = 33.54$, $SD = 6.89$. The developers caution researchers against sensitizing participants to burnout, suggesting instead that participants be told the instrument measures “job-related attitudes” (Maslach et al., 1997, p. 196).

In 2011, Aguayo, Vargas, de la Fuente, and Lozano conducted a meta-analysis of 45 studies encompassing 51 samples and 25,337 participants to examine the reliability generalization across the three subscales. Cronbach’s alpha coefficients across the studies indicated an average reliability of .88 for the emotional exhaustion subscale, .71 for the depersonalization subscale, and .78 for the personal accomplishment subscale.

The Aguayo et al. meta-analysis supports the Maslach et al. (1997) internal consistency estimates of Cronbach's alpha ($n= 1,316$) with reliability coefficients on subscales of .90 for emotional exhaustion, .79 for depersonalization, and .71 personal accomplishment.

In the current study, the Maslach Burnout Inventory (MBI) scale, with its three subscales of emotional exhaustion, depersonalization, and personal accomplishment revealed Cronbach's alpha, based on standardized items, ranging from $\alpha = .755$ for the depersonalization subscale to $\alpha = .911$ for the emotional exhaustion subscale. Corrected item-correlation results are discussed in depth in Chapter 4.

Taken together with the researcher-developed teacher attitude survey and the TSES, the MBI-ES provided the basis for the examination of the predictive relationship between teachers' attitudes about recent school reform accountability measures, teachers' belief in their abilities to produce desired outcomes, and the level of teacher burnout in emotional exhaustion, depersonalization, and personal accomplishment.

Procedures

Following approval from the Institutional Review Board (IRB) and permission to implement this study in the identified school corporation, this researcher used district-provided email addresses to send a pre-notice email to the general education classroom teachers and special education resources teachers who were potential participants in the 17 urban elementary schools. This pre-notice email, a copy of which may be found in Appendix F, included an introduction to the study and to this researcher. Based on this researcher's experience as a teacher and school administrator, the delivery of the

pre-notice email was delayed until the day after teachers returned from their scheduled spring break.

Two days after sending the pre-notice email, potential participants received an email inviting them to participate in the study. (See Appendix G) The invitational email included a brief overview of the study, including the nature of the study, the instruments, and the estimated time commitment required of the teachers, and a link to the Qualtrics survey. Following the initial invitation to participate, 43 teachers completed the survey. After four days, the Qualtrics system response history feature was utilized to determine potential participants who had not yet responded and a second email invitation was sent to those potential participants. An additional 39 teachers completed the survey after the second invitation. Ten days after the initial invitation, a final email was sent to teachers who had not yet responded to the invitation to participate. An additional 24 surveys were completed. During the 16-day active survey window, a total of 8 surveys out of 114 were begun, but not completed, so their results are excluded from this study. No incentive was offered for teacher participation. The goal of this study was to have a response rate of at least 25%, resulting in a sample size of 100 teachers or more to increase the probability of correctly rejecting a false null hypothesis. The final participation rate of 33% is sufficient for the purposes of this study.

The survey was divided into 4 sections, with four brief demographic questions at the beginning, followed by the 22-item Maslach Burnout Inventory, the 12-item Teacher Sense of Efficacy Scale, and the 12-item teacher attitude scale. The estimated time for completing the survey was 15 minutes, which allowed 18 seconds to read, consider, and respond to each statement or question. A trial run by this researcher resulted in an

average of 10 seconds per statement or question. Teachers were thanked for their participation at the end of the survey and given the opportunity to request a copy of the completed study, to which 57 teachers (54%) responded in the affirmative. Data from teacher responses was gathered through the Qualtrics system and analyzed using SPSS 22.0.

Data Analysis

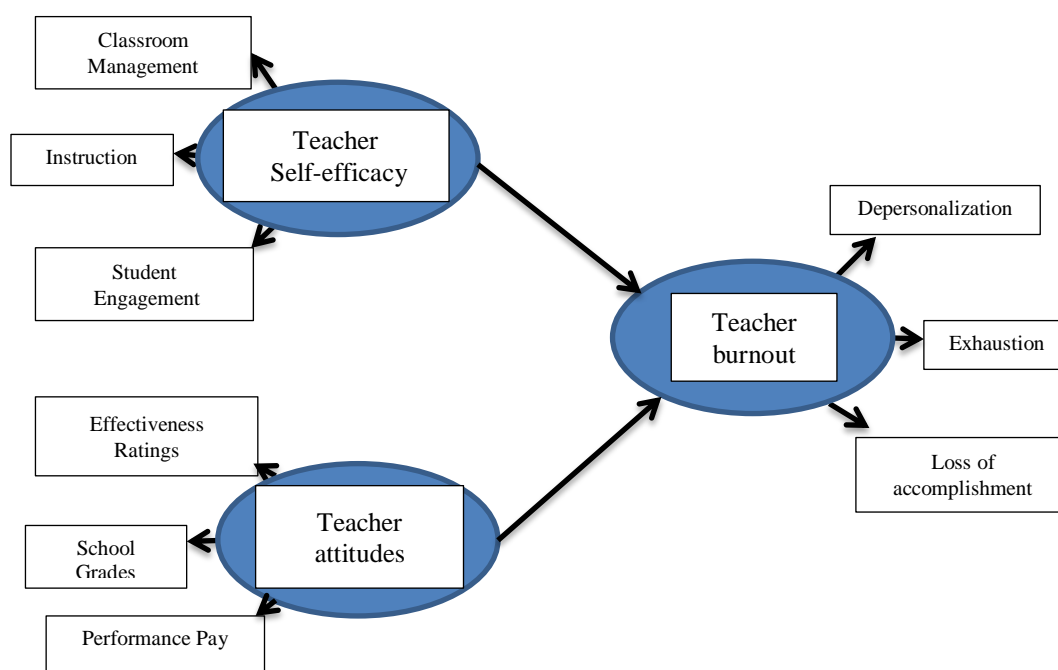


Figure 1: Research model. Predictor variables of teacher self-efficacy and teacher attitudes with 3 subscales each, and outcome variable (burnout) with 3 subscales

The researcher began by checking the reliability of the teacher attitude survey using Cronbach's alpha and checking item-total correlations for each of the attitude

subscales – teacher effectiveness ratings, school grades, and teacher performance pay. Following this check of reliability, a descriptive analysis of each teacher scale – teacher attitude survey, TSES, and MBI was conducted to determine the mean, standard deviation, and range of each measure. In addition, the descriptive analysis was conducted to identify outliers and provide the distributional characteristics of scores for subscale mean TSES scores, subscale scores of teacher attitudes, and subscale scores of MBI. A descriptive analysis of exploratory teacher demographic information was also conducted, along with an analysis of variance to identify any significant differences between the demographic data and subscale measure results.

Next, a correlation analysis was conducted to examine the strength of the relationship between subscale scores of teacher attitudes and TSES; teacher attitudes and MBI; and TSES and MBI by determining the Pearson product-moment correlation coefficient. In addition, patterns of correlations were analyzed between subscales of each measure through an intercorrelation matrix, in order to identify any multicollinearity that may exist.

To examine the predictive relationship between each subscale of teacher attitudes and teacher self-efficacy (a total of 6 predictors) and teacher burnout (outcome: 3 subscales) as represented in figure 1, this researcher utilized a multiple regression analysis with calculated beta weights for each predictor variable and each subscale (exhaustion, depersonalization, and accomplishment) on the MBI (outcome variable). The following regression models were used to respond to the research questions examining predictive relationships between teacher self-efficacy and teacher attitudes about reform measures, and burnout subscales.

Research question #2: Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) emotional exhaustion subscale (outcome)?

$$\text{Emotional exhaustion} = b_1 M + b_2 I + b_3 E + b_4 R + b_5 G + b_6 P + b_0$$

where teacher self-efficacy is comprised of M – management, I – instruction, E – engagement, and teacher attitudes is comprised of R – ratings, G – grades, P - performance pay.

Research question #3: Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) depersonalization subscale (outcome)?

$$\text{Depersonalization} = b_1 M + b_2 I + b_3 E + b_4 R + b_5 G + b_6 P + b_0$$

where teacher self-efficacy is comprised of M – management, I – instruction, E – engagement, and teacher attitudes is comprised of R – ratings, G – grades, P - performance pay.

Research question #4: Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) personal accomplishment subscale (outcome)?

$$\widehat{\text{Accomplishment}} = b_1 M + b_2 I + b_3 E + b_4 R + b_5 G + b_6 P + b_0$$

where teacher self-efficacy is comprised of M – management, I – instruction, E – engagement, and teacher attitudes is comprised of R – ratings, G – grades, P - performance pay.

Predictive relationships for each regression model were established through significant coefficients. In addition, squared correlation coefficients (R^2) were utilized with each regression model to evaluate how the exploratory variables predict an outcome.

CHAPTER 4 DATA ANALYSIS

This study examines the relationship between teachers' attitudes towards accountability measures, teachers' self-efficacy and teacher burnout in urban elementary schools. Specifically, this study aims to determine whether teachers' attitudes toward accountability measures and teacher self-efficacy predict burnout in teachers within seventeen elementary schools in an urban Indiana school district. Of the 325 teachers invited to join the study, 106 teachers, or 33% of the teachers, completed a Qualtrics online survey in April 2015. This response rate was considered adequate for the current study considering that the survey was sent to teachers during the final quarter of the school year, just prior to the high-stakes State testing and immediately following the teachers' spring break. An additional seven teachers started the survey, but stopped during the burnout section of the survey. It may be possible that, despite assurances about the anonymity of the responses, teachers were fearful of expressing the reality of their feelings about students or their level of burnout. It may also be possible that the response rate was lower than expected for this sample because teachers had been invited to participate in two other research-related surveys in the month prior to this survey.

The total online survey included four demographic questions, the 22-item Maslach Burnout Inventory (MBI: Maslach, Jackson, & Schwab, 1986) consisting of three subscales (emotional exhaustion, depersonalization, personal accomplishment), the

Teacher Sense of Efficacy Scale (TSES: Tschannen-Moran & Woolfolk-Hoy, 2001) consisting of three subscales (engagement, instruction, management), and the investigator-developed teacher attitude scale (TA) consisting of three subscales (teacher effectiveness ratings, school A – F grades, teacher performance pay). Due to the copyright requirements of the MBI, only sample items are included in the discussion of the data. Survey items for the TSES and TA can be found in Appendices B and C.

This chapter describes the data collected in this study and reports the outcomes of the statistical analyses used, including descriptive analyses of demographic and scale data, reliability testing, correlation analyses, and multiple regressions to determine predictability between teachers' attitudes about accountability measures and teacher self-efficacy, and each subscale of the Maslach Burnout Inventory. Analyses of variance are also conducted to determine significant differences between groups of teachers, based on the exploratory demographic data of years in teaching, years remaining in teaching, the schools' current grades, and teachers' grade levels, and their subscale measures of burnout, self-efficacy, and attitudes toward reform measures (outcomes).

Participant Demographics

Teachers participating in this study represent a wide range of years of experience, according to their self-reported demographics in the Qualtrics survey. As shown in Table 1, teachers identified themselves as teaching within 5 year spans, from 1 – 5 years of experience to 31 – 35 years of experience, or 36 or more years of experience.

Participants fell mainly in the 1 – 30 year range, with the greatest number of participants, 23 (21.7%) reporting 6 – 10 years of teaching experience.

Table 1

Participants' Years of Teaching Experience (N=106)

Teaching experience	Frequency	Percent (%)
1 - 5 years	16	15.1
6 - 10 years	23	21.7
11 - 15 years	18	17.0
16 - 20 years	11	10.4
21 - 25 years	16	15.1
26 - 30 years	12	11.3
31 - 35 years	5	4.7
36 or more years	5	4.7

Participants also indicated the number of years they plan to teach beyond the current school year. Response options for the number of years they plan to teach included retirement at the end of the current year, 5-year ranges beginning with 1 – 5 years and continuing through 16 – 20 years, and a final 21 or more years. Of the 106 participant responses, 3 teachers indicated that retirement would take place at the end of the current year. As Table 2 shows, the remaining responses were fairly evenly distributed among the other options.

Table 2

Participants' Expected Years of Continued Teaching (N=106)

Expected years	Frequency	Percent (%)
1 - 5 more years	18	17.0
6 - 10 more years	25	23.6
11 - 15 more years	19	17.9
16 - 20 more years	21	19.8
21 or more years	20	18.9
Will retire at the end of the current year	3	2.8

The third demographic question asked participating teachers to identify their school's current Indiana school accountability A – F grade. School performance grades, based on the 2014 ISTEP+ testing results, for the 17 elementary schools in this study included four grade A schools indicating the highest level of student performance on ISTEP+, three grade C schools, six grade D schools, and four grade F schools (see Appendix A for calculation guidelines). A review of the history of response within Qualtrics indicates that each of the 17 schools included in this study were represented by at least 3 respondents, with an average of 6 respondents per school. Table 3 shows the greatest number of participants (n = 36) indicated their school's current grade was a D. Of the 106 participants, one participant failed to indicate the current school grade.

It is important to note that this urban school district was chosen for its range of school accountability grades, from A through F, which is consistent with urban districts across the State. While this district has a greater number of “D” and “F” schools than similarly-sized urban districts, the instructional standards, high-stakes assessments, and accountability measures are equal for all districts across the State, suggesting that the results of this study may be generalized to teachers in other urban districts, especially to the State's largest district, Indianapolis, with over 30,000 students, a 77% free lunch population and 44% of its schools with “D” and “F” ratings, based on the 2014 ISTEP test results.

Table 3

Current School A – F Grades (N=105)

Grade	Frequency	Percent (%)
A	19	17.9
C	19	17.9
D	36	34.0
F	31	29.2

The final demographic question asked participants to identify the grade they teach, from kindergarten through fourth grade. As shown in Table 4, response options included kindergarten through fourth grade, based on the district's primary school configuration model, multiple grade levels for special education resource room teachers, and multiple grade levels within a single general education classroom. The greatest number of participants (n = 25) indicated they teach kindergarten, while 8 teachers or fewer indicated they teach a multiple grade configuration in either general education or special education.

