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Transcending Compromise: Principal Practices Predicting Teacher Effectiveness and Teacher Morale

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This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of David G. Grant as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in Education.

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ABSTRACT

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Two leadership styles have dominated the literature- instructional leadership and transformational leadership. No study could be found quantitatively integrating principal practices from these styles in ways that simultaneously predicted teacher effectiveness and teacher morale. Therefore, this study sought to better understand the complex relationships between principal practices, teacher effectiveness and teacher morale.

First, this study synthesized meta analyses of principal effects for studies produced between 1978-2008 and presented a unique empirically grounded integration framework summarizing principal effects for student achievement and teacher morale.

Second, the study used this framework to explore four research questions. An online survey was utilized to collect data from a snowball sample of middle school teachers. The study compared teacher perspectives on principal practices, teacher effectiveness and teacher morale in low and high poverty middle schools in California. Second, this study analyzed the relationships between twelve leadership dimensions and five teacher outcomes. Next the study tested the predictive effects of school level variables and twelve leadership dimensions. Finally, this study explored if and how diverse leadership practices could be integrated to predict *burned out*, *ineffective*, *overextended*, or *engaged* teachers.

Results of this study demonstrated no significant difference between the perspectives of teachers in low or high poverty middle schools. Correlations were stronger between dimensions of instructional leadership and dimensions of teacher effectiveness. Laissez-faire leadership correlated with increased emotional exhaustion and depersonalization experienced by teachers. Regression analyses found that each dimension of leadership predicted one or more dimensions of teacher effectiveness and teacher morale, confirming the effort to integrate leadership practices.

Finally, discriminant function analysis substantially improved prediction of teacher effectiveness and teacher morale. Practices from transformational, transactional, instructional, and even passive-avoidant leadership loaded on one or both functions. Each integrated function identified a specific set of principal practices. The optimal frequency of these practices for function one (improvement-responsivity) was “sometimes” whereas the optimal frequency for function two (community learning) was “frequently.” The two functions can be interpreted as a theory of action principals can enact inter-dependently with teachers.

DEDICATION

To Lakeside Middle School-
our journey together and the challenges we engaged
were the inspiration to conceive and the sustaining purpose to birth this project.

ACKNOWLEDGEMENTS

I make mistakes. The first mistake I made at Claremont was assuming a sociologist specializing in STEM research in higher education would not be relevant to my work- wow was that a terrible error! When Dr. David Drew shared his experience in my first class, Proseminar, and some of the qualitative projects he had worked on, I already sensed the error of my thinking. However, when I first reached out to him regarding quantitative methods/statistics, he was open, straightforward, and instrumental in what would change the trajectory of my doctoral experience. I cannot exaggerate the influence of Dr. Drew. His belief in my ability to transition from a practitioner principal to a scholar and researcher opened my mind, supercharged my study, and shaped my direction. Thank you, Dr. Drew, for seeing and helping me to see, for walking with me through this process, and for agreeing to chair my dissertation.

As with any new contribution, a truly great team is essential. My team included two committee members I was fortunate to know. I still remember my first encounter with Dr. Poplin's class on effective schools. Indeed, her scholarship, passion, and that evening cemented my decision to apply to Claremont and I subsequently took every class I could with her. Moreover, she was instrumental in helping me rekindle my passion. I had dropped my research question along the way as seeming too big, too impractical, even too painful. The alternatives I offered she simply did not accept. I doubt she could read my mind (but who knows?), yet without her stubborn refusal to accept what I thought were "good ideas" I never would have returned to the question that brought me to Claremont. When I finally embraced this question and spoke of it in her qualitative course, confirmation from my peers and from her brought home to me the importance of the question- I needed to pursue this question to be true to myself. Finally, the third essential member of my committee was Dr. Santibanez. She guided my entry

into the program, challenged me to produce the best work possible in my qualifying exam, and her coursework and scholarship provided models of excellence that inspired and supported me. Thank you all for your dedication and support to bring this dissertation to completion.

I met many amazing people in my time at Claremont. However, three people walked with me through a period during which I was tempted to simply quit. We were using Zoom weekly long before Covid-19 made it the new normal. Thank you to Christine Snyder, Keisha Goosby and Kasey Matthews. Your encouragement, texts, and willingness to try out early versions of my survey were essential.

My wife Karla has been my encourager. She can light up a room unlike anyone I know and there were many days when her energy was a sustaining influence. Thank you for your undying support. My adult children Stephanie (Life Pacific 2019) and Anthony (Life Pacific 2020) were pursuing their own education as I pursued my own. Thank you for your support- we are truly in this together.

I also thank my friends who have encouraged me and who read an early (and lengthy) draft of my literature review- receiving feedback from experts with diverse backgrounds helped me to gain insights not otherwise possible. I wish to thank Dr. Vance Nichols, EdD (head of school at Alta Loma Christian School) who was a great sounding board as we discussed leadership. David Howell, Ph.D. gave me a tour of his aluminum manufacturing plant- a respite from endless study. He personified true learning by taking on “never been done” projects that larger companies avoided. His example in his field as well as his critical comments on my manuscript were inspiring. Third, I thank Ken Schemmer, MD, my father-in-law, friend, expert surgeon, and author. His comments highlighted the humanity essential to leadership.

Finally, to the one who created all that is, whose spirit lives within me now, and whose son Jesus will return one day, You know better than every other person the unique challenges this project brought into my life. I commit the work to You and will accept whatever assignment You bring- there is no greater joy than to co-labor with You. May Your will advance love and joy in this world and Your glory be known and enjoyed for eternity.

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CHAPTER I: INTRODUCTION

Statement of the Problem

Achievement gaps have been a source of inequity for decades. For more than fifty years, the role of poverty in determining a child's future has been studied and debated, with many attempts to increase hope for vulnerable populations. The Coleman report (1966) ignited discussion of socioeconomic status (SES) when the landmark report found that poverty level predicted student outcomes; moreover, the report asserted that school level factors (e.g. teachers and principals) could not overcome these effects. In sharp contrast, Ronald Edmonds (1979) found evidence that urban schools in poverty could enact principal and teacher practices that resulted in gap-closing impact on student achievement. The effective schools' movement spawned in this era led to broad adoption of instructional leadership (IL). A measure of IL was developed and tested for reliability and validity (Hallinger & Murphy, 1985) and has been refined and utilized in over 500 studies (Hallinger & Wang, 2015). However, in the 1990s, Leithwood (1994) published a four-year study of transformational leadership (TL) suggesting it offered a more effective means to lead school restructuring. The model dominated the 1990's until, as the millennium ushered in, national efforts to enact policy-driven accountability stimulated a resurgence of instructional leadership. Ronald Heck's (2000) study demonstrated again the effectiveness of IL to predict performance for students. Beginning in 2003 efforts at integrating the models (Phillip Hallinger, 2003; Marks & Printy, 2003) and the first meta-analysis of leadership effects (Witziers et al., 2003) stimulated ongoing efforts to resolve differences and find a coherent theory of action for principals seeking to lead with improved outcomes for teacher effectiveness *and* teacher morale.

Substantial evidence demonstrates that principal practices can improve student achievement. Principal impact is widely accepted to be indirect (Hallinger & Heck, 1996, 1998), mediated by direct influence on school conditions, organizational processes, and teachers. However, the sanctions-oriented accountability under the No Child Left Behind (NCLB) act highlighted the unintended consequences that accountability policies can have on teacher morale. The Every Student Succeeds Act (ESSA) replaced the controversial NCLB act in December 2015. Although it attempted to address concerns over NCLB, it also directed states to identify and improve low performing schools. Indeed, evidence-based approaches for principals leading schools improvement has been and will continue to be needed.

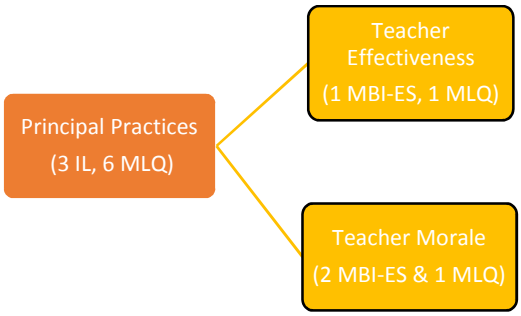
However, conflicts in leading this improvement process are illustrated by three bodies of literature (i.e. principal effects, teacher effectiveness, teacher morale) which are (1) largely independent of each other and (2) provide conflicting recommendations for principal practice. Very little research has examined the direct relationship between teacher perception of leadership practices with teacher effectiveness *and* teacher morale as equally important teacher outcomes. No study could be found that systematically explored how integrating leadership practices from contrasting leadership styles could improve principal impact on *both* teacher outcomes simultaneously. Therefore, this study sought to better understand the complex relationships between principal practices, teacher effectiveness and teacher morale.

Theoretical Background

After Witziers and colleagues' (2003) meta-analysis of leadership effects, four more meta-analyses were published synthesizing findings from a vast range of published and unpublished studies (Chin, 2007; K. Leithwood & Sun, 2012 ; Marzano et al., 2005; Robinson et al., 2008). I conducted a descriptive synthesis of these meta-analyses reporting principal effects

from a thirty-year period (1978-2008). Results are presented in an adapted framework. Important and significant effect sizes for performance and teacher morale are summarized by factor in Table 3 ("Principal Leadership Factors," appendix B). The Principal Leadership Factors (PLFs) predicted student achievement and teacher internal states (a proxy for morale). Consistent with Hallinger and Heck (1996, 1998), this study recognized leader impact on student achievement is mediated by principal influence on teachers. Therefore, the specific focus of this study explored principal practices and dimensions of leadership with a direct relationship to teacher perceived effectiveness and teacher perceived morale (see Figure 1). This design was consistent with recommendations from the literature (Hallinger & Wang, 2015).

Figure 1 Conceptual Model for Principal Leadership Effects[1]



Purpose of the Study

The purpose of this study was to better understand the complex relationships between principal practices, teacher effectiveness and teacher morale. The study compared teacher perspectives on frequency of leadership practices, teacher effectiveness and teacher morale in low and high poverty middle schools in California. Second, this study analyzed the relationships between twelve leadership dimensions and five teacher outcomes. Next the study tested a two-level predictive model to separate predictive effects of school level variables from the predictive

[1] Principals also directly impact school conditions and organizational processes which mediate indirect principal effects on teacher effectiveness and teacher morale. However, this study focused on the principal-teacher direct influence.

effects of twelve leadership dimensions. Finally, this study explored if and how diverse leadership practices could be integrated to predict *engaged* teachers who simultaneously experience feelings of morale *and* effectiveness. The model employed is theoretically grounded in prior research of principal practices, teacher effectiveness, and teacher morale.

Significance of the Study

There are four reasons why this study is significant. Theoretically, this study built on comparison and debate regarding the effects of instructional leadership and transformational leadership (Phillip Hallinger, 2003; Marks & Printy, 2003; Robinson et al., 2008) seeking an evidence-based and nuanced integration from the perspectives of teachers in low and high socioeconomically disadvantaged (SED) schools. Second, this study advanced teacher effectiveness (Cantrell & Kane, 2013; Goldhaber, 2002; Poplin et al., 2011) and teacher morale (K. Leithwood & Beatty, 2008) literatures by linking principal practices with perceived impact on teacher effectiveness and teacher morale. Findings from this study offer practical value by addressing a timely reform challenge for CA schools where student performance gaps persist. For example, knowledge produced from this study may provide specific guidance to principals in leading improvement efforts in low performing schools. Finally, results from this study may generate empirically grounded direction for policy makers and superintendents seeking to influence and support principals leading school improvement.

Research Questions

What California middle school principal practices relate to and predict teacher effectiveness *and* teacher morale?

1. What significant differences in perception do California middle school teachers in low and high poverty middle schools have of principal practices, teacher effectiveness, and teacher morale?

2. What are the significant relationships between dimensions of principal practice and dimensions of teacher effectiveness and morale?

3. Which teacher-reported principal leadership dimensions predicted high effectiveness or high morale outcomes for teachers, controlling for factors of school context?

4. Is there a unique integration of leadership practices that substantially improves prediction of group membership for teachers (i.e. engaged, ineffective, overextended, or burned out)?

Definitions

Poverty level. A school context factor defined by parental income and educational level. For this study, the socioeconomically disadvantaged (SED) percent was defined using the proportion of "students who were eligible for free or reduced priced meals; or had parents/guardians who did not receive a high school diploma" (https://www.caschooldashboard.org/reports/ca/2019).

Practice. Specific principal words or actions that are observable by others. For this study, practices were rated by teachers in terms of frequency; the items and frequency scale were sufficiently specific to inform principal practice in the field.

Dimension. A unique aspect of a leadership style composed of a set of specific practices. For example, inspirational motivation is a dimension of transformational leadership and the measure includes four specific practices that enact this dimension.

Instructional Leadership. Leadership focused on teacher effectiveness instructionally and student learning as the critical outcome of schools. Three dimensions include defining mission, managing the instructional program, and creating a positive school learning climate (Hallinger & Murphy, 1985; Hallinger & Wang, 2015).

Transformational Leadership. Leadership focused on teacher internal states (Leithwood & Sun, 2012). The approach relies on inspiration and mutual purpose as the key drivers of individual and organizational improvement and outputs. Transformational leadership theory was articulated in 1978 (Burns, 2010), and subsequently operationalized by Bass & Avolio (2004; 1999; 1993) with five dimensions. Individualized influence was originally conceived as one dimension but further divided between (1) attributes and (2) behavior of the leader that influence followers by providing a strong role model for followers; i.e. a charismatic leader. The third dimension was inspirational motivation, the ability to motivate followers by setting high expectations and inspiring commitment to shared vision. Fourth, intellectual stimulation was conceived as leader ability to ignite new ways of thinking and enact new approaches to address organizational issues. Finally, individualized consideration was a leader dimension focused on care of followers. Leaders enacting this dimension willingly delegate, provide support, listen carefully, and act as coaches or advisors to teachers.

Transactional Leadership. Leadership focused on achieving organizational output through transactions with followers; e.g. offering reward or sanctions for services rendered or not

rendered. The two dimensions are contingent reward and management-by-exception-active (Bass & Avolio, 2004).

Passive-avoidant Leadership. Leadership characterized by avoidance and reactivity; e.g. a leader may be absent or inactive while present. Leader motives may vary including belief that followers want more autonomy, leader resistance to dealing with difficult issues, or loss of motivation to lead. Two dimensions are Laissez-faire leadership and management-by-exception-passive. This style has also been classified as a "no leadership" style (Bass & Avolio, 2004).

Teacher Effectiveness. Teacher effectiveness was conceived as the ability to enact practices to improve student learning. Two dimensions of effectiveness were measured in this study- personal accomplishment and extra effort. Maslach et al. (2018) described personal accomplishment as a feeling of competence and successfully impacting students. In addition, Bass & Avolio (2004) measured extra effort, which was related to improving ability and contributing to organizational outcomes.

Teacher Morale. Teacher morale is the internal state that sustains teacher energy to be effective- i.e. to improve student learning. Three dimensions were important to teacher morale including high satisfaction, low emotional exhaustion, and low depersonalization. Satisfaction with teaching is a positive emotional state resulting from the feeling one gets from one's job. The opposite of morale is burnout, evident by two other dimensions defined and studied by Maslach et al. (2004). Emotional exhaustion refers to feeling overextended and exhausted by one's experience teaching; when feelings of fatigue grow and energy is drained, the experience often indicates that morale is deteriorating and educator burnout increasing. A second dimension is depersonalization (Maslach et al. 2004). Depersonalization is an unfeeling and impersonal response to students; the loss or absence of positive feelings about students. It may be displayed

by derogatory labels, cold or distant attitude, and physical distancing from students. Thus, teachers with low levels of exhaustion and depersonalization as well as high satisfaction are conceived as experiencing high morale.

Organization of the Study

Chapter 1 introduced the problem and provided an overview of purpose, significance, research questions, and definitions of terms. Chapter two critically synthesizes the literature on principal practices, teacher effectiveness, and teacher morale upon which this study builds. Next, the methods and research design are described in chapter 3. Chapter 4 presents results with analyses of findings. Finally, chapter 5 discusses key findings in light of the literature, identifies limitations of this study, and offers recommendations for research, policy, and practice.

CHAPTER II: LITERATURE REVIEW

The literature review is organized into four sections. Section one synthesizes the empirical evidence for principal effects on student performance and presents an integrated leadership model that informs this study. Section two reviews research on principal practices to improve teacher effectiveness and identifies conflicts. Section three examines principal practices in relation to teacher morale and illuminates' conflicts. While no study addressed all factors in my research purpose, section four analyzes limited studies of the impact of principal practices on teacher effectiveness and teacher morale.

Principal Effects

The question of principal impact on student achievement has a long history; some debates endure despite substantive evidence answering the question. A careful examination of the evidence demonstrates principals can lead in ways that improve student achievement. Such a claim has been disputed for over fifty years and is worthy of careful analysis. This section begins by tracing the history and trends of the principal effects' literature. Sections include a summary of leader effects from 1978-2008, efforts to integrate models from 2003-2016, and an integrated model is presented in Table 2. Practices influencing both performance and morale, performance only, and morale only are presented. In addition, qualitative evidence is described which confirms and illustrates these practices. The section concludes with a summary.

A seminal groundbreaking study published during the civil rights era concluded that poverty level, not teachers and principals, was the dominant predictor of student achievement. Principals were asserted to have little effect on student achievement (Coleman et al., 1966). Responding to Coleman's claims, several researchers in the 1970's identified high poverty urban schools with strong performance and studied them to understand how they were doing what

others said was not possible. One of the key factors in these schools was a strong principal, defined as a leader involved in the instructional core of the school, who maintained a safe school, and regularly monitored student learning through classroom visitation and student achievement data (Brookover et al., 1978; Brookover & Lezotte, 1979). The effective schools' movement emerged forming the basis for instructional leadership and its positive impact on student achievement, a line of research that dominated the 1980's (Andrews & Soder, 1987; Blank, 1987; Eberts & Stone, 1988; Hallinger & Murphy, 1986; Rowan & Denk, 1984).

Beginning in 1990, a shift toward restructuring of schools influenced the importance of a competing theory. A seminal book by political historian James MacGregor Burns articulated a theory of transformational leadership (Burns, 2010). Burns' theory was later applied to business settings (Bass & Avolio, 1993) and adapted to educational settings (Leithwood, 1994). Following Leithwood's 1994 report of four years of research, this leadership theory took hold and dominated during the 1990's (Avolio et al., 1991; Leithwood et al., 1996; Silins, 1994).

A systematic review of the literature by Hallinger and Heck (1996, 1998) provided a basis for evaluating the principal effects literature from the perspective of teacher effectiveness and morale- outcomes important to this study. Leader effects on student achievement are mediated by their direct impact on teachers and school conditions. Their review confirmed that principals do impact student achievement; moreover, it shifted the paradigm of the principal as a direct influencer of student achievement by demonstrating, empirically and conceptually, that principal effects on student achievement are indirect. However, competing leadership paradigms were found to have different strengths. Instructional leadership appeared stronger at improving performance (Robinson et al., 2008) while transformational leadership appeared stronger at improving school conditions and teacher morale (Leithwood & Sun, 2012). For example,

effective school principals more frequently practiced direct observation and support of teachers, collaborating to solve instructional problems, and providing professional learning opportunities for teachers (Heck et al., 1990). On the other hand, the transformational leadership style predicted stronger teacher commitment (Hoy et al., 1990).

At the millennium, a shift back to instructional leadership occurred (Heck, 2000). Efforts to understand leadership effects led to statistical syntheses of the evidence. This study determined to synthesize the findings of these meta analytic studies.

Summary of Leadership Effects on Student Achievement 1978-2008

Five meta-analyses of leadership effects were published between 2003 and 2012. Collective evidence from these studies span 50 years (1978-2008) and quantitatively summarized the effects of leadership on student achievement. A collective sample of 241 studies included 31 peer-reviewed studies published in academic peer-reviewed journals[2]. Two selection criteria were common to all five. First, all studies focused on the effects of educational leadership (EL). Second, all reviewers included studies measuring student achievement (K-12), generally with standardized testing. All five studies employed meta analytic method to quantitively synthesize findings and four of the five used Fisher's Z_r transformation of correlation statistics (e.g. Pearson's r, t-test, path coefficient). Finally, although limited studies employing indirect effects design were included, effect size calculations were analyzed using direct effects.

Initially, the focus was leader effects on student achievement. First, I extracted effect size finding(s) for overall, instructional, and transformational leadership and created a table to present these findings. Table 1 presents year published, range of studies by year, sample size, and number of peer-reviewed academic journal studies included. The quality and impact are

[2] Three studies were reexamined in three reviews; twelve studies were reexamined in two reviews.

compared using Hallinger's (2014) rubric rating for educational literature reviews, total citations, and average annual citation count. Finally, effect size findings and range of effects are reported.

The high impact of these studies in the research community is evidenced by over 700 citations per year for these reviews. As well, three of the five were evaluated as *exemplary* literature reviews by Hallinger (2014) indicating strong quality overall. Indeed, had Marzano's et. al. (2005) book been published in one of the journals required for inclusion, it appears it would meet the criteria for a strong review based on Hallinger's rubric (2014).

Two models have dominated the literature, instructional and transformational leadership. Robinson et al. (2008) reported a rule of thumb for interpreting effects sizes as follows: 0-.20 no effect to weak; .21-.40 small; .41-.6 moderate;.>.60 large. The instructional leadership model predicted effects of .04-.42 and transformational leadership .09-.487. As well, the total range of effect sizes without regard to leadership type was -.22 to 1.10. The collective findings are robust. First, the consensus view that principals can make a positive impact on student achievement is *overwhelmingly supported by the empirical evidence*. Second, the variation in leader effect is vast indicating a need to explore which specific leader practices explain the variation in impact.

Table 1 Leadership Effects on Student Achievement 1978-2008

Authors	Witziers, Bosker, and Kruger	Marzano, Waters, and McNulty	Chin	Robinson, V. M., Lloyd, C. A., and Rowe, K. J.	Leithwood & Sun	Summary
Year Published	2003	2005	2007	2008	2012	2003-2012
Range of Studies	1986-1996	1978-2001	1993-2003	1978-2006	1996-2008	1978-2008
Sample Size	37	70[3]	28	27 (18 U.S.)	79	241
Peer-reviewed?	15[4]	10	0[5]	27: 12 (IL) 5 (TL)	1[6]	53
Impact[7]	1074 (72)	4640 (357)	133(12)	2130 (213)	375 (63)	8,352 (717)
Quality[8]	16	NR	NR	16	16	Strong
Effect size for student achievement	IL *Zr*= .04[9] IL U.S. elem *Zr*= .11	*Zr*= .38[10] *r*= .25[11] (N=69)	TL *Zr* =.487 (N=11; 5 U.S.)	IL *Zr*= .42 (N=12) TL *Zr*= .11 (N=5)	TL *Zr*= .09 (N=24)	IL *Zr*= .04-.42 TL *Zr*= .09-.487
Effect size range[12]	-.18 to .26	-.03 to .62	.010 to .893	IL .02 to 1.10 TL -.22 to .68[13]	.04 to .14, 95% CI	-.22 to 1.10

While both models of leadership demonstrated significant impact on student achievement, the evidence appears stronger for instructional leadership. Given the ranges

[3] Two reports in this sample addressed the same study so only 69 were analyzed in meta analyses and subsequent discussion (Marzano et al., 2005)
[4] Identified from Appendix A and B in Witziers et. al, (2003) and noted by Robinson et. al, (2008).
[5] Tables 1-3 present data for 25 of 28 studies including 10 master's theses and 15 doctoral dissertations (Chin, 2007).
[6] Marks and Printy is an exception to otherwise unpublished studies identified by Leithwood and Sun (2012) in references as included.
[7] Measured by total citations (average *citations per year* in parentheses) from Google Scholar ™ November 11, 2018; a measure used by Hallinger (2014) in reviewing reviews of educational leadership.
[8] Quality evaluated using Hallinger's (2014) 8-item rubric scored 0-2 per item where 16 equals perfect score
[9] *Zr* is .02 for all studies; excludes data for 25 cases from the International Association for the Evaluation of Educational Achievement (IEA).

[10] Robinson et al. (2008) performed and reported Fisher's Z transformation for Pearson's r providing a meaningful comparison.
[11] Principal measure created through inductive design of a 92-item principal survey drawing from range of leadership literature (e.g. Collins, 2001; Dufour, 1998; Heifetz, 1994).
[12] Gene Glass asserts that meta-analyses should report a range of effects (Glass et al., 1981).
[13] The outcome for learning ES of .68 was measured in grades, not standardized achievement as in other studies.

identified above, some comment is warranted for this claim. The bottom of the range for instructional leadership came from Witziers and colleagues (2003) which had an international focus; the effect size for U.S. studies was .11. The top end of the range (.42) came from Robinson and colleagues (2008). Both reviews were rated *exemplary* (Hallinger, 2014) for eight factors of quality. As well, these analyses drew upon peer-reviewed literature, one important indicator of quality and relevance of research. In contrast, the quality of evidence for TL effects was weaker. Robinson et. al, (2008) could find only five published studies with only two measuring student learning outcomes for transformational leadership. However, one of the two studies, Griffith (2004), reports ES of .68 for student reported grade increases. In contrast, the second study, Heck and Marcoulides (1996), found an ES of -0.22 when standardized achievement was the measure of learning. Extremely high effect sizes for transformational leadership should be interpreted with caution. For example, Chin (2007) was not reviewed by Hallinger (2014) and had a lower impact in the research literature. This may be due to the use of master's degree theses which composed about a third of his sample. Only 5 U.S. unpublished theses were included, and results failed to replicate in Leithwood and Sun (2012) analysis of transformational leadership effects. Positively, the 2012 review of transformational leadership effects improved in quality (Hallinger, 2014). Like Marzano et al. (2005), this review drew upon unpublished dissertations to greatly expand the sample size. The effect size of .09 was not statistically significant but was estimated to be .04 to .14 at the 95% confidence interval. Prior narrative review of 33 studies also found transformational leadership had a weak indirect effect (Leithwood & Jantzi, 2005) and a study of large-scale reform concluded it could not explain much variance in student achievement gains (Leithwood & Jantzi, 2006).

In sum, there is strong empirical evidence for the consensus view that educational leadership impacts student achievement. Two competing models of leadership make important contributions to these effects. Instructional leadership practices have greater influence on student performance while transformational leadership had greater influence on school conditions and non-academic outcomes. Rather than continue to debate competing models, several of these studies probed the specific practices that had greatest effect. Therefore, this review shifted attention to specific leadership practices and their effects.