Table 4

Participants' Teaching Grade Level (N=106)

Grade level	Frequency	Percent (%)
K	25	23.6
1	13	12.3
2	19	17.9
3	19	17.9
4	15	14.2
Multiple grade levels for special education	8	7.5
A general education classroom with more than one grade level	7	6.6

Reliability Analysis

Prior to beginning inferential analyses to examine the research questions, a reliability analysis was conducted on the researcher-developed teacher attitude subscales of teacher effectiveness ratings, school A – F accountability grades, and teacher performance awards. The reliability was computed for each of the three subscales using Cronbach's alpha with an additional analysis of the corrected item-total correlations to examine each item within the subscales. The reliability of Maslach Burnout Inventory (MBI) and Teacher Sense of Efficacy Scale (TSES) was also computed for each of the six subscales using Cronbach's alpha, in addition to an analysis of the corrected item-total correlations. All reliability analyses and item-total correlations were completed using SPSS 22.0.

Teacher Attitude Scale (TA)

Using the results from 106 respondents, the teacher effectiveness rating (R) subscale of the teacher attitude scale was computed for reliability and found to have a Cronbach's alpha of $\alpha = .736$, above the acceptable threshold of $\alpha = .70$ for reliability testing in low-stakes data analysis (Nunnally & Bernstein, 1994). Each of the four questions was also examined using the corrected item-correlation, with results ranging from $r = .329$ to $r = .693$. Since the item asking respondents' level of agreement or disagreement with the statement, "It is important to include student performance results as a part of teacher evaluation," had a low level of corrected item-total correlation at $r = .329$, the Cronbach's alpha, if the item was deleted, was examined. The resulting alpha would be $\alpha = .785$, which is only slightly higher than $\alpha = .736$ Cronbach's alpha with the

item included. The construct of student performance as a part of the teacher evaluation system is central to the changes that have taken place as a result of Indiana's Senate Enrolled Act 001, which requires "objective measures of students' achievement and growth to significantly inform the evaluation" (Indiana SEA 001). As a result, all four items in the teacher effectiveness rating subscale were retained for the data analysis.

Reliability testing on the school A – F accountability grades (G) subscale was conducted on the four items with a resulting Cronbach's alpha of $\alpha = .727$, also above the $\alpha = .70$ threshold for reliability testing. A review of the corrected item-total correlation for each of the four items in the school grades subscale revealed a range of correlation values from $r = .387$ to $r = .667$. The item asking participants to indicate their level of agreement or disagreement to the statement, "All schools could receive an A grade if they had more effective teachers", had the lowest level of correlation at $r = .387$. The item was checked for Cronbach's alpha if the item was deleted and found to increase alpha only slightly, from $\alpha = .727$ with all four items included to $\alpha = .736$ with this item deleted. In his opening statement to the House Education and Labor Committee, former State Superintendent of Schools, Dr. Tony Bennett stated, "great teachers and leaders are critical to student success" (2010). This statement preceded Bennett's discussion of efforts to "change the ineffective status quo of American schools" and outline the State's accountability measures, including the A – F grading system. Since the leader of Indiana school accountability reforms viewed teacher effectiveness as central to student success and school change, all four items in the school A – F accountability grades subscale were retained for analysis.

Cronbach's alpha for the third of three teacher attitude subscales, teacher performance awards (P), had the highest level of alpha at $\alpha = .938$. As Table 5 shows, corrected item-total correlations for each of the four items in this subscale had a high level of correlation, ranging from $r = .833$ to $r = .874$.

Table 5

Reliability Testing of the Teacher Attitude Scale (N = 106)

Subscale /item number	Cronbach's alpha (α)	Corrected item-total correlation	Cronbach's alpha (α) if item is removed
R1		.693	.587
R2		.597	.634
R3	.736	.527	.676
R4		.329	.785
G1		.508	.681
G2		.667	.569
G3	.727	.387	.736
G4		.548	.654
P1		.874	.915
P2		.833	.927
P3	.938	.869	.915
P4		.848	.921

Maslach Burnout Inventory – Educators Survey (MBI: Maslach, Jackson, & Schwab, 1986)

A check of the reliability on the standardized Maslach Burnout Inventory (MBI) scale, with its three subscales of emotional exhaustion, depersonalization, and personal accomplishment revealed Cronbach's alpha, based on standardized items, ranging from $\alpha = .755$ for the depersonalization subscale to $\alpha = .911$ for the emotional exhaustion subscale. A review of the corrected item-total correlation for the 22-item MBI indicated

correlation values of .440 or greater in the emotional exhaustion subscale ($i=9$). In the depersonalization subscale ($i=5$), a corrected item-total correlation of .281 was found in the item that asked respondents to identify how often they feel that students blame them for some of their problems. Cronbach's alpha, if this item were deleted, was $\alpha = .787$, a slight increase over the Cronbach Alpha of $\alpha = .755$. Since this is a standardized scale, all items were retained for analysis. In the personal accomplishment subscale ($i=8$), Cronbach's alpha, based on standardized items, was $\alpha = .807$, with item-total correlation values ranging from .315 to .725. As table 6 shows, Cronbach's alpha values found for the three MBI subscales in this study are consistent with the Schwab and Iwanicki reliability results (1981) derived from a factor analytic study with 469 Massachusetts teachers as noted in the MBI manual and scoring guide (Maslach, Jackson, and Schwab, 1986). The Schwab and Iwanicki (1981) study was conducted using the MBI Educators Survey, which was changed from the general human services MBI survey to be more specific for teachers with the replacement of "students" for "recipients" in the survey statements.

Table 6

<i>Cronbach's alpha Comparison for MBI</i>		
Subscale	Cronbach's alpha (α) Schwab & Iwanicki (1981)	Cronbach's alpha (α) Current study
Emotional Exhaustion	.90	.911
Depersonalization	.76	.755
Personal Accomplishment	.76	.807

Teacher Sense of Efficacy Scale (TSES: Tschannen-Moran & Woolfolk-Hoy, 2001)

A check of the reliability on the standardized Teacher Sense of Efficacy (TSES) scale with its three subscales of engagement, instruction, and management revealed Cronbach's alpha, based on standardized items, ranging from $\alpha = .764$ for both the engagement subscale and the instruction subscale to $\alpha = .821$ for the management subscale. These alpha values are reasonably similar to the reliability results noted from the 2001 Tschannen-Moran and Woolfolk Hoy study as shown in Table 7. A review of the item-total correlations for each of the three subscales ranging from .460 to .684, all well above the accepted reliability threshold of .30 (Field, 2006).

Table 7

Cronbach's alpha Comparison for TSES

Subscale	Cronbach's alpha (α) Tschannen- Moran & Woolfolk Hoy (2001)	Cronbach's alpha (α) Current study
Engagement	.81	.764
Instruction	.86	.764
Management	.86	.821

Descriptive Statistics

The following descriptive analysis examines each of the three scales, and their corresponding subscales. Table 8 provides the mean, standard deviation, and 95% confidence interval for each of the subscales. Comparisons to the previously established means and standard deviations for the Teacher Sense of Efficacy Scale (TSES) and Maslach Burnout Inventory (MBI) are provided in this descriptive analysis.

Teacher Attitude Scale

The researcher-developed teacher attitude survey, based on a 5-point Likert-type scale, consisted of three subscales with four statements in each subscale. The total possible score for each of the three subscales was 20 points. Overall, the teacher effectiveness ratings subscale ($i = 4$) of the teacher attitude scale demonstrated an approximately normal distribution with no outliers in the data and a range of scores from 4 points (strongly disagree with each item) to 20 points (strongly agree with each item). The teachers' responses to statements related to their attitudes about the teacher effectiveness rating system resulted in a mean of 10.66 (SD 3.70), which indicates that on average, participating teachers somewhat disagreed with or were neutral to the teacher effectiveness ratings. Individual item analysis of this subscale indicates that teachers strongly disagreed most frequently ($n = 40$, 38%) to the statement, "It is important to include student performance results as part of teacher evaluation." An additional 28 teachers (26%) somewhat disagreed with this statement. In the teacher effectiveness rating subscale, the teachers most frequently somewhat agreed ($n = 36$, 34%) or strongly agreed ($n = 15$, 14%) to the statement, "The teacher effectiveness rubric helps me to know the areas in which I need professional development."

Under the school grades subscale ($i = 4$), all items had a high frequency of strong disagreement, from 63 teachers (59%) strongly disagreeing that school grades help motivate them to improve their teaching to 94 teachers (89%) strongly disagreeing that school grades accurately reflect the work of teachers in their school, resulting in a mean of 6.03 (SD 2.60) and a range of scores from 4 to 15 points. Due to this strong disagreement by most teachers, the school grades subscale of the teacher attitude scale

had a skewness value of 1.406 (*SE*.235) including five outliers with scores greater than 13. With the exception of one teacher indicating strong agreement to the statement that the school grade reflects the work of teachers in their schools, no other teachers indicated strong agreement with the four statement in this subscale. Nine teachers (8%) somewhat agreed that school grades motivate them to improve their teaching.

Under the teacher performance pay awards subscale ($i = 4$), the mean was 9.21 (*SD* 4.89) with scores ranging from 4 to 20 points. Overall, the teacher performance pay subscale of the teacher attitude scale was approximately normally distributed, but with a slight kurtosis value of -1.083 (*SE* .465). The statement, “A performance award is a good way to recognize teachers’ work,” received the greatest frequency of strong disagreement ($n = 47$, 44%) or somewhat disagree ($n = 15$, 14%). The statement, “The chance to earn a performance award is important to me,” indicated the greatest range of both agreement and disagreement, with 28 teachers (26%) somewhat or strongly agreeing, 23 teachers (22%) neither agreeing nor disagreeing, and 55 teachers (52%) somewhat or strongly disagreeing.

Teacher Sense of Efficacy Scale (TSES: Tschannen-Moran and Woolfolk-Hoy, 2001)

The Teacher Sense of Efficacy scale short form used in this study contains four items in each of three subscales measuring teachers’ efficacy in engagement, instruction, and management. In accordance with the Tschannen-Moran and Woolfolk-Hoy TSES scoring guide, each subscale score was based on the participants’ mean score for the four items within the subscale. The sample data for the engagement subscale has an approximately normal distribution with no outliers. In the study sample, 106 teachers

responding to the engagement subscale items scored a mean average of 6.93 (*SD* 1.20) on a 9-point Likert-type scale, indicating, on average, that sample teachers feel they can do “quite a bit” to engage students in the classroom and school environments. This sample mean was slightly lower than the mean of 7.2 (*SD* 1.2) reported by Tschannen-Moran and Woolfolk-Hoy (2001). An item analysis showed that the item with the greatest frequency of the 9-point “a great deal” score was found in teachers’ responses ($n = 28, 26\%$) to “How much can you do to help your students value learning?” The engagement question with which teachers ($n = 16, 15\%$) felt they had the least efficacy was, “How much can you assist families in helping their children do well in school?” with scores in the 2 - 4-point range of “very little.”

The instruction subscale ($i = 4$) of the TSES in the study sample, with a range of scores from 5.25 to 9 points, appeared to be approximately normal with no outliers in the data. This sample data was found to have a slightly higher mean of 7.56 (*SD* .92) compared to the mean of 7.3 (*SD* 1.2) reported by Tschannen-Moran and Woolfolk-Hoy (2001), although both on average, indicate that teachers feel they can do “quite a bit” to instruct students in the classroom. Within the instruction subscale, teachers in this study showed greatest efficacy in their ability to provide alternate explanations or examples when students are confused, with 100 out of the 106 participants (94%) indicating a score of 7 “quite a bit” to 9 “a great deal” for this item. In the instruction subscale, the item with which teachers indicated the lowest level of efficacy was “How much can you use a variety of assessment strategies?” with 15 teachers (14%) indicating “some influence” or less.

The final TSES subscale, management, had an approximately normal distribution and sample mean of 7.45 (*SD* 1.07), which is higher than the mean of 6.7 (*SD* 1.2) reported by Tschannen-Moran and Woolfolk-Hoy (2001). As with the other two subscales, a mean of 7.45 indicates that teachers, on average, felt they can do “quite a bit” to manage behaviors in the classroom. In examining the sample distribution, 2 outliers were found with scores less than 4, indicating those teachers felt that they had little influence over classroom management. A subscale item analysis indicated that teachers had the greatest level of efficacy in establishing a management system, with 91 teachers (86%) responding at a 7 “quite a bit” or higher level. 37 teachers (35%) responded with a 9, believing they could do “a great deal.” The lowest level of efficacy was seen in teachers’ belief ($n = 17$, 16%) that they had “some influence” or less in how much they could do to get students to believe that they can do well in school.

Maslach Burnout Inventory – Educator Survey (MBI: Maslach, Jackson, & Schwab, 1986)

The MBI is an established scale with varying numbers of items in each of three subscales measuring emotional exhaustion, depersonalization, and personal accomplishment. During administration, items for each subscale are interspersed with items from the other subscales, creating a 22-item scale, which uses 7-point Likert-type responses from 0 “never” to 6 “every day.” The subscales can be used to interpret the potential burnout levels of individuals, which will be explored in this section, or they can be used, as in the statistical analysis within this study, as a sum of the scores for each subscale. The sample analysis for the three subscales that follow will include specifics

about each subscale, as well as the means and standard deviations ($n = 4,163$ teachers) reported in Maslach, Jackson and Schwab's work (1986).