Seeking an Integrated Model of Educational Leadership 2003-2016

The No Child Left Behind act was passed in 2001 and signed into law in 2002. The emphasis on accountability for improved student achievement increased the focus of district and site level leaders on closing achievement gaps. The resurgence of instructional leadership coincided with political shifts in the educational landscape. However, the negative effects of sanctions-oriented reform on teacher morale was neither difficult to predict nor easy to mitigate. One means to take on the worthy goal of eliminating achievement gaps while supporting teacher morale was to consider if and how instructional leadership could be integrated with transformational leadership.

Marks and Printy (2003) answered the first question, powerfully demonstrating that both leadership paradigms were needed for sustainable positive impact on student achievement. However, each leadership style was operationalized with short forms (e.g. 5 items TL, 9 items IL) which provided reliable measures of the general construct but did not provide the underlying dimensions of each leadership paradigm.

Several leaders in the field collaborated to created integrated models in the years that followed. Murphy and colleagues (2006) published the *learning-centered* model of leadership

and the Chicago model was published the same year (Sebring et al., 2006). A third model by Leithwood and colleagues (2012) was the Ontario Leadership Framework. In 2016 a review of 56 studies sought to synthesize these three models (Hitt & Tucker, 2016). Also, in 2016 an additional leadership model was published, grounded in the concept of coherence (Fullan & Quinn, 2016).

A review of these leadership models resulted in two observations. First, no one model appeared to account for the full range of effect sizes found in the five meta analyses. Second, there was substantial variation in the empirical base included in each framework. None of the frameworks synthesized the factors included in the five meta analyses. Each integration model provided insight into a range of school factors but was singly inadequate to model effect sizes for leader practices predicting both student performance and teacher morale.

The integration in Hitt and Tucker (2016) sought to synthesize the literature on principal practices and student achievement; however, there were important limitations. First, data included only 56 studies from 2000-2014 while excluding Witziers et al. (2003), Marzano et al. (2005), and Chin (2007) from systematic analysis and inclusion in the model. Bias appeared in that Marzano et al. (2005) was critiqued for using unpublished dissertations while Leithwood and Sun (2012) were not similarly critiqued for using the same type of sample. Although Robinson et al. (2008) was included, implications of this study were diminished. Second, the study combined three frameworks as equal which had substantive differences. Leithwood and Murphy developed their models with teams of leading scholars grounded in empirical data collected and analyzed over decades. Indeed, each have published numerous reviews of the literature. Further, Hallinger (2014) reported exemplary quality reviews for Leithwood and Murphy. Thus, Leithwood's (2012) *Ontario Leadership Framework* (OLF) and Murphy's (2006) *Learning-centered*

Ladership (LCL) framework are models grounded in evidence from decades of studies. While the Chicago model is compelling as a study of essential school factors in Chicago, it is one study. Examination of the study and its references demonstrate it did not integrate evidence from decades of school effectiveness research. Further, even if we accept the Chicago study as a theory building effort, its focus is not on leader practices per se, but on essential supports of schools. Given the purpose of this study, it is important to synthesize findings for leader practices influencing student performance and teacher morale. The OLF and LCL models focused on leader practices and demonstrated a stronger empirical base for integration.

Principal Leadership Factors (PLFs)- An Integrated Model

I carefully reviewed the 2012 *Ontario Leadership Framework (OLF)* and utilized the OLF to analyze and report findings from the meta analyses. For initial comparison, I included findings with p values >.05. Where the OLF provided no practice matching reported effect sizes, I inserted additional lines for data. These practices were reported in the column for the appropriate research team. I reviewed each practice looking for replication of findings, significance of findings, importance of findings (e.g. effect size), and number of studies contributing to the effect.

I then repeated the process of comparative analysis using effects of leadership on teacher morale. Because none of these studies used teacher morale as the specific outcome variable, I began with Leithwood and Sun (2012) whose study included a focus on outcomes related to teacher morale. These outcomes included aggregate effects of transformational school leadership (TSL) on specific school conditions, specific TSL practices on aggregate school conditions (SC), aggregate effects of TSL on specific teacher internal states and behaviors, and specific TSL effects on aggregate teacher internal states and behaviors (TISB). In all reports of results, I

omitted effect sizes reported for only one study as this was no different than what could be obtained in a narrative literature review, i.e. provided no summative power. Having reviewed evidence for leader effects on school conditions and teacher internal states, I then revised the OLF table with a focus on practices that predicted dimensions of teacher morale. I reviewed leadership practices from the other three studies that matched or nearly matched those identified by Leithwood and Sun (2012b). I aligned results on morale with existing comparative data. The goal was to capture the collective evidence for leader effects on morale as well as those practices that impacted student achievement *and* teacher morale.

Next, I compared my draft results with the *learning-centered leadership framework* developed by Murphy and colleagues (2006). This model better highlighted the importance of curriculum, instruction, and assessment (less salient, more obscured in the OLF). However, it did not include a strong statement of goals in vision, professional learning, or anywhere. While goals may emerge in the some of these processes, the evidence indicated that specific, short-term goals (cited prominently in 2012 model) were essential to predicting performance. When these goals were aligned to student achievement, the effects on student achievement were strong. The OLF practice, "improving learning," was revised using the LCL practice "improving curriculum, instruction, and assessment." This modification was consistent with Hitt and Tucker (2016) as well.

A review of Quinn & Fullan (2016) was also useful. As expected, there was much overlap in integration models. However, the OLF included internal accountability which, while an important aspiration, did not have a single effect size associated with it. Therefore, Quin & Fullan's (2016) "securing accountability" was added to the PLF model. The final model was

more efficient. Summative evidence compares effect sizes found for principal practices on student performance and teacher morale. Results were presented in Table 2.

Data for effect size of practices were presented in column two (performance) and three (teacher morale) of Table 2. This representation illustrates contrasting practices as well as demonstrates the empirical power of practices influencing performance, morale, or both. Effect sizes were presented with the initial for last name of the first author listed (e.g. "M" for Marzano and colleagues, 2005) and the effect size found in the respective meta analytic review. The final model includes five domains of leadership and twenty principal practices, a synthesis of five meta analyses.

Table 2 Principal Leadership Factors Predicting High Performance, High Teacher Morale, or Both

	Principal Leadership Factors (PLFs)[14]	**High Performance**		**High Morale** [15]	
		Effect size	Studies	Effect size	Studies
	Focus and Motivate Collective Action				
1	Build a shared *vision*	NA	NA	.50 (L)	36
2	Communicate specific, shared *goals*	.24 (M) .42 (R)	51		
3	Create high performance *expectations*	.25 (M)	6	.25 (L)	14
	Build Relationships and Develop People				
4	Provide *support* and demonstrate consideration for individual staff members	.19 (M), .24 (M), .15 (L)	21	.52 (L), .51 (L)	59
5	Stimulate growth in the *professional capacities* of staff	.24 (M), .20 (M), .84 (R)	47	.50 (L)	36
6	*Model* the school's values and practices	.23 (M), .22 (M), .20 (M)	31	.54 (L)	30
7	Build *Trusting* Relationships	.18 (M)	11	NA	NA
	Develop the Organization to Support Desired Practices				
8	Build *Collaborative Cultures* and *Distribute Leadership*	.25 (M), .25 (M)	31	.22 (L)	5
9	*Structure* the Organization to Facilitate Collaboration	.17 (W) confirm source	3	.22 (L)	5
10	Build Productive Relationships with *Families* and *Communities*	NA	NA	.21 (L)	2
11	*Connect* the school to its wider environment	.27 (M)	14	NA	NA
12	Maintain a *Safe* and Healthy School Environment	.27 (R), .25 (M)	22	NA	NA
13	Allocate *Resources* in support of the school's vision and goals	.25 (M), .31 (R)	24	NA	NA
	Improve the Instructional Core				
14	Focus on *learning*: improve learning by (a) improving curriculum, (b) instruction, and (c) assessment	.02 (W), .20 (M), .25 (M), .42 (R)	42	NA	NA
15	*Monitor* student learning through classroom visits and student achievement data	.07 (W), .27 (M), .42 (R)[16]	40	NA	NA
16	*Buffer* staff from distractions to instruction	.27 (M)	12	NA	NA
	Secure Accountability				
17	Meet the demands of *external accountability*	-.05 (W)		-.31 (L)	13
	Cultivate Leadership Resources				
18	*Problem-solving expertise*	.28 (M)	6		
19	*Knowledge* of schools and classroom *conditions* with direct effects on student learning	.33 (M)	5		
20	*Social*; perceive and alter the internal states of self and others				

[14] Adaptation of the Ontario Leadership Framework (2012), Hallinger's PIMRS framework (1983, 2003), Fullan and Quinn (2016) and Murphy et al. (2006) resulting in a model of principal leadership factors (including practices, skills, disposition, and internal resources) that predicted direct and indirect principal effects.

[15] Effect sizes for teacher internal states or behaviors are used as a proxy for teacher morale.

[16] Factors 14 and 15 are combined in Robinson et al. (2008), see Table 2 in their original report (p. 656).

Principal Practices Predicting High Performance, High Morale, or Both

Leadership practices contributing to student achievement and teacher morale fall into three groupings. Ten practices have strong support for influencing both student performance and teacher morale. Seven practices have support for impact on student achievement but little evidence for positive impact on teacher morale. Only two practices were found to impact teacher morale with little impact on performance; however, the aggregate transformational school leadership (TSL) practices influence a range of factors related to teacher morale with weak or no impact on student achievement. The following discussion unpacks the evidence for these three groupings of practice.

Performance and Morale

There were ten practices with one or more effect sizes for *both* performance and morale. These practices were presented in Table 2 using the Principal Leadership Factors (PLF) categories of *focus and motivate collective action*, *building relationships and developing people*, *developing the organization to support desired practices*, and *securing accountability*.

Focus and Motivate Collective Action. Specific and short-term goals and creating high expectations are two important practices. Marzano and colleagues (2005) found an effect size of .24 from 44 studies for establishing clear goals and keeping these goals in the forefront of the school. Replicating this finding, Robinson et al. (2008) found an effect size of .42 with 8 studies for establishing goals and expectations. The condition for achieving teacher morale appears to be *consensus*. Leithwood and Sun (2012) found that developing a shared vision and goal consensus predicted positive teacher internal states with an effect size of .50 and 36 studies informing this effect. The second practice related to setting direction was creating high expectations for performance. Two findings supported the assumption of leaders creating high expectations. First,

leaders who were change agents, i.e. willing to challenge the status quo, led their organization at the edge of competence. Six studies confirmed an effect of .25 (Marzano et al., 2005). This finding was confirmed in 2008 by Robinson and colleagues who identified an effect size of .42 with seven studies supporting the finding. Finally, any notion of expectations reducing morale were laid to rest by Leithwood and Sun's (2012) finding that high performance expectations predict improved dimensions of morale (.25, 14 studies) and student achievement (.08, 7 studies). It appears that high expectation with focus not only mobilizes high performance but does so with inspiration.

Build Relationships and Develop People. The foundational work of this dimension was developing capacity (i.e. ability). Four PLF practices predicted improved performance *and* teacher morale including individual support, stimulating growth, modeling desired values and practices, and building trusting relationships. Marzano and colleagues found an effect size of .24 for contingent reward (9 studies) and .19 for affirmation (6 studies). Witziers et al. (2003) found advice and support predicted an effect size of .02 but at a p value of .23. However, Leithwood and Sun (2012) calculated the effect at .15 ($p<.01$) with six supporting studies. Moreover, this research indicated morale was also improved by this practice. Contingent reward had an even stronger effect on morale at .51 ($p<.001$) with 23 studies providing a robust research base.

The second practice was stimulating growth in the professional capacity of staff. Marzano et al. (2005) found support for intellectual stimulation ($r=.24$, 4 studies). The optimizer role of leaders (i.e. inspiring teachers to accomplish things beyond their grasp) had an effect size of .20 with 17 supporting studies. Robinson and colleagues supported this practice citing a very strong effect size (.84, 6 studies) for promoting and participating in teacher learning and development. Leithwood and Sun (2012) found a positive effect on student achievement (.05)

but it was not statistically significant. However, the effect of this practice on teacher morale was found to be moderately strong (.50, p<.001, 36 studies).

Leader modeling positively impacted both performance and morale. Marzano et al. (2005) and Witziers et al. (2003) both found positive effects sizes for leader visibility. The former found ES of .20 (13 studies) while the latter found .08 effect size at p=.08 level, non-significant. Mixed findings are buoyed by Marzano's et al. (2005) findings for communication (effect size .23, 11 studies) and communicating ideals and beliefs (effect size .22, 7 studies). Positive but statistically insignificant findings from Leithwood and Sun (2012) were .08. While the positive impact of leader modeling on student achievement may warrant caution, impact on teacher morale is supported by the evidence. More than 30 studies evidenced an effect of .54 for leader modeling on teacher internal states (p<.001).

Finally, building trusting relationships appeared to be essential to developing teacher capacity. Marzano et al. (2005) found an effect on student achievement of .18 with 11 studies for leaders who demonstrated awareness of personal aspects of teachers and staff. Leithwood and Sun (2012) found an impact of .47 on teacher morale but this effect size summarized only two studies. However, trust was the outcome variable of the aggregate transformational school leadership set of practices, which have been incorporated into the PLF. In sum, trust building is supported by many well-known transformational leadership practices; the effect of these practices on student achievement was significant but weak.

Develop the Organization to Support Desired Practices. The third pathway for leader influence focused on the organization. Two practices stood out in this domain. *Building collaborative cultures and distributing leadership* was well supported. Marzano and colleagues (2005) connected the practice of culture development as a means to vision citing an effect of .25

(15 studies). Their study also found leaders seeking input for developing policies or decisions had a performance effect of .25 (15 studies). Complementary findings from Leithwood and Sun (2012) demonstrated an effect of .22 (5 studies) on teacher morale for leader practices that strengthened school culture. Moreover, the aggregate effects of transformational leadership practices predicted positive school climate (ES .44, 18 analyses), shared decision making (ES .36, 6 analyses), and teacher empowerment (ES .33, 6 studies). The second practice in this domain was *structuring the organization to facilitate collaboration*, with an effect size for student achievement of .17 (3 studies) (Leithwood & Sun, 2012). A comparable effect for teacher morale was also predicted by this practice (ES .22, 5 studies). While these two practices produced modest gains in achievement, this appeared to be a function of the indirect effect.

Secure Accountability. The fifth domain, *securing accountability*, had a unique negative effect on both performance and morale. Witziers et al. (2003) found a weak negative effect of -.05 ($p=.05$) for school improvement measures on student achievement. This effect may be explained by the more substantial negative impact of accountability on teacher morale. Leithwood and Sun (2012) found management by exception (i.e. correcting staff when something goes wrong) produced an effect of -.31 ($p<.001$) informed by 13 studies. It stands to reason that teachers experiencing deteriorating morale may give less of themselves to their core purpose, resulting in negative impact on student achievement.

Develop Leader Resources. Finally, research identified two important *leader resources* for enacting improved performance with improved morale. The PLF places these into the framework as factors leaders can cultivate and which are supported by empirical evidence. Leaders need *knowledge of schools and classroom conditions* (e.g. technical, emotional, or organizational) directly influencing student learning. As well, the *social resource* of perceiving

and managing emotions in oneself and in staff is needed to respond to varied conditions and emotions. Marzano and colleagues (2005) found that leaders with situational awareness have an effect of .31 on student achievement. Moreover, the range of effects was as high as .51 indicating substantial variation in how this resource was exercised and its impact for students. The impact of morale may be even greater. Although these practices were not specifically tested, the outcomes named were tested as outcome variables of transformational school leadership (TSL). Leithwood and Sun (2012) found the aggregate effects of TSL were strong for job satisfaction (.76, 19 analyses), commitment (.70, 24 analyses), and individual internal stress (.61, 76 analyses). These findings confirmed Chin's (2007) evidence indicating the power of transformational leadership to predict job satisfaction (.707, 21 studies, $p<.001$). Weaker but important effects were also found for teacher efficacy (.16, 6 analyses) and teacher collective efficacy (.23, 4 analyses).

In total, ten practices were identified in the PLFs model which have compelling summative evidence for effects on student performance and teacher morale. The next section summarizes evidence for practices which were supported for only one of two critical outcomes.

Performance

Of the seven practices predicting increased performance, three had weak support while four had broad and stronger support. These practices were reported in Table 2. Marzano et al. (2005) found small effects for leader practices that *connect the school to its external stakeholders* (.27), *buffering staff from distractions to work* (.27), and *problem-solving expertise* (.28).

There were four practices supported by more than 20 studies. Findings were consistent for samples of published and unpublished studies. As such, these practices may be viewed as robust predictors of improved student performance. The first practice, *ensuring a safe and*

orderly environment, predicted effects of .27 and .25 with over 22 studies (Marzano et al., 2005; Robinson et al., 2008). Slightly stronger effects were cited for *allocating resources* in support of the school vision and goal. Marzano et al. (2005) found an effect size of .25 while Robinson and colleagues (2008) found an effect size of .31 with published studies. However, the strongest support was focused on the instructional core and monitoring.

Improve the Instructional core. Domain four of the PLF model was *improve the instructional core*. Leithwood and colleagues (2012) elaborated this practice describing the role as "overseeing the instructional program; coordinating what is taught across subjects and grades… observing in classrooms and providing constructive feedback that is useful to teachers… participating with staff in their instructional improvement work" (Leithwood & Sun, 2012, p. 28).

The evidence appears to support a more extended treatment of this practice. Witziers and colleagues (2003) found a small but significant effect (.02, p=.02) for supervision and evaluation practices; however, they found coordinating and evaluating the curriculum was not a significant predictor of achievement (.02, p=.31). A more extended review of U.S. studies (Marzano et al., 2005) found principal involvement in curriculum, instruction, and assessment significantly predicted student achievement (.20, 23 studies) and knowledge of curriculum, instruction, and assessment was even more important (.25, 10 studies). These findings were confirmed by subsequent meta-analysis of peer-reviewed studies. Researchers found planning, coordinating, and evaluating teaching and the curriculum had an effect of .42 of student performance (Robinson et al., 2008). In sum, the evidence supports revisions to the Ontario Leadership Framework (OLF). These practices were more explicitly developed and prominently placed into

the Principal Leadership Factors (PLF) model. Leaders improve student performance by improving the instructional core.

Monitor Student Learning. The second practice in domain four is monitoring student learning through classroom visits and student achievement data. A detailed accounting for this set of practices is essential to interpreting what leaders actually do to enact the practice. Leithwood and colleagues (2012) described leader enactment in detail which I paraphrase here. Leaders help staff understand the importance of student assessment "for, of, and as learning;" collaborate with staff facilitating data interpretation; draw on multiple measures of student learning progress; prioritize identification of struggling students needing support; explicitly use data for nearly all decisions about student learning and school improvement; analyze trends in achievement over time; collect, analyze, and act on data about classroom and school conditions that are the focus of school improvement efforts. Further, leaders improve conditions that support effective data use. Examples include providing time for staff to analyze, interpret, and act on results; coordinating professional development for teachers on how to collect, interpret and use such data; cultivating school culture that supports explicit use of data to make decisions; and partnering with outside stakeholders who can support data interpretation and use (e.g. university partnerships).

It is noteworthy that Witziers et al. (2003) found an effect size of .07 (p=.01) for monitoring. Monitoring was the largest significant effect for a specific leader practice in their study. In the same year Hallinger (2003) reviewed transformational and instructional leadership citing this as an important practice. Not surprisingly, the U.S. study found a positive effect (.27) for monitoring the effectiveness of school practices and the impact of such practices on learning (Marzano et al., 2005). Confirmation was provided from Robinson et al. (2008) who found an

effect of .42, combining monitoring with improving the instructional program as one factor. Given the range, consistency, and strength of these findings, it seems unreasonable to contest the value of monitoring to improve student performance. However, there was no evidence of positive impact on teacher morale. There may be an important conflict for researchers and practitioners to resolve.

Teacher Morale

Finally, PLF effect sizes were reviewed for teacher morale (internal states). Two practices were found to impact teacher morale with little impact on performance. The transformational school leadership (TSL) practices, in aggregate, influenced a range of factors related to teacher morale with weak or no impact on student achievement. The following discussion unpacks the evidence for these three groupings of practice (reported in Table 2).

Two practices stood out. Building shared vision combined with goal consensus to predict teacher morale (.50, 36 studies) (Leithwood & Sun, 2012). Two studies also confirmed the value of building family and community relationships as a means to influence a range of teacher internal states (.21) which include many dimensions of teacher morale.

This synthesis focused on specific leader practices, an approach that limited presentation of the aggregate effect of transformational school leadership (TSL) practices. TSL practices as a group may have broader effect than is captured in isolating each practice. There appears to be value in viewing the effects of both aggregate effect as well as individual practice effects. Therefore, I summarized the effects of TSL in table 3. Notice these are the outcomes identified in the section on leader resources; i.e. leaders with awareness of conditions in classrooms, as well as social capacity to perceive and manage emotions in teachers are likely to impact these teacher

internal states. The predictor variable for these states is the aggregate effects of transformational school leadership (Leithwood & Sun, 2012).

Table 3 The Overall Effect of Transformational School Leadership on Teacher Internal States[17]

Predictor	Teacher Internal States and Behaviors (TISB)	Effect size, significance, and number of studies
Transformational School Leadership (TSL) aggregate	Individual internal stress	ES .61, p<.001, 76 analyses
	Teacher-perceived leader effectiveness	ES .82, p<.001, 10 analyses
	Job satisfaction	ES .76, p<.001, 19 analyses
	Commitment	ES .70, p<.001, 24 analyses
	Trust	ES .47, p<.001, 2 analyses
	Teacher empowerment	ES .33, p<.001, 6 analyses
	Teacher efficacy	ES .16, p<.001, 6 analyses
	Collective internal states	ES .23, p<.001, 4 analyses
	Teacher collective efficacy	ES .18, p<.001, 2 analyses
	Behaviors	ES .47, p<.01, 8 analyses
	Organizational citizenship behavior	ES .48, p<.001, 3 analyses
	Aggregate teacher outcomes	ES .57, p<.001, 88 analyses

The aggregate effects of transformational school leadership (TSL) influence an important range of teacher emotions. Job satisfaction (.76, 19 analyses), commitment (.70, 24 analyses), and individual internal stress (.61, 76 analyses) were all strongly impacted by TSL. Teacher efficacy (.16, 6 analyses) was also impacted at a weaker level. This may indicate a related but different factor. Thus, while single practices in the TSL model may not predict these states, the overall approach of TSL appears to have stronger positive impact on teacher morale than practices mainly focused on performance.

The approach presented takes an important step forward in integrating instructional and transformational leadership. By synthesizing existing meta analyses, the study canvassed an immense data base that provides a powerful lens for integrating these two constructs. Susan

[17] Table recreated from Leithwood and Sun (2012).

Printy's (2010) review of 7 quantitative and 3 qualitative studies analyzed quantitative data followed by qualitative case studies. This study builds on her method of literature review by following a synthesis of quantitative studies (1978-2008) with qualitative data (S. Printy, 2010). The next section uses case studies to confirm and illustrate findings presented in Table 2.

***Qualitative Evidence Illustrating Findings*.**

This section briefly presents qualitative data using the lens provided from the PLF (Table 2). Examples include whole system reform and case studies reported by Fullan (2001) and Leithwood (2010).

Anthony Alvarado led restructuring in San Diego, CA to focus on *instruction*. The role of each area superintendent was redefined, each leader was viewed and expected to act as an "instructional leader." Each leader was responsible for 20-25 schools with a distinct focus on instructional leadership (i.e. coaching and evaluating principals) and student performance. The overall plan was termed "blueprint for student success in a standards-based system: supporting student achievement in an integrated learning environment" (Fullan, 2001, p. 58).

The period prior to this reform (1993-1997) was characterized by stagnating student achievement. Moreover, inequity was evident with small gains of +.08% for whites contrasted with small declines of -.6% for Hispanic students, and -.9% for African American students. During the reform period led by instructional leaders (1997-2000), all students experienced gains and achievement gaps for students of color were reduced. Specifically, white students experienced gains of +9.5%, contrasted with gains of +10.9% for Hispanic, and +10.6% for African American students. The magnitude of change was more than ten times greater in the growth period than during the period of stagnation and illustrates what an improvement orientation can mean for disadvantaged populations.

A second case focused on principal factors at the school level. Rowlatts Hill primary school (*Leicester, England)* served a suburban community with high levels of socioeconomic disadvantage. A majority of students were from minority backgrounds. Student performance varied but by 2004 it reached the national average. Unfortunately, from 2004-2006 a decline occurred leading to placement in "special measures" in 2006. Staff resented the label and resisted the notion that the school was failing. Yet, eighteen months later Rowlatts Hill elementary posted 3-year gains of 28% in reading, 51% in writing, and 18% in math at grade 3 (2004-2007). As well, the school saw gains of 23% in reading and 25% in writing at grade 6. By November 2007, the school was taken out of "special measures" (Nov 2007). Leithwood et al. (2010) reported leadership practices critical to this powerful turnaround.

During the early stage of turnaround, effective systems were put in place. The new principal set clear expectations, created a vision, a positive climate, and a sense of urgency. She "exerted pressure on staff and students to excel… holding staff to account by putting in place clear monitoring and observation processes" (Leithwood et al., 2010, p. 72).

In later stage implementation, the principal stimulated growth through professional development and peer support. She used a skilled combination of pressure and support. Teaching performance was monitored, and poor teaching was not tolerated or ignored. The key to the dramatic turnaround was "consistent and relentless attention to improving the quality of teaching and learning, which has been identified as the most important factor in the school's subsequent success and improvement" (Leithwood et al., 2010, p. 74).

Leithwood and Strauss concluded, "Sustainable improvement rarely happens without external intervention" (p. 52). The stimulus included two influences (i.e. standards-based tests and external imposition). "Our evidence suggests that few other stimuli would have been as

successful in stopping declining performance and initiating the improvement processes" (Leithwood et al., 2010, p. 53).

Summary of Progress Toward Integrated Leadership

The consensus of researchers agree that leaders have an indirect effect on student achievement (Hallinger & Heck, 1996, 1998); i.e. they have their effect by directly influencing school conditions and teacher effectiveness. Instructional leadership focused on the instructional program while transformational leadership focused on influencing school conditions and teacher morale (i.e. internal states). Two key instructional leadership practices were consistently found to improve performance. First, principals who improved the curriculum, instruction, and assessment (instructional core) improved achievement. This finding was supported by effect sizes ranging from .02 to .42 including 42 underlying studies (Marzano et al., 2005; Robinson et al., 2008; Witziers et al., 2003). Second, principals who monitored student learning and school improvement progress improved achievement. This finding was supported by effect sizes ranging from .07 to .42[18] including 31 underlying studies (Marzano et al., 2005; Robinson et al., 2008; Witziers et al., 2003). In contrast, no positive effect sizes for these practices on teacher morale were reported. However, transformational leadership as an aggregate construct positively impacted teacher stress (ES .62, 76 analyses), job satisfaction (ES .76, 19 analyses), and teacher commitment (ES .70, 24 analyses) (Leithwood & Sun, 2012). Unfortunately, transformational leadership had very limited impact on student achievement.

The data trail of 50 years confirms and extends the pivotal work of Marks and Printy (2003) who articulated the notion of shared instructional leadership and demonstrated its essential nature. They argued that transformational leadership was necessary, but insufficient, for

[18] Robinson et al. (2008) included monitoring with instructional core as one construct.

student performance. They also demonstrated that instructional leadership alone was not effective. The integration of transformational leadership and shared instructional leadership was necessary for greatest leader impact. The PLF (Table 2) synthesized current empirical knowledge of effective leadership for high performance or high morale schools. The challenge is achieving *both outcomes*.

Several questions remain. Which leader practices positively influence teacher effectiveness? Which practices positively influence teacher morale? What have studies found when examining leadership practices as predictors of teacher effectiveness and teacher morale simultaneously?

It is no longer sufficient to name practices that improve teacher morale without regard to their effect on teacher effectiveness and subsequent student performance. It is equally inadequate to name practices that produce teacher and student performance results at the expense of teacher morale. We must have both. Therefore, this review delves into the body of research examining principal's direct effect on teacher effectiveness and teacher morale.

Effective Teachers

Teacher effectiveness is the ability to enact practices to improve student learning. This section focused on three contributions of the literature regarding effective teachers and how principals influence effective teaching. First, school context factors such as socioeconomic status (SES) can be substantially mitigated by effective teachers. Next, evidence supporting principal practices to improve teacher effectiveness is presented including direct and indirect approaches. Finally, two threats to principal action to improve teacher effectiveness are described.

Teacher effectiveness can mitigate the effects of SES. For example, a recent study found that in four high performing countries (i.e. China, Singapore, Finland, and Canada) variance

attributable to socioeconomic status was much lower (i.e. 9.4-15.1%) suggesting that strong teaching quality can mitigate SES effects (Darling-Hammond et al., 2017). Valued added measures (VAM) have been used to demonstrate that effective teachers can substantially close the achievement gap (Sanders & Horn, 1998). For example, a disadvantaged student taught by a teacher who is one standard deviation above the mean in effectiveness for five consecutive years can nearly overcome the mean difference in achievement resulting from being part of a disadvantaged population (Hanushek & Rivkin, 2010). Moreover, recent research indicates school SES effects "nearly vanish" after controlling for prior student achievement (Armor et al., 2018). Therefore, if effective teachers lead gap-closing impact for students, these achievement gains are likely to influence future academic success more than school SES. Effective teachers make a difference. Unfortunately, even though the U.S. has many advantages compared to international peers, high poverty schools in the U.S. have fewer effective teachers (Akiba et al., 2007). Principals can and should select the most promising teachers they can recruit. However, the most immediate opportunity for addressing the problem of effective teachers is to improve the teachers we have.

Five PLFs provided a lens (see Table 2) to identify and describe literature validating and illustrating three direct and two indirect routes for principals to improve teacher effectiveness. Direct approaches were *stimulating growth in professional capacity*, *providing instructional support* (i.e. working with teachers to improve curriculum, instruction, assessment), and *monitoring student learning and school improvement progress* (see PLF #5, 14, and 15 Table 2). Indirect approaches were *building collaborative cultures and distributing leadership* and *structuring the organization to facilitate collaboration* (see PLF #8 & 9 Table 2).

A focus on teaching is consonant with a landmark international study led by Linda Darling-Hamond (2017) which explored teaching quality among five top performing countries with rich data that confirm and elaborate findings from 1978-2008. The study utilized a three-year multi-method, multiple case study design. The centrality of improving instruction was clearly stated, "We focus on *teaching* because it is where the rubber hits the road… where the direct engagement between students and the content and processes of their learning occurs and can be most effectively leveraged" (Darling-Hammond et al., 2017, p. 7).

Principals Stimulate Growth in the Professional Capacity of Staff (PLF #5)

Teacher professional learning is continual and developmental. (Darling-Hammond et al., 2017). Principals have direct influence on professional development, coaching, and evaluation processes which can have negative, limited, or positive impact on teacher effectiveness.

Professional Development

A critical mechanism by which teachers gain the tools to improve teaching effectiveness is professional development. Researchers recommend leaders improve the quality and focus of professional development for teachers (Leithwood et al., 2010). Strong professional development should shift away from one-day trainings to professional development providing 1. substantial time commitment (e.g. 2-4-week summer program), 2. content that is targeted, and 3. linked to instructional goals and curriculum materials of schools (Hill, 2007). High-performing countries integrate professional development with collaborative cultures and distributed leadership (Darling-Hammond et al., 2017).

Coaching

A second means of principal influence is coaching. Leader teaching and coaching of followers are included in measures of individual consideration, a dimension of transformational

leadership (Avolio & Bass, 2004). As with professional development, principals can also choose to distribute leadership by empowering teacher leaders to coach beginning and in-service teachers (Spillane, 2012). For example, a review of 15 studies of beginning teachers support and assistance, a peer coaching program, was to have a positive impact on three sets of outcomes: teacher commitment and retention, teacher classroom instructional practices, and student achievement (Ingersoll & Strong, 2011).

Teacher coaching for in-service teachers has also emerged as a promising means of professional development (Kraft et al., 2018). High-impact coaching is individualized, intensive, sustained over time, context-specific (e.g. within a teacher's classroom), and focused; coaches support teachers to deliberately practice specific skills. These elements meet Hill's (2007) criteria for effective professional development. Kraft and colleagues' (2018) meta-analysis of 37 studies found effect sizes of .57 standard deviations (SD) on instruction and .11 SD on achievement. However, a change of 1.0 SD in instruction related to a .15 SD change in student achievement, indicating substantial instructional improvement is needed to impact student achievement.

Evaluation

A third means principals may utilize to influence teacher growth is the evaluation process. One problem U.S. schools face is limited feedback compared with international peers. TALIS data show 42% of teachers internationally receive feedback from peers on their teaching vs. 27% of US teachers; the highest performing countries range from 43% to 51% (Darling-Hammond et al., 2017). However, this gap may be meaningfully impacted through evaluation that is viewed as feedback to support continuous improvement and linked to professional learning of teachers.

An example of this approach is the Enhanced Performance Management System (EPMS) used as part of Singapore's teacher development. Key result areas included the following: 1. student outcomes, 2. professional outcomes, and 3. organizational outcomes. The EPMS functioned as formative and summative review. Teachers composed their own evaluation addressing how they improved, how they were going to improve further, and what professional learning activities they will take on. Teacher plans served as the basis for coaching and mentoring; teachers received feedback on their practice.

Principals Improve Curriculum, Instruction, and Assessment (PLF #14)

Principals' direct influence on teachers and teacher effectiveness can be enacted through direct involvement in improving curriculum, instruction, and assessment for learning (Edmonds, 1979; Hallinger & Murphy, a; Murphy et al., 2006). Of course, to the extent leaders distribute power to other teacher leaders (Spillane, 2005), this would be a more indirect influence similar to Marks and Printy's (2003) shared instructional leadership. A review of research from 2000-2010 indicated when shared instructional and transformational leadership were integrated, principal direct influence was more readily accepted. The study found that principals were central figures in improvement of instructional quality- i.e. developing effective teachers. Shared decision making and a trusting environment combined with leadership practices that encouraged teacher involvement and created conditions that supported improvement. In addition to these conditions, when goals are focused, "teachers are quite amenable to the direct influence of principals" (S. Printy, 2010, p. 117).

Finally, the curriculum alignment process brings coherence to the written, taught, and tested curriculum. For example, effective principals in turnaround schools led alignment of instruction with the content of provincial tests (Leithwood et al., 2010). Additional evidence for

the alignment process was reported in a policy study of aligning standards and state assessments, indicating state policy can support or hinder principal influence in this domain (Phillips et al., 2011).

Principals Monitor Student Learning and School Improvement (PLF #15)

Principal monitoring has been advocated since Edmonds' (1979) call for strong leaders decades ago. Meta-analytic data provide robust support for this practice as a means to improve instruction (Marzano et al., 2005; Robinson et al., 2008; Witziers et al., 2003) and, indirectly, student achievement (Table 2)[19]. Case studies of effective turnaround schools confirmed that effective leaders monitor students' learning more closely and use results to plan individual instruction (Leithwood et al., 2010). Leader monitoring also impacts teachers. When principals observe and supervise teachers more often, teachers were more likely to engage in content-focused professional development (Phillips et al., 2011).

In sum, three factors directly related to improving teacher effectiveness were central to the concept of instructional leadership. The Principal Instructional Management Rating Scale (PIMRS) teacher short-form (Hallinger & Wang, 2015) provides a reliable and valid measure. More detail on this measure and its role in this study are provided in chapter three.

Teacher Perception and Actual Effectiveness

Leithwood and Beatty (2008) summarized the positive effects of self-efficacy. Self-efficacy has a strong influence on (1) amount of work teachers expend, (2) how long they persist pursuing goals, (3) resilience when encountering failure, (4) and how well they cope with stress under difficult conditions (Bandura, 1977; Leithwood & Beatty, 2008; Tschannen-Moran &

[19] Note that Robinson et al. (2008) include monitoring as "regular classroom visits and provision of formative and summative feedback to teachers" (p. 656) as part of a leadership dimension they name as "Planning, coordinating, and evaluating teaching and the curriculum" (p. 656).

Barr, 2004). Teacher self-efficacy was defined as the teacher's belief about his/her effectiveness to successfully perform a task (Bandura, 1997) or to positively impact student learning outcomes (Klassen & Chiu, 2010). The Maslach burnout inventory conceived teacher perceived effectiveness as personal accomplishment and operationalized this construct in the MBI-ES (Maslach et al., 2018). Although perception may not match actual effectiveness, research indicates there is a strong relationship (Tschannen-Moran & Barr, 2004). The perception that teachers have about their effectiveness in teaching affects their actual capacity, which leads to improved student achievement (Caprara et al., 2006). Thus, a principal may influence or improve the perceived effectiveness of teachers which mediates impact on actual effectiveness and student learning (Lambersky, 2016).

Principals Develop the Organization (PLF #8-13)

Dimension three of the PLF summarized principal effects for six sets of practices that impacted student performance or teacher morale. Building productive relationships with families and communities predicted improved morale of teachers but had no known effect on student performance. Connecting the school to its wider environment, maintaining a safe school environment, and allocating resources to support school vision and goals impacted student performance but had no known impact on teacher morale. There were two PLFs that predicted both student performance and teacher morale. The first was PLF #8 build collaborative cultures and distribute leadership with effect sizes ranging from .22 to .25 supported by 36 underlying studies (Leithwood & Sun, 2012 ; Marzano et al., 2005). The second was PLF #9 structure the organization to facilitate collaboration with effect sizes from .17 to .22 with 8 underlying studies (Leithwood & Sun, 2012 ; Witziers et al., 2003). These two PLFs met the criterion of impacting both performance and teacher morale. Two recent studies have moved further by analyzing the

complex relationships with direct and indirect effects on teaching effectiveness (Paletta et al., 2017, 2020).

Principals have an indirect effect that is mediated by many factors (Hallinger & Heck, 1998). Several mediating factors included school climate, teacher commitment, teaching skill, teaching experience, teachers' sense of efficacy, and teacher participation in decision making. Paletta et al. (2017) studied the relationships between school context, principal leadership, and variables related to teachers and educational climate expected to mediate principal effects. Data were analyzed from 1,566 teachers in 47 Italian schools using multilevel structural equation modeling.

Results indicated that higher leadership scores were related to higher job satisfaction, higher self-efficacy of teachers, and a better educational climate. Moreover, these positive effects were still present when controlling for school context variables. The study was limited by its non-representative sample; further research replicating these findings was recommended. Also, the study did not include measures of two important dimensions of morale including emotional exhaustion and depersonalization. Accounting for these outcomes would provide greater nuance to our understanding of principal effects on teacher morale (Fernete et al., 2012).

A second study of leadership in Italy conceived the principal role as building organizational capacity by operationalizing four variables- instructional leadership of teachers, collaborative culture, supportive learning environment, and self-efficacy of teachers (Paletta et al., 2020). These variables mediated the effects of principal leadership on change in teacher professional practices and teaching methods.

The principal practices in their measure predicted four dimensions of organizational improvement as follows: (1) teacher instructional leadership (.15, $p<.001$), (2) teacher self-

efficacy (.12, p<.001), collaborative culture (.69, p<.001), and learning climate (.38, p<.001). These factors mediated effects on (1) change in professional practices and (2) change in teaching methods. The full indirect effects of principal practices were not calculated for the endogenous variables. I noted the strongest path in the model was principal practices to influence a collaborative culture (.69, p<.001) which mediated change in teaching methods (.39, p<.001) and change in professional practices (.32, p<.001). Calculation of the indirect principal effects on teaching methods resulted in an effect of .27 (.69 * .39= .27) and a .22 change in professional practices (.69 * .32= .22). Gender and years of experience had small but significant effects. Teacher leadership had stronger direct effects on change in professional practices (.65, p<.001) and change in teaching methods (.78, p<.001) but principal influence on instructional leadership of teachers was weak (.15, p<.001). The strongest mediated influence of the principal occurred by actions predicting an increased collaborative culture. The study was limited by self-selection of sample participants and lacked a concurrent measure of teacher morale.

Distributed Leadership as Key to Organizational Change

A review of leadership types found distributed leadership to be one of the fastest growing bodies of literature, perhaps the most studied model in the past decade. Other common models included shared instructional leadership and teacher leadership (Gumus et al., 2018). A large-scale study found an indirect significant relationship between distributed leadership and student achievement (i.e. math and reading), mediated by school improvement capacity (Hallinger & Heck, 2010; Heck & Hallinger, 2009). Hallinger & Heck (2010) defined distributed leadership as inclusive of collaborative decision making, school governance including participation of students, staff, and parents; shared responsibility for learning, and participation of stakeholders

in the evaluation process. Results demonstrated that collaborative leadership increased academic capacity of schools which positively affected student learning.

Tian et al. (2016) conducted a meta-analysis of research on distributed leadership from 2002-2013. The most important critique was that studies have not reached a consensus definition of distributed leadership. Authors provided their own definition of the construct as "a process that comprises both organizational and individual scopes; the former regards leadership as a resource and the latter as an agency" (Tian et al., 2016, p. 11).

Teacher Leadership as a Means to Improve Teacher Effectiveness

Teacher leadership was yet another construct studied and advocated as a mechanism to improve teacher effectiveness. A review of research on professional learning communities recommended this school process as a means to support teacher leadership (Hairon et al., 2015). Wenner and Campbell (2017) summarized 70 articles from the literature on teacher leadership published between 2004-2013. The purpose of the review was to understand how teacher leadership was defined, how teacher leaders were prepared, their impact, and the factors that facilitated or inhibited teacher leaders' work. Three critical findings are worth noting. First, teacher leadership was rarely defined yet tended to focus on roles outside the classroom, professional support of peers, and participation in decision making; all with the intent to improve student learning. Second, research was usually lacking a theoretical basis. Finally, principals and school structures/norms were important to increasing or decreasing teacher leadership. Authors also cautioned that emerging teacher leadership in a school could result in tensions or conflicts (Wenner & Campbell, 2017). Thus, teacher leadership is not a panacea for principals. After being hired, a principal must decide which practices to engage in, with whom, and to what purpose.

Summary

Several observations from the literature influenced the direction of this study. First, there were few studies of principal practices that predicted teacher effectiveness *and* teacher morale. Second, while there was a wealth of literature regarding distributed leadership and teacher leadership, definitions were not consistent. Third, leadership factors identified through synthesis of meta analyses were confirmed by recent studies. PLF #8 *build collaborative cultures and distribute leadership* was demonstrated to indirectly impact student achievement by directly impacting teachers or teacher leaders. PLF #9 *structure the organization to facilitate collaboration* was also well supported. Given findings presented in Table 2, and in light of recent studies, we might expect such an approach by principals to positively impact teacher effectiveness and teacher morale. However, studies tended to test for one of two outcomes leaving open the possibility that one may be improved at the expense of the other. Moreover, there were two threats that inhibited principal direct influence on teacher effectiveness.

Threats Limiting the Improvement Process

Two threats emerged from the literature that limit the positive effects of the improvement process. The first was threats to teacher autonomy and the second to teacher self-esteem.

Threats to Autonomy

Much of the qualitative data demonstrating eroding morale among teachers can be traced to perceived threats to professional autonomy. Principal practices that seek to directly influence teacher quality through principal led professional development, direct principal coaching of teachers, direct involvement in curriculum, instruction, and assessment can be perceived as controlling (Lambersky, 2016; Leithwood et al., 2002). The shift toward distributed leadership, shared instructional leadership, and teacher leadership as a means to influence conditions appear

to be a response to negative effects on teacher morale. However, the solution may require more than a dichotomous choice between direct and indirect practices; leaders need a more nuanced theory of action to sustain high performance and high morale teaching. The PLF model (Table 2) provides multiple venues for principal influence.

Threats to Self-esteem

A second threat relates to teacher self-perception. "Coaching requires teachers to be willing to open themselves to critique and recognize personal weaknesses" (Kraft et al., 2018, p. 27). This willingness should not be presumed upon. For example, when teachers work in supportive high trust professional environments, their effectiveness improves more over time than teachers working in less supportive school contexts (Kraft & Papay, 2014). A second example is teacher evaluation. If teachers perceive the observation and feedback cycle as a process documenting weaknesses that lead to poor evaluation or dismissal, then teachers are unlikely to respond positively (Kraft & Gilmour, 2016). Principals are encouraged to develop learning cultures that support giving and receiving constructive feedback as a normal part of the professional workday. Such a culture seems essential to scaled implementation (Kraft et al., 2018).

Teachers deserve to work in high-trust, high-accountability cultures that expect the best, support rigorous growth, and treat them as professionals whose work is exceptionally complex. For principal leadership to be effective and sustainable, teacher morale must be positively impacted. I shift in section three to principal practices impacting teacher morale.

Teacher Morale

Five significant teacher internal states were predicted by transformational leadership as an aggregate set of practices (Chin, 2007; Leithwood & Sun, 2012) . Leithwood and Beatty (2008) treated these states as emotions. Transformational leadership (TL) practices influenced job satisfaction (.76), teacher stress (.61), and commitment (.70) at the strongest levels. I suggest these are important dimensions of teacher morale. Impact on teacher efficacy (.16) was weaker, which may indicate a dimension of effectiveness that is related to but nevertheless unique from the other three internal states. Indeed, the predictive relationship between teacher efficacy and student achievement suggests it is an important dimension of effectiveness (Caprara et al., 2006).

This section defines teacher morale and then draws on research to demonstrate the important outcomes of teacher morale. Next, conflicts are identified between recommendations from the teacher/student performance and teacher morale literatures. The section closes by identifying a gap in the literature and its potential to mitigate the conflicts.

Definition of Teacher Morale

Lock (1976) defined morale as "an attitude of satisfaction with, desire to continue in, and willingness to strive for the goals of a particular group or organization" (p. 1300). A review of the literature described morale as a teacher's mental state, manifested by confidence and motivation to perform tasks important to the organization (Willis & Varner, 2010). For this study teacher morale was defined as the internal state that sustains teacher energy to be effective- i.e. to improve student learning. Its underlying dimensions include *engagement* to improve student performance; commitment to increase effort; *connection* with students and staff; and job *satisfaction*.

The opposite of strong teacher morale is burnout, usually the result of sustained negative stress and anxiety (Freudenberger, 1974). A tool for diagnosing burnout included three dimensions; 1. Emotional exhaustion, 2. Depersonalization, and 3. Reduced sense of personal accomplishment (Maslach et al., 2018). Two of these dimensions are central to the conception of morale in this study. Emotional exhaustion refers to feeling overextended and exhausted by one's experience teaching; when feelings of fatigue grow and energy is drained, the experience often indicates that morale is deteriorating and educator burnout increasing. A second dimension is depersonalization (Maslach et al., 2018). Depersonalization is an unfeeling and impersonal response to students; the loss or absence of positive feelings about students. It may be displayed by derogatory labels, cold or distant attitude, and physical distancing from students. In addition, the Multifactor Leadership Questionnaire (MLQ) included an outcome measure of satisfaction (Avolio & Bass, 2004). Thus, teachers with low levels of exhaustion and depersonalization as well as high satisfaction were conceived as experiencing high morale.

Outcomes of Teacher Morale

Negative effects occur when teacher morale deteriorates through extended stress, perhaps reaching burnout. A Canadian teacher expressed this view, "a motivated staff is an effective staff. A beleaguered, bored, and bludgeoned staff is a less effective staff" (Lambersky, 2016, p. 387). Other negative effects include absenteeism (Andrew et al., 1985), teacher productivity and connection with students (Lumsden, 1998), and declining student achievement (Black, 2001). In addition, teacher resistance to change increased as morale deteriorated (Briggs & Richardson, 1992). Such teacher resistance may manifest in depersonalization with colleagues and students, reduced toleration for disruption, and increased dogmatic behavior from teachers (J. J. Blase &

Greenfield, 1985; Farber & Miller, 1981). Finally, teachers decision to leave the profession were impacted by job satisfaction and organizational commitment (Stockard & Lehman, 2004).

On the other hand, when teacher morale is strong, many *positive outcomes* occur. Strong direct effects for job satisfaction on teacher retention were found (Stockard & Lehman, 2004) but this internal state was found to have weak to no relation to organizational performance (Locke, 1976). As Edmonds (1979) pointed out many years ago, teachers dedicated to improving student performance were not content with low performance and may be dissatisfied. Teacher morale indicates a unique type of satisfaction that can be closely connected with organizational goals.

Some have claimed that improved teacher morale improves student achievement. A study of effective schools' practices found three characteristics predicting student achievement were an achievement-oriented school culture, principal autonomy in hiring and firing teachers, and high teacher morale (Zigarelli, 1996). Given the findings of the PLF, it seems unlikely morale alone would be sufficient to account for student achievement gains. It may be that sinking morale negatively impacts teacher effectiveness, thereby leading to lower student achievement (Black, 2001). Principals who develop positive school climate can improve overall impact.

Specific Transformational Leadership (TL) Practices Influencing Teacher Morale

Principals have an important direct and indirect effect on teacher morale. However, an overall approach is needed to positively impact teacher morale. It is useful to identify specific high-impact practices. The impact of transformational leadership on overall teacher internal states (.57) was explored to identify which leader practices had greatest effect on teacher internal states. There were five practices identified in underlying studies with effect sizes >.50 and p values <.001. The strongest was modeling behavior (.54) followed by providing individualized support (.52), contingent reward (.51), providing intellectual stimulation (.50), and developing

shared vision and goal consensus (.50) (Leithwood & Sun, 2012). A negative effect was found for management by exception (-.31) which is often related to securing accountability. Only two practices impacted teacher morale *and* student achievement; building collaborative structures (.17) and providing individualized support (.15).

A study confirming findings for morale included 399 purposively selected teachers from five urban high schools in Texas. The method employed HLM analysis to examine the relationship between teacher perceptions of principal transformational leadership and perceived school climate. Each teacher completed the Multifactor Leadership Questionnaire (MLQ) and the Organizational Climate Description Questionnaire for Secondary Schools. Results indicated there was a correlation between transformational leadership and supportive, engaged, and frustrated aspects of school climate. The study was limited by its non-representative sample, its omission of instructional leadership practices found to predict student performance, nor did the study measure impact on student achievement (McCarley et al., 2016).

Unfortunately, transformational leadership alone is inadequate. A content analysis of existing case studies explored ways in which teachers responded to transformational leadership by their principal. The study focused on the influence and conditions that elicited interdependent relationships and improved the impact of shared instructional leadership and shared transformational leadership. Case study schools without strong shared instructional leadership provided a contrast with schools where both styles were active. In schools with weak or no instructional leadership, the structures and organizational processes to organize teacher work did not result in the type of interaction that improved teacher effectiveness and student learning (S. M. Printy et al., 2009). Thus, the study confirmed that transformational approaches may improve

morale but, absent instructional leadership, fail to produce improvement for teacher effectiveness and student achievement.

The limit of transformational leadership (TL) to predict performance contrasts with theoretical claims by Burns (2010) who suggested TL would lead to improved performance with inspiration. Such limits also contrast with the impact of TL in business contexts (Bass, 1999) where performance has improved with increased TL. Moreover, several conflicts in recommended leader practice obscured the particular ways leaders can integrate instructional leadership and transformational leadership factors.

Conflicts Principals Must Resolve

Five conflicts emerged in the literature. Specifically, recommendations were found in either principal effects, teacher effectiveness, or teacher morale literatures which conflicted. These conflicts are discussed below.

#1 Personal Support vs. Support for Improving Effectiveness

Some types of personal support may improve morale and teacher engagement in activities unrelated to performance. For example, Lambersky (2016) described principal support for teacher initiatives such as athletic events or student performances. Engagement increased when teachers felt positive about the principal. However, increased engagement with sports, music, or committee activity may not translate into improved teaching and student achievement. In contrast, principal practices seeking to improve teaching and student achievement may be perceived negatively and elicit negative teacher emotions. Lambersky (2016) reported that 13 of 20 teachers "perceived being undermined when principals arbitrarily questioned their teaching practice or skill at maintaining class discipline in front of the students" (p. 393).

#2 Reducing Workload vs. Developing Teacher Capacity

Evidence indicates leader attempts to stimulate teacher ability may backfire. A 2010 review of literature on teacher morale found that leaders who reduce teacher workload and increase preparation time improve morale (Willis & Varner, 2010). Lambersky (2016) found confirming evidence. Indeed, 75% of teachers reported they were overworked, and their emotional state suffered. They looked to their principal to protect them. For example, one teacher made a recommendation saying, "I think also recognizing when your faculty is over-programmed and holding back rather than pushing forward… Canceling a meeting when it's clear that the faculty is burnt out, giving some sort of value to their time and the way it is being used" (Lambersky, 2016, p. 391). The evidence indicated teachers experienced increased morale when principals cancelled staff meetings, eliminated staff development, asked fewer questions, and validated existing teacher practices. However, evidence is absent that such practices will positively impact effectiveness.