The emotional exhaustion subscale of the MBI includes 9 items with a reported mean of 21.25 (SD 11.01) (Maslach et al, 1986). The reported mean on the 7-point Likert-type scale indicates that overall teachers feel emotional exhaustion slightly more than "once a month or less." Overall, teachers in this study ($n = 92$, 87%) felt frustrated by their jobs "a few times a month" or more. A review of the sample distribution for the emotional exhaustion subscale indicates an approximately normal distribution with no outliers. The sample mean of 28.76 (SD 12.18) suggests that teachers in this study experience higher levels of emotional exhaustion, which can be seen in the frequency data of emotional exhaustion scores. When teacher scores are examined individually, 63 of the 106 teachers (59%) in the sample scored at 27 points or higher on the emotional exhaustion subscale score. According to the MBI scoring guide, these teachers are considered to have a high level of emotional exhaustion. Individually, 23 teachers (22%) scored in the moderate range of emotional exhaustion with 17 – 26 points, and 20 teachers (19%) scored in the lowest range, with 16 points or less. The item for which the greatest number of sample teachers ($n = 34$, 32%) indicated the highest level of exhaustion at 6 "every day" was "How often do I feel that I am working too hard on my job." Teachers also indicated high frequencies of exhaustion with "a few times a week" or "every day" to two additional items, which refer to feelings of being used up ($n = 70$, 66%) or emotionally drained ($n = 65$, 61%). In the emotional subscale, more than half of the sample teachers "never" felt too much stress in working with people all day ($n = 56$, 53%) or working directly with people ($n = 54$, 51%).

The depersonalization subscale of the MBI-ES consists of 5 items on the same 7-point Likert-type scale. A review of the sample distribution, with scores ranging from 0 to 29, indicated a skewed and kurtotic distribution with a skewness value of 1.29 (*SE* .235) and a kurtosis value of 1.954 (*SE* .465). The sample data included 2 outliers with values greater than 24. The sample mean of 6.26 (*SD* 5.82) for 106 teachers, suggests, on average that teachers in the sample experience feelings of depersonalization “a few times a year or less”, whereas the mean of 11.00 (*SD* 6.10) reported by Maslach et al (1986) suggests that on average the teachers experience feelings of depersonalization “once a month or less.” When the sample teachers’ scores are examined individually, 78 teachers (74%) scored an 8 or less on the depersonalization subscale, indicating a low level of depersonalization. Eighteen teachers from the study sample (17%) scored in the moderate range of depersonalization with 9 – 12 points, and 10 teachers (9%) scored in the high range of depersonalization, with 14 or more points. Item analysis of the sample teachers’ responses indicate the greatest response ($n = 94, 89\%$) of “never” came from the statement, “I don’t really care what happens to some students.” The item exploring teachers’ feelings of being hardened by their jobs resulted in the highest frequency with 28 teachers (26%) indicating they experience this concern once a week or more.

The personal accomplishment subscale of the MBI contains 8 items using the same 7-point Likert scale as the other MBI subscales. This scale is interpreted in the opposite direction from the emotional exhaustion and depersonalization subscales in that higher scores are desirable in representing the frequency of feelings of personal accomplishment. The sample data personal accomplishment subscale scores ranged from 19 to 48 points and included two outliers with scores of less than 21, The sample data

included a large number ($n = 21$, 20%) with scores of 46 or more, resulting in a positively skewed distribution with a skewness value of 1.290 ($SE .235$). The mean of 33.54 (SD 6.59) reported by Maslach et al (1986) for the personal accomplishment subscale is lower than the sample mean of 40.69 (SD 6.06), which was found with the 106 teachers in this study. This indicates, on average, that sample teachers experience feelings of personal accomplishment a few times a week. When examined as individual scores, 79% of teachers ($n = 84$) reported high levels of personal accomplishment with scores of 37 or more. Another 16 teachers (15%) reported moderate levels of personal accomplishment with 31 to 36 total subscale points, and 6 teachers (6%) reported low levels of personal accomplishment with 30 or fewer points. Item analysis of the personal accomplishment subscale indicates that the greatest number of teachers ($n = 72$, 68%) experience feelings of accomplishment every day in understanding how students feel and in effectively dealing with students' problems. Eighty-nine (84%) teachers report feeling that they are positively influencing peoples' lives through their work a few times a week or more.

Table 8

Mean, Standard Deviation and Confidence Intervals of Subscale Measures (N = 106)

Subscale	Mean (M)	Standard Deviation (SD)	95% Confidence Interval (CI)
Teacher attitude			
Effectiveness rating	10.66	3.70	9.95 – 11.37
School grades	6.03	2.60	5.53 – 6.53
Performance pay	9.21	4.89	8.27 – 10.15
Teacher Sense of Efficacy			
Engagement	6.93	1.20	6.70 – 7.16
Instruction	7.56	.92	7.38 – 7.74
Management	7.45	1.07	7.24 – 7.66
Maslach Burnout Inventory			
Emotional exhaustion	28.76	12.18	26.42 – 31.11
Depersonalization	6.26	5.82	5.14 – 7.39
Personal accomplishment	40.69	6.06	39.52 – 41.86

Correlations

Past studies examining the relationship between teacher burnout and teacher self-efficacy have used correlation to determine the degrees of association between the subscale measures (Brown, 2012). In this section, the correlations gathered through the Pearson correlation function in SPSS 22.0 are examined for the current study for each of the subscales of the Maslach Burnout Inventory (MBI) (emotional exhaustion, depersonalization, personal accomplishment), Teacher Sense of Efficacy Scale (TSES) (engagement, instruction, management) and the researcher-developed teacher attitude scale (effectiveness ratings, school grades, performance pay). Correlations gathered for this current study are compared to those found in previous teacher burnout and teacher self-efficacy studies. Collinearity diagnostics are also discussed in this section.

Teacher burnout and teacher self-efficacy

As noted in Table 9, subscale scores of the MBI and TSES for the study sample demonstrate small to moderate correlations, ranging from $r = -.238$ ($p = .014$) between MBI emotional exhaustion and TSES management, to $r = .534$ ($p < .01$) between MBI personal accomplishment and TSES management.

Table 9

Correlations between MBI and TSES Subscales

	1	2	3	4	5	6
Burnout variables						
1. Emotional Exhaustion	-	.621**	-.421**	-.300**	-.309**	-.238*
2. Depersonalization		-	-.416**	-.325**	-.395**	-.358**
3. Personal Accomplishment			-	.496**	.417**	.534**
Self-efficacy variables						
4. Engagement				-	.528**	.774**
5. Instruction					-	.547**
6. Management						-

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Emotional exhaustion was negatively correlated with the teacher self-efficacy scores of engagement ($r = -.300$, $p < .01$), instruction ($r = -.309$, $p < .01$), and management ($r = -.238$, $p = .014$). These small to moderate correlations indicate that emotional exhaustion does vary with teacher self-efficacy. While the interpretation of this effect is unclear, it may be that as some teachers feel more accomplished in their ability to engage and instruct students within a well-managed classroom, the frequency of their feelings of emotional exhaustion decrease, or conversely, that as their feelings of accomplishment in the classroom decrease, the frequency with which they feel emotional

exhaustion increases. In order to compare the data from this current study to past studies examined by Carol G. Brown (2012), the TSES total score was used to determine the Pearson correlation between emotional exhaustion and teacher self-efficacy. The resulting $r = -.325$ ($p < .01$) was remarkably similar to results found in Betoret (2009) from 724 teachers in Spain ($r = -.324$, $p < .01$), and Skaalvik and Skaalvik's (2007) study of 244 teachers in Norway ($r = -.32$, $p < .01$), both of which utilized the Maslach Burnout Inventory to measure emotional exhaustion.

In the current study, depersonalization was negatively correlated with engagement ($r = -.325$, $p < .01$), instruction ($r = -.395$, $p < .01$), and management ($r = -.358$, $p < .01$), correlations to a greater degree than those found with emotional exhaustion. These moderate correlations indicate that depersonalization does vary with teacher self-efficacy. While the interpretation of this effect is unclear, it may be that as some teachers feel more accomplished in their ability to engage and instruct students within a well-managed classroom, the frequency of their feelings of depersonalization of the students decrease significantly, or conversely that as their feelings of accomplishment in the classroom decrease, the frequency with which they feel depersonalization toward the students increases. Utilizing the TSES total score for depersonalization resulted in a Pearson correlation of $r = -.411$ ($p < .01$), which was also closely aligned with the Skaalvik and Skaalvik (2007) study with $r = -.40$ ($p < .01$), and was stronger than the Betoret (2009) study with $r = -.296$ ($p < .01$).

In the current study, personal accomplishment was moderately and positively correlated with engagement ($r = .496$, $p < .01$), instruction ($r = .417$, $p < .01$), and management ($r = .534$, $p < .01$), which indicates that personal accomplishment does vary

with teacher self-efficacy. While the interpretation of this effect is unclear, it may be that as some teachers feel competent in their ability to engage and instruct students, and manage the classroom, the frequency with which they have feelings of personal accomplishment increase. Conversely, the frequency with which some teachers have feelings of personal accomplishment is decreased as their self-efficacy decreases. The correlation of the total TSES score to the personal accomplishment subscale in the current study result in $r = .56$ ($p < .01$), which was dissimilar to the studies examined by Brown because those studies looked at the MBI scale in reverse by measuring a lack of personal accomplishment. In the Betoret (2009) study, the Pearson correlation coefficient $r = -.639$ ($p < .01$) also indicated a strong negative association between personal accomplishment and teacher self-efficacy.

Teacher burnout and teacher attitudes

As noted in Table 10, subscale scores of the MBI and teacher attitude scales resulted in small correlations between the MBI subscales and teachers' attitudes about school grades and performance pay, ranging from $r = -.203$ ($p = .037$) between MBI emotional exhaustion and attitudes about performance pay, and $r = -.264$ ($p < .01$) between MBI depersonalization and attitudes about performance pay. The analysis found no significant correlations between the MBI subscales and teachers attitudes about teacher effectiveness ratings.

Table 10

Correlations between MBI and Teacher Attitude (TA) Subscales

	1	2	3	4	5	6
Burnout variables						
1. Emotional Exhaustion	-	.621**	-.421**	-.048	-.240*	-.203*
2. Depersonalization		-	-.416**	.006	-.219*	-.264**
3. Personal Accomplishment			-	.123	.222*	.212*
Attitude variables						
4. Effectiveness ratings				-	.425**	.607**
5. School grades					-	.528**
6. Performance pay						-

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

In examining the small, but significant correlations between the MBI and teacher attitude subscales, emotional exhaustion was negatively correlated to teachers' attitudes about school accountability grades ($r = -.240$, $p = .013$) and performance pay ($r = -.203$, $p = .037$). This small negative correlation indicates that emotional exhaustion does vary with teachers' attitudes toward accountability measures. While the interpretation of this effect is unclear, it may be that as some teachers' attitudes toward the accountability measures of school grades and performance pay tend toward strongly disagreeing with the measure, the frequency with which they feel emotionally exhausted increases, or conversely, as some teachers tend toward agreement with the accountability measures, the frequency of their feelings of emotional exhaustion decrease.

Depersonalization was also negatively correlated to teachers' attitudes about school accountability grades ($r = -.219$, $p = .024$), and performance pay ($r = -.264$, $p = .006$). This negative weak correlation indicates that depersonalization does vary with teachers' attitudes about accountability measures. It may be that as some teachers'

attitudes toward the accountability measures of school grades and performance pay tend toward the degree of strongly disagreeing with the measure, the frequency with which they experience depersonalization significantly increases, or conversely, as some teachers tend toward agreement with the accountability measures, the frequency of their feelings of depersonalization decrease.

The positive weak correlation between personal accomplishment and teachers attitudes about school accountability grades ($r = .222, p = .022$) and performance pay ($r = .212, p = .029$) indicates that personal accomplishment does vary with teachers' attitudes toward accountability measures. It is possible that as some teachers tend toward agreeing with the accountability measures, the frequency with which they have feelings of personal accomplishment significantly increase. Conversely, as they tend toward strong disagreement with the measures, they experience significantly less frequent feelings of personal accomplishment.

Teacher self-efficacy and teacher attitudes

In this study, teacher self-efficacy and teacher attitudes about reform accountability measures are independent variables in the examination of whether a predictive relationship exists between these measures and teacher burnout. As independent variables, an exploration of their correlation serves to establish potential relationships, as well as to rule out multicollinearity between the independent variables. A review of the Pearson correlation coefficients in Table 11 indicates that H_{O1} : there is no significant relationship between the teacher self-efficacy and teacher attitude subscales, is in fact true in this study. Correlations were extremely small, ranging from -

0.013 to .153, indicating that teachers attitudes about the reform accountability measures have little relationship to their belief in their ability to engage, instruct, and manage a classroom of students in this elementary setting.

Table 11

Correlations between TSES and Teacher Attitude (TA) Subscales

	1	2	3	4	5	6
Self-efficacy variables						
1. Engagement	-	.528**	.774**	.018	.141	.137
2. Instruction		-	.547**	-.084	-.013	.039
3. Management			-	.094	.080	.153
Attitude variables ratings						
4. Effectiveness				-	.425**	.607**
5. School grades					-	.528**
6. Performance pay						-

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Multiple Regressions

Central to this study is the determination of whether a significant predictive relationship exists between teacher self-efficacy and teachers' attitudes about reform accountability measures, and the three burnout subscales; engagement, instruction, and personal accomplishment. The regression analysis function of SPSS 22.0 was utilized to determine the level to which all subscales of teacher self-efficacy and attitudes about reform accountability measures predict burnout subscales.

Among measure correlations and assumptions

The inter-correlation matrices represented in Tables 10 and 11 were used to check for multicollinearity among respective subscales. The inter-correlation matrix indicated moderate to high levels of correlation, ranging from $r = .528$ ($p < .01$) to $r = .774$ ($p < .01$) between all teacher self-efficacy subscales, which was checked further with the collinearity diagnostics function during the multiple regression analysis and found to be acceptable at VIF levels of less than 2.8. Likewise, the moderate correlations among the teacher attitude subscales, ranging from $r = .425$ ($p < .01$) to $r = .607$ ($p < .01$) were checked for multicollinearity and found to have acceptable VIF levels of less than 2.0. Visual inspection of histograms and P-P plots of regression standardized residuals for the dependent variables of emotional exhaustion, depersonalization, and personal accomplishment indicated approximately normal distributions, which indicates that data assumptions for regression analyses are satisfied.