#3 Improving Working Conditions vs. Improving Student Performance

When policy makers, district leadership, parents, and teacher federations are involved, conflicting conceptions of the purpose of schooling pose a challenge to principals. Struggles over competing priorities negatively impact teacher morale (Dannetta, 2002). Such conflicts are also evident in research. Grissom (2011) determined principal effectiveness using teacher satisfaction and decision to stay, while Jacobson et al. (2007) used student achievement gains to determine effective principals. The measures of effective principals for the first study used six items which addressed teacher satisfaction, student behavior, but included no items measuring impact on teacher effectiveness or student achievement. The second study drew qualitatively from teachers, students, and parents to describe effective principals who were identified using student

achievement gains. Measures of principal effectiveness and outcomes important to the studies were consistently related. However, studies have not resolved the tension between practices that improve working conditions as contrasted with practices that reduce achievement gaps for vulnerable students (Grissom, 2011; Jacobson et al., 2007).

#4 Buffering Conceived as Protecting Teachers vs. Protecting Instructional Time

Buffering teachers from distractions is a recommended practice with many variations. Common forms include protecting teachers from excess workload (e.g. early release from staff meetings or canceling meetings), parents, district initiatives, and professional development that is "too much" or "too fast." Beatty describes this as "protecting staff from being pulled in directions incompatible with agreed on goals" (Leithwood & Beatty, 2008, p. 121). Also, Teachers place high value on leaders who "stand behind their teachers" with parent confrontations (J. Blase & Anderson, 1995). Buffering is variously conceived as protecting teachers from student misbehavior, accountability, staff meetings, professional development, parents, workload, and distractions from their core instructional work. On the other hand, the singular focus of protecting instructional time has been advocated since Edmonds (1978) and is a salient dimension of a reliable and valid measure of instructional leadership (Hallinger & Murphy, 1985; Hallinger & Wang, 2015). Recommending a principal "buffer" his or her staff is an ambiguous admonition.

#5 Professional Autonomy vs. Accountability for Results

Leithwood and Beatty (2008) acknowledge the positive impact of accountability saying, "the accountability push has increased the focus on academic outcomes and improved instruction. This is helping leaders reorder their priorities, placing a renewed emphasis on classroom practices" (p. 102). This focus has been described by Hallinger (2003) and Marzano et

al. (2005) as (1) supervising and evaluating instruction, (2) coordinating the curriculum, (3) and providing resources in support of curriculum, instruction, and assessment. West, Ainscow, and Stanford (2005) assert that leaders in challenging contexts must focus on teaching and learning.

Marzano et al. (2005) cite the importance of principal monitoring with its impact on student achievement. West et al. (2005) report monitoring as the central explanation for effective leadership in failing schools. Hallinger (2003) cites this practice and Yukl (2002) identifies monitoring operations and environment as one of 11 effective managerial practices (e.g. in business contexts).

Accountability is considered a necessary "ingredient" for an effective school system, particularly if combined with policies of school autonomy (Hanushek & Woessmann, 2007). OECD-PISA data provide evidence that school autonomy is more effective in highly developed systems. Also, when local school autonomy (especially over content decisions) is attended by accountability for student achievement, the effects were positive (Hanushek et al., 2013).

On the other hand, Leithwood, Steinbach, and Jantzi (2002) point to negative effects on teacher morale when government accountability policies were implemented. Others have reported negative consequence that occurred as an unintended consequence of accountability systems (Altrichter & Kemethofer, 2015; Ehren et al., 2015). Elmore (2004, p. 289) pointed out that "stakes work, if they work at all, by mobilizing and expanding capacities in high-capacity schools and creating potential demand for capacities outside the organization in low-capacity schools." Another criticism of accountability policy claims that measures do not reflect the complexity of work in the field (Brodkin, 2011) and may produce informal practices that vary substantially from policy intentions.

At the classroom level, autonomy for classroom decisions is strongly related to teacher morale (Stockard & Lehman, 2004). Teachers reported that the "use of control tactics by school principals… tends to have profound negative consequences for teachers… [resulting in] decreases in concern for improvement" (J. Blase & Anderson, 1995, p. 42). Teacher autonomy often conflicts with principal practices enacted to improve the instructional core. External accountability can shape goals to which teachers may not be committed. Indeed, 25% of teachers in a Canadian study reported concern whether their principal would "blame" them for student performance (Lambersky, 2016). Yet securing accountability is accepted as necessary for improvement (Fullan & Quinn, 2016; Leithwood et al., 2010). Moreover, Principals are the mediating agents between schools and external accountability (Seashore-Louis & Robinson, 2012). Therefore, principals need good information on how to be effective mediators that influence teacher effectiveness and teacher morale.

Some advocate a professional orientation for principals, defined as extending adaptive discretion (*autonomy*) to teachers in the conduct of their work (Tschannen-Moran, 2009). Allowing teacher autonomy was one of most salient recommendations to principals and was equated with showing professional respect to teachers (Lambersky, 2016). While a growing body of work demonstrates the importance of trusting relationships (Cunningham, 1983; Lambersky, 2016; Leithwood, 2012), what remains conflicted is whether monitoring and accountability are implicitly opposed to trust and professional autonomy.

The consistent call for autonomy is understandable given current knowledge of motivation (Pink, 2009). However, accountability plays a critical role in performance. Therefore, a pathway integrating the calls for accountability and teacher autonomy is critical to shaping the path to high performance, high morale teachers.

The Need for Emotionally Responsive Leadership

A gap in emotional preparedness of leaders was identified and explored by Beatty (2002) in her award-winning dissertation. The study found four external factors influencing leader actions were mediated by the inner life of the leader- i.e. thoughts, feelings, values, and dispositions. The ability to perceive and alter negative emotions in self and others was found to be the key to reculturing a school as a safe place (Beatty, 2002).

Summary Teacher Morale

The challenge of integrating the most powerful principal practices from instructional and transformational leadership to influence both teacher effectiveness and teacher morale is not small. This section defined teacher morale, demonstrated its important outcomes, described practices likely to improve morale, and identified emotionally responsive leadership as a relatively new line of research that may provide a mitigating dimension of leadership. The final section explores the very limited literature studying both leadership styles as predictors of the dual outcomes of teacher effectiveness and teacher morale.

Integrated Leadership Improving Teacher Effectiveness and Teacher Morale

The search for integration of instructional leadership and transformational leadership that was empirically supported and predicted improved teacher effectiveness *and* improved teacher morale produced few results. Nevertheless, there were four studies that took important steps toward this purpose.

Ryan Shatzer's (2009) dissertation was a timely follow up to Robinson et al. (2008) who found instructional leadership to be more predictive of student achievement than transformational leadership. His study compared the effects of instructional leadership and

transformational leadership on student achievement and teacher satisfaction. The study randomly assigned participants to either instructional leadership or transformational leadership, using hierarchical linear modeling to test predictive effects for each group.

The leadership functions associated with increased teacher job satisfaction were supervise and evaluate instruction, maintain high visibility, provide incentives for teachers, promote professional development, provide incentives for learning, and individualized consideration (Shatzer, 2009). The leadership functions associated with increased student achievement were monitor student progress, protect instructional time, provide incentives for teachers, provide incentives for learning, and contingent reward. Results indicated that instructional leadership explained more variance in student achievement and teacher job satisfaction than transformational leadership. However, the study but did not combine instructional and transformational leadership as an integrated construct. As well, several important dimensions of morale (i.e. emotional exhaustion and depersonalization) were not measured. Finally, the study tested effects for each outcome separately but was unable to account for concurrent effects; in other words, given the positive effect on one outcome, how was the other outcome impacted? Research is needed that integrates leadership models and practices to predict outcomes of teacher effectiveness and teacher morale using a method that accounts for concurrent effect on both outcomes.

No study could be found that specifically measured and analyzed the effects of principal practices on teaching quality, student achievement, and teacher morale. However, two relevant studies were found that utilized survey data to analyze principal direct effects on teacher performance and teacher morale.

A survey of 2,180 elementary and middle school principals and teachers in Taiwan investigated principal approaches with incompetent teachers and the impact of these approaches. The study employed structural equation modeling to model the data. Results provided support for three principal practices to improve teacher performance and morale as follows: (1) minimizing differences in teacher and principal attitude toward dealing with incompetent teachers, (2) ensuring a fair workload for such teachers, and (3) increasing teacher satisfaction with approaches used to deal with incompetent teachers. Recommended approaches for principals included (1) encouragement and assistance, (2) soliciting support from senior teachers to improve teaching skills, and (3) tolerance with incompetent teachers (Cheng, 2014).

The measure of teaching effectiveness was teacher perception of improvement, a dimension related to actual teacher effectiveness. However, it was possible that tolerating poor performance led to teacher reports of improved teaching on survey items with little actual impact on student achievement. Despite limitations, the use of teacher perception to inform principal practices to improve teacher effectiveness and teacher morale produced useful findings, two of which cohere with prior research. The third finding, tolerance for ineffective teachers, conflicted with prior research for improving teacher effectiveness (Leithwood et al., 2010).

Second, an international study surveyed a convenience sample of 245 elementary school teachers in Taiwan to examine the impacts of three factors on teaching effectiveness (Chi et al., 2014). The model included principal leadership as an independent variable predicting teaching effectiveness and moderating the effects of social support. Social support was an independent variable predicting teacher effectiveness and well-being. Well-being was the mediating variable between social support and teacher effectiveness.

Principal leadership was described as influencing teacher morale, providing individual consideration for teachers, and providing a strong vision. Results suggested positive effects of leadership on teacher performance but had no moderating effect on social support. Social support and well-being predicted teacher effectiveness. Well-being mediated the effect between social support and teacher effectiveness, suggesting a connection with morale. Finally, although not included in the hypothesized model, there was a significant correlation between principal leadership and teacher well-being; this may be cautiously interpreted as support for influence on teacher morale. The study recommended school leaders exercise their influence to improve the support teachers receive from families and colleagues. As well, the study recommended leaders set up workshops to support teachers in increasing their effectiveness (Chi et al., 2014). These recommendations cohere with PLFs including direct and indirect approaches to improving teaching effectiveness and morale.

The study was limited by its use of a convenience sample. As well, the sample may be highly influenced by the local culture of elementary schools in Taiwan. Finally, although it analyzed principal direct effects on teacher effectiveness and teacher morale, its measure of leadership was unitary rather than accounting for the range of dimensions found in instructional and transformational leadership styles. Further analysis is needed that accounts for variation in leadership, integrates leadership styles, and informs leadership practices that increase both effectiveness and morale.

Finally, only one study could be found seeking to test the effects of integrating instructional and transformational leadership (Day et al., 2016). A national 3-year mixed-methods study investigated associations between principal practices and student performance on assessments in effective and improving primary and secondary schools in England. Data were

collected using a national survey of 309 principals of school improvement actions perceived to improve student performance. In-depth case studies were later conducted with a subsample of 20 schools to complement survey data.

The evidence illustrated that effective leaders combined transformational and instructional leadership strategies using direct and indirect approaches in ways that improved student performance. The positive effects found were not due to a single leadership style but an outcome of effective diagnosis of school needs and context-sensitive strategies that were "layered" and incrementally embedded into the culture of the school (Day et al., 2016).

However, the structural equation model (see p. 233) began with only three exogenous variables (setting directions, redesigning organization, and leader trust in teachers) which did not include instructional leadership dimensions. These leader factors did not account for the full range of principal impact found in prior decades of research (see Table 2). More important, the path to influence on student achievement was mediated by student behavior (0.14) and student attendance (0.40) just prior to the ultimate endogenous variable (student achievement). The model specification needs revision to better account for both instructional and transformational dimensions and teachers' direct effect on student achievement. Finally, although leader trust in teachers and distributed leadership were mediating variables, no account was made for the concurrent impact of principal practices on teacher effectiveness *and* teacher morale.

Summary

In sum, more than thirty years of evidence demonstrate principal practices impact student performance, teacher morale, or both. Qualitative evidence confirmed and illustrated how leaders have enacted these practices with gap-closing impact for students. However, conflicts emerged

when the dual outcomes of teacher effectiveness and teacher morale literatures were juxtaposed. The potential for leaders to perceive and alter internal states for themselves and their teachers suggested a potential means to address these conflicts. Unfortunately, limited studies could be found that integrated instructional and transformational principal practices to improve teacher effectiveness while simultaneously improving teacher morale. The current study sought to address this gap.

CHAPTER III: METHODS

This study investigated the complex relationships between principal practices, teacher effectiveness and teacher morale from the perspective of 240 middle school teachers in California. Chapter three details the research design, participants, procedures, instrumentation, research questions and data analytic techniques employed in this study.

Research Design

A cross-sectional survey was used to collect quantitative data on the relationship between dimensions of principal leadership, teacher effectiveness, and teacher morale. Predictors included measures of instructional leadership, transformational leadership, transactional leadership, and passive-avoidant leadership dimensions. Outcome dimensions of effectiveness were personal accomplishment and extra effort. Three dimensions of morale included satisfaction, emotional exhaustion, and depersonalization. Statistical tests were selected to compare differences in perception among low/high poverty groups, to observe relationships between leadership and teacher outcome dimensions, to predict teacher outcomes of leadership after accounting for school context, and to explore integration of leadership practices that functioned to predict engaged teachers (high effectiveness *and* morale).

Participants

A snowball sampling method led to an achieved sample of 240 middle school teachers in California. Criteria for inclusion included (1) two years' experience with principal referent of the survey, (2) assigned to grades 6, 7, 8 in any combination, and (3) taught in the state of California. Random sampling was the preferred method because in makes possible generalizing to the population from which they were selected. However, feasibility factors often a limit a researcher in obtaining a representative sample in K-12 educational settings, as was the case in this study.

Gall et al. (2010) pointed out there are times when a non-representative sample is much preferred to ending the study.

However, the probability of sample bias must be stated. Some participants may be more or less positive toward survey items due to professional association that led to the referral in the first place. As well, teachers motivated to participate may be different from teachers who declined to participate. The referral method was efficient as a means to increase participation but did not provide a response rate. This was due to realities of referral; if a teacher declined an invitation of a peer, there was no report back to the researcher. Similarly, teachers responding to a Facebook posting were counted while those who viewed the announcement but ignored it could not be counted. In sum, this study cannot generalize findings to California middle school teachers and caution should be exercised in drawing inferences from findings.

Two groups were formed based on socioeconomically disadvantaged (SED) level. Group one was identified as the low SED group (n=108). Group two (n=132) was identified as the high SED group (>70% free and reduced lunch). This cut point for poverty level is comparable to Baccus (2014) who studied the role of academic optimism in high and low performing schools, defining low SES with the same parameter. The sample size was sufficient for this design (Hallinger & Wang, 2015). Despite the limits of this sampling method, exploratory findings provided important answers to the research questions and suggest further research into integrated leadership. Summative descriptive statistics are provided in Table 4.

The teachers in this sample were characterized by a median experience range of 5-9 years in the profession and with their principal. More than half reported a master's degree or greater. The proportion of female teachers was 73.3% while only 25.4% of principals were identified as female. Almost a third (31.3%) of participants identified as Black or African American. Hispanic

or Latino teachers composed 22.1% of the sample and 20% identified as white. The sample was biased by a stronger proportion of African American teachers (compared to 3.9 % of all CA teachers) and a weaker proportion of white teachers (compared to 62% of all CA teachers). The mean SED of the sample was similar to the state average.

Table 4 Descriptive Summary for Participating Middle School Teachers

Demographic Category		Frequency	Percent	Cumulative Percent
Referral Method	Anonymous Link	168	70	70
	Social Media	72	30	100
Teacher Gender	Male	103	42.9	42.9
	Female	137	57.1	100
Principal Gender	Male	179	74.6	74.6
	Female	61	25.4	100
Ethnicity	Black or African American		31.3%	31.3%
	Hispanic or Latino		22.1%	53.4%
	White, non-Hispanic		20%	73.4%
	Other		26.5%	100%
Educational Attainment	Master's Degree or higher	160	66.6%	
Years in Teaching Profession	5-9 years	124	51.7%	
Years' Experience with Principal	5-9 years	108	45%	
Socioeconomically Disadvantaged (SED)	Sample Mean		61.42 (32.63)	
Low SED (<70% SED)		108	45%	
High SED (70% or greater)		132	55%	

N=240. Note= Experience and education reported as median of range or level.

Procedures

Following proposal approval at the end of April 2019, the researcher submitted a plan to IRB and, after revisions, received a "certified exemption from IRB at Claremont" on July 24, 2019 (Appendix A). This exemption applied to the use of instruments and informed consent for teacher participants. Participants were provided disclosure of the purpose, requirements, risks (e.g. loss of time), and written consent to participate. Confidentiality of all participants has been maintained. Email from participants will be deleted permanently following completion of the study.

Procedures for licensed use of three instruments led to permission to use the PIMRS teacher short form, the MLQ, and the MBI-ES in a combined electronic survey which was created using Qualtrics. Mind Garden provided online distribution of the MLQ and MBI-ES instruments as well as license verification. Verification of licensing for 150 initial teacher participants as well as 90 additional participants were obtained for MLQ and MBI-ES as required. Letters of approval stated restrictions on use of items, prohibiting full reproduction of the survey items in any published form (see Appendices B-D for each instrument).

Following IRB approval, the researcher sent a letter to Superintendents of identified urban schools requesting permission to conduct the study and email addresses for principals (Appendix E). Unfortunately, following two months of recruitment, no district agreed to participate. In one district, internal contacts were motivated to participate but the district disallowed any outside research, thus ending further recruitment effort. After consultation with my dissertation chair and with approval of committee, the sampling method was altered.

A snowball sampling method made it possible to go directly to teachers willing to participate. This limited generalizability and did not provide results sufficient to offer a school-

wide description of principal practices. However, it was considered sufficient to access the perceptions of California middle school teachers, albeit with sample bias.

The survey was created using Qualtrics which enabled production of a link to be posted on social media as well as an anonymous link that could be shared via email. All recruitment emails and postings included a link to a study website which included the consent form, link to the survey, and contact information. As well, consent was part of the survey itself ensuring voluntary participation and full disclosure. To incentivize participation, a $5 Amazon gift card was offered to each teacher completing the survey.

The snowball method employed direct recruitment from the researcher to California teachers through links on Facebook and Linked In (Appendix F). In addition, an email campaign was utilized as a person-to-person network by providing a link to the survey (Appendix G). Response rate could not be calculated as data were collected from teachers who decided to take the survey. After a sample of 240 was confirmed, the survey was closed. Finally, gift cards were distributed. The referral method yielded 30% of participants from social media and 70% from person-to-person referral. The average time to complete was 10 minutes, 26 seconds. Data was exported from Qualtrics to Excel where identifying schools were used to confirm SED reporting by teachers. Once confirmed, school names were deleted, and data was imported to SPSS 24 for analyses.

Instruments

The Multifactor Leadership Questionnaire (MLQ) Rater Form

The MLQ included 36 items measuring leader practices as well as 9 items measuring outcomes and is used by permission. Items used a 5-item Likert scale ranging from (0) *not at all* to (4) *frequently, if not always.* These items generated composite variable sub-scores which

measured the frequency of transformational, transactional, or passive-avoidant leadership styles. All leadership dimension sub-scores were computed from four items of the MLQ. Transformational leadership dimensions included (1) idealized influence- attributes, (2) idealized influence- behavior, (3) inspirational motivation, (4) intellectual stimulation, and (5) individual consideration. Transactional leadership dimensions included (1) contingent reward and (2) management-by-exception-active. Passive-avoidant leadership dimensions included (1) management-by-exception-passive and (2) laissez-faire leadership. Guidance for interpretation indicates the MLQ is not designed to label leaders as transformational or transactional; instead, it is more useful to identify leaders as "more transformational than the norm" or "less transactional than the norm."

The MLQ also measured two dimensions of teacher outcome relevant to this study; these included (1) satisfaction (two items) and (2) extra effort (three items) which were also composite variables.

The MLQ is one of the most widely used measures of leadership with high reliability and validation studies supporting its consistent and accurate measure of related constructs (Chin, 2007). Internal consistency estimates have ranged from 0.74-.094 for each dimension of leadership in a sample of 2,154 raters (Avolio & Bass, 2004). A meta-analysis of 87 studies found predictive validity of .44 for follower satisfaction, motivation, and organizational performance (Judge & Piccolo, 2004). Mean levels of reliability from 72 of these studies were 0.90 for transformational leadership, 0.75 for transactional leadership, and 0.67 for passive/avoidant leadership. Furthermore, confirmatory factor analysis studies provide additional support for these leadership dimensions (Avolio & Bass, 2004).

Principal Instructional Management Rating Scale (PIMRS) Teacher Short Form

The Principal Instructional Management Rating Scale (PIMRS) Teacher Short Form is composed of 22 items measured on a 5-point Likert scale where 1= "almost never" to 5= "almost always. Three sub-scales measure three dimensions of instructional leadership including *Defining mission* (five items), *manages the instructional program* (7 items), and *creates a positive learning climate* (10 items).

Hallinger's operationalization of instructional leadership and the teacher short from were applied to this study for several reasons. First, there is substantial evidence supporting the validity and reliability of the overall construct of instructional leadership and its three underlying dimensions (Hallinger & Wang, 2015). This concept of leadership has dominated study of principal effects for decades including over 500 dissertations (Hallinger & Wang, 2015). Further, in a meta-analysis of principal effects, studies using PIMRS composed more than half of peer-reviewed studies of principal effects and the construct of instructional leadership was found to have an important effect on student achievement (Robinson et al., 2008). It is important to note however, the PIMRS model is not a measure of principal effectiveness per se, but of frequency of practices. Thus, the optimal frequency of these practices and dimensions measured by sub-scales may be related to outcomes of interest in this study. The design of the PIMRS comports with the design of this study. Also, the frequency indicator of the measure is consistent with the MLQ and the MBI-ES. To preserve the measurement attributes cited, the instrument is used in its exact sequence including demographic questions posed at the beginning of the instrument. A copy is provided in Appendix H. Finally, the teacher short form was selected for the same reason it was created- to improve efficiency. Efficiency is a value when used in combination with other scales which increase the length of the survey (Hallinger et al., 2015).

Validity

Studies for the PIMRS teacher short form were limited to internal validity. All factor loadings were above 0.7. Goodness of fit index was 0.965 and root mean square error of approximation was 0.088 collectively demonstrating a good fit for the data and the conceptual framework. The scale measured related but different conceptual constructs under the overall construct of instructional leadership (Hallinger et al., 2015). The factor structure was stable between the original PIMRS teacher form and the more recent PIMRS teacher short form. Correlation among the three dimensions for the PIMRS teacher form was 0.91 (dimensions 1&2), 0.83 (dimensions 1 & 3), and 0.91 (dimensions 2&3). The PIMRS teacher short form showed minor differences with correlation of 0.90, 0.81, and 0.89 respectively.

Several limitations are noted for the PIMRS short form. Tests of validity were limited to internal validity; establishing external validity is a focus of future research. Second, the short form provides trustworthy measures of the overall construct and three dimensions but does not offer data on the 10 instructional leadership functions. Finally, the PIMRS is not a measure of principal effectiveness. It measures a principal's engagement in practices that constitute the instructional leadership role. (see Hallinger et al., 2015, p. 54).

Reliability

After the development of the 22-item PIMRS teacher short form, reliability was tested using the Gen Theory test of internal consistency. Results from this scale combined to generate composite variable sub-scores for three leadership dimensions found to have strong internal consistency: (1) defines school mission (five items, @= 0.935), e.g. *develop a focused set of annual school-wide goals;* (2) manages the instructional core (seven items, @= 0.901), *e.g. participate actively in the review of curricular materials;* and (3) creates a positive school

learning climate (ten items, @=0.912), e.g. *encourage teachers to use instructional time for teaching and practicing new skills and concepts* (Hallinger & Wang, 2015). Reliability was 0.943 for the whole instrument. I obtained dimension scores for the sample in this study by averaging the items for that dimension. Because there was more than one respondent (N=240 teachers), the score was determined by averaging the averages of different respondents (e.g. low/high SED). In step one I found the mean score on the subscale (e.g. defines school mission) for each of the teachers. Next I found the mean score of the group of teachers (e.g. low or high SED) to determine the "grand mean score."

Hallinger and Wang (2015) assert it is a popular misconception that a single standard exists for the reliability of a research instrument; instead, the standard should be based on the intended use of the data. For research purposes, an acceptable range is 0.60-0.70 (Hair et al., 1998). A higher reliability (0.80 or even 0.90) is necessary for instruments used to make evaluation and/ or termination decisions. As well, for evaluation, other sources of data should be used. One scale cannot adequately inform professional evaluation of principal effectiveness. Hallinger et al. (2015) conclude the teacher short form of PIMRS meets the standard of reliability necessary for research stating "Future researchers can be confident that the PIMRS Teacher Short Form is a more efficient yet equally effective instrument for data collection when compared with the longer PIMRS Teacher Form" (Hallinger et al., 2015, p. 128).

Two reliability coefficients for my sample (i.e. 0.612 and 0.685) meet the minimum standard and *mission* approached this level (0.584). I used a recruitment method that was effective in obtaining CA middle school teachers but not adequate to ensure that a high percent of any given school would participate. I used SPSS 24 to calculate Cronbach's alpha. The Gen Theory of internal consistency might have shown higher reliabilities if the sampling included

higher proportions from each school. However, given the strong reliability of the PIMRS instrument and reasonable coefficients for sample data, use of all three dimensions appeared acceptable for this study.

Maslach Burnout Inventory- Educator Survey (MBI-ES)

Original Maslach Burnout Inventory

The Maslach Burnout Inventory was developed in 1981. The initial version was the Maslach Burnout Inventory-Human Services Survey (MBI-HSS), which has since been validated through many studies and meta-analytic reviews (Maslach et al., 2004). These studies confirm the hypothesized relationship between job attributes and the experience of burnout. Alarcon (2011) conducted a meta-analysis finding demands were most powerfully related to Emotional Exhaustion, while resources were most related to Professional Accomplishment. These findings have intuitive application to schools where principals have tremendous influence over job demands and resources provided to teachers. The reliability of the MBI-HSS scales is also very strong (Maslach et al., 2018). An analytic review of 84 studies reported sample-specific reliability estimates (Wheeler et al., 2011). Each subscale was reviewed. The Emotional exhaustion scale mean was in the high .80s, Depersonalization and Personal accomplishment scales were in the mid-.70s. When translation of the scales was used, reliability was lower. This was not an issue for the current study. There was some variation in reliability based on occupation; therefore, authors of the scale recommend users calculate and report internal reliability when publishing results for research purposes. Later development of the MBI-ES assessed its psychometric properties comparable to the MBI-HSS.

Maslach Burnout Inventory- Educator Survey (MBI-ES)

The MBI-ES was an adaptation of the general MBI-HSS, selected for this study due to a combination of fit with researcher conceptualization of dimensions of morale. The adapted scale also has strong validity and reliability reported in the literature. Twenty-two items were measured with a 7-point Likert scale from 0= "never" to 3= "a few times a month" to 6= "everyday". Dimensions measured by sub-scales were (1) emotional exhaustion, (2) depersonalization, and (3) personal accomplishment. Each dimension was a composite variable of items. Maslach et al. (2018) assert that sub-scores do not dichotomize or diagnose teachers as *burned out* or *not burned out* but measure frequency of feeling on a continuum. Therefore, this study conceived teachers at one end feeling *more* burned out while those on the opposite end of the continuum feeling *more* morale.

Validity

A cross-validation study analyzed construct validity of the MBI for teachers using principal factor analysis (Iwanicki & Schwab, 1981). Findings replicated a three-factor structure previously found in studies of human services workers. When used with teachers, the same basic constructs were identified- i.e. emotional exhaustion (EX), depersonalization (DP), and personal accomplishment (PA). Subsequent studies found additional evidence supporting construct validity of the MBI for educational settings (Maslach et al., 2018). A study of full-time elementary (N=1203), intermediate (N= 410), and secondary teachers (N=1431) found that role conflict, work overload, classroom climate, and social support from colleagues constituted four workplace conditions correlated with emotional exhaustion, depersonalization, and personal accomplishment (Byrne, 1994). Another study (N=175) found a negative relationship between the three scales and workplace conditions such as supervision and the organization (Koustelios &

Tsigilis, 2005). In addition, a study of 806 teachers (Fernete et al., 2012) found changes in student behavior and principal leadership behavior were indirectly related to all three measures of burnout, mediated by lower self-efficacy. Finally, Chang (2013) found negative emotions resulting from student misbehavior were related to EX, DP, and PA in theoretically predicted ways. Additional evidence of validity for the MBI-ES comes from a correlation study comparing burnout scale scores with predicted outcomes (predictive validity). A mixed-methods study of 65 elementary teachers and 461 students (Hoglund et al., 2015) found the EE, DP, and PA were predictive of less improvement in the teacher-student relationship (measured by ethnographic observation) and in literacy skills of students. Thus, deterioration in burnout scores relates to decline not only in the emotional well-being of teachers and their students, but also in the learning of students. The current study builds on prior work by analyzing the relationship between perceptions of leadership practice and outcomes for teachers measured by the MBI-ES.

Reliability

Internal reliability was reported at .90, .76, and .76 for EX, DP, and PA respectively (Iwanicki & Schwab, 1981) and in a study of 492 teachers, internal reliability was .87, .76, and .84 (Chang, 2013). Maslach et al. (2018) summarized many other studies supporting the validity and reliability of the MBI-ES for measuring these dimensions in educational settings. Internal reliability was measured for each scale for the sample being studied. Results are provided in Table 14. The reliability coefficients for these dimensions (i.e. EE 0.88, DP 0.83, PA 0.68) compare favorably with prior studies and are the strongest in this study.

Independent variables

Teacher Perceptions of Principal Practice

Each item on each of two questionnaires asked teachers to rate frequency of a specific principal practice. Scale scores from each leadership questionnaire were computed for each teacher. Sub-scales were computed per instructions from instrument developers to create composite variables for each leadership dimension. There were three dimensions of instructional leadership measured by the PIMRS teacher short form and presented in Table 5 below.

Table 5 Leadership Dimensions Measured by the PIMRS

Dimension	Definition	Sample item	Alpha	Items
Defines Mission	The frequency with which a principal frames and communicates schoolwide academic goals for students	Develop a focused set of annual school-wide goals	0.94	5
Manages the Instructional Program	The frequency of principal action to improve curriculum, instruction, and assessment	Meet individually with teachers to discuss student progress	0.90	7
Creates a Positive Learning Climate	The frequency of principal action to create and sustain a climate focused on academic learning for students	Encourage teachers to use instructional time for teaching and practicing new skills and concepts	0.91	10

Note: Reliabilities reported from prior reliability studies using Gen theory of internal consistency (Hallinger & Wang, 2015).

The Multifactor Leadership Questionnaire (MLQ) measured five dimensions of transformational leadership, two dimensions of transactional leadership, and two dimensions of passive-avoidant leadership. These scores represent a teacher-level perception of frequency of specific practices that compose the identified leadership dimensions. The composite measure of

frequency for each dimension for each principal was employed as a predictive variable for analysis and presented in Table 6 below.

Table 6 Leadership Dimensions Measured by the Multifactor Leadership Questionnaire (MLQ)

Dimension	Definition	Alpha	Items
Idealized Influence (attributed)	Leader instills pride in others; goes beyond self-interest	0.77	10, 18, 21, 25
Idealized Influence (behavior)	Leader talks about important values, sense of purpose	0.70	6, 14, 23, 34
Inspirational Motivation	Enthusiasm, optimism, arousing team spirit, vision	0.83	9, 13, 26, 36
Intellectual Stimulation	Questions assumptions, reframes problems	0.75	2, 8, 30, 32
Individual Consideration	Pays attention to individual needs; coaches, mentors	0.80	15, 19, 29, 31
Contingent Reward	Clarifies expectations; offers recognition for goal achievement.	0.73	1, 11, 16, 35
Management by Exception (Active)	Specifies standards, what constitutes ineffective performance, closely monitors with corrective action for mistakes	0.74	4, 22, 24, 27
Management by Exception (Passive)	A reactive style that does not respond systematically; leaders avoid specifying expectations; does not act until problems are chronic	0.70	3, 12, 17, 20
Laissez-Faire	Absent when needed and avoids making decisions	0.74	5, 7, 28, 33

Note: Sample items are not provided per license restrictions noted in Appendix. Item numbers from original measure are noted. Reliability reported for prior use of this measure (Bass & Avolio, 2004). Used by permission.

Dependent Variables

Teacher Perceived Effectiveness

A scale score for the outcome of extra effort was measured by the MLQ and personal accomplishment was measured by the MBI-ES. Each composite variable was used as an outcome variable.

Teacher Perceived Morale

A scale score for satisfaction was measured by the MLQ. The MBI-ES was designed to measure burnout, a phenomenon conceived as the opposite end of a continuum for morale in this study. Two dimensions were measured by the MBI-ES including emotional exhaustion and depersonalization. Teachers experiencing high feelings of these dimensions were considered to have lower morale; teachers with lower scores on both dimensions and high scores on satisfaction were considered to have higher morale. All outcome variables are presented in Table 7 below.

Table 7 Dimensions of Teacher Effectiveness and Teacher Morale

Dimension	Definition	Sample	Alpha	Items
Personal accomplishment (MBI-ES) [Effective]	Feelings of competence and successful accomplishment in one's work with students	I have accomplished many worthwhile things in this job	0.84	4, 7, 9, 12, 17, 18, 19, 21
Extra effort (MLQ) [Effective]	Willingness to give extra effort to impact student and organizational outcomes.	NA	0.84	39, 42, 44
Emotional Exhaustion (MBI-ES) [Morale]	Feelings of being emotionally overextended and exhausted by one's work; the tired and fatigued feeling that develops as emotional energies are drained; an initial aspect of educator burnout.	I feel emotionally drained from my work	0.87	1, 2, 3, 6, 8, 13, 14, 16, 20
Depersonalization (MBI-ES) [Morale]	An unfeeling and impersonal response to students; the loss or absence of positive feelings about their students; may be displayed by derogatory labels, cold or distant attitude, and physical distancing from students.	I don't really care what happens to some students	0.76	5, 10, 11, 15, 22
Satisfaction (MLQ) [Morale]	Feeling satisfied with one's work and principal leadership practices.	NA	0.70	38, 41

Note: License of MBI-ES authorizes release of only three items pre-selected by the authors which are provided in this table. Reliabilities reported from (Chang, 2013). Sample items were not authorized by Mind Garden for MLQ items measuring dimensions of extra effort and satisfaction which are marked NA.

Antecedent Variables

School Context, Teacher, and Principal Demographic Variables

Data were collected for several antecedent variables including teacher gender, principal gender, as well as experience of teachers in the profession and with their principal. Ethnicity and school percent of socioeconomically disadvantaged (SED) students were reported. These variables have been used in substantial prior research to control for the effects of school context and staffing demographics (Hallinger et al., 2016; S. Printy, 2010).

Data Analysis

Quantitative analysis was conducted using SPSS 24. Descriptive statistics for all variables were compared in table form for low and high poverty middle schools.

Research Questions

RQ 1. What significant differences in perception do California middle school teachers in low and high poverty middle schools have of principal practices, teacher effectiveness, and teacher morale?

RQ2. What are the significant relationships between dimensions of principal practice and dimensions of teacher effectiveness and morale?

RQ 3. Which teacher-reported principal leadership dimensions predicted high effectiveness or high morale outcomes for teachers, controlling for factors of school context?

RQ 4. Is there a unique integration of leadership practices that substantially improves prediction of group membership for teachers (i.e. engaged, ineffective, overextended, or burned out)?

Statistical Techniques

RQ 1. A two-category variable was created from percent SED for each participant using the cut point of 70 or more for high poverty, less than 70 for low poverty. The mean difference in perception between these two groups of teachers from low and high poverty schools were compared using independent samples t-tests. Significant differences were reported.

RQ2. Research question two was addressed in two parts. First, a correlation matrix was created for all leadership factors with teacher outcome dimensions for effectiveness and morale. Second, the research analyzed significant correlations reported in the correlation matrix.

RQ 3. Research question three employed hierarchical regression stepwise in two levels. Level one included five school level control variables. Level two included twelve leadership dimensions as predictor variables. Each regression predicted one of five dimensions of teacher effectiveness or teacher morale (personal accomplishment, extra effort, emotional exhaustion, depersonalization) as the outcome variable.

RQ 4. Research question four began by identifying teacher profiles and then creating a categorical variable (engaged, ineffective, overextended, burned out). The researcher then employed discriminant function analysis using 36 items from MLQ leadership and 22 items of PIMRS teacher short form to predict group membership for teachers. Significance statistics included Lambda. The eigenvalue and canonical correlation were also reported. The structure matrix for each significant function were reported and interpreted. Finally, the predictive power was reported in a classification table with analysis of the proportional reduction in error.

Summary

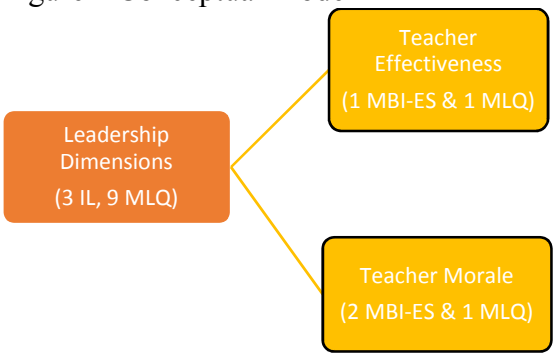
This quantitative survey study extended research on principal effects to explore the relationships and predictive effects of principal leadership dimensions on teacher effectiveness

and teacher morale in California middle schools. Data techniques included comparison of descriptive and correlation statistics as well as hierarchical linear regression stepwise to identify dimensions predicting teacher effectiveness and teacher morale. Discriminant function analysis explored functions that integrated practices from four diverse leadership styles. The structure matrix for each significant function was reported.

CHAPTER IV: RESULTS

The purpose of this study was to better understand the complex relationships between principal practices, teacher effectiveness and teacher morale. The study compared teacher perspectives on frequency of leadership dimensions, teacher effectiveness and teacher morale in low and high poverty middle schools in California. Second, this study analyzed the associations between twelve leadership dimensions and five teacher outcomes. Next the study tested a two-level predictive model to separate predictive effects of school context and demographic variables from the predictive effects of twelve leadership dimensions. Finally, this study explored if and how diverse leadership practices could be integrated to predict *engaged* teachers experiencing frequent feelings of morale *and* effectiveness. The model employed is theoretically grounded in prior research of principal practices, teacher effectiveness, and teacher morale.

Figure 1 Conceptual Model



Research Questions:

1. Do middle school teachers in low and high poverty middle schools in California perceive leadership dimensions, teacher effectiveness, and teacher morale in significantly different ways?

2. What are the significant associations between dimensions of principal practice, teacher effectiveness and teacher morale?

3. Which leadership dimensions predict high effectiveness or high morale outcomes for middle school teachers, controlling for factors of school context?

4. Is there a unique integration of leadership practices that substantially improves prediction of middle school teacher morale and effectiveness?

Survey Administration

The snowball sampling method produced 240 qualifying participants of which 30% were obtained through social media and 70% through personal referrals using the anonymous link (see Table 4). The mean time to complete the survey was 10 minutes, 27 seconds, which compared favorably to my 12-minute estimate. Efforts to maximize data collection and limit survey fatigue appear successful.

Demographics

Poverty level for each school context in which teacher participants work was reported based on percent of students identified as socioeconomically disadvantaged (SED) by the state of California. The state average for socioeconomically disadvantaged students in California is 60.9% (https://www.caschooldashboard.org/reports/ca/2019). The mean SED for the sample in this study was 61.42% (32.63) which was similar to the statewide mean.

The diversity of sample teachers, all California teachers, and all California students is summarized below (Table 9). Some ethnic groups have comparable representation such as Asian and Hispanic/Latino. On the other hand, the proportion of Black and African American teachers in the sample was nearly ten times the proportion statewide. The sample may be biased toward perspectives unique to this ethnic group. A second large difference is white teachers whose actual representation of teachers statewide is three times greater than in this sample; as such, perspectives unique to this ethnic group may be muted. Given the imbalances that have existed historically for underrepresented groups, this bias may be beneficial to a study of principal practices in high and low poverty schools.

Table 9 Ethnicity of Sample Teachers with all California Teachers and Students

Ethnicity	Sample Teachers	All CA Teachers 2017-2018*	All CA Students**
American Indian or Alaska Native	9.8%	0.5%	0.5%
Asian	5.3%	5.8%	9.3%
Black or African American	31.3%	3.9%	5.4%
African	1.3%	-	
Filipino	-	1.5%	2.4%
East Asian or Southern Asian	4.8%	-	
Hispanic or Latino	22.1%	20.7%	54.6%
Native Hawaiian or Pacific Islander	1.7%	0.3%	0.5%
Two or more races	-	0.8%	3.6%
White	20%	62%	22.9%
None Reported	-	4.3%	-
Middle Eastern	1.3%	-	-
	N=240	N= 306,261*	N=10,866,302**

*California Department of Education, Educational Demographics Office: http://www.cde.ca.gov/ds/sd/df/
** https://www.caschooldashboard.org/reports/ca/2019

Female teachers composed 57.1% of the sample (Table 1). Statewide, females constituted 73.3% of the teacher workforce (https://www.ed-data.org/state/CA), a larger proportion than was found in the sample for this study. Teachers reported the gender of their principal. Male principals (74.6%) outnumbered female principals (25.4%) by nearly 3 to 1 (Table 4). One criterion for teacher participation was a minimum of two years' experience with the principal who is referred to in the questionnaire. An ordinal measure was used. Participants with only one-year experience were screened out using programming in Qualtrics. One result was a zero score for one-year experience, an artifact of study requirements and not reflective of teachers in low or high poverty schools. In other ways, the data was normally distributed where the highest percent (45%) was composed of teachers working with their principals 5-9 years. Table 10 reported frequencies for this variable.

Table 10 Teacher Experience with Principal

Variable	Frequency	Percent	Cumulative Percent
2-4 years	83	34.6	34.6
5-9 years	108	45.0	79.6
10-15 years	40	16.7	96.3
More than 15 years	9	3.8	100.0
Total	240	100.0	

N=240

Total professional experience of teachers was slightly lower than the statewide average of twelve years (https://www.ed-data.org/article/Teachers-in-California). However, 63% of the sample fall into the range of 5-15 years or more, indicating an experienced group of teachers in the sample (see Table 11 below).

Table 11 Experience in Teaching Profession

Variable	Frequency	Percent	Cumulative Percent
2-4 years	88	36.7	36.7
5-9 years	124	51.7	88.4
10-15 years	27	11.3	99.7
More than 15 years	1	.4	100
Total	240	100.0	

N=240

The final teacher variable was educational attainment, measured from high school (1) to doctorate degree (5). Teachers with a bachelor's degree composed 32.9% of the sample while two thirds (66.7%) held higher degrees (see Table 12).

Table 12 Educational Attainment

Variable	Frequency	Percent	Cumulative Percent
High School	1	.4	.4
Bachelor's Degree	79	32.9	33.3
Master's Degree	65	27.1	60.4
Professional Degree	74	30.8	91.3
Doctorate Degree	21	8.8	100.0
Total	240	100.0	

N=240

Composite Variables

Developers of three instruments provided guidance in specified items that composed a composite variable (Avolio & Bass, 2004; Hallinger & Wang, 2015; Maslach et al., 2018). Composite variables were computed using the mean score for designated items. Descriptive statistics were used to report the frequency, central tendency, variability, and internal reliability of the composite variables. Because of the frequency of the leadership dimensions and outcome variables, abbreviations were used. Table 13 summarizes the data for each variable and provides the mean, standard deviation, and full name of the composite variable derived from results of PIMRS, MLQ, and MBI-ES administration and scoring. In addition, summative data from prior studies (MLQ & MBI-ES) are provided to support comparative analyses, a practice encouraged by authors of these two instruments (Avolio & Bass, 2004; Maslach et al., 2018).

Table 13 Composite Variables of Leadership, Morale, and Effectiveness

Abbreviation	N	M	SD	Cronbach's alpha	# of items	Comparison with prior studies[1, 2, 3]	SD	Dimension Measured
DM	240	3.48	0.63	0.58	5	α=.935[1]		Defines School Mission
INST	240	3.36	0.56	0.61	7	α=.901[1]		Manages the Instructional Program
LC	240	3.40	0.50	0.69	10	α=.912[1]		Develops a Positive Learning Climate
IIA	240	2.33	0.63	0.43	4	2.75	0.72	Idealized Influence-Attributes
IIB	240	2.35	0.40	0.40	4			Idealized Influence-Behavior
IM	240	2.35	0.36	0.36	4	2.86	0.76	Inspirational Motivation
IS	240	2.35	0.53	0.53	4	2.74	0.71	Intellectual Stimulation
IC	240	2.42	0.48	0.48	4	2.81	0.76	Individual Consideration
CR	240	2.61	0.47	0.39	4	2.86	0.68	Contingent Reward
MBEA	240	2.14	0.59	0.39	4	1.69	0.89	Management by Exception Active
MBEP	240	2.09	0.55	0.35	4	1.03	0.75	Management by Exception Passive
LF	240	1.94	0.66	0.50	4	0.65	0.67	Laissez-Faire Leadership
EE	240	2.42	0.68	0.44	3	2.75	0.86	Extra Effort
SAT	240	2.41	0.73	0.58	2	3.08	0.82	Satisfaction
EX	240	2.95	1.01	0.88	9	2.36	1.22	Emotional Exhaustion
DP	240	2.87	1.18	0.83	5	2.2	1.38	Depersonalization
PA	240	3.59	0.64	0.68	8	4.19	0.86	Personal Accomplishment

[1] Gen Theory test of internal consistency was conducted by Hallinger et al. (2015) which met reliability standards for research instrumentation. Cronbach's alpha for sample data was calculated and reported as well.
[2] Normative Study Rater (n=13,829) provides a comparison to a large combined sample using the MLQ (Avolio & Bass, 2004). In this study, the authors treated idealized influence as one dimension which has been further distinguished by attributes or behaviors of the leader. Therefore, the dimensions for the sample are treated as two dimensions while the normative study data pools II-A and II-B as one dimension. Also note that a 3rd outcome, perceived leader effectiveness, was not central to this study so is not utilized in analyses.

[3] Maslach et al. (2004) computed scores for several samples yielding a total sample of 4,163 for the purpose of comparison of group mean scores. All items are scored from "Never=0" to "Every Day=6."

Principal Instructional Management Rating Scale (PIMRS) Teacher Short Form

Three composite variables measured dimensions of instructional leadership. Survey item responses were 1= "Almost Never" 2= "Seldom" 3= "Sometimes" 4= "Frequently" and 5= "Almost Always." Mean scores (see Table 13) for defining mission were 3.48 (0.68), for manages the instructional program 3.36 (0.56), and for develops a positive learning climate 3.40 (0.50).

Multifactor Leadership Questionnaire (MLQ)

All items were scored 0-4 where 0= "Not at all" 1= "Once in a while" 2= "Sometimes" 3= "Fairly often" and 4 was "Frequently, if not always." Guidance for interpretation indicates the MLQ is not designed to label leaders as transformational or transactional; instead, it is more useful to identify a leader or group of leaders as "more transformational than the norm" or "less transactional than the norm." Mean scores for each scale were compared to the normative tables developed in prior research. Table 13 presented these data. All mean scores for sample data were lower than the normative group, although the normative sample showed slightly higher variation.

Maslach Burnout Inventory-Educator Survey (MBI-ES)

Internal reliability was measured for each scale for the sample. Results were provided in Table 13. The reliability coefficients for these dimensions (i.e. EE 0.88, DP 0.83, PA 0.68) compare favorably with prior studies and are the highest in this study.

Research Question One

Do teachers in low and high poverty middle schools in California perceive leadership dimensions, teacher effectiveness, and teacher morale in significantly different ways?

It was necessary to compute a dichotomous variable using cut points for percent SED to answer research question one. The first group was labeled "low poverty" and comprised teacher participants in schools with less than 70% SED. Teachers in schools with 70% or greater SED were placed into the "high poverty" group in SPSS. The frequency table for these groups was presented in Table 4. Independent samples t-tests were performed comparing the perspectives of teachers in low and high poverty contexts. Statistical differences for demographic variables, leadership dimensions, and teacher outcomes dimensions were reported in Table 14.

There were no significant differences in principal gender or teacher experience. However, three variables were significantly different. The proportion of female teachers in low SED schools was .49 whereas it was .64 in high SED schools ($t= -2.27$, $p=.024$). The experience of high SED schoolteachers with their principal was significantly greater than their low SED peers ($t= -2.12$, $p=.035$). Finally, the educational attainment of low SED teachers was significantly higher than high SED teachers ($t= 3.51$, $p=.001$).

Means scores for frequency of three dimensions of instructional leadership were compared for low and high poverty teacher groups. The independent samples t-test was conducted (see Table 14) for all three dimensions finding no significant difference between groups by poverty level.

The independent samples t-test was performed to test for differences in transformational leadership dimensions between low and high poverty groups. There were no significant differences (Table 14). However, some differences with the normative study are worth noting

(see Table 13). Teachers in low and high poverty schools reported lower scores for all five dimensions of transformational leadership. Sample teacher scores ranged from 2.29 (0.71) to 2.4 (0.55) while normative study participants reported scores of 2.74 (0.71) to 2.86 (0.76).

The independent samples t-test was performed to compare low and high poverty teacher perspectives on frequency of transactional leadership practices, but differences were not statistically significant. Here again, perspectives from this sample showed contrast with the normative data (see Table 13). Teachers in the high poverty group rated their principals 2.64 (0.61) on contingent reward, a higher score than the low poverty group of 2.58 (0.47). Both sample groups rated principals lower than the normative study mean of 2.86 (0.68). On the other hand, scores for management-by-exception-active were higher for sample groups. The low poverty group rated principal frequency at 2.16 (0.61) contrasted with 2.13 (0.56) for the high poverty group; both exceeded the mean of 1.69 (0.89) for the sample in the normative study (see Table 13). Low and high poverty groups for this study perceived principal contingent reward practices as less frequent but management-by-exception-active as more frequent than the normative study sample.

The independent samples t-test was performed comparing passive avoidant leadership dimensions for low and high poverty groups. There were no significant differences. Table 14 reported t-test results. However, observation of difference with the normative study data (see Table 13) suggest the passive avoidant leadership style may be substantially greater in the schools for this sample. While the normative study participants rating of 1.03 (0.75) was low for management-by-exception-passive (MBEP) and 0.65 (0.67) for Laissez-faire (LF) leadership, the ratings of low and high poverty teachers were at or close to 2.0 (see Table 13). High poverty teachers rated MBEP at 2.05 (0.59) and LF leadership at 1.89 (0.66). The low poverty group

rated these leadership practices most frequent with a mean of 2.16 (0.67) for MBEP and 1.99 (0.66) for LF leadership.

Table 14 Independent samples t-tests comparing low and high poverty groups for 22 variables

	Mean	Std. Deviation	Low SED Mean	Std. Deviation	High SED Mean	Std. Deviation	t	Sig.
I. Demographic Variables								
Proportion of female principals	.25	.44	.22	.42	.28	.45	-1.03*	.303
Proportion of female teachers	.57	.50	.49	.50	.64	.48	-2.27*	.024
Experience of teacher with principal	2.90	.81	2.78	.674	2.99	.895	-2.12*	.035
Experience of teacher in profession	2.75	.66	2.80	.623	2.72	.691	.89	.373
Education level of teachers	3.15	.99	3.39	.946	2.95	.991	3.51	.001
II. Dimensions of Leadership								
Defines the School Mission	3.48	.63	3.41	.59	3.53	.65	-1.43	.154
Manages the Instructional Program	3.36	.56	3.30	.57	3.42	.55	-1.65	.101
Develops a Positive School Learning Climate	3.40	.50	3.36	.50	3.43	.51	-1.07	.285
Idealized Influence Attributed	2.33	.63	2.29	.71	2.37	.56	-.93*	.354
Idealized Influence Behavior	2.35	.57	2.32	.60	2.37	.55	-.71	.478
Inspirational Motivation	2.35	.59	2.35	.65	2.35	.53	.068*	.946
Intellectual Stimulation	2.29	.58	2.29	.63	2.29	.54	.03*	.976
Individual Consideration	2.42	.52	2.4	.55	2.44	.50	-.632	.528
Contingent Reward	2.61	.47	2.58	.47	2.64	.46	-1.01	.315
Management-by-Exception ACTIVE	2.14	.59	2.16	.62	2.13	.56	.351	.726
Management-by-Exception PASSIVE	2.09	.55	2.16	.59	2.05	.51	1.52*	.130
Laissez-faire Leadership	1.94	.66	1.99	.67	1.89	.66	1.12	.264
III. Dimensions of Teacher Effectiveness								
Personal Accomplishment	3.59	.64	3.63	.64	3.57	.64	.76	.449
Extra Effort	2.43	.68	2.32	.71	2.52	.65	-2.28	.024
IV. Dimensions of Teacher Morale								
Satisfaction	2.41	.73	2.34	.78	2.47	.69	-1.34	.181
Emotional Exhaustion	2.95	1.01	3.09	.99	2.83	1.02	2.0	.047
Depersonalization	2.87	1.18	3.03	1.13	2.74	1.22	1.89	.060

Note: Lavene's test for equality of variances performed for all tests.
*Equal variances not assumed; all others assume equal variances.
N= 240 Low SED n= 108 High SED n= 132

The independent samples t-test was performed comparing low and high poverty teacher groups' rating of extra effort and satisfaction. Extra effort was significantly greater (M=2.52, SD 0.65) in the high poverty group but only (M=2.32, SD 0.71) for the low poverty group (t= -2.28, df 238, p=0.02). Table 8 reports t-test results. There was no significant difference for satisfaction. In addition, outcomes of leadership reported by the normative study were greater than those reported by teachers in low and high poverty schools. Both groups from this study were below the normative group mean of 2.71(0.86). On the other hand, teachers in the low poverty group reported satisfaction of 2.16 (0.58) which was greater than teacher mean rating of 2.13 (0.56) in the high poverty group. Both sample groups reported lower satisfaction than the normative study mean 3.08 (0.82). Table 14 reports normative data comparison.