When answering the question of whether a significant predictive relationship exists between teachers' attitudes about reform accountability measures and teacher self-efficacy, and emotional exhaustion, the overall multiple linear regression model fit was $R^2 = .181$, indicating a low level of predictability in this model. Within this model when emotional exhaustion is predicted, only teachers' self-efficacy in their instruction ($B = -3.131$, $p = .038$) was found to be a significant predictor. The resulting regression equation is:

$$\text{Emotional exhaustion} = -3.13 I_{\text{instruction}} - 1.74 E_{\text{engagement}} + 0.56 M_{\text{management}} + 0.31 R_{\text{ratings}} - 0.90 G_{\text{grades}} - 0.33 P_{\text{performance pay}} + 65.55$$

Considering the high number of teachers scoring a high level of emotional exhaustion in this study and importance of the teacher self-efficacy skills (engagement, instruction, and management) to the daily work of teachers, this researcher would have expected a higher predictive relationship within this regression model. Table 12 provides regression statistics for all models presented in this section.

Table 12

Regression Analyses Summary (N=106)

Model	R^2	B	$SE B$	β	t
Dependent variable – Emotional exhaustion	0.181				
Independent variables					
(Constant)		65.55	10.48		6.26
Engagement		-1.74	1.52	-0.17	-1.14
Instruction		-3.13	1.49	-0.24	-2.10*
Management		0.56	1.70	0.05	0.33
Effectiveness ratings		0.31	0.39	0.09	0.79
School grades		-0.90	0.51	-0.19	-1.76
Performance Pay		-0.33	0.31	-0.13	-1.06
Dependent variable – Depersonalization	0.283				
Independent variables					
(Constant)		27.47	4.68		5.87
Engagement		0.17	0.68	0.03	0.25
Instruction		-1.73	0.67	0.27	-2.60*
Management		-1.08	0.76	-0.20	-1.42
Effective ratings		0.39	0.17	0.25	2.24*
School grades		-0.36	0.23	-0.16	-1.57
Performance Pay		-0.35	0.14	-0.29	-2.51*
Dependent variable – Personal Accomplishment	0.352				
Independent variables					
(Constant)		11.33	4.64		2.44
Engagement		0.66	0.67	0.13	0.97
Instruction		1.16	0.66	0.18	1.76
Management		1.77	0.75	0.32	2.35*
Effective ratings		0.02	0.17	0.01	0.09
School grades		0.35	0.23	0.15	1.52
Performance Pay		0.07	0.14	0.06	0.49

* $p < .05$

When answering the question of whether a significant predictive relationship exists between teachers' attitudes about reform accountability measures and teacher self-efficacy, and depersonalization, the overall multiple linear regression model fit was $R^2 = .283$, indicating a low level of predictability that together these variables predict depersonalization. Within this model when depersonalization is predicted, teachers' self-efficacy in their instruction ($\beta = -1.732, p = .011$), teachers attitudes about the effectiveness ratings ($\beta = .389, p = .027$) and performance pay ($\beta = -.348, p = .014$), were found to be significant predictors. The resulting regression equation is:

$$\widehat{\text{Depersonalization}} = -1.73 I_{\text{instruction}} - 1.08 M_{\text{management}} + 0.17 E_{\text{engagement}} + 0.39 R_{\text{atings}} - 0.36 G_{\text{rades}} - 0.35 P_{\text{erformance pay}} + 27.47$$

When answering the question of whether a significant predictive relationship exists between teachers' attitudes about reform accountability measures and teacher self-efficacy, and personal accomplishment, the overall multiple linear regression model fit was $R^2 = .352$, indicating the highest level of predictability in the three models examined. Within this model when personal accomplishment is predicted, only teachers' self-efficacy in their management ($\beta = 1.767, p = .021$) was found to be a significant predictor. The resulting regression equation is:

$$\widehat{\text{Personal Accomplishment}} = 1.77 M_{\text{management}} + 1.16 I_{\text{instruction}} + 0.66 E_{\text{engagement}} + 0.02 R_{\text{atings}} + 0.35 G_{\text{rades}} + 0.07 P_{\text{erformance pay}} + 11.33$$

The β value of 1.767 in teacher's self-efficacy related to management indicates that for every one unit increase in this predictor variable (assuming all other predictor variables remain the same), the personal accomplishment score will increase by nearly two points out of a possible 9 points, signifying higher frequencies in teachers' feelings of personal accomplishment. An average teacher in this sample would move from feeling they could do "quite a bit" to feeling they could do "a great deal" to manage the classroom.

Trends in Scores by Demographics

Considering the high level of burnout in this sample of teachers, which is not predicted at a high level based on the regression models utilizing teacher self-efficacy and teacher attitudes about the reform accountability measures, this researcher explored possible implications present in the mean differences in the subscale measures of burnout, self-efficacy, and attitudes toward reform measures between teacher groups based on exploratory data (years of teaching, years left in teaching, the schools' current grades, and teachers' grade levels). Using the one-way fixed effect analysis of variance (ANOVA) function of SPSS 22, the responses to the four self-reported demographic questions were used as independent variables to each of the nine subscales scores within the teacher attitude scale (TA), the teacher self-efficacy scale (TSES), and Maslach's burnout inventory (MBI). Significant results, which may be relevant to the problem of teacher turnover, were found in analyses of variance comparing the years remaining in teaching and the three subscales of burnout, the current school grade and emotional

exhaustion, and the years remaining in teaching and the instruction subscale of teacher self-efficacy. These differences will be explored in this section and their relevance discussed in Chapter 5.

Burnout

Examining the impact of the number of years teachers plan to remain in teaching on the burnout subscales of emotional exhaustion, depersonalization, and personal accomplishment, statistically significant differences were found between groups for years remaining in teaching and emotional exhaustion, years remaining in teaching and depersonalization, and years remaining in teaching and personal accomplishment. A descriptive analysis of these differences is discussed for each burnout subscale, followed by the analysis of variance and Levene's test for homogeneity of variance for each subscale measure.

A comparison of the mean (*M*) emotional exhaustion subscale score, number of participants in each group (*N*), standard deviation (*SD*), and variance for each group based on their response to the demographic question, "How many more years do you plan to teach?" (see Table 13) indicates an overall mean of 28.76 points (*SD 12.18*) with a range of mean scores from 22.50 (*SD 11.67*) to 41.00 (*SD 9.00*).

Table 13

Group Mean Emotional Exhaustion Subscale Scores Based on Number of Years Remaining in Teaching

How many more years do you plan to teach?	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Variance</i>
1 – 5 more years	18	31.28	12.26	150.21
6 – 10 more years	25	28.72	10.31	106.29
11 – 15 more years	19	32.84	14.09	198.47
16 – 20 more years	21	27.19	11.05	122.06
21 or more years	20	22.50	11.67	136.26
Will retire at the end of the year	3	41.00	9.00	81.00
Total	106	28.76	12.18	148.43

As Figure 2 illustrates, teachers who reported that they planned to retire, at the end of the year in which the study took place, had a higher mean emotional exhaustion subscale score ($M = 41.00$, $SD = 9.00$) than teachers who had 21 or more years remaining ($M = 22.50$, $SD = 11.67$), although the retirement group was small ($n = 3$). The overall trend indicates that as the number of years left in teaching decreases, the level of emotional exhaustion increases, with the teachers in the 11 – 15 years remaining group showing the second highest level of emotional exhaustion after the retiring teachers, with a mean difference of 10.34 points between mid-career teachers with 11 – 15 years remaining ($M = 32.84$, $SD = 14.09$), and newer teachers with 21 or more years remaining in teaching ($M = 22.50$, $SD = 11.67$).

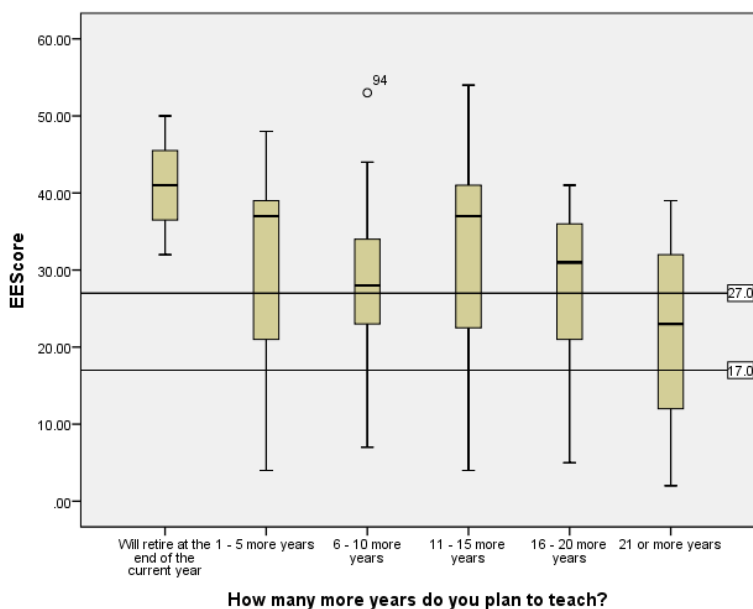


Figure 2: Distribution of emotional exhaustion subscale scores based on years remaining in teaching (N=106). The graphic includes a reference line at 17 to indicate a moderate level of emotional exhaustion, and reference line at 27 to represent high level of emotional exhaustion based on MBI scoring guide.

Based on the MBI scoring guide, the mean emotional subscale score of the group planning to remain in teaching for 21 or more years ($M = 22.50$) is considered in the moderate level of emotional exhaustion with 17 – 26 points. All other group means are in the high range of emotional exhaustion at 27 or more points. The analysis of variance between groups of teachers based on years remaining in teaching and their emotional exhaustion subscale scores was significant at $F(5,100) = 2.47$ ($p = .037$) as illustrated in Table 14, with an insignificant Levene's statistic of 1.00, $p = .411$. Thus, the average emotional exhaustion scores from at least one of the groups are significantly different from the rest of the groups.

Table 14

ANOVA of Emotional Exhaustion Subscale Score by Number of Years Remaining in Teaching (N = 106)

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	5	1715.688	343.138	2.474	.037*
Within groups	100	13869.416	138.694		
Total	105	15585.104			

* Significant at $p < .05$

Examining the differences between groups of teachers based on years remaining in teaching and the depersonalization subscale of burnout also demonstrates significant differences. Table 15 provides the mean (*M*), number of participants in each group (*N*), standard deviation (*SD*), and variance for each group based in their response to the demographic question, “How many more years do you plan to teach?”

Table 15

Group Mean Depersonalization Subscale Scores Based on Number of Years Remaining in Teaching

How many more years do you plan to teach?	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Variance</i>
1 – 5 more years	18	7.39	5.40	29.13
6 – 10 more years	25	6.52	5.36	20.76
11 – 15 more years	19	7.37	7.41	54.91
16 – 20 more years	21	5.76	4.67	21.79
21 or more years	20	3.35	2.76	7.61
Will retire at the end of the year	3	13.33	14.64	214.33
Total	106	6.26	5.82	33.87

A boxplot of depersonalization subscale scores for groups based on the years they plan to remain in teaching (see Figure 3) shows the lowest level of depersonalization was reported by teachers in the 21 or more years remaining group ($M = 3.35$) and illustrates

the presence of scores within the moderate and high ranges for the groups of teachers between 1 – 5 years remaining and 11 – 15 years remaining. Only teachers in the 21 or more years of teaching remaining had subscale scores exclusively in the low range of depersonalization.

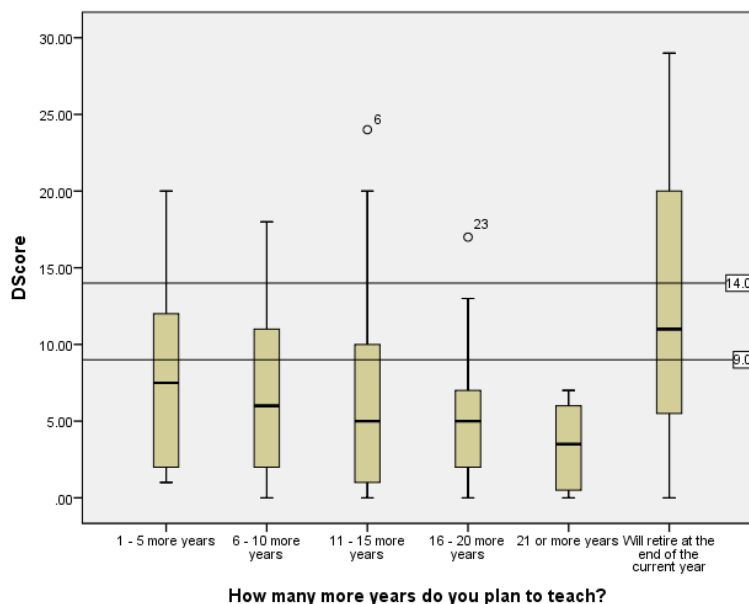


Figure 3: Distribution of depersonalization subscale scores based on years remaining in teaching (N = 106). The graphic includes a reference line at 9 to indicate a moderate level of depersonalization and a reference line at 14 to represent a high level of depersonalization based on MBI scoring guide.

The analysis of variance between years mean depersonalization subscale scores based on years remaining in teaching indicates a significant difference between groups ($F(5,100) = 2.34, p = .047$) as illustrated by Table 16. However, a Levene's statistic of 3.27, significant at $p = .015$ indicates that the homogeneity of variances cannot be

assumed, and therefore, the probability of a Type I error is increased since the p value for the average score differences are close to the cut-off (i.e., alpha of .05). The boxplot in Figure 3 was provided, however, to clearly indicate the differences in distribution of depersonalization subscale scores for each group of teachers.

Table 16

ANOVA of Depersonalization Subscale Score by Number of Years Remaining in Teaching (N = 106)

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	5	372.639	74.528	2.34	.047*
Within groups	100	3183.965	31.840		
Total	105	3556.604			

* Significant at $p < .05$

Table 17 provides the mean (M) personal accomplishment subscale score, number of participants in each group (N), standard deviation (SD), and variance for each group based on their response to the demographic question, “How many more years do you plan to teach?”