Independent samples t-tests were performed for teacher outcomes measured by the MBI-ES for low and high poverty groups. Teachers in low poverty schools reported significantly higher emotional exhaustion (M=3.09, SD 0.99) than in high poverty schools (t= 1.99, df 238, p=0.05). There were no significant differences for depersonalization or personal accomplishment. Teachers in both groups for this study reported higher emotional exhaustion (EX) and depersonalization (DP) than the comparison sample from prior studies (Maslach et al., 2018). Both groups scored lower than the comparison sample (see Table 13).

Summary

This section presented administrative and demographic data for the sample of 240 middle school teachers. In addition, data and discussion were provided for research question one. The mean scores for leader practices, teacher morale, and teacher effectiveness were compared using independent samples t-tests for low and high poverty groups. Comparisons were also reported with normative data when available.

High poverty schools were staffed by a higher proportion of female teachers who had significantly more experience with their current principal. Low poverty schools were staffed by teachers with significantly higher educational attainment.

No significant differences were found between low and high poverty teacher groups for dimensions of leadership practice. This finding indicates that pooling the data for subsequent analyses may be appropriate. It is also possible that using the ratio variable of percent SED as a school context variable in regression may reveal a significant predictive relationship between poverty level and outcomes important to this study.

Finally, five composite teacher outcome variables were tested for significant differences between teachers in low and high poverty schools. Teachers in the high poverty schools reported significantly higher scores for extra effort and significantly lower frequency of emotional exhaustion than teachers in the low poverty schools' group (Table 14).

Research Question Two

What are the significant associations between dimensions of principal practice, teacher effectiveness and teacher morale?

To answer research question two, I computed the correlations for 17 composite variables. These included the three dimensions of instructional leadership, five dimensions of transformational leadership, two dimensions of transactional leadership, two dimensions of passive avoidant leadership, two dimensions of teacher effectiveness (extra effort and personal accomplishment), and three dimensions of teacher morale (satisfaction, emotional exhaustion and depersonalization). These data are reported in table 15 below. My analyses focused on the inter-relationship of each construct and then analyzed the strongest associations with outcome variable.

Inter-dimensional Association

I analyzed the correlation of factors that were conceptualized by instrument authors as one construct. The first construct, instructional leadership, showed moderate to strong inter-dimensional correlation (.604, .700, .745, p=.01). The correlation matrix is presented in Table 15. Data appear to confirm that defining mission (DM), instructional management (INST), and learning climate (LC) are related dimensions of one construct, instructional leadership, yet have unique associations with variables of interest.

The inter-dimensional correlations of transformational leadership ranged from .239 to .583 (p=.01), i.e. moderate to weak associations. Moreover, the correlations of idealized influence attributed (IIA), idealized influence behavior (IIB), inspirational motivation (IM), intellectual stimulation (IS), and individual consideration (IC) with dimensions of instructional leadership were stronger (.252 to .620, p=.01). While only three intercorrelations above .500

occurred for transformational leadership, there were eleven correlations greater than .500 with instructional leadership (see Table 15). Another observation is that IM and IS had two of the highest associations with personal accomplishment, demonstrating unique contributions to predicting teacher effectiveness. For this sample, it appears that exploring the unique contribution of each dimension and its underlying items may lead to greater insight than in using the scale to derive an overall transformational leadership score. Regression analysis and discriminant function analysis were used for further exploration.

The two dimensions for transactional leadership had a weak interdimensional association with each other (.226, p= 0.01); indeed, all six correlations with instructional leadership were stronger. It may be that items in active management by exception and contingent reward integrate with instructional management practices.

Passive avoidant leadership dimensions demonstrated a weak correlation (.334, p=0.01), albeit a larger association than transactional leadership. While the scale may not reliably describe the construct of passive avoidant leadership, the dimensions appear to have unique predictive properties. For example, the above correlations indicate that for each increase in score for management-by-exception passive (MBEP), emotional exhaustion is increased (.290, p=.01). Moreover, LF practices demonstrate a stronger association with emotional exhaustion (.499, p=.01) and depersonalization (.575, p=.01). Further analysis was warranted to explore the explanatory power of these dimensions.

The MLQ measured two positive teacher outcomes (extra effort and satisfaction) which were significantly correlated (.488, p=.01). The MBI-ES measured two negative teacher outcomes (emotional exhaustion and depersonalization) and one positive outcome (personal accomplishment). Association between positive outcomes (EE-SAT) was moderate (.488, p=.01)

while negative outcomes (EX-DP) were strongly correlated (.745, p=.01). Although the (EX-DP) relationship was strong (.745, p=0.05), personal accomplishment (PA) weakly correlated with EX at .208 (p=.01) and with SAT at .257 (p=.01). These significant and weak associations suggest PA measures something unique from the other two. In fact, observation of Table 15 shows that personal accomplishment has a stronger association with all but one factor in the matrix than it does with EX or DP. While personal accomplishment (a dimension of effectiveness) is related to morale, it is also unique. As such, PA is used as the outcome variable for teacher effectiveness in regression analyses.

Associations with Outcome Variables

Finally, significant associations occurred for most dimensions in the matrix (see Table 16). This study sought the strongest associations with outcome dimensions of morale and teacher effectiveness. Therefore, I analyzed the top three associations for each outcome.

For two positive teacher outcomes (EE, SAT), three dimensions of instructional leadership provided the strongest relationship. Defining school mission was associated with extra effort (.603, p=.01) and satisfaction (.552, p=.01). Instructional management correlated with extra effort (.573, p=.01) and had the strongest association of all composite variables with satisfaction (.594, p=.01). The third dimension, creates positive learning climate, correlated with satisfaction (.592, p=.01) and had the strongest association of all composite variables with extra effort (.612, p=.01).

Table 15 Correlation Matrix

Table 15 Correlation Matrix for Dimensions of Leadership, Morale, and Effectiveness

Variable	DM	INST	LC	IIA	IIB	IM	IS	IC	CR	EA	MBEP	LF	EE	SAT	EX	DP	PA
	Instructional Leadership			Transformational Leadership					Transactional Leadership		Passive /Avoidant Leadership		MLQ Positive Teacher Outcomes		MBI-ES Negative Teacher Outcomes		MBI-ES Effective Teachers
DM	1	.604**	.700**	.550**	.558**	.510**	.512**	.252**	.346**	.229**	.256**	-0.97	.603**	.552**	-.172**	-.391**	.248**
INST		1	.745**	.508**	.506**	.555**	.582**	.527**	.501**	.483**	.429**	.210	.573**	.594**	.083	.048	.461**
LC			1	.529**	.561**	.488**	.620**	.432**	.465**	.414**	.433**	.114	.612**	.592**	-0.40	-.103	.431**
IIA				1	.421**	.492**	.510**	.216**	.336**	.224**	.288**	-0.68	.471**	.445**	-.118	-.168**	.274
IIB					1	.435**	.506**	.329**	.256**	.229**	.370**	-.010	.432**	.497**	-.032	-.110	.417**
IM						1	.583**	.421**	.239**	.361**	.363**	.076	.491**	.462**	.076	.023	.490**
IS							1	.429**	.317**	.371**	.482**	.101	.498**	.496**	.042	.03	.482**
IC								1	.445**	.442**	.372**	.316*	.329**	.290**	.384**	.351**	.457**
CR									1	.226**	.293**	.129*	.372**	.299**	.150*	.148*	.364**
MBEA										1	.353**	.324**	.263**	.374**	.234**	.223**	.445**
MBEP											1	.334**	.258**	.330**	.290**	.240**	.459**
LF												1	-.027	0.31	.499**	.575**	.154*
EE													1	.488**	-.129*	-.199**	.361**
SAT														1	-.062	-.163*	.418**
EX															1	.745**	.208**
DP																1	.257**
PA																	1

N=240 **p=0.01 *p=0.05

In contrast, instructional leadership had very weak and mostly non-significant association with two negative teacher outcomes (EX, DP). Defining mission was negatively associated with depersonalization (-.391, p=.01) indicating that each increase in frequency of principals defining school mission related to a decrease in teacher depersonalization. The strongest associations with emotional exhaustion were management-by-exception-passive (.290, p=.01) and laissez-faire leadership (.499, p=.01). Indeed, laissez-faire leadership not only related to increased emotional exhaustion but was the strongest correlate of depersonalization experienced by teachers (.575, p=.01).

The final outcome of analysis was the MBI-ES measure of personal accomplishment, a dimension of teacher effectiveness in this study. The instructional leadership dimension of managing the instructional program correlated with increased personal accomplishment scores for teachers (INST= .461, p=.01). In addition, two associations with personal accomplishment came from transformational leadership. Intellectual stimulation correlated moderately (.482, p=.01) and the strongest association to personal accomplishment was inspirational motivation (.490, p=.01).

Summary

This study sought to explain associations between leadership styles, dimensions of each style, and outcomes of morale and effectiveness. Instructional leadership dimensions had stronger intra-dimensional relationships than transformational leadership dimensions. Instructional leadership dimensions had the strongest association with positive outcomes (EE, SAT). In addition, one dimension of instructional leadership was in the top three correlates of teacher burnout (negative correlation) and personal accomplishment (positive correlation). In contrast, passive avoidant leadership dimensions were the strongest correlates of burnout while

transformational leadership dimensions combined with instructional leadership as correlates of personal accomplishment.

This study sought to predict high positive teacher outcomes (EE, SAT), low negative teacher outcomes (EX, DP), while simultaneously increasing teacher effectiveness (PA). Observations of the correlation matrix provided insight into important associations but did not predict the outcomes while controlling for the effects of school context variables. Therefore, I performed hierarchical linear regressions stepwise for each of the five outcome variables. The next section reports these results.

Research Question Three

Which leadership dimensions predict high effectiveness or high morale outcomes for teachers, controlling for factors of school context?

I performed five hierarchical linear regressions stepwise to identify predictors of five teacher outcomes. Personal accomplishment and extra effort were two dimensions of effectiveness. Satisfaction, emotional exhaustion, and depersonalization were three dimensions of morale. Each of these outcomes were predicted in a regression of two levels. Two groups of predictor variables were employed. School context factors are antecedent to the effects of twelve leadership dimensions. Therefore, the first group of variables (i.e. school context and demographic variables) were entered in step one. In step two, leadership variables were entered. In other words, the two sets of variables were forced hierarchically; however, within a set, variables were selected with a stepwise algorithm. Missing data were deleted listwise. Variables from the final model of each regression were presented in Tables 17-21 with discussion of significant predictors. All analyses were computed using SPSS 24. Descriptive summary for each variable is provided in Table 16 below.

Table 16 Descriptive Statistics

	Mean	Std. Deviation	N
I. School Context Variables			
Socioeconomically Disadvantaged*	61.42	32.63	240
Female principals	.25	.44	240
Female teachers	.57	.50	240
Experience of teacher with principal	2.90	.81	240
Experience of teacher in profession	2.75	.66	240
Education level of teachers	3.15	.99	240
II. Dimensions of Leadership			
Defines the School Mission	3.48	.63	240
Manages the Instructional Program	3.36	.56	240
Develops a Positive School Learning Climate	3.40	.50	240
Idealized Influence Attributed	2.33	.63	240
Idealized Influence Behavior	2.35	.57	240
Inspirational Motivation	2.35	.59	240
Intellectual Stimulation	2.29	.58	240
Individual Consideration	2.42	.52	240
Contingent Reward	2.61	.47	240
Management-by-Exception ACTIVE	2.14	.59	240
Management-by-Exception PASSIVE	2.09	.55	240
Laissez-faire Leadership	1.94	.66	240
Dimensions of Teacher Effectiveness			
Personal Accomplishment	3.59	.64	240
Extra Effort	2.43	.68	240
Dimensions of Teacher Morale			
Satisfaction	2.41	.73	240
Emotional Exhaustion	2.95	1.01	240
Depersonalization	2.87	1.18	240

*The variable of SED was dichotomized for group comparison for research question one. In regression analyses, the ratio variable of percent of SED is used.

Dimensions of Effectiveness

Outcome #1 Personal Accomplishment

At least one variable from each group entered the regression equation (see Table 17). Group one variables accounted for 10% of variation ($F= 8.698$, $p<.001$). However, a 36.7% increase in explained variation resulted from inclusion of leadership dimensions (F change 9.751, $p=.002$), for a total R^2 of .467 ($F= 22.408$, $p<.001$). The final model included one significant school level variable and six leadership dimensions.

Table 17 Predictors of Personal Accomplishment

Model Summary		Beta	R^2	t	Sig t	ΔR^2
School Context	Experience of teacher in profession	.074		1.408	.161	
	Education level of teachers	-.072		-1.396	.164	
	Female teachers	.119	.10	2.403	.017	.10
Leadership Dimensions	Inspirational Motivation (four items)	.300		4.953	.000	
	Management-by-Exception PASSIVE (four items)	.177		3.099	.002	
	Management-by-Exception ACTIVE (four items)	.197		3.577	.000	
	Contingent Reward (four items)	.209		3.926	.000	
	Idealized Influence Behavior (four items)	.209		3.381	.001	
	Defines the School Mission	-.212	.47	-3.266	.001	.37

R= .68 R^2= .47 F= 22.408 Sig F= <.001 N= 240

The only school context variable significant in the final model was proportion of female teachers (.135, t= 2.156, p=.032), which predicted higher personal accomplishment. Note that two context variables (e.g. teacher experience and education) were not significant after leadership variables were entered.

The greater explanatory power came from frequencies of leadership dimensions. Indeed, after leadership dimensions were added to the model, the explained variation increased by 36.7%. The betas for the leadership variables took into account the presence of the school context variables that had been selected in level one.

Six leadership dimensions were significant in the final model. The strongest dimension was *inspirational motivation* (.300, t=4.953, p<.001). A second transformational leadership dimension was *idealized influence-behavior* (.209, t= 3.381, p=.001). One instructional leadership dimension, *defines school mission*, had an inverse relationship (-.212, t= -3.266, p=.001), indicating an increase in this dimension predicted lower personal accomplishment. Both transactional leadership dimensions played a significant role. *Management-by-exception-active*

(.197, t=3.577, p<.001) and *contingent reward* (.209, t=3.926, p<.001) positively predicted higher personal accomplishment. Finally, one passive-avoidant leader dimension, *management-by-exception-passive*, predicted higher personal accomplishment (.177, t= 3.099, p=.002).

School level variables had minimal influence on this outcome after leadership dimensions were factored in. Poverty level had no significant effect. Four leadership styles exerted influence through at least one dimension. Each style was perceived by teachers to contribute to their personal accomplishment. This result supports the search for integration of leadership styles.

Outcome #2 Extra Effort

Two or more variables entered the regression equation from each of two groups. Group one variables accounted for 6.9% of variation (F=3.979, p=.047). When dimensions of leadership practice were added, an additional 42.1% of variation was explained. A total of 49% of variation was explained by the model (F=6.260, p=.013). The final model included two significant school context variables and four significant leadership dimensions. Table 18 presents results.

Table 18 Predictors of Extra Effort

Model Summary		Beta	R^2	t	Sig t	ΔR^2
School Context	Education level of teachers	-.110		-2.270	.024	
	Experience of teacher with principal	-.100		-2.018	.045	
			.07			.07
Leadership Dimensions	Develops a Positive School Learning Climate	.231		2.900	.004	
	Defines the School Mission	.199		2.769	.006	
	Manages the Instructional Program	.190		2.502	.013	
	Inspirational Motivation	.161		2.737	.007	
			.49			.42

R= .70 R^2= .49 F= 37.29 Sig F= <.001 N= 240

Two school context variables were significant in the final model. The strongest variable in this group was educational attainment of teachers (-.110, t= -2.27, p=.024) and experience of

teachers with their principal (-.100, t= -2.018, p=.045). These data indicate that schools with less experience with their principal and less education predicted higher scores for extra effort. This may be indicative of early career teachers eager to make a difference. However, these effects were small. Once again, the percent socioeconomically disadvantaged was not a significant predictor. Poverty level as a continuous variable did not predict differences in teacher effort.

The greater explanatory power came from frequencies of leadership dimensions. The addition of leadership dimensions to the model increased the R^2 by 42% to a total of 0.49. The betas for leadership variables accounted for the inclusion of school context variables that had been entered in the first step.

Four dimensions significantly predicted extra effort scores of teachers. The strongest beta was *develops a positive school learning climate* (.231, t=.2.9, p<.004). Second was *defines school mission* (.199, t= 2.769, p=.006) and *manages the instructional program* (.190, t=2.502, p=.013). The final significant dimension was *inspirational motivation* (.161, t=.2737, p<.007). Note that all three dimensions of instructional leadership and one dimension of transformational leadership explained most of the variance in extra effort for middle school teachers.

Dimensions of Morale

Outcome #3 Satisfaction

Two or more variables from each group entered the regression equation. School context variables (group one) accounted for 11% of variation (F=10.503, p<.001) in teacher satisfaction. When dimensions of leadership practice (group two) were added to the model, an additional 38.7% and a total of 49.7% of variation was explained (F=4.102, p=.044). Table 19 presents results.

Table 19 Predictors of Satisfaction

Model Summary		Beta	R^2	t	Sig t	ΔR^2
School Context	Education level of teachers	-.166		-3.406	.001	
	Female teachers	.167	.39	3.548	.000	.39
Leadership Dimensions						
	Manages the Instructional Program	.303		4.213	.000	
	Develops a Positive School Learning Climate	.202		2.676	.008	
	Idealized Influence Behavior	.128		2.165	.031	
	Idealized Influence Attributed	.115	.50	2.025	.044	.11

R= .71 R^2= .50 F= 38.3 Sig F= <.001 N= 240

Variables contributing to the first 11% of variation and significant in the final model were education level of teachers (-.166, t= -3.406, p=.001) and female teachers (.167, t= 3.548, p<.001). These data indicate that lower educational attainment of teachers and a greater proportion of female teachers predicted higher scores for teacher satisfaction. Poverty level was not a significant predictor for teacher satisfaction.

Once again, the greater explanatory power again came from frequencies of leadership dimensions. The betas reported for leadership accounted for the influence of school context variables that entered the model in level one.

Four dimensions significantly predicted higher satisfaction scores of teachers. The strongest was *manages the instructional program* (.303, t= 4.213, p<.001) followed by *develops a positive learning climate* (.202, t=2.676, p=.008). The final two were *idealized influence behavior* (.128, t= 2.165, p=.031) and *idealized influence attitude* (.115, t=2.025, p=.044). Note that two dimensions of instructional leadership and two dimensions of transformational leadership explained most of the variance in satisfaction for middle school teachers.

Outcome #4 Emotional Exhaustion

In dramatic contrast to positive dimensions of effectiveness and morale, school context variables accounted for 41% of the variation (F=20.236, p<.001) in emotional exhaustion, nearly four times the variation explained for prior outcomes. When dimensions of leadership practice were added, an additional 11.3% was added for a total of 52.1% of variation explained by the model (F=7.055, p=.008). Notice that four variables from each group entered the equation and were significant in the final model. Table 20 presents results.

Table 20 Predictors of Emotional Exhaustion

Model Summary		Beta	R^2	t	Sig t	ΔR^2
School Context	Experience of teacher with principal	.302	.41	5.695	.000	.41
	Socioeconomically Disadvantaged	-.202		-4.178	.000	
	Female teachers	-.222		-4.453	.000	
	Female principals	.178		3.624	.000	
Leadership Dimensions	Individual Consideration (four items)	.251		4.560	.000	
	Laissez-faire Leadership (four items)	.171		3.041	.003	
	Develops a Positive School Learning Climate	-.184		-3.292	.001	
	Management-by-Exception PASSIVE (four items)	.145		2.656	.008	
			.52			.11
R= .72	R^2= .52	F= 31.39	Sig F= <.001	N= 240		

Four variables contributed to the first 41% of variation and were significant in the final model. The strongest predictor was experience of teacher with principal (.302, t=5.695, p<.001) where each increase predicted an increase in emotional exhaustion. There was an inverse relationship for emotional exhaustion with SED (-.202, t=-4.178, p<.001) and gender (-.222, t=-4.453, p<.001). The higher the percent SED, the lower teacher scores were for emotional exhaustion. As well, a higher proportion of female teachers predicted lower emotional exhaustion. In contrast, a higher proportion of female principals predicted an increase in emotional exhaustion (.178, t=3.624, p<.001). It is important to highlight the predictive role

poverty level played in predicting emotional exhaustion as it had no significant effect on other outcomes. In this model, the minority explanatory power came from leadership dimensions.

Four leadership dimensions significantly predicted higher emotional exhaustion scores of teachers. The strongest predictor of emotional exhaustion was the transformational leadership dimension, *individual consideration* (.251, t=4.56, p<.001), a counter intuitive finding worthy of further investigation. Two passive avoidant dimensions both predicted increased emotional exhaustion. The first was *laissez-faire leadership* (.171, t=3.041, p=.003) as well as *management-by-exception-passive* (.145, t=2.656, p=.001). An inverse relationship was found for the instructional leadership dimension of *developing a positive school learning climate* (-.184, t=-3.292, p=.001). For each increase in frequency of these practices, teachers reported decreased emotional exhaustion.

Outcome #5 Depersonalization

Ten variables entered the equation, predicting a total of 62.9% of variation, higher than all other predictive models. Five school context variables entered in step one, accounting for 39.4% of variation (F=6.489, p=.011). After the leadership dimensions were entered in step two, variation explained increased by 23.5% (F= 5.854, p=.016). Notice that after leadership variables were added to the model, teacher educational level was no longer a significant variable. Table 21 present these data below.

Table 21 Predictors of Depersonalization

Model Summary		Beta	R^2	t	Sig t	ΔR^2
School Context	Experience of teacher with principal	.188	.39	3.979	.000	.39
	Female teachers	-.183		-4.124	.000	
	Female principals	.174		3.924	.000	
	Socioeconomically Disadvantaged	-.101		-2.327	.021	
	Education level of teachers	.050		1.147	.253	
Leadership Dimensions	Defines the School Mission	-.442		-8.684	.000	
	Laissez-faire Leadership	.286		5.871	.000	
	Individual Consideration	.179		3.489	.001	
	Intellectual Stimulation	.148		2.876	.004	
	Contingent Reward	.114	.63	2.419	.016	.24

R= .79 R^2= .63 F= 31.39 Sig F= <.001 N= 240

Five variables contributed to the first 39.4% of variation but only four were significant in the final model. The strongest beta was found for experience of teacher with principal (.188, t= 3.979, p<.001). The proportion of female teachers was a second predictor (-.183, t= -4.124, p<.001). The inverse relationship indicates that a higher concentration of female teachers predicted lower depersonalization. The proportion of female principals predicted higher depersonalization for teachers (.174, t= 3.924, p<.001) Finally, there was an inverse relation with poverty level. Higher percent SED predicted lower depersonalization (-.101, t= -2.327, p=.021).

Entering leadership dimensions to the model increased 23.5% of the explained variation. The betas reported for five significant leadership dimensions accounted for the inclusion of school context variables that were entered in step one. The instructional leadership dimension, *defines school mission*, had the strongest beta and an inverse relation that predicted lower depersonalization for each increase in score level (-.442, t=-8.684, p<.001). Two transformational leadership dimensions predicted higher depersonalization; *individual consideration* (.179, t=3.489, p=.001) and *intellectual stimulation* (.148, t=2.876, p=.004). One transactional leadership dimension, *contingent reward*, predicted higher depersonalization

(t=2.419, p=.016). Finally, the *laissez-faire* dimension of passive avoidant leadership predicted higher depersonalization (.286, t=5.871, p<.001).

The model predicting depersonalization was composed of a more nuanced and blended combination of variables than other outcomes. Contextual factors combined with principal leadership dimensions to predict variation in feelings of depersonalization among middle school teachers in this sample- a moderately strong predictive model.

Summary

Table 22 summarizes and compares findings. The table includes the variance explained for the full model, variance by step, and identifies significant predictors in the final equation by column (labeled "POS" or "NEG"). All data were previously reported with F, sig F, beta, t, sig t, and p values. Betas are not reported here as they cannot be compared across regressions.

Several concluding comments are warranted for research question three. The overall models provided a moderate explanation of variance ranging from 46.7% to 62.9%. Leadership dimensions played the largest predictive role for personal accomplishment, extra effort, and satisfaction while school context variables played a larger role predicting emotional exhaustion and depersonalization.

Two school context variables stood out. Poverty level was insignificant to teacher accomplishment, extra effort, or satisfaction. However, poverty level inversely predicted emotional exhaustion and depersonalization of teachers; high SED contexts predicted low EX-DP scores while low SED contexts predicted high EX-DP scores. Female teachers reported greater personal accomplishment and satisfaction as well as lower emotional exhaustion and depersonalization.

Each of three dimensions of instructional leadership predicted three of five teacher outcomes. In contrast, dimensions of transformational, transactional, and passive-avoidant leadership predicted one or two of five outcomes. Every leadership dimension was a significant predictor of at least one teacher outcome, an indicator that all are needed to account for variation in teacher effectiveness and morale. Personal accomplishment and depersonalization were both predicted by a combination of dimensions from all four styles of leadership. In addition, extra effort, satisfaction, and emotional exhaustion were all predicted by a combination of instructional and transformational dimensions. The combination of dimensions predicting outcomes supports the assertion that leadership practices must be integrated in order to predict effectiveness *and* morale for teachers. The final section reports how this study sought to integrate specific principal practices to predict teachers with high effectiveness *and* high morale.

Table 22 Summary of Five Hierarchical Regression Analyses for Five Teacher Outcomes

	Personal Accomplishment	Extra Effort	Satisfaction	Emotional Exhaustion	Depersonalization
Total Variation Explained (R^2)	46.7%	49%	49.7%	52.1%	62.9%
Level One (R^2) Demographic & School Level	10%	6.9%	11%	40.8%	39.4%
Female principals				POS	POS
Female teachers	NEG		POS	NEG	NEG
Socioeconomically Disadvantaged				NEG	NEG
Experience of teacher in the profession					
Experience of teacher with principal		NEG		POS	POS
Education level of teachers		NEG	NEG		
Level Two (R^2) Leadership Dimensions	36.7%	42.1%	38.7%	11.3%	23.5%
Instructional Leadership					
Defines the School Mission	NEG	POS			NEG
Manages the Instructional Program		POS	POS		
Develops a Positive School Learning Climate		POS	POS	NEG	
Transformational Leadership					
Idealized Influence Attributed (four items)			POS		
Idealized Influence Behavior (four items)	POS		POS		
Inspirational Motivation (four items)	POS	POS			
Intellectual Stimulation (four items)					POS
Individual Consideration (four items)				POS	POS
Transactional Leadership					
Contingent Reward (four items)	POS				POS
Management-by-Exception ACTIVE (four items)	POS				
Passive Avoidant Leadership					
Management-by-Exception PASSIVE (four items)	POS			POS	
Laissez-faire Leadership (four items)				POS	POS

Note: All data reported in prior tables with F, sig F, t, sig t, and p values. R^2 and standardized betas per level reported for summary purposes. Betas are not comparable across regressions; therefore, significant variables are simply identified as POS (positive) or NEG (negative) in the appropriate row and column.

Research Question Four

Is there a unique integration of leadership practices that improves prediction of teacher morale and effectiveness?

Predictive Power- Substantial Proportional Reduction in Error (PRE)

Discriminant function analysis has the statistical power to identify patterns and predict group membership using these patterns. The functions derived provide weighted composite variables that allow investigation of underlying items to better understand the function itself. The goal of this research question was to identify such an integration of principal practices and determine how effectively the weighted integration of practices predicted morale and effectiveness for middle school teachers.

Therefore, it was necessary to determine profiles for teachers that account for both of these dimensions. DFA identifies functions that predict membership in each profile and provide insight into each function by analyzing items with the strongest influence on the derived function. Two essential challenges needed to be addressed for a meaningful DFA. The predicted criterion variable needed to be reliable. Also, the independent variables needed to be theoretically meaningful as well as statistically predictive.

Criterion Variable for Discriminant Function Analysis

First, two outcomes of effectiveness and three outcomes of morale were evaluated for internal reliability. Unfortunately, reliability was insufficient to retain the dimensions of extra effort and satisfaction.

The three remaining dimensions were reviewed beginning with observation of the correlation matrix. The correlation of PA with DP and EX was low, supporting the unique but

related constructs of effectiveness and morale. However, the correlation of DP-EX was high, raising the question of whether these might be measuring one dimension.

A review of internal reliability scores and item analysis yielded two conclusions. First, the reliabilities of EX (.880), DP (.833), and PA (.676) are sufficiently consistent for what I intend. Analysis of PA indicated reliability could be improved by removing an item resulting in .693 reliability. The dropped item, "I feel energetic," was not as closely related to accomplishment as other items. Thus, a 7-item composite variable was formed to measure effectiveness. I created a new composite variable for personal achievement without the item "I feel energetic" yielding a composite variable with .693 reliability.

Second, EX-DP appeared to be one dimension. To test this possibility, I conducted principal component factor analysis for items of DP and EX. PCA identified a single factor of fourteen items with reliability of .915. The output was saved as a weighted composite variable of morale (i.e. low scores indicate greater morale while higher scores indicate greater burnout). A more detailed description of this procedure is provided in Appendix H.

Teacher Profiles for Teacher Effectiveness and Teacher Morale

Teacher effectiveness was measured using the MBI-ES measure of personal accomplishment while teacher morale was measured using the weighted composite variable for emotional exhaustion and depersonalization. Appendix H provides detailed explanation of modification procedures to produce a four-level categorical variable of teacher profiles that account for teacher effectiveness and teacher morale. Methods used to transform the variable in SPSS are described below.

SPSS Variable Transformation. Examination of frequencies showed 41.7% of teachers scoring PA at 3.43 or lower. There were 18 teachers with a score of 3.43 for PA (Mean -.124

SD). The next score was 3.57 with 44 teachers (median score, +.079 SD above the mean). The cut point selected as the best split was +.079 above the mean resulting in low and high effectiveness groups. I coded low effectiveness as one and high effectiveness as three using scores for personal accomplishment. Frequencies are presented in Table 23.

Table 23 Low/High Effectiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	100	41.7	41.7	41.7
	3	140	58.3	58.3	100.0
	Total	240	100.0	100.0	

Teacher morale was measured using the weighted composite variable for emotional exhaustion and depersonalization, two measures of burnout. This study conceived morale as the opposite end of a burnout continuum. The median split was +.27 SD above the mean. Low feelings of burnout were coded 0 while high feelings of burnout were coded 1. The frequency table is presented in Table 24.

Table 24 Low/High Burnout

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	120	50.0	50.0	50.0
	1	120	50.0	50.0	100.0
	Total	240	100.0	100.0	

I then transformed the two dichotomous variables into a four-level categorical variable by summing the codes into four profiles. See the matrix below for descriptive statistics from the sample.

Table 25 Teacher Profile Groups 2x2 Matrix

Group Membership	Low Burnout (EX-DP) Coded 0	High Burnout (EX-DP) Coded 1
Low Effectiveness, coded 1	Ineffective (group 1) n=58 (24.2%)	Burned Out (group 2) n=42 (17.5%)
High Effectiveness, coded 3	Engaged (group 3) n=62 (25.8%)	Overextended (group 4) n=78 (32.5%)

The resulting teacher profiles were ineffective (low EX-DP, low PA), burned out (high EX-DP, low PA), engaged (low EX-DP, high PA), and overextended (high EX-DP, high PA). The frequency table for the criterion variable is presented in Table 26 below.

Table 26 Teacher Profile Frequency Accounting for Morale and Effectiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 Ineffective	58	24.2	24.2	24.2
	2.00 Burned Out	42	17.5	17.5	41.7
	3.00 Engaged	62	25.8	25.8	67.5
	4.00 Overextended	78	32.5	32.5	100.0
	Total	240	100.0	100.0	

Independent Variables for Discriminant Function Analysis

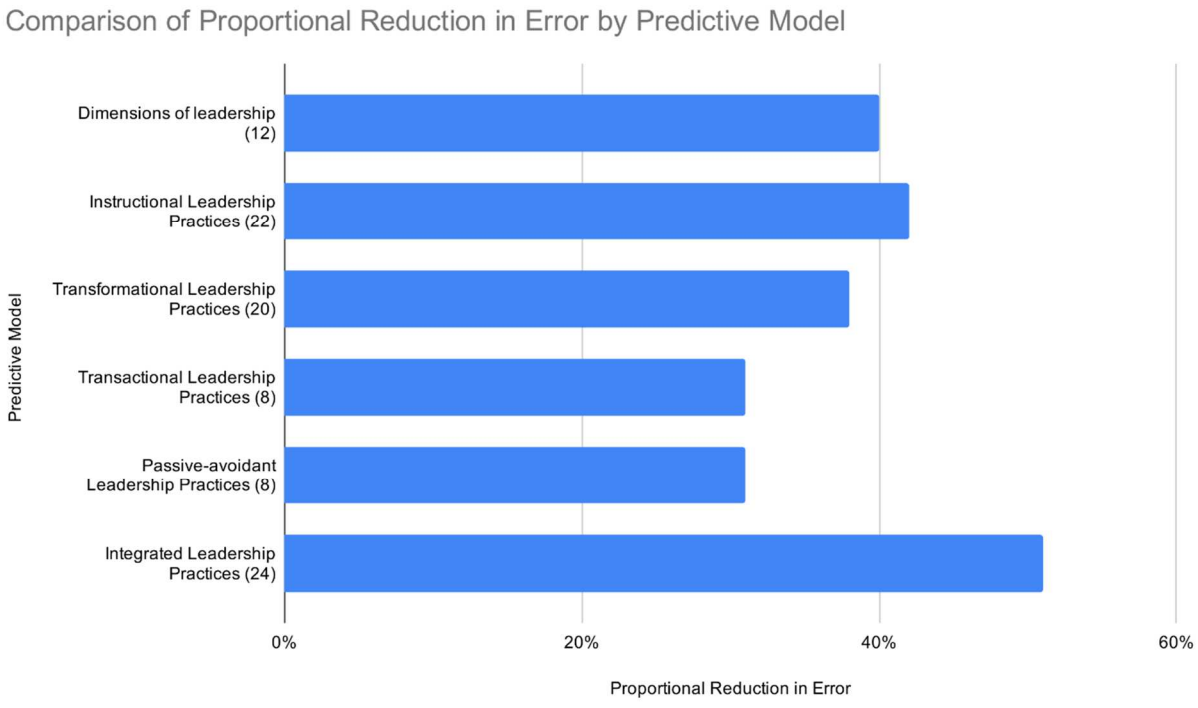
The second challenge was identifying 24 independent variables. Discriminant function analysis is limited to one independent variable per ten respondents in the sample. The 10 to 1 rule limits this study from simply entering all 58 principal practices in one procedure. Further, such a process would fail to account for the predictive value of each leadership style's practices in isolation. While this study asserts that integration is important, it remains possible that one style may be more important to effectiveness and morale than other styles studied. Therefore, I conducted five discriminant functions to explore the best set of predictors. Detailed procedures and results are presented in Appendix I.

First, I entered twelve leadership dimensions to predict the criterion variable. Next, four additional discriminant function analyses entered principal practice items from instructional leadership (22), transformational leadership (20), transactional leadership (8), and passive-avoidant leadership (8). I used SPSS 24 for all five analyses. For each procedure I selected classify and then discriminant function. I defined the range as minimum 1 and maximum 4 indicating the four levels of the categorical outcome variable. I entered all items independently.

Classification was computed from group sizes and output displayed in the summary table. Missing data were replaced with the mean.

In seeking to better understand potentially new dimensions that integrate specific leadership practices, I did not include other school context variables found to have a relationship with outcomes in this study. Although this limited the predictive influence these factors were shown to have, it was conceptually necessary to describe integrated leadership functions. The focus for research question four was testing the predictive power of an integrated set of principal practices. Results of DFAs 1-5 are presented in appendix Y. A comparison of the proportional reduction in error predicted by each model is presented in figure 4. A full report of the final model results follows.

Figure 2 Comparison of Predictive Leadership Models



Integrated Leadership

I wanted to predict teacher profiles accounting for effectiveness and morale using leadership practices. A criterion variable of four profiles included engaged, overextended, ineffective, and burned out. Twenty-four independent variables were identified using theoretical and statistical procedures detailed in appendix Y. These variables were simultaneously entered in discriminant function analysis to predict the criterion variable (teacher profile). Missing predictor variable data were replaced with the mean.

Summary statistics about three discriminant functions were derived. Two of them were significant. Function one had an eigenvalue was .781, a canonical correlation of .662, and explained 53.1% of the variation (Lambda .318, $p<.001$). Function two had an eigenvalue of .557, a canonical correlation of .598 and explained 37.9% of the variation (Lambda .567, $p<.001$). The third function was insignificant. The structure matrix is presented in table 27. Notice there are twelve practices which loaded on the structure matrix above .300 for the first function.

Table 27 Structure Matrix for Integrated Leadership

	Function		
	1	2	3
Focuses attention on irregularities, mistakes, exceptions, and deviations from standards	**.428***	-.227	.205
Talks optimistically about the future	**.417***	.141	-.053
Fails to interfere until problems become serious	**.416***	-.253	-.165
Treats me as an individual rather than just as a member of a group	**.404***	-.004	-.151
Spends time teaching and coaching	**.398***	.127	.262
Waits for things to go wrong before taking action	**.396***	-.007	-.339
Delays responding to urgent questions	**.359***	-.273	.081
Directs my attention toward failures to meet standards	**.350***	.071	-.045
Suggests new ways of looking at how to complete assignments	**.347***	.122	-.105
Emphasizes the importance of having a collective sense of mission	**.317***	.113	.031
Provides me with assistance in exchange for my efforts	.285*	-.208	.069
Meet individually with teachers to discuss student progress [To what extent does your principal...]	.278*	.228	-.169
Re-examines critical assumptions to question whether they are appropriate	.271*	.063	-.241
Expresses satisfaction when I meet expectations	.270*	-.018	.053
Use data on student performance when developing the school's academic goals [To what extent does your principal...]	.190	**.445***	-.137
Take time to talk informally with students and teachers during recess and breaks [To what extent does your principal...]	.217	**.418***	-.039
Make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, vice principal, or teacher-leaders) [To what extent does your principal...]	.181	**.415***	-.008
Expresses confidence that goals will be achieved	**.376**	**.399***	.124
Use tests and other performance measures to assess progress toward school goals [To what extent does your principal...]	.265	**.395***	-.160
Set aside time at faculty meetings for teachers to share ideas or information from in-service activities [To what extent does your principal...]	.221	**.393***	-.113
Lead or attend in-service activities concerned with instruction [To what extent does your principal...]	.185	**.385***	-.137
Create professional growth opportunities for teachers as a reward for special contributions to the school [To what extent does your principal...]	.133	**.354***	.206
Is absent when needed	**.367**	-.163	.397*
Talks enthusiastically about what needs to be accomplished	.260	.023	-.377*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.
*Largest absolute correlation between each variable and any discriminant function

The classification table is presented in table 28. Note that in this analysis 67.1% of cases were predicted correctly. This compares favorably with the highest prior probability which was 32.5%. In fact, the proportional reduction in error (PRE) was 51%, which was greater than all four leadership styles individually as well as more predictive than using twelve leadership dimensions (see appendix Y). A 51% PRE demonstrates substantial predictive power for these two discriminant functions. Moreover, the two functions appear to have coherence in the final model. Discussion of functions one and two follow.

Table 28 Classification Results Integrated Leadership

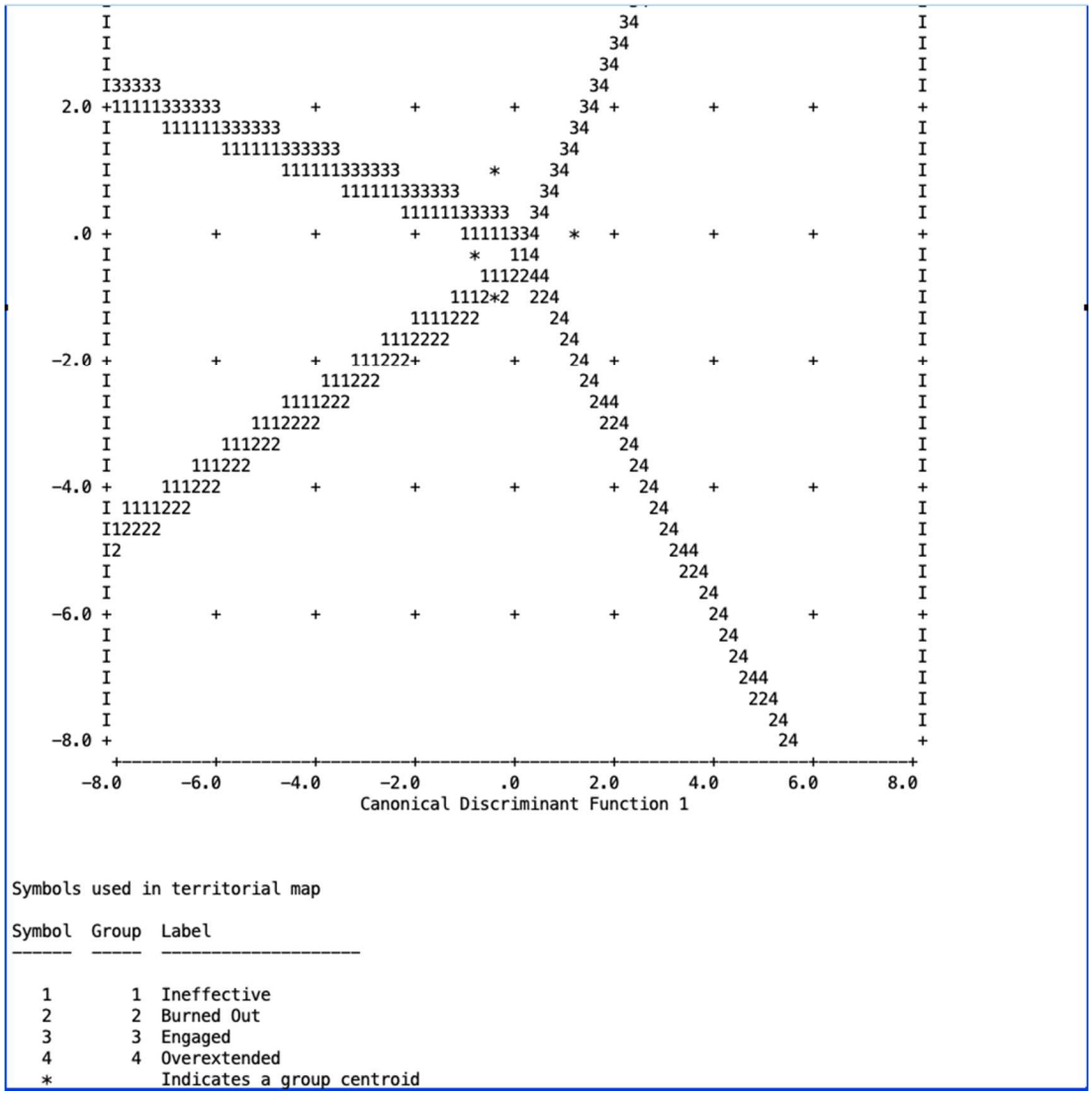
Integrated Leadership Practices		Teacher Profile for Effectiveness and Morale	Predicted Group Membership				
			Ineffective	Burned Out	Engaged	Overextended	Total
Original	Count	Ineffective	30	14	11	3	58
		Burned Out	10	30	0	2	42
		Engaged	5	7	43	7	62
		Overextended	5	9	6	58	78
	%	Ineffective	51.7	24.1	19.0	5.2	100.0
		Burned Out	23.8	71.4	.0	4.8	100.0
		Engaged	8.1	11.3	69.4	11.3	100.0
		Overextended	6.4	11.5	7.7	74.4	100.0

a. 67.1% of original grouped cases correctly classified.

The group centroids and territorial map give a conceptual sense for the contrast between the four teacher profiles. Engaged teachers were predicted by less frequent leadership practices in function one (-.480) but the highest frequency in the sample for function two (1.065). In dramatic contrast, teachers in the burned-out profile scored the lowest for function two (-1.162). Also, function one practices were less frequent than the mean (-.403) for the burned out profile. The highest function one scores predicted overextended teachers (1.240) which combined with Function two scores slightly below the mean (-.17). Finally, the lowest scores for function one (-.863) with below mean scores for function two (-.273) predicted ineffective teachers.

Table 29 Group Centroids for Teacher Profiles	Improvement responsivity	Community Learning
Ineffective	-.863	-.273
Burned Out	-.403	-1.162
Engaged	-.480	1.065
Overextended	1.240	-.017

Figure 3 Center View of Territorial Map with Teacher Profile Centroids



To make further sense of these leader functions, a table was designed to present each practice with the mean score for each teacher profile. Data are presented in Table 30 for function one and Table 31 for function two.

Function One: Improvement-Responsivity

I named function one "improvement-responsivity." This interpretation is grounded in item (principal practice) analysis, understanding of the original instruments, professional experience, and knowledge of the literature. The word "improvement" refers to principal practices oriented to improve teacher effectiveness. The word "responsivity" refers to the frequency and timeliness of principal response to problems or urgent questions.

Improvement. Leaders set the tone for improving performance by talking optimistically about the future (M= 2.34, SD 1.03), emphasizing the importance of a collective sense of mission (M=2.3, SD 1.0), and expressing confidence that goals will be achieved (M= 2.6, SD= .99). Proactively, principals teach and coach (M=2.47, SD .83) and suggest new ways of looking at how to complete assignments (M= 2.15, SD .93). Redirection is also used to improve performance. Principals may address mistakes, exceptions, and deviations from agreed upon standards (M= 1.9, SD 1.1) and bring attention to failures to meet standards (M= 2.2, SD .93). Finally, leaders enact their influential work in the context of collegial relationships by treating teachers as individuals rather than just a member of a group (M= 2.24, SD .93). Too frequent action for improvement predicts overextended teachers while the absence of these practices predicts ineffective teachers (Table 30).

Responsivity. Interpreting items for improvement was intuitive whereas my interpretation of responsivity is not intuitive. First, in this study, teachers were rating these items. Therefore, it is reasonable to assume the problems and questions named in questionnaire items are interpreted from a teacher perspective; i.e. not necessarily inclusive of problems beyond individual teacher awareness. Second, my interpretation of items for responsivity appears to indicate high scores equal high responsivity. This is not the case. These items were measured using leading words such as "fails to… delays… waits for… absent" and then measured on frequency. Therefore, high scores for frequency equal low responsivity. Low scores for frequency indicate high responsivity from principals.

The items supporting the notion of responsivity describe the frequency with which principals fail to interfere (M= 1.83, SD .99), wait for things to go wrong (M= 2.24, SD .92), delay responding to questions (M= 1.76, SD .97), and are absent when needed (M= 1.91, SD 1.3). Overall, teachers in the study sample indicated their principals engaged in these practices "sometimes." Of course, the item wording has a range of interpretations possible. If a principal is absent, does the principal know he/she is needed in that moment? Is a delay in answering a question an example of disregard or a stimulus to greater autonomous action? Is waiting a function of trust in teacher capacity or classic procrastination?" This survey study cannot answer these questions. The researcher simply suggests that when scores on these items are too high, data suggest it predicts overextended teachers. Low scores predict ineffective teachers. Principals need to balance their responsivity.

Table 30 Principal Practices for Function One: Improvement-Responsivity

Principal Practice	Structure Matrix	Engaged	Overextended	Ineffective	Burned Out
Focuses attention on irregularities, mistakes, exceptions, and deviations from standards$_1$	**.428**	1.39	2.46	1.69	1.88
Talks optimistically about the future$_1$	**.417**	2.31	2.83	1.93	2.05
Fails to interfere until problems become serious$_1$	**.416**	1.44	2.29	1.48	2.02
Treats me as an individual rather than just as a member of a group$_1$	**.404**	2.10	2.67	1.86	2.17
Spends time teaching and coaching$_1$	**.398**	2.37	2.87	2.28	2.12
Waits for things to go wrong before taking action$_1$	**.396**	2.15	2.64	1.79	2.26
Expresses confidence that goals will be achieved$_1$	**.399**	2.79	3.03	2.26	1.98
Delays responding to urgent questions$_1$	**.359**	1.32	2.18	1.59	1.88
Directs my attention toward failures to meet standards$_1$	**.350**	2.13	2.58	1.90	2.02
Suggests new ways of looking at how to complete assignments$_1$	**.347**	2.15	2.53	1.81	1.95
Emphasizes the importance of having a collective sense of mission$_1$	**.317**	2.27	2.69	2.03	2.05
Is absent when needed$_1$	**.367**	1.37	2.50	1.83	1.71

Mean scores for each principal practice are reported by teacher profile. Scales are reported below as 1 (MLQ) and 2 (PIMRS) using a subscript identifier for each practice.

MLQ_1:

0= "Not at all" 1= "Once in a while" 2= "Sometimes" 3= "Fairly often" 4= "Frequently, if not always"

$PIMRS_2$:

1= "Almost Never" 2= "Seldom" 3= "Sometimes" 4= "Frequently" 5= "Almost Always"

Leaders act to improve teacher performance in relationship and respond to teacher questions and problems at varying levels of frequency. Scores furthest below the mean predicted ineffective teachers while scores slightly below the mean predicted engaged or burned out teachers. In contrast, scores furthest above the mean predicted overextended teachers. The engaged teachers and burned out teachers were predicted by principal frequency just slightly

below the mean, a little less than "sometimes." It appears function two is essential to explaining whether slightly less frequent improvement-reactivity from principals will lead to burnout or effectiveness.

Function Two: Community Learning

Every principal practice loading on this function focused on community and all but one focused on learning- either learning for teachers or, through teacher impact, learning for students. Therefore, I named function two "community learning." Principals who stimulate community learning enact function two of integrated leadership. Focusing the community is influenced by using data on student performance when developing the school's academic goals (M= 3.23, SD 1.0). Motivating the community is done by taking time to talk informally with students and teachers (M= 3.23, SD 1.02) and expressing confidence that goals will be achieved (M= 2.6, SD .99). Note the combination of relational and performance practices. Balance appears important to integrated leadership. A third aspect supporting community learning is alignment. Principals enact alignment when they make clear who is responsible for coordinating the curriculum across grade levels (M= 3.4, SD 1.09) and by creating professional growth opportunities for teachers as a reward for contributions to the school (M= 3.45, SD 1.03). To be sure, many other alignment practices are likely for principals. In this sample these two practices illustrate alignment of roles and alignment of resources to support community learning. A fourth aspect of function two is developing teacher learning in community. Principals enact this by setting aside time in faculty meetings for teachers to share ideas or information from in-service activities- i.e. teacher-to-teacher learning (M= 3.39, SD 1.05). Another practice is for principals to lead or attend in-service activities concerned with instruction (M= 3.4, SD .993). The final practice is monitoring community learning by using tests and other performance measures to assess progress toward

school goals (M= 3.5, SD 1.04). Here again, it must be stated that useful practices may not have been measured by instruments used in this study; results are tentative as a result of limited items and a limited sample. Still, for this sample eight practices appear to support a function description of community learning.

Community learning (function two) had diverse effects based upon its frequency. When frequency of practices in this function were above the mean, it predicted engaged teachers (1.065). In sharp contrast, when frequency dropped more than one standard deviation below the mean, it predicted the burned-out teachers (-1.162). The overextended group appeared to experience mean levels of principal focus on community learning (-.017). It is likely that function one (improvement-responsivity) better explained overextended teachers vs. ineffective teachers. Finally, ineffective teachers experienced lower frequency of community learning (-.273) which combined with the lowest scores for improvement-responsivity (-.863) to predict ineffectiveness (see Table 29 for group centroids).

Table 31 Principal Practices for Function Two: Community Learning

Principal Practice	Structure Matrix	Engaged	Overextended	Ineffective	Burned Out
Use data on student performance when developing the school's academic goals [To what extent does your principal...] $_2$	**.445**	3.63	3.44	2.9	2.74
Take time to talk informally with students and teachers during recess and breaks [To what extent does your principal...] $_2$	**.418**	3.56	3.47	2.92	2.69
Make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, vice principal, or teacher-leaders) [To what extent does your principal...] $_2$	**.415**	3.77	3.63	3.12	2.83
Expresses confidence that goals will be achieved$_1$	**.399**	2.79	3.03	2.26	1.98
Use tests and other performance measures to assess progress toward school goals [To what extent does your principal...] $_2$	**.395**	3.82	3.79	3.09	3.02
Set aside time at faculty meetings for teachers to share ideas or information from in-service activities [To what extent does your principal...] $_2$	**.393**	3.73	3.64	3.03	2.90
Lead or attend in-service activities concerned with instruction [To what extent does your principal...] $_2$	**.385**	3.74	3.60	3.09	2.98
Create professional growth opportunities for teachers as a reward for special contributions to the school [To what extent does your principal...] $_2$	**.354**	3.71	3.63	3.34	2.88

Mean scores for each principal practice are reported by teacher profile. Scales are reported below as 1 (MLQ) and 2 (PIMRS) using a subscript identifier for each practice.