Table 17

Group Mean Personal Accomplishment Subscale Scores Based on Number of Years Remaining in Teaching

How many more years do you plan to teach?	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Variance</i>
1 – 5 more years	18	41.83	6.52	42.62
6 – 10 more years	25	39.56	5.81	33.76
11 – 15 more years	19	37.00	6.77	45.78
16 – 20 more years	21	42.86	5.23	27.33
21 or more years	20	42.00	4.60	21.16
Will retire at the end of the year	3	42.67	6.81	46.33
Total	106	40.69	6.06	36.75

An examination of the variance in mean group personal accomplishment subscale scores illustrates the noteworthy drop in personal accomplishment subscale scores for teachers who intend to teach for another 11 – 15 years compared to the mean scores of the other groups. A box plot representing the distribution of personal accomplishment scores for each group of teachers based on the years remaining in teaching (Figure 4) illustrates lower overall second and third quartiles and wider range of scores for teachers in the 11 – 15 more years group compared with those of teachers planning to remain in teaching for 16 – 20 more years, or those planning to remain for 21 or more years. The 11 – 15 years remaining group mean personal accomplishment subscale score of 37.00 is at the base of the high range for personal accomplishment. Outliers in the 16 – 20 years remaining group fall in the moderate range of personal accomplishment, while three of the groups contain outliers in the low range of personal accomplishment subscale scores. It should be noted that only one teacher in the 21 or more years remaining group scored in the low level of personal accomplishment, with no teachers from this group in the moderate range of personal accomplishment.

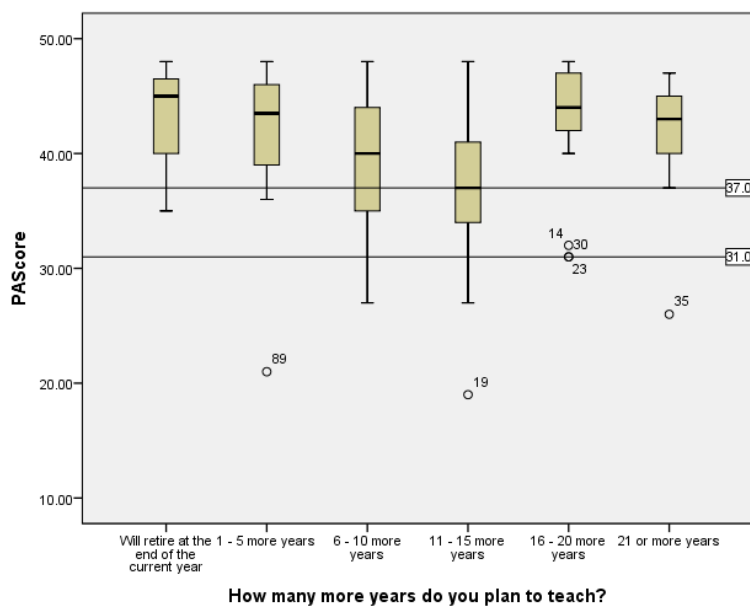


Figure 4: Distribution of personal accomplishment subscale scores based on years remaining in teaching ($N = 106$). The graphic includes a reference line at 31 to indicate a moderate level of personal accomplishment and a reference line at 37 to represent a high level of personal accomplishment based on MBI scoring guide.

The analysis of variance between years remaining in teaching and personal accomplishment subscale scores also indicated a significant difference ($F(5,100) = 2.70$, $p = .025$) as illustrated in Table 18, with an insignificant Levene's statistic of .898, $p = .468$

Table 18

ANOVA of Personal Accomplishment Subscale Score by Number of Years Remaining in Teaching ($N = 106$)

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	5	458.828	91.766	2.699	.025*
Within groups	100	3399.898	33.999		
Total	105	3858.726			

* Significant at $p < .05$

The final examination of differences in group means related to the burnout subscales is the analysis of variance between the current school grade and teachers' emotional exhaustion. Table 19 provides the mean (*M*) emotional exhaustion subscale score, number of participants in each group (*N*), standard deviation (*SD*), and variance for each group based on their response to the demographic question, "What is your school's current grade?"

Table 19

Group Mean Emotional Exhaustion Subscale Scores by Current School Grade

What is your school's current grade?	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Variance</i>
A	19	20.74	10.87	118.09
C	19	31.21	9.41	88.51
D	36	29.58	12.58	158.48
F	31	31.39	12.55	157.38
Total	105	28.81	12.23	149.64

Figure 5 represents the trend in emotional exhaustion subscale scores based on the school's current grade, which suggests that teachers in "A" schools experience significantly less emotional exhaustion than their peers in schools performing at levels "C" through "F".

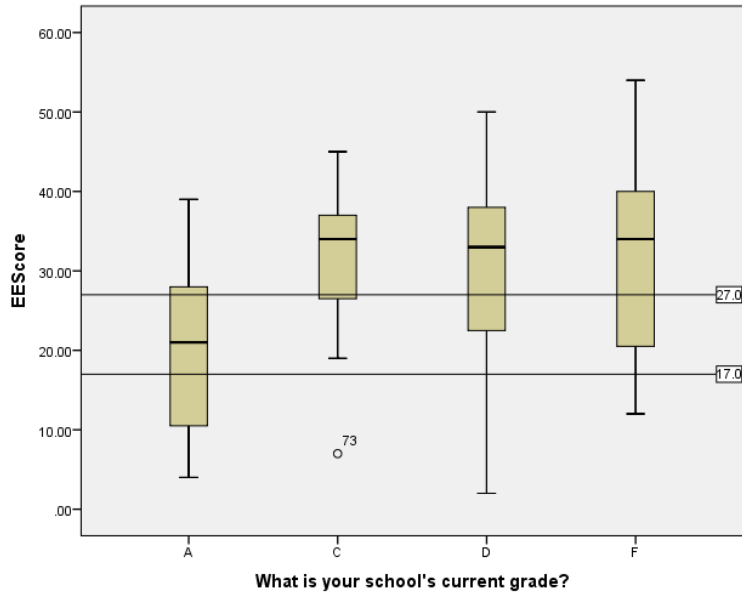


Figure 5: Distribution of emotional exhaustion subscale scores based on school grades (N=105). The graphic includes a reference line at 17 to indicate a moderate level of emotional exhaustion and a reference line at 27 to represent a high level of emotional exhaustion based on MBI scoring guide.

An analysis of variance based on groups of teachers at A, C, D, and F graded schools and teachers' emotional exhaustion subscale scores, was significant at $F(3,101) = 3.79$, $p = .013$ (see Table 20), with an insignificant Levene's statistic of 1.39, $p = .249$. This indicates that significant mean score differences exist in emotional exhaustion subscale scores between teachers at schools with different grades.

Table 20

ANOVA of Emotional Exhaustion Subscale Score by Current School Grade (N = 105)

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	3	1575.244	525.081	3.792	.013*
Within groups	101	13986.947	138.485		
Total	104	15562.190			

* Significant at $p < .05$

Note: $N = 105$ due to one participant not reporting current school grade

Teacher self-efficacy

Examining the significance of demographics on the teacher self-efficacy subscales of engagement, instruction, and management, yielded one additional significant difference between teacher groups based on the number of years they plan to remain in teaching and the instruction subscale of the Teacher Sense of Efficacy Scale (TSES). All analyses to this point had been performed using each teacher's mean subscale score, as directed by the TSES manual. To avoid mean group calculations from mean individual scores, the instruction subscale composite scores were used in this ANOVA analysis

Table 21 provides the mean (*M*) self-efficacy instruction subscale score, number of participants in each group (*N*), standard deviation (*SD*), and variance for each group based on their response to the demographic question, "How many more years do you plan to teach?"

Table 21

Group Mean Instruction Subscale Scores by Number of Years Remaining in Teaching

How many more years do you plan to teach?	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Variance</i>
1 – 5 more years	18	30.67	4.26	18.12
6 – 10 more years	25	29.60	3.15	9.92
11 – 15 more years	19	28.47	3.79	14.37
16 – 20 more years	21	31.38	3.49	12.15
21 or more years	20	31.55	3.09	9.52
Will retire at the end of the year	3	27.33	3.79	14.33
Total	106	30.24	3.67	13.50

Aside from the small group of retiring teachers, the group of teachers who plan to teach an additional 11 – 15 years had the lowest mean instruction subscale score ($M = 28.47$). This group of teachers also had the lowest personal accomplishment score as discussed previously. An examination of Figure 6 indicates that teachers who intended to teach for 21 or more years had the overall highest mean with the smallest range, with no composite scores falling below 26 points on the 4-item subscale, indicating, at a minimum, some teachers in this group of teachers felt they could do “quite a bit” to provide effective instruction for their students. By contrast, at a minimum, some teachers in the 11 – 15 years remaining group felt they had only “some influence” toward providing effective instruction with a score of 22 points on the instruction subscale.

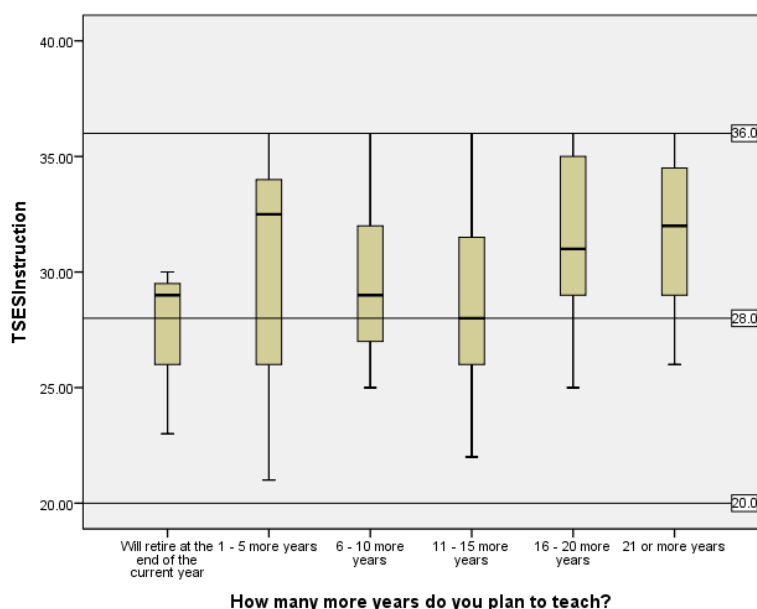


Figure 6: Distribution of self-efficacy in instruction subscale scores based on years remaining in teaching ($N = 106$). The graphic includes a reference line at 20 to indicate on average “some influence”, a reference line at 28 to indicate on average “quite a bit of influence” and a reference line at 36 to indicate on average “a great deal of influence” over instruction based on TSES scoring guide.

An analysis of variance based on the number of years teachers plan to remain in teaching and teachers’ instructional self-efficacy subscale scores, was significant at $F(3,101) = 3.79$, $p = .013$ (see Table 22), with an insignificant Levene’s statistic of .642, $p = .634$.

Table 22

ANOVA of Instruction Subscale Score by Years Remaining in Teaching ($N = 106$)

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	5	159.798	31.960	2.542	.033*
Within groups	100	1257.306	12.573		
Total	105	1417.104			

* Significant at $p < .05$

These analyses of variance, utilizing this study's exploratory demographic data, provide additional insights into the levels of emotional exhaustion, depersonalization, personal accomplishment, and instructional efficacy the participating teachers reported based on their years remaining in teaching and current school grade. While these analyses were not included as a part of the original study design, the outcomes of these analyses may add depth to the discussion of the study findings and provide valuable data for this particular district to use in designing professional development and teacher support.

Summary

This chapter has provided a report of the demographic data and descriptive statistics for the 9 subscales used in this study. It also established the reliability of the Maslach Burnout Inventory (MBI), Teacher Sense of Efficacy Scale (TSES), and the investigator-developed teacher attitude (TA) subscales. This chapter then explored the research questions posed by this study through correlation and regression analyses, with the following results:

1. What is the strength of the relationship between teacher attitudes about accountability measures (teacher effectiveness ratings, A- F school grades, and performance pay) and teacher self-efficacy (instruction, classroom management, student engagement)?

No significant relationship was found between the subscale measures of teachers' attitudes toward accountability measures and the subscale measures of teacher self-efficacy through a correlation analysis. Correlations were extremely small, ranging from

-0.013 to .153, indicating that teachers attitudes about the reform accountability measures have little relationship to their belief in their ability to engage, instruct, and manage a classroom of students in this elementary setting.

2. Is there a significant predictive relationship between teachers' attitudes about accountability measures, and teacher self-efficacy (predictors), and burnout, in the Maslach Burnout Inventory (MBI) emotional exhaustion subscale (outcome)?

The multiple regression analysis revealed a low level of predictability with an overall multiple linear regression model fit of $R^2 = .181$. Within the model when emotional exhaustion is predicted, only teachers' self-efficacy in their instruction ($B = -3.131, p = .038$) was found to be a significant predictor.

3. Is there a significant predictive relationship between teachers' attitudes about accountability measures, and teacher self-efficacy (predictors), and burnout, in the Maslach Burnout Inventory (MBI) depersonalization subscale (outcome)?

The multiple regression analysis revealed a low level of predictability with an overall multiple linear regression model fit of $R^2 = .283$. Within the model when depersonalization is predicted, teachers' self-efficacy in their instruction ($\beta = -1.732, p = .011$), teachers attitudes about the effectiveness ratings ($\beta = .389, p = .027$) and performance pay ($\beta = -.348, p = .014$), were found to be significant predictors.

4. Is there a significant predictive relationship between teachers' attitudes about accountability measures, and teacher self-efficacy (predictors), and burnout, in the Maslach Burnout Inventory (MBI) personal accomplishment subscale (outcome)?

The multiple regression analysis demonstrated the highest level of predictability of the three models examined with an overall multiple linear regression model fit of $R^2 = .352$. Within the model when personal accomplishment is predicted, only teachers' self-efficacy in their management ($\beta = 1.767, p = .021$) was found to be a significant predictor.

Finally, this chapter provided an analysis of the variance between demographic groups based on exploratory data gathered in the survey, in order to provide greater insight into the ways in which the demographics of years remaining in teaching and current school grade impact burnout and instructional self-efficacy. Significant results, which may be relevant to the problem of teacher turnover, were found in analyses of variance comparing the years remaining in teaching and the three subscales of burnout, the current school grade and emotional exhaustion, and the years remaining in teaching and the instruction subscale of teacher self-efficacy.