MLQ_1:

0= "Not at all" 1= "Once in a while" 2= "Sometimes" 3= "Fairly often" 4= "Frequently, if not always"

$PIMRS_2$:

1= "Almost Never" 2= "Seldom" 3= "Sometimes" 4= "Frequently" 5= "Almost Always"

In sum, research question four has been positively answered. Four profile groups of teachers were developed which accounted for effectiveness and morale. Teachers with high

effectiveness and high morale were identified as "engaged." An integrated model of principal practices was identified by drawing from four leadership styles and twelve leadership dimensions. The integrated leadership model substantially improved prediction of group membership for teachers with a PRE of 51%. Two discriminant functions were derived. Function was named "improvement-responsivity" which explained 53.1% of variance in group membership. Function two was named "community learning" which explained an additional 37.9% of variation. Items loading >.300 for each function were discussed to confirm and illustrate the interpretive rationale for function names.

Summary

Results of this study provided important new knowledge of leadership dimensions and practices. First, there were no significant differences in perception of twelve leadership dimensions for teachers in low and high poverty contexts. However, there were significant differences between these groups in proportion of female teachers, experience, extra effort, and emotional exhaustion. Second, several important associations were found for dimensions of leadership. Inter-dimensional associations were strongest for instructional leadership and weaker for transformational, transactional, and passive-avoidant leadership. Moreover, instructional leadership was correlated more strongly with extra effort and personal accomplishment while Laissez-faire leadership correlated with emotional exhaustion and depersonalization. Third, results of hierarchical linear modeling demonstrated that all leadership dimensions were predictive of one or more teacher outcomes. This result provided empirical support for an integrated model. Instructional leadership dimensions predicted three of five outcomes while other leadership dimensions predicted one or two outcomes. Finally, discriminant function analysis identified and tested a unique integration of principal practices. The proportional

reduction in error for group membership prediction was 51%, a substantial improvement. The two functions derived were named “improvement-responsivity” and “community learning” which explained 53.1% and 37.9% of variation respectively.

CHAPTER V: DISCUSSION

Two problems stimulated this study. First, conflicting recommendations for principal practices were identified in the teacher morale, teacher effectiveness, and principal effects literatures. Second, the worthy goal of integrating transformational and instructional leadership has not been specifically answered using empirically proven practices including recommendations for frequency of use. This study investigated the complex relationships between principal practices, teacher effectiveness and teacher morale from the perspective of 240 middle school teachers in California to address this problem. Chapter five summarizes methods and findings, discusses how findings relate with and extend the literature, describes implications for policy and practice, and identifies limitations and recommendations for research.

The purpose of this study was to better understand the complex relationships between principal practices, teacher effectiveness and teacher morale. The study compared 240 middle school teacher perspectives on frequency of leadership dimensions, teacher effectiveness and teacher morale in low and high poverty middle schools in California. Second, this study analyzed the relationships between twelve leadership dimensions and five teacher outcomes. Next the study tested a two-level predictive model to separate predictive effects of school context and demographic variables from the predictive effects of twelve leadership dimensions. Finally, this study explored if and how specific practices from diverse leadership styles could be integrated to predict *engaged* teachers experiencing high morale *and* effectiveness.

The main findings of this study are listed below.

(1) Leadership dimensions were not perceived to be significantly different in low and high poverty middle school contexts.

(2) Middle school teachers in high poverty contexts reported significantly extra effort and lower emotional exhaustion than their low poverty peers.

(3) Associations between extra effort and personal accomplishment were more frequent and stronger in relation to instructional leadership dimensions; this finding contrasted with fewer and weaker associations with transformational leadership dimensions. However, this finding may be due to variation in how this sample of teachers responded to items.

(4) The strongest association with emotional exhaustion and depersonalization of middle school teachers was the Laissez-faire leadership style.

(5) Predictors of teacher effectiveness and teacher morale outcomes included school context variables and all four leadership styles (see Table 22).

(6) Leadership dimensions predicted the largest proportion of variation for personal accomplishment, extra effort, and satisfaction.

(7) School context variables predicted the larger proportion of variance for emotional exhaustion and depersonalization.

(8) The strongest predictive models combined dimensions of diverse leadership styles.

(9) An integrated model of specific leadership practices drawn from all four styles substantially improved prediction of teacher profiles accounting for teacher effectiveness *and* morale.

(10) The two derived functions of integrated leadership were "improvement-responsivity" and "community learning."

Discussion of Findings

Comparison of Middle School Teacher Perceptions in Low and High Poverty Contexts

The study of school context, especially high poverty, has been examined for decades. Districts with high-poverty levels were found to have a greater proportion of novice teachers (Gagnon & Mattingly, 2015). Higher poverty contexts were found to significantly affect science achievement (Hogrebe & Tate, 2010). On the other hand, a recent study found that school SES effects nearly vanish after controlling for a student's prior achievement (Armor et al., 2018). The current study sought to compare the perspectives of middle school teachers from low and high socioeconomic contexts. Surprisingly, there were no significant differences in perception of principal leadership attributable to socioeconomic context. This stands in contrast to a wide range of significant differences found for the same variables when tested as predictors of teacher outcomes.

Two significant differences in teacher perception by poverty level were found for extra effort and emotional exhaustion. Teachers in high poverty contexts reported significantly higher extra effort and lower emotional exhaustion than teachers in low poverty schools. It is unclear why contexts which are often deemed challenging would be associated in this way- it could be a result of sample bias (e.g. dedicated teachers from high poverty schools may have been more likely to participate) or it could be that principals in these schools were providing the quality of leadership called for in prior research of leadership in disadvantaged contexts (Harris, 2006).

There are two possible influences on results noted above. First, the comparison of high/low poverty dichotomized the data at 70% SED. A different split point may have resulted in different results. For example, the proportion of teachers in schools at the mean SED level would have been labeled "low poverty" for analytic purposes yet they represent the center of the data

for this sample, a level very similar to the statewide average. By selecting a different split for the data, a different contrast in poverty level could have been obtained. Statistical results of such comparison could be significantly different from results in this study. Future research may examine a range of cut points to explore whether these findings replicate or are substantially different when high/low poverty is defined at varied levels. As well, regression analyses in this study used ratio data for SED providing a means to examine effects of SED that accounted for greater variation.

The second potential influence for these results may be due to a substantially greater proportion of African American teachers in the sample when compared to the proportion statewide. Given the referral sampling method, it is possible that my referral to African American contacts who were teaching in high poverty schools, had higher ratings for effort and lower ratings for emotional exhaustion. If this were the case, and if these teachers actively referred to similar teachers, the result may have created bias in the data explaining such outcomes. Given the importance of the African American perspective and the dramatic outsized representation of this racial group in the sample, further analysis is warranted in future research. It may be useful to compare the ratings of white teachers to African American teachers to test for significant differences in how leadership is perceived.

Correlates of Teacher Effectiveness and Teacher Morale

The measures of leadership used in this study were not designed to diagnose a principal as an "instructional leader" or a "transformational leader." Moreover, these measures were not designed as an evaluation scale where the highest score implied the best principal performance. The measures were intended to measure comparative frequencies of the overall construct and its underlying dimensions (Hallinger & Wang, 2015; Avolio & Bass, 2004). Therefore, this study did not generate a single score for instructional leadership, transformational leadership, transactional leadership, and passive-avoidant leadership. Instead, inter-dimensional associations within each leadership construct were analyzed as well as intra-dimensional associations of each leadership dimension with teacher outcome variables for effectiveness and morale. There were several important findings.

The correlation matrix (Table 15) illustrated the strength of instructional leadership dimensions in this study. First, the inter-dimensional correlations within the construct of instructional leadership were stronger than inter-dimensional correlations within the construct of transformational leadership. This may be due to variation in how this sample of teachers responded to items, as prior studies have cited strong internal reliability and the MLQ has been validated over many decades (Avolio & Bass, 2004).

More important to this study, the instructional leadership dimensions correlated with greater strength and frequency to extra effort and personal accomplishment. The correlation with extra effort was surprisingly strong considering prior studies finding transformational leadership had important effects on teacher commitment (Leithwood & Sun, 2012). A qualitative study by Lambersky (2016) also found that transformational leadership practices were relevant to teacher commitment and self-efficacy. One explanation for this finding may be that instructional

leadership combines with transformational approaches, but its visibility from a teacher perspective is stronger, leading to stronger associations from a teacher perspective.

In contrast, the correlation with performance confirms prior research indicating principals may impact student achievement indirectly by directly influencing teacher effectiveness through instructional leadership (Hallinger & Heck, 1996, 1998; Marzano et al., 2005; Robinson et al., 2008). A prior quantitative study of leadership styles measured by the MLQ found each style was significantly correlated with efficacy, though passive-avoidant leadership was negatively correlated (Dale Jr, 2012).

This study was limited by lack of student achievement data to test the relation between teacher effectiveness and student achievement. This limitation notwithstanding, research has demonstrated that when teachers perceive themselves to be more effective, their practices improve, leading to actual increased student achievement (Caprara et al., 2006).

Factors Predicting Teacher Effectiveness and Teacher Morale

Research question three examined the predictive effects of the underlying dimensions of four leadership styles, controlling for the effects of school context and staff demographic variables. Leadership dimensions explained the most variation for personal accomplishment, extra effort, and satisfaction while context and demographic variables explained greater variation in emotional exhaustion and depersonalization (Table 22 summarized results).

Personal Accomplishment

A reduction in perceived effectiveness was predicted by increased proportion of female teachers as well as by increased frequency of principals' defining school mission. Perhaps when principals are too frequent in promoting mission, teachers may perceive weakness in themselves.

Qualitative interviews may offer a means in future research to interact with teachers on the nuance of this instructional leadership practice and their perception of effectiveness.

Leadership factors predicting personal accomplishment included idealized influence-behavior, inspirational motivation, contingent reward, management-by-exception-active, and management-by-exception-passive. These findings provide additional evidence for scholarly work integrating leadership practices (Hitt & Tucker, 2016; Marks & Printy, 2003; S. M. Printy et al., 2009). The combination of leadership styles predicting this outcome was consistent with Dale (2012) who found multiple styles correlated with teacher perceived efficacy.

It is somewhat counterintuitive that a passive-avoidant leadership dimension should have positive association with teacher perceived effectiveness. However, the inclusion of management-by-exception-passive as a predictor of higher effectiveness was consistent with Greb (2011) who found a positive association of this dimension with student achievement. Indeed, certain practices may be useful dependent on timing and purpose. For example, it may be that principals need to take a "hands off" approach (MBEP) at times to provide teacher autonomy, cited as essential to motivation and performance (Pink, 2009). Too high a frequency of inaction could be criticized as non-leadership, whereas a discerning use could be motivational for teachers and have an indirect positive effect on student achievement.

Extra Effort

Extra effort from teachers is closely related with teacher commitment, which often manifests as extra effort. This study found very little variance in this outcome explained by school context (6.9%). Teachers with more experience with their principal and higher education reported lower scores for extra effort. In contrast, all three dimensions of instructional leadership combined with inspirational motivation to predict 42.1% of variation. This result confirmed the

importance of instructional leadership (i.e. all three dimensions were predictive) as well as the need for the transformational leadership dimension (i.e. inspirational motivation). The unique combination illustrates how dimensions of contrasting leadership styles integrate to better predict teacher extra effort.

Satisfaction

Female teachers in this study scored higher on satisfaction while teachers with higher educational levels were less satisfied. These factors together explained 11% of variation in satisfaction while leadership explained 38.7%. Instructional leadership dimensions predicting satisfaction were *manages the instructional program* and de*velops a positive school learning climate*. These findings confirm Shatzer (2009) who found instructional leadership functions associated with increased teacher satisfaction were supervise and evaluate instruction, maintain high visibility, provide incentives for teachers, promote professional development, and provide incentives for learning. Transformational leadership dimensions predicting satisfaction were *idealized influence attributed* and *idealized influence behavior*. These dimensions vary from the most commonly cited dimension, *individualized consideration*, but cohere with the overall impact of transformational leadership found to associate with teacher satisfaction (Ejimofor, 2007; Lee, 2005; Leithwood & Sun, 2012 ; Shatzer, 2009). The combination of instructional and transformational leadership dimensions confirmed prior calls for integrated leadership (Marks & Printy, 2003) as well as illustrated increased specification.

Emotional Exhaustion and Depersonalization

The proportion of female principals and teacher experience with their principal were significant factors predicting higher emotional exhaustion and depersonalization in middle school teachers. Given studies which found female principals scored significantly higher for

instructional leadership (Hallinger et al., 2016), one might wonder if instructional leadership correlates with emotional exhaustion and depersonalization. Indeed, two of three dimensions were significant, predicting a reduction in these outcomes. In addition, the proportion of female teachers and educational level of teachers both predicted higher feelings of depersonalization. Four leadership dimensions predicting increased depersonalization were intellectual stimulation, individual consideration, contingent reward, management-by-exception-passive, and Laissez-faire leadership. The latter three dimensions might be expected. However, the findings for IS and IC were surprising, often cited as a means to improved morale (Lambersky, 2016).

Predictors of decreased EX and DP included gender and poverty level. Indeed, female teachers in high poverty school contexts were most likely to report decreased emotional exhaustion and depersonalization. Leadership dimensions predicting these positive internal states were defining school mission and developing a positive school learning climate. While these were instructional leadership dimensions measured by the PIMRS, they have also been cited as central to an integrated leadership model (Hitt & Tucker, 2016; Sun & Leithwood, 2015).

Leadership effects must be interpreted in light of the most important finding. The magnitude of variance predicted by context and demographic variables as a group (EX= 40.8%; DP= 39.4%) far out shadowed what was predicted by leadership dimensions. Leaders may play a secondary role in relation to individual differences and school context factors for these two outcomes of morale.

The separation of effects at level one (school context and staff demographic variables) and level two (leadership dimensions) demonstrated two key findings. First, leadership dimensions had greater influence on teacher perceived effectiveness, extra effort, and satisfaction while playing a secondary role in predicting emotional exhaustion and depersonalization.

Second, leadership dimensions from all four leadership styles combined for different outcomes, confirming the need for integrated leadership.

However, the regression models were limited to examining one dependent variable at a time. Further, the use of dimensions did not provide the specification for principal practices. It is possible that certain items across dimensions can explain both teacher effectiveness and teacher morale. To explore this possibility, discriminant function analysis was employed.

Functions of Integrated Leadership: Improvement-responsivity and Community Learning

To address question four, this study sought a method by which the range of principal practices could be integrated and then evaluated for efficacy in predicting teacher effectiveness and teacher morale. Four teacher profiles were defined as engaged, overextended, ineffective, and burned out teachers. A matrix was presented in Table 25 (below) for these teacher groups. To my knowledge, no study has tested the concurrent effect of integrated principal practices on teacher effectiveness and teacher morale. The results of discriminant function analysis provided new insights into integrative leadership.

Table 25 Teacher Profile Groups 2x2 Matrix

Group Membership	Low Burnout (emotional exhaustion and depersonalization) Coded 0	High Burnout (emotional exhaustion and depersonalization) Coded 1
Low Effectiveness, coded 1	Ineffective (group 1) N=58 (24.2%)	Burned Out (group 2) N=42 (17.5%)
High Effectiveness, coded 3	Engaged (group 3) N=62 (25.8%)	Overextended (group 4) N=78 (32.5%)

The procedure used in this study converted two quantitative variables into four nominal variables, each of which accounted for scores on effectiveness and morale. Discriminant function

analysis identified functions that discriminated between groups. Two functions were identified which substantially improved prediction of the group to which a teacher belonged. Examination and interpretation of each function provided unique insights into integrated leadership. Findings are important because the functions and underlying practices accounted for performance *and* morale, contrasting with approaches that may improve performance at the expense of morale or morale at the expense of performance.

Findings advanced efforts to define integrated leadership (Hitt & Tucker, 2016). The leadership styles used in this study were first evaluated in a synthesis of meta analyses demonstrating the possibility that one style might improve performance or morale, but not both (see Table 2). Indeed, this study asserted it is possible to increase performance at the expense of morale, an assertion supported by findings for overextended teachers.

Further, results identified two functions, composed of a unique combination of principal practices drawn from widely used measures of instructional and transformational leadership. If I had only one function (improvement-responsivity), it separated ineffective teachers from overextended teachers. Examination of the territorial map (Figure 3) made this separation clear. However, engaged and burned out teachers had similar scores for function one. The second function was needed. Function two better separated burned out teachers from engaged teachers. Interpreting the individual functions offered unique insights; however, it is necessary to remember that the substantial predictive power was obtained by the use of both functions. Therefore, any application of insights should also incorporate both functions. Function one, named improvement-responsivity, drew specific practices from transformational, transactional, and passive-avoidant styles to form a unique integrated leadership function. Function two, named community learning, drew mainly from instructional leadership practices with one

transformational practice. Comments are provided on relational practices loading on both functions, practices loading on function one, and practices loading on function two.

Relational Practices

Although relational practices loaded for both functions, they were part of an overall approach to improvement and learning, not a unique or separate function. Findings confirmed research suggesting transformational leadership is necessary but insufficient (Marks & Printy, 2003). Findings also add to qualitative description of shared instructional leadership (S. M. Printy et al., 2009), by offering new insight into efforts at integration with other leadership styles. Moreover, results identified specific practices and quantified the frequency which predicted engaged teachers.

Function One: Improvement-responsivity

The practices for function one provided a frequency associated with each profile. In order to enact the principal role, knowledge of specific practices and some sense for how frequently to engage the practices was needed. The *specificity-frequency dimension* was important to provide credible guidance for principals.

Improvement. Function one practices were focused on improvement (teaching, coaching, suggesting new ways of looking at things; redirection, addressing mistakes, bringing attention to failures), communicating optimism, a collective sense of mission, and enacted in the context of collegial relationships. These practices were rated by teachers for frequency in reference to their principals, indicating principals were engaged in direct influence of improvement. More recent studies have focused on principal indirect influence on, not only student achievement, but also teacher improvement (Paletta et al., 2020). This study does not dispute the value of principals directly influencing organizational processes. However, study

results indicate principals with the lowest frequency of direct influence are predictive of ineffective teachers. On the other hand, *more* is not necessarily *better*. The most robust application of direct practices predicted overextended teachers, a finding consistent with studies of morale (Lambert, 2014; Leithwood & Beatty, 2008). Principals "in the middle" enact direct efforts slightly less than the average- a noteworthy finding from middle school teacher perspectives. Such moderation indicates tacit expectation that principals can, and should, directly influence teacher improvement together with the wisdom to choose if and when to enact this influence directly. Further, additional items loading for function one provided "the rest of the story."

Responsivity. Practices considered to be non-leadership may be perceived positively by teachers. Consider the staff lounge complaint, "just leave me alone and let me teach!" The measure used in this study asked for frequency of unresponsive principals- high scores indicated low responsivity. Principals with low responsivity do not interfere, wait for things to go wrong, delay responding to questions, and are perceived to be absent when needed. Given the complexity of demands for principals, it is unsurprising that the mean score for frequency was "sometimes." However, teachers who perceived their principal to be unresponsive "fairly often" were predictably in the overextended group. In contrast, ineffective teachers perceived their principals to engage in improvement practices and be unresponsive "once in a while"– i.e. responsivity to teacher questions or urgent matters was high. This effect is unsurprising if we consider varied effects of accountability and calls for increased autonomy for professional improvement (Hanushek et al., 2013; Lambersky, 2016; Paletta et al., 2020). As Edmonds (1979) observed years ago, ineffective teachers may be quite satisfied. Principals who are responsive to teacher questions and urgent needs are more likely to be positively perceived. However,

improvement-responsivity addresses the autonomy-accountability tension by rejecting a dichotomized paradigm. Effective principals moderate, but do not abandon, direct practices to improve teacher effectiveness (e.g. direct coaching of teachers, providing corrective feedback). Responsivity (e.g. to teacher questions or urgent concerns) is simultaneously moderated to prevent the extremes of ineffective (but content) or overextended teachers.

Function Two: Community Learning

If improvement-responsivity was enacted "sometimes," teachers in this study were predicted to be engaged or burned out- a dramatic contrast. It was function two, community learning, that separated these two groups of teachers. Community learning interpreted eight practices as a unique focus on learning outcomes of both teachers and students enacted in the context of community. Most of the practices were from the instructional leadership style which combined with one important transformational leadership practice.

There were five principles evident in this function. First, principals facilitated *focus* of the community on learning by using student achievement data to develop school goals. Second, principals *motivated* the community through relationship (i.e. talking informally with students and teachers) and by expressing optimism that goals will be realized. Third, many studies have found principals' work on the *organization* is essential to teacher learning (Day et al., 2016; Paletta et al., 2017; Sebastian et al., 2017). Alignment is an essential leadership role that improves organizational performance (Covey, 2004; Yukl, 2002). Two alignment practices loaded on function two. These were coordinating who is responsible for curriculum and aligning professional development opportunities for teachers to reward contributions to the school. Two practices do not exhaust the possibilities but illustrate the potential of alignment. Studies of shared instructional leadership (Marks & Printy, 2003; S. M. Printy et al., 2009), distributed

leadership (Spillane, 2012; Tian et al., 2016), and teacher leadership (Paletta et al., 2017, 2020) have in common the assumption that principals cannot be the sole driver of community learning. Indeed, a fourth principle is to enact learning in *community*. Principal practices of setting aside time in faculty meetings for teachers to share ideas and attending or leading in-services both illustrate deep involvement of the principal combined with developing and empowering teacher-to-teacher learning. Finally, the role of *monitoring* has been disputed or muted in rigorous efforts to integrate leadership styles (Hitt & Tucker, 2016). However, this study found principals monitored (i.e. using student performance measures) to assess progress toward school goals. A multitude of studies confirm this practice impacts student achievement outcomes (Marzano et al., 2005; Robinson et al., 2008). This study places monitoring at the center of community learning. This does not suggest the principal as the sole driver of community learning; indeed, it is fully consistent with the overall approach of professional learning communities (DuFour & Eaker, 2009; McLaughlin & Talbert, 2006; Murphy et al., 2006; Stoll et al., 2006; Vescio et al., 2008). Although findings of this study did not test professional learning communities per se, the big ideas in effective professional learning communities appear to cohere with the practices which loaded on function two of integrated leadership (i.e. community learning).

In contrast to function one, function two illustrated a positive continuum. Moreover, community learning was the function that explained whether moderated improvement-responsivity would result in burned out or engaged teachers. Burned out teachers generally rated principal frequency as “seldom” in contrast to engaged teachers who generally rated these practices as “frequently.”

Summary of Integrated Leadership Functions

The two functions derived through discriminant function analysis accounted for effects on both effectiveness and morale of middle school teachers. Practices from transformational, transactional, instructional, and even passive-avoidant leadership loaded on one or both functions confirming efforts to integrate models of leadership (Hitt & Tucker, 2016; Marks & Printy, 2003; S. M. Printy et al., 2009). Moreover, this study pressed forward by using specific practices from measures found to have significant effects for student performance, teacher morale, or both (see Table 2). The integrated functions identified practices principals can enact without succumbing to dichotomous claims regarding the value of each practice. Indeed, function one (improvement-responsivity) found the optimal influence was "sometimes" whereas function two (community learning) found optimal frequency was "frequently." Many important practices were confirmed from prior research. Findings indicated principals play an important direct role in the improvement of teachers but must be moderated in frequency and attended by responsivity. Moreover, the frequency of community learning carried the greater role in the long-term performance of teachers and students. Further, the two functions can be interpreted as a theory of action principals can take individually, inter-dependently, or by empowering teachers.

Implications for Policy and Practice

Stepping Forward to Resolve Conflicts

Five conflicts in recommendations for principal practice were presented. This study took important steps toward resolving these conflicts. This study was the first synthesis of meta analyses specifically addressing principal effects on performance and teacher morale (Table 2). Second, hierarchical linear regression stepwise confirmed important associations from diverse leadership styles with five teacher outcomes related to teacher effectiveness and teacher morale.

Most importantly, this study advanced two integrated leadership functions drawing from these diverse leadership styles to substantially predict whether teachers would be engaged, overextended, ineffective, or burned out. Each function has important implications for principal practice, preservice training, professional development, and policies that improve all three.

Improvement-responsivity Resolves False Dichotomies of Practice

False dichotomies of practice occur when principals are told to enact either transformational or instructional leadership, to support teachers personally or to improve teacher effectiveness, to reduce workload and develop teacher capacity, to improve working conditions or improve student performance, and finally to buffer teachers from policy mandates or buffer instructional time for students. To be sure, principals play a middle management role with diverse stakeholders with equally diverse demands. It is therefore a frequent challenge to meet conflicting demands for action with often competing purposes for school leadership.

Improvement-responsivity brings together as one integrated function a set of practices illustrating that principals can and should directly coach and redirect teachers as well as respond to urgent needs and questions of teachers. Findings support concerns regarding principals' direct influence on teachers. A high frequency of principals' direct influence for improvement predicted overextended teachers. However, findings also caution leaders and policies which abandon principals' direct improvement efforts entirely- results of this study indicate such an approach predicts ineffective teachers. Findings suggest principals should moderate, not abandon, their direct influence to improve teachers while increasing frequency of response to teacher needs. Bold principals should go against the grain by *judiciously* acting to improve teacher effectiveness, develop capacity, protect instructional time, and improve student performance. Principals practicing responsivity would act even *more frequently* to provide

personal support, improve working conditions, and buffer teachers from policy mandates interfering with top school priorities. Because the frequencies found for this study reflect one sample of middle school teachers, principals cannot use the function or its practices as a formula. On the other hand, principals need to be trained with empirically supported practices for both improving teacher effectiveness and responding to their felt needs. With specific effective practices in their repertoire, principals can adapt so as to promote effective teachers and prevent overextended or ineffective but happy teachers. However, function one did not address the conflict between autonomy and accountability.

Community Learning as a Conduit for Autonomy and Accountability

The second function of integrated leadership was community learning. These instructional leadership and transformational leadership practices focused on developing teacher and student learning. It is possible for many of these practices to be shared or distributed with assistant principals, department chairs, instructional coaches, and a range of other teacher leaders