CHAPTER 5 SUMMARY AND CONCLUSIONS

Overview

This study was launched in response to teacher rhetoric surrounding recent Indiana school reform accountability measures that are aligned to the 2001 reauthorization of the Elementary and Secondary Education Act of 1965 (ESEA), also known as No Child Left Behind (NCLB), and the more recent Race to the Top policies implemented by the U.S. Department of Education. These accountability measures are intended to improve educational outcomes for all students, close achievement gaps, and increase equity. Teachers and teacher organizations throughout the state of Indiana have lamented the changes in state law that created school accountability measures, which include yearly performance evaluations tied to student performance, school grade assignments, and performance pay awards for teachers. In urban districts, where a majority of students live in poverty and experience greater challenges in seeking school success, the teachers express feelings of burnout and question the fairness of the accountability measures as they are applied to all schools and districts across the state.

Within the teacher circles experienced by this researcher, the language of burnout and frustration has been witnessed first-hand, with effective and highly effective teachers expressing their feelings of exhaustion and disappointment that the challenges within urban schools are not recognized within the accountability systems. Witnessing this

frustration and hearing their language of burnout led this researcher to question the level of burnout they experience and its relationship to their feelings of efficacy as teachers and their attitudes about three specific accountability measures experienced by all teachers; yearly effectiveness ratings, school grades, and the potential for performance pay. At the same time, through examination of school board documents, this researcher has noted the exodus of 48 elementary teachers during one year from the single, urban district setting of this study. These 22 retirements and 26 resignations represent nearly 15% of the study's 325 potential elementary classroom and special education resource teaching positions.

Review of Literature

Teacher self-efficacy is a teacher's belief in his or her ability to execute the actions needed to produce the desired outcomes of teaching. This self-efficacy is formed through complex daily interactions between teaching experiences and social, emotional, and physical experiences associated with teaching (Tschannen-Moran & Woolfolk-Hoy, 2001). While the experiences act as a source of teacher self-efficacy, the teacher's self-efficacy also serves to influence subsequent experiences within the ever-changing educational landscape of classrooms and schools. Specifically, the construct of teacher self-efficacy, developed by Woolfolk-Hoy and Tschannen – Moran, based on Albert Bandura's initial construct of self-efficacy, describes three separate facets of teaching efficacy: student engagement, providing instruction, and classroom management. Researchers have related teacher self-efficacy to student achievement (Ashton & Webb,

1986; Moore & Esselman, 1992) and greater support to students in more positive classroom environments (Guo, Connor, Yang, Roehrig, & Morrison, 2012). According to Bandura, “Teachers’ beliefs in their personal efficacy to motivate and promote learning affect the type of environments they create and the level of academic progress their students achieve” (1993, p. 117).

The school reforms prioritized in No Child Left Behind and Race to the Top legislation were intended to improve educational outcomes for all students, close achievement gaps, and increase equity, through an increase in accountability measures for teachers and schools based on high-stakes testing outcomes. In Indiana, testing outcomes are factored into teacher effectiveness ratings, school grades, and teacher performance pay, the accountability measures considered within this study. In urban school settings, where the adversities and inequities that affect students living in poverty create greater challenges for teachers, the imbalance between the demands of teaching and resources may lead to burnout. (Hakenan, Baker, & Schaufeli, 2006). Burnout, as developed by Christina Maslach and others, consists of three facets which are detrimental in the classroom setting: emotional exhaustion, which limits the teacher’s effectiveness; depersonalization, which manifests itself in negative perceptions toward students; and a loss of personal accomplishment, which impacts teachers’ belief in their ability to perform in the classroom. Burnout may also contribute to the relatively high rate of teachers leaving the profession, and at rates that are increasing (Ingersoll, Merrill, & Stuckey, 2014).

Purpose of the Study

The purpose of this study was to examine the relationship between teachers' attitudes towards accountability measures, teachers' self-efficacy, and teacher burnout in urban elementary schools. In addition, this study aimed to determine whether teachers' attitudes toward accountability measures and teacher self-efficacy predict burnout.

Through exploratory demographic data, this study also sought to examine differences in teacher burnout, self-efficacy, and attitudes toward recent accountability measures as they relate to years of teaching experience, years remaining in teaching, school accountability grades, and the grade level of the teacher.

Methodology

A quantitative design was used for this study, which included correlation analysis of the subscales found within the three measures to determine the strength of the relationship between each construct of teacher-self efficacy, teacher attitudes about the reform accountability measures, and teacher burnout. Multiple regression analyses were used to determine whether significant predictive relationships existed between teacher self-efficacy and teachers' attitudes about the reform accountability measures, and each construct of burnout: emotional exhaustion, depersonalization, and self-efficacy.

Finally, analyses of variance were conducted to examine the responses between groups of teachers based on exploratory demographic data, including the number of years in teaching, the number of years teachers expected to remain in teaching, the current school grade, and the grade level of teaching and levels of burnout and self-efficacy.

Settings and Participants

The setting for this study was chosen based on the district's designation as an urban school district serving a population of over 15,000 students, with 73% of those students living in poverty. The chosen district also reflects a diverse student population comprised of 36% White students, 35% Black students, 19% Hispanic students, and 9% Multi-racial students. Within this district, of the 325 elementary general education and special education resource teachers from 17 elementary schools eligible to participate, 106 teachers completed the online Qualtrics survey, which represented four grade A schools, three grade C schools, six grade D schools, and four grade F schools.

Procedures

Following Purdue Institutional Review Board approval, the researcher gained approval to conduct research from the school district in which the study was conducted. The local National Education Association (NEA) leadership was informed of the study, as well, prior to dissemination of the study information to teachers. Immediately following the district's spring break and prior to the second administration of the high-stakes Indiana Statewide Testing of Educational Progress – Plus (ISTEP+), an email was sent to the 325 potential teacher participants within the district to introduce the study and request teacher participation in the study. Within two days, participants received a second email explaining the study and requesting participation using the link provided to the online Qualtrics system. Potential participants who had not yet responded received a second, and if needed a third, email request for participation during the following two weeks (see Appendices F & G for email notices). The online Qualtrics survey closed on

May 1, 2015. The complete survey consisted of 4 exploratory demographic questions, the 22-item Maslach Burnout scale, the 12-item Teacher Sense of Efficacy Scale, and the 12-item researcher-developed teacher attitude survey. Following the close of the survey, appropriate statistical analyses were conducted on the acquired data using SPSS 22.0.

Research Questions

This study into the relationships between teacher self-efficacy, teacher attitudes about reform accountability measures, and teacher burnout sought to answer the following primary questions:

1. What is the strength of the relationship between teacher attitudes about accountability measures (teacher effectiveness ratings, A- F school grades, and performance pay) and teacher self-efficacy (instruction, classroom management, and student engagement)?
2. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) emotional exhaustion subscale (outcome)?
3. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) depersonalization subscale (outcome)?

4. Is there a significant predictive relationship between teachers' attitudes about accountability measures and teacher self-efficacy (predictors) and burnout in the Maslach Burnout Inventory (MBI) personal accomplishment subscale (outcome)?

Following data analysis to answer these primary study questions, the exploratory demographic data was analyzed to determine whether differences existed between the levels of self-efficacy, attitudes about reform accountability measures, and teacher burnout for different groups of responding teachers, based on their years in teaching, the years they plan to remain in teaching, the school grade, and their grade level of teaching.

Data Analysis

All data analyses were conducted using SPSS 22.0, beginning with reliability testing of the researcher-developed teacher attitude survey and Cronbach's alpha calculations and item-total correlations of the subscales scores for each of the scales used in this study: Teacher Sense of Efficacy Scale (TSES), Maslach Burnout Inventory (MBI), and researcher-developed teacher attitude (TA) scale. Descriptive statistics were analyzed for each of the subscale scores, and the strength of the relationships between the subscales was analyzed using the Pearson product-moment correlation coefficient. With burnout as the outcome variable and teacher self-efficacy and teacher attitudes as the predictor variables, the form of the relationship between each of the burnout subscales (emotional exhaustion, depersonalization, and self-efficacy) was determined using multiple regression analyses. Finally, analyses of variance were conducted to explore the

differences between groups of participants, based on their responses to the demographic questions, for each of the subscale measures.

Results of Hypotheses Testing

The following hypotheses were tested through this study into the relationship between accountability measures, teacher self-efficacy, and teacher burnout within urban elementary schools:

HO₁: There is no significant correlation between teacher attitudes about accountability measures, as measured by the teacher attitude survey and teacher self-efficacy, as measured by TSES.

Correlations between the subscale measures of teacher self-efficacy (engagement, instruction, management) and teacher attitudes about reform accountability measures (effectiveness ratings, school grades, performance pay) were extremely small and insignificant at $p < .05$, with Pearson product-moment correlations ranging from -0.013 to .153, indicating that teachers' attitudes about the reform accountability measures have little relationship to their belief in their ability to engage, instruct, and manage a classroom of students. As a result, we fail to reject the null hypothesis.

HO₂: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures, as measured by the teacher attitude survey (predictor); teacher self-efficacy, as measured by the Teacher Sense of Efficacy Scale (TSES) (predictor); and teachers' burnout as measured by the Maslach Burnout Inventory (MBI) emotional exhaustion subscale (outcome).

A multiple regression analysis of the form of the relationship between the subscales of the self-efficacy scale and the teacher attitude scale, and the emotional exhaustion component of teacher burnout indicated the predictors explained 18.1% of the variance ($R^2 = .181$, $F(6,99) = 3.652$, $p < .01$) in the emotional exhaustion scores. As a result, we reject the null hypothesis and determine there is a significantly predictive relationship, albeit to a small degree, between the predictor variables of teacher self-efficacy and teacher attitudes and emotional exhaustion. Further, it was found that teachers' self-efficacy in their instruction significantly predicted emotional exhaustion ($B = -3.131$, $p = .038$).

HO₃: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures as measured by the teacher attitude survey (predictor); teacher self-efficacy, as measured by TSES (predictor); and teachers' burnout as measured by the MBI depersonalization subscale (outcome).

A multiple regression analysis of the form of the relationship between the subscales of the self-efficacy scale and the teacher attitude scale, and the depersonalization component of teacher burnout indicated that the predictors explained 28.3% of the variance ($R^2 = .283$, $F(6,99) = 6.52$, $p < .01$) in depersonalization scores. As a result, we reject the null hypothesis and determine there is a significantly predictive relationship between the predictor variables of teacher self-efficacy and teacher attitudes, and depersonalization. Further, it was found that teachers' self-efficacy in their instruction significantly predicted depersonalization ($B = -1.731$, $p = .011$). Additionally, it was found that teachers' attitudes about the effectiveness ratings ($B = .389$, $p = .027$) and performance pay ($B = -.348$, $p = .014$) significantly predicted depersonalization.

HO₄: There is no statistically significantly predictive relationship between teacher attitudes about accountability measures, as measured by the teacher attitude survey (predictor); teacher self-efficacy, as measured by TSES (predictor); and teachers' burnout as measured by the MBI personal accomplishment subscale (outcome).

A multiple regression analysis of the form of the relationship between the subscales of the self-efficacy scale and the teacher attitude scale and the personal accomplishment component of teacher burnout indicated the predictors explained 35.2% of the variance ($R^2 = .352$, $F(6,99) = 8.978$, $p < .01$) in personal accomplishment scores. As a result, we reject the null hypothesis and determine there is a statistically significant predictive relationship between the predictor variables of teacher self-efficacy and teacher attitudes and personal accomplishment. Further, it was found that teachers' self-efficacy in their management significantly predicted personal accomplishment ($B = 1.767$, $p = .021$).

Findings

Within the setting of this study, the 106 participating teachers demonstrated high levels of emotional exhaustion, as measured by the Maslach Burnout Inventory (MBI) emotional exhaustion subscale, with 59% of the participants reporting a high level of burnout. At the same time, 74% of the teachers reported a low level of depersonalization toward their students. In the personal accomplishment subscale, which is scored in reverse with high scores being desirable, 79% of the teachers responded with a high level of personal accomplishment. Thus, the overall response to the three subscales of burnout

indicated that participating teachers had a high level of emotional burnout, but felt a high level of personal accomplishment in their work as teachers and little depersonalization toward their students. Tired, but efficacious teachers who value their students were in the majority in this study.

Like previous studies examining the relationship between teacher self-efficacy and burnout (Brown, 2012), this study found significant correlations between the three subscales of burnout (emotional exhaustion, depersonalization, personal accomplishment) and teacher self-efficacy (engagement, instruction, management). The smallest correlation was found between emotional exhaustion and management ($r = -.238, p = .014$), while the greatest correlation was found between personal accomplishment and management ($r = .534, p < .01$). These small to moderate correlations indicate that burnout does vary with teacher self-efficacy. While the interpretation of this effect does not indicate causation, it may be that as some teachers feel more accomplished in their ability to engage, instruct, and manage students within their classrooms, the frequency of their feelings of emotional exhaustion and depersonalization decrease, and the frequency of their feelings of personal accomplishment increase. Of course, the opposite may be true for some teachers based on the correlations found between burnout and teacher self-efficacy, with an increase in the frequency of burnout experienced as feelings of self-efficacy decrease

While this study found similar correlations to previous studies examining the relationships between burnout and teacher self-efficacy, it was the addition of teacher attitudes about the reform accountability measures that added a new dimension to the study of teacher burnout. Small but significant correlations were identified between the

MBI subscales and teachers' attitudes about school grades and performance pay, ranging from $r = -.203$ ($p = .037$) between the emotional exhaustion subscale and attitudes about performance pay and $r = -.264$ ($p < .01$) between depersonalization and attitudes about performance pay. These small correlations indicate that burnout subscale scores do vary with teachers' attitudes about school grades and performance pay. While the relationship does not indicate causation, it may be that as some teachers experience increased frequency in feelings of emotional exhaustion and depersonalization, and decreased feelings of personal accomplishment, they experience less agreement with the accountability measures that have been implemented by the state. As with any correlation, the opposite form of the relationship may exist, in which teachers' increased agreement with the accountability measures of school grades and performance grades are observed alongside decreased frequencies of emotional exhaustion and depersonalization, and increased feelings of personal accomplishment.

The analysis found no significant correlations between the MBI subscales and teachers attitudes about teacher effectiveness ratings. The lack of a correlation between the burnout subscales and the teacher effectiveness ratings may be attributed to the long-standing practice in this district of evaluating teachers to determine effectiveness. While the new evaluation system has the added dimensions of being conducted yearly, defining effectiveness with ratings from needs improvement to highly effective, and being based in part on students' test scores, 66% of this district's evaluation scoring system is based on classroom observations, which is similar to the practice that has been in place for decades.

The multiple regression models used to determine whether a predictive relationship exists between the predictor variables of teacher self-efficacy and teacher attitudes about reform accountability measures and the three outcome variables of burnout (emotional exhaustion, depersonalization, and personal accomplishment) yielded few results that indicate teachers attitudes about the reform accountability measures do, in fact, contribute to teachers' feelings of burnout. While 59% of the teachers reported high levels of emotional exhaustion in this study, the multiple regression model combining the dimensions of self-efficacy and teacher attitudes about effectiveness ratings, school grades, and performance pay predicted only 18.1% of the variance in emotional exhaustion, with no significant predictor variables from the teacher attitudes about reform accountability measures. The single significant predictor found within this model was teachers' sense of efficacy in instruction with an unstandardized beta weight of -3.131 ($p = .038$).

Similarly, 79% of the teachers in this study reported a high level of personal accomplishment, while the multiple regression model, which predicted 35.2% of the variance in the personal accomplishment scores, contained no significant predictors within the teacher attitude subscales. The single significant predictor found within this model was teachers' sense of efficacy in their management with an unstandardized beta weight of 1.767 ($p = .021$).

Within the depersonalization dimension of burnout, small, but significant findings linked teachers' attitudes about the reform accountability measures with burnout. While the majority of the teachers (74%) reported low levels of depersonalization, eighteen teachers from the study sample (17%) scored in the moderate range of depersonalization,

and 10 teachers (9%) scored in the high range of depersonalization. The regression model predicted 28.3% of the variance in depersonalization scores with small but significant, unstandardized coefficients of $B = .389$ ($p = .027$) for teachers' attitudes about the effectiveness ratings and $B = -.348$ ($p = .014$) for performance pay.

Overall, these findings suggest that despite the teacher rhetoric surrounding the recent changes related to accountability for schools and teachers, the attitudes about the reform accountability measures had little or no impact on the predictability of emotional exhaustion, depersonalization, or personal accomplishment. In addition, while this study found similar significant correlations between teacher self-efficacy and teacher burnout, as have been established by previous studies (Brown, 2012), only small, statistically significant correlations were identified between burnout and teachers' attitudes about school grades and performance pay. Despite the negative rhetoric surrounding reform accountability measures in urban settings, the participating elementary teachers' attitudes about the measures did not reflect a moderate or strong correlation to burnout.

Applying analyses of variance to each of the study's subscale scores based the exploratory demographic survey questions resulted in several significant mean differences that may be important to the discussion of burnout in this sample of teachers. Of particular interest is the significant difference in emotional exhaustion subscale scores between groups based on the number of years a teacher plans to remain in teaching. Past studies have focused on the attrition rates of new teachers and the reasons behind their higher levels of turnover (Boyd, Lankford, Loeb, & Wyckoff, 2005; Ingersoll, 2001), so it was surprising to find that the group of teachers estimating they will remain in teaching for twenty-one or more years ($n = 20$) had the lowest level of emotional exhaustion ($M =$

22.50, $SD = 11.67$), the lowest level of depersonalization ($M = 3.35$, $SD = 2.76$) and the second highest level of personal accomplishment ($M = 42$, $SD = 4.60$). In addition, this group of newer teachers had the highest mean instruction subscale score for teacher self-efficacy ($M = 31.55$, $SD = 3.09$). Overall, the group of teachers who reported that they would be teaching for twenty-one or more years, 75% of whom reported they were in their first 10 years of teaching, had the lowest levels of burnout and the highest level of instructional self-efficacy than any other group of teachers.

By contrast, the group of teachers reporting they plan to remain in teaching for eleven to fifteen more years ($n = 19$), had the highest mean score for emotional exhaustion ($M = 32.84$, $SD = 14.09$), the lowest mean personal accomplishment score ($M = 37$, $SD = 6.77$), and the lowest level of self-efficacy in the instruction subscale ($M = 28.47$, $SD = 3.79$). This finding is troubling for this sample of teachers, because each of these nineteen teachers will impact the educational outcomes of an estimated 200 to 300 students in the time they have remaining in teaching. If this group of teachers is feeling more burned out and less accomplished than other groups, how might this impact their students?

Another important consideration within this school district is the significant mean difference in the level of emotional exhaustion ($F(3,101) = 3.79$, $p = .013$) reported by teachers in “A” schools in comparison to all other schools. Teachers in “A” schools reported mean emotional scores of 20.74 ($SD = 10.87$) compared to “C” schools ($M = 31.21$, $SD = 9.41$), “D” schools ($M = 29.58$, $SD = 12.58$), and “F” schools ($M = 31.39$, $SD = 12.55$). Disaggregating the demographic data, to ascertain that school grades did not unduly influence the mean differences in subscale scores, showed that the number of

teachers in “A” schools planning to teach for 11 – 15 more years ($n = 4$, 21%) is very similar to those in “A” schools planning to teach for 21 or more years ($n = 5$, 25%). Therefore, for the purposes of this discussion, the school grade does not appear to have been a contributing factor in the differences between the group of teachers planning to remain in teaching for 11 – 15 more years and the group of teachers planning to teach for 21 or more years in this sample.

Past research has correlated burnout to reduced student academic achievement and increased disruptive student behaviors (Brunsting, Sreckovic, & Lane, 2014), as well as physical ailments (Armon, Melamed, Shirom, & Shapira, 2010), depression (Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013), and reduced commitment (Conley & You, 2014) in teachers. Teacher burnout also affects the organization of schools and districts through absenteeism and high rates of turnover (Ohmdahl & Fritz, 2006; Haberman, 2004), which includes both monetary and capacity-building costs as experienced teachers leave the profession and are replaced by novice teachers (Ingersoll, Merrill, & Stuckey, 2014). As Brunsting et al. summarize, “In short, the effect of teacher burnout is far-reaching, impacting more than solely the teacher experiencing its effects” (2014, p. 683). How school and district administrations address high rates of teacher burnout and the correlated effects it has on students and the school organization is worthy of further discussion. Conley and You (2009) note that teachers’ intention to leave does not manifest itself strictly through turnover rates, but also through teachers continuing in their classrooms with a loss of commitment to the goals and values of the school organization. According to Firestone (1996), this loss of commitment leaves teachers

feeling “trapped in their work” and “no longer committed to providing the skill and effort they did earlier” (p. 216).

Together, the findings outlined here demonstrate that teachers’ attitudes about school grades and performance pay have only a very small predictive relationship to the depersonalization subscale of burnout. Additionally, teachers’ attitudes about school grades and performance pay have only small correlations to the emotional exhaustion, depersonalization, and personal accomplishment subscales of burnout and no significant correlations to the teacher self-efficacy subscales of engagement, instruction, and management. This study’s findings did reflect the correlations found between the subscales of teacher burnout and teacher self-efficacy found in previous research. While teachers’ attitudes about the accountability measures had limited relationships to teacher burnout and teacher self-efficacy, as evidenced by this study’s sample, important consideration must be given to the high level of emotional exhaustion reported by these teachers in this urban setting. Similarly, the differences between groups of teachers based on their years remaining in teaching and the school’s current grade deserve further consideration and study in order to maximize these teachers’ impact on students. The problem facing this district may have less to do with concerns over teacher turnover rates, since only four of the sample teachers (3.7%) with 1 – 10 years of experience indicated they plan to leave in the next 1 – 5 years, but the challenge may be in supporting the teachers who have 11 – 15 years remaining in teaching and the teachers working in schools that are rated as C, D, or F.

Implications for Practice and Recommendations for Further Study

Teacher rhetoric around education reform policies has perpetuated the belief that teacher burnout may contribute to the high turnover rate of teachers and that burnout is associated with the “test-and-punish systems” (AFT, 2014, p. 2) of accountability arising out of federal and state education policies. This study, building upon past research into the relationship between teacher self-efficacy and burnout, added the dimension of teachers’ attitudes toward the accountability measures tied to high-stakes testing (teacher effectiveness ratings, school grades, and teacher performance pay) to examine the relationships between each of the subscale measures, as well as determine whether self-efficacy and teachers’ attitudes predicted burnout. This current study’s outcomes reflect the findings of previous studies’ correlation of the burnout subscales and teacher-self-efficacy subscales. It did not, however, find significant correlations between the subscale measures of teachers’ attitudes about the accountability measures and teacher self-efficacy and only small correlations between subscales of burnout and teacher attitudes. Similarly, the regression analysis demonstrated only small statistical significance in the predictability of depersonalization related to teachers’ attitudes about teacher effectiveness ratings and performance pay.

That said, what accounts for the high level of emotional exhaustion reported by 59% of the participating elementary teachers in this urban district? And what about the anecdotal statements of burnout and frustration that served as a springboard for this research? Doris Santoro in *Good Teaching in Difficult Times: Demoralization in the Pursuit of Good Work* (2011) suggests that the term *burnout* comes from perceived weaknesses in teachers or as a condition of working in high-poverty schools. She

suggests a better term would be *demoralization* to describe the impact of education reform policies on teachers. Santoro describes demoralization as the experience of teachers who no longer feel that they are doing the right thing for students, the profession, or themselves. She indicates that, while demoralization can come with some of the same emotions as burnout, it is better understood as a process of continual frustration in the pursuit of good teaching. This frustration may be evident in the burnout subscale statements to which the teachers responded with the most frequency, including 32% of teachers having feelings of working too hard on the job every day or 60% feeling used up or emotionally drained a few times per week or more.

These statements of emotional exhaustion may also represent the realities of increased demands from higher academic standards, high-stakes testing, and greater student challenges, or what Ballet and Kelchtermans (2009) refer to as the “experience of intensification” (p. 1156). Within this experience of intensification, each teacher interprets the changes being sought by outside forces based on their own professional self - the set ideas a teacher holds about his or her abilities. This professional self, as described by the authors, reflects the concept of teacher self-efficacy as it was measured through this study. According to the authors, “Because of their moral commitment to their pupils, the experience of intensification is emotionally charged and calls for change (can) become compelling” (p. 1156). Teachers must then balance their professionalism with their desire to provide the best possible learning experiences for their students when outside forces indicate a change must take place. In the recent education reforms, their beliefs about best practices for students are sometimes in direct opposition to the changes that are required of them as professionals. As one 3rd grade teacher, included in a study

by Berryhill, Linney, and Fromewick (2009) lamented, "...we're not grabbing those teachable moments anymore." She continued, speaking about a day it snowed, "... we could have had a really great lesson on snow, and what makes it snow, that wasn't in our standards, that isn't in our curriculum, we don't do that anymore" (p. 7). This concept of intensification may be at work in the current study to explain how the teachers in this study reported high levels of self-efficacy, yet also experienced frequent feelings of being worked too hard, used up, and emotionally drained.

Both demoralization and experiences of intensification share the element of constrained professionalism described by Wills and Haymore-Sandholtz (2009), in which "teachers retain autonomy on classroom practices, but their decisions are significantly circumscribed by contextual pressures and time demands that devalue their professional experience, judgment, and expertise" (p. 1066, as cited in Nichols & Parson, 2011). This constrained professionalism, which Nichols and Parson equate with the many forms of accountability that have been put into place as a result of federal and state education reform policies, may also be a significant factor affecting the teachers in this study's urban setting. While teachers in this study demonstrated high levels of self-efficacy within their classroom settings, this study did not provide the opportunity for teachers to reflect on the "contextual factors and time demands" that may also lead to increased feelings of burnout. Additional research into teachers' experiences with or interpretations of these contextual factors and time demands, which may result in their feelings of being devalued as professionals, could be informative for educational leaders and policy-makers.

In addition to constraining teacher professionalism, Nichols and Parson (2011) indicate that accountability measures have led to a public mistrust of teachers, as the policy-makers have been cast as the good guys whose interests are focused on increasing student outcomes, while the teachers need accountability to meet the policy-makers' expectations. Certainly, the education reform accountability measures enacted by the state of Indiana, which rely upon high-stakes testing to determine teacher effectiveness ratings, school grades, and performance pay, reflect the accountability measures as discussed by Nichols and Parson (2011) and have possibly led to the teachers' feelings of being used up and overworked. This may be especially true for those mid- to late- career teachers who entered the teaching profession prior to the passage of the 2011 accountability measures. Further study into teachers' impression of themselves as professionals upon entering the profession and at the current time may provide insights into the differences in groups of teachers noted in this study.

While this study gauged the teachers' attitudes about the accountability measures, based on the state-narrated purposes of the policies, and compared those attitudes to teachers' self-efficacy and burnout, it found little evidence that strongly links burnout with teachers' attitudes about accountability measures. Quite possibly, the teachers' attitudes about the reform measures do not accurately pinpoint the challenges that cause burnout and are associated with teachers' constrained professionalism. Future studies may seek to closely examine the link between teacher burnout and work intensification, or between burnout and demoralization to better understand the factors influencing burnout and the negative teacher rhetoric surrounding educational reforms.

Finally, as the self-determination theory posits, extrinsic motivators, such as the accountability measures described in this study, become most effective when they can be internalized and integrated into a person's values and interests. By integrating with a person's values and interests, an extrinsic motivator can be experienced as relatively autonomous, which is important in facilitating individual growth (Niemic & Ryan, 2009). As may be indicated by the differences in attitudes between teacher effectiveness ratings, school grades, and performance pay, the state-enacted accountability measures may be providing varying levels of support to teachers' autonomy, an important consideration for policy-makers and educational leaders. Additional research into teachers' perceptions of autonomy relative to these and other education reform policies may lead to greater understanding of the impact of such policies. Understanding the importance of teachers' autonomy, competence and relatedness within a school community holds the promise of supporting the development of educator-developed and state-supported systems that share the same goal - to improve the educational outcomes of all students.

Considering the evidence presented in this study related to high levels of emotional exhaustion, and the potential that constrained professionalism and negative teacher images are contributing to high rates of teacher turnover and the current lack of graduates from teacher education programs, educational leaders must act to bolster teacher professionalism in light of the challenges presented by policy reforms. Focus on both individual and collective teachers' knowledge and skills, which are central to student success in classrooms, must be highlighted and celebrated publicly.

In addition, educational leaders must clearly understand the factors contributing to teacher burnout at both the school and district levels in order to provide support for the teachers and school communities. Clearly, the challenges in low-performing schools require close examination in light of this study's findings of the differences between A-rated schools and lower performing schools. In addition, the study's findings illustrate the importance of understanding burnout in experienced teachers who plan to continue teaching for a number of years. Understanding their feelings of burnout is crucial to providing support for the teachers, which can positively impact their students and classrooms.

School and district leaders must also interpret each reform measure in terms of best practices within their schools and districts. Leaders must be able to clearly identify how a reform measure fits with the organizational vision in the school or district and the process by which teacher leaders will collaborate in the reform changes. Leaders must be proactive in identifying specific measures to integrate the policy reforms into practice, provide professional development support for teachers, and identify other initiatives or practices that may be set aside to allow for a focus on the new policy. Too often, policy reforms have led to a teachers feeling overwhelmed with new initiatives and frustrated from a lack of professional support or time to integrate changes within their classrooms. In addition, educational leaders must avoid frequent, hasty changes to focus on instructional practices that leave teachers feeling as if they are experiencing the "flavor of the month." By rooting changes in the educational vision of the district and best practices, teachers will be more willing to invest in the changes as part of their professional identity.

On the policy front, educational leaders must continue to build coalitions of practitioners and researchers who can accurately represent the outcomes of educational policy reforms to stakeholders and the broader public. The outcomes of the failed policies since the passage of *No Child Left Behind*, are ripe for exposure to parents and communities who may have tired of the over-zealous testing of their children, the loss of funding for schools, and the restrictive focus on language arts and math brought about by high-stakes testing.

In *Transformative Leadership in Education: Equitable Change in an Uncertain and Complex World* (2013) author Carolyn Shields calls for strategic leadership that responds to the volatility, uncertainty, complexity, and ambiguity currently found in education. She states,

We do not need more new programs, more accurate diagnostic tools and more powerful prescriptions, more rigorous teacher testing, educational incentives, or more uniform standards. Instead, I argue here that what is needed is a new and more comprehensive approach to educational leadership, one that requires leaders to take a stand, embrace the chaos and ambiguity, focus on information sharing and relationships, and develop a stronger sense of the core organizational vision. It requires that we identify our “non-negotiables” – those aspects of education that will not be sacrificed to the current pressures of accountability, or standards, or testing (p. 11).

If educational leaders hope to stem the flow of professionals from the teaching ranks and promote the development of the next generation of teachers they must act strategically to rebuild teacher professionalism within their schools, districts, and communities.

Limitations and Threats to Validity

This study has provided data to support the previously studied relationships between burnout and self-efficacy and to clarify the relationship of teachers' attitudes about Indiana's reform accountability measures to burnout and teacher self-efficacy. This researcher recognizes a number of limitations, which may impact the interpretation of the study results. First, the teacher attitude scale was a new measure that did not have the benefit of a large-scale study. While the 106 participating teachers were adequate to conduct the statistical analyses of this study, the sample represented only 33% of one urban district's elementary teachers. Expanding the study to include teachers in more urban districts may have provided the opportunity to generalize this study across the state, since administrative policies and practices in individual districts may impact levels of burnout and self-efficacy, as well as teachers' attitudes about reform accountability measures.

Secondly, the conditions under which the teachers participated in the study may have led to results that would have differed under alternate circumstances. The survey consisted of 50 items, with varying Likert-scale responses, which may have taken longer than participating teachers anticipated and resulted in skewed results for the last portion of the survey in which teachers identified their attitudes about the reform accountability measures. In addition, the teachers completed the survey in April, during the final quarter of the school year, when it is possible that burnout levels were most high.

Finally, as a quantitative study, the teachers' explanations about their scoring of burnout, self-efficacy, and attitudes toward accountability measures were absent. While a mixed methods approach to this study would have provided more details for

consideration of the findings, the time commitment needed to include the teachers' voices was not feasible for this study. Overall, this researcher is confident that the findings presented here represent a functional record of data from this sample of teachers at the point in time in which the data was collected. As such, the findings are worth consideration by policy makers and educational leaders, including the administration of the district in which this study took place.

Conclusion

The recent federal and state school reform policies have been put into place with the expressed purpose of improving educational outcomes for all students. At the same time, teacher turnover rates and a decrease in the number of new teachers joining the profession have signaled the possibility that reform accountability measures may be increasing teacher burnout and devaluing the teaching profession. Examined under the theoretical framework of self-determination, the extrinsic motivation found in Indiana's accountability measures may not align with teachers' values or interests, and therefore would not support teacher autonomy, which is needed to promote teacher growth in the ever-changing landscape of education.

This study has provided a cautionary glimpse at a group of mid-career teachers who may be experiencing the realities of constrained professionalism, through higher levels of emotional exhaustion and lower levels of personal accomplishment and instructional efficacy. These teachers may feel trapped in their work and lack the commitment they once had to the goals and values of the school organization. As a

result, these teachers may exhibit reduced skill and effort, which may lower student outcomes for years to come (Conley & You, 2009; Firestone, 1996).

Based on the findings and implications of this study, policy-makers, researchers, and educational leaders would be wise to consider the impact of constrained professionalism on the students they strive to educate. They should also re-examine the messages inherent in the current accountability measures and clearly identify ways in which teachers' self-determination is supported in the future. Autonomy, competence, and relatedness must replace demoralization in the teaching ranks if we are to reach our shared goal of improving educational outcomes for all students.

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APPENDICES

Appendix A A-F School Grade Calculation

New Elementary & Middle School (E/MS) PL 221 "A-F" Model

Calculating English/Language Arts and Math Grades

- E/MS Performance and Improvement:
 - Schools receive *preliminary* English/Language Arts (ELA) and Math scores based on the percentage of their students that passed ISTEP+, IMAST and ISTAR.

- E/MS Growth:
 - A school's score may be raised or lowered based on student academic growth:
 - 1) The *preliminary* score may be raised if a significant percentage of their lowest performing students on ISTEP+ (**the bottom 25%**) show **high growth**.
 ELA = 42.5% Math = 44.9%
 - 2) The *preliminary* score may be raised if a significant percentage of their remaining students on ISTEP+ (**the top 75%**) show **high growth**.
 ELA = 36.2% Math = 39.2%
 - 3) The *preliminary* score may be lowered if a significant percentage of all students on ISTEP+ (**100%**) show **low growth**.
 ELA = 39.8% Math = 42.4%

- E/MS Participation:
 - A school's score shall be lowered if less than **95%** of their lowest performing students on ISTEP+ (**the bottom 25%**) participate in the required assessments.
 - A school's score shall be lowered if less than **95%** of their remaining students on ISTEP+ (**the top 75%**) **PLUS** students taking ISTAR and IMAST participate on the required assessments.

Determining a Final Grade for an Elementary/Middle School

- Add the ELA grade to the Math grade and divide by two for a FINAL Grade.

Appendix B Teacher Attitude Survey

5-point Likert scale, from 1= Strongly disagree to 5= Strongly agree

Teacher effectiveness rating

1. The teacher effectiveness rating has led me to improve my teaching skills.
2. I strive to be a better teacher now that I must be rated as effective or highly effective to get a pay raise
3. The teacher effectiveness observation rubric helps me know the areas in which I need professional development.
4. It is important to include student performance results as a part of teacher evaluation.

A – F school grades

1. The A – F school grade accurately reflects the work of teachers in this school.
2. School grades are important because they encourage teachers to work collaboratively to improve student learning.
3. All schools could receive an “A” grade if they had more teachers rated as highly effective.
4. The school grade motivates me to improve my teaching.

Performance award pay

1. The performance award motivates me to improve my teaching.
2. The chance to earn a performance award is important to me.
3. A performance award is a good way to recognize teachers.
4. The performance award encourages teachers at this school to improve student achievement.

Appendix C Teacher Sense of Efficacy Scale (TSES)

Teachers' Sense of Efficacy Scale¹ (short form)

Teacher Beliefs	How much can you do?									
Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.	Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal					
1. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
2. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
3. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
4. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
5. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
6. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
7. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
8. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
9. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
10. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
11. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
12. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	

Appendix D Teacher Sense of Efficacy Scale Scoring Guide

Directions for Scoring the Teachers' Sense of Efficacy Scale¹

Developers: Megan Tschannen-Moran, College of William and Mary
Anita Woolfolk Hoy, the Ohio State University.

Construct Validity

For information the construct validity of the Teachers' Sense of Teacher efficacy Scale, see:

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education*, 17, 783-805.

Factor Analysis

It is important to conduct a factor analysis to determine how your participants respond to the questions. We have consistently found three moderately correlated factors: *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, and *Efficacy in Classroom Management*, but at times the make up of the scales varies slightly. With preservice teachers we recommend that the full 24-item scale (or 12-item short form) be used, because the factor structure often is less distinct for these respondents.

Subscale Scores

To determine the *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, and *Efficacy in Classroom Management* subscale scores, we compute unweighted means of the items that load on each factor. Generally these groupings are:

Long Form

Efficacy in Student Engagement: Items 1, 2, 4, 6, 9, 12, 14, 22

Efficacy in Instructional Strategies: Items 7, 10, 11, 17, 18, 20, 23, 24

Efficacy in Classroom Management: Items 3, 5, 8, 13, 15, 16, 19, 21

Short Form

Efficacy in Student Engagement: Items 2, 3, 4, 11

Efficacy in Instructional Strategies: Items 5, 9, 10, 12

Efficacy in Classroom Management: Items 1, 6, 7, 8

Reliabilities

In Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education*, 17, 783-805, the following were found:

	Long Form			Short Form		
	Mean	SD	alpha	Mean	SD	alpha
OSTES	7.1	.94	.94	7.1	.98	.90
Engagement	7.3	1.1	.87	7.2	1.2	.81
Instruction	7.3	1.1	.91	7.3	1.2	.86
Management	6.7	1.1	.90	6.7	1.2	.86

¹ Because this instrument was developed at the Ohio State University, it is sometimes referred to as the *Ohio State Teacher Efficacy Scale*. We prefer the name, *Teachers' Sense of Efficacy Scale*.

Appendix E Permission to Use MBI

For use by Wendy Folk only. Received from Mind Garden, Inc. on April 14, 2015



www.mindgarden.com

To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material for his/her thesis or dissertation research:

Instrument: **Maslach Burnout Inventory, Forms: General Survey, Human Services Survey & Educators Survey**

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Robert Most
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Appendix F Pre-notice Email

Dear Teacher:

My name is Wendy Folk, and I have been an educator in the South Bend Community School Corporation for the past 21 years. I am also a doctoral student in Educational Leadership at Purdue University. I am currently conducting a study (under the supervision of my advisor, Dr. Marilyn Hirth) to better understand whether teachers' sense of efficacy and their opinions about recent accountability measures may predict some job-related attitudes about teaching.

If you are a general education classroom teacher or a special education resource teacher you qualify for participation in this study as I work to build a better understanding about the impact of school reform accountability measures on urban elementary teachers. The survey consists of four demographic questions and three measures totaling 46 questions. It will take an estimated 15 minutes to complete the study. The survey is anonymous, with no identifying information collected by the Qualtrics survey system.

Your participation is completely voluntary and you may withdraw from the study at any time.

The link to the survey will arrive within the next few days and will close on May 1st. Your participation will be very much appreciated.

Wendy Folk
Principal, Swanson Primary Center
wfolk@sbcsc.k12.in.us

Marilyn Hirth,
Associate Professor, Purdue University
mahirth@purdue.edu

Appendix G Invitational Email

Dear Teacher:

I previously sent you notice about my study examining the relationship between teacher self-efficacy, teacher opinions about the recent accountability measures, and some job-related attitudes about teaching. The study is intended to build a better understanding about the impact of school reform accountability measures on urban elementary teachers.

This study is being conducted as part of my doctoral dissertation under the supervision of my advisor, Dr. Marilyn Hirth at Purdue University.

The survey consists of four demographic questions and three measures totaling 46 questions. It will take an estimated 15 minutes to complete the study. The survey is anonymous, with no identifying information collected by the Qualtrics survey system.

Your participation is completely voluntary and you may withdraw from the study at any time.

Please complete the online survey by following the web link below.

Thank you for participating in this study.

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Education

Doctor of Philosophy, Purdue University – West Lafayette, Indiana, Major: Educational Leadership, Dissertation: *Teacher Self-Efficacy, Teacher Attitudes about School Reform Accountability Measures, and Teacher Burnout*, December 2015.

Master of Science in Education, Indiana University – South Bend, Indiana, Major: Elementary Education, Master's Thesis: *Inquiring Minds Want to Know: Increasing Student Literacy through Science Inquiry*, December 1999.

Bachelor of Science, Indiana University – South Bend, Indiana, Major: Elementary Education, May 1993.

Teaching and Leadership

Principal, Swanson Primary Center, South Bend Community School Corporation, August 2009 to present.

Principal, Coquillard Primary Center, South Bend Community School Corporation,
August 2005 to June 2009.

Assistant Principal, Clay Intermediate Center, South Bend Community School
Corporation, August 2004 to June 2005.

Title I Program Coordinator, South Bend Community School Corporation, August 2001
to August 2004.

Elementary Science Facilitator, South Bend Community School Corporation, August
1999 to August 2001.

Elementary Teacher, South Bend Community School Corporation, August 1993 to June
1999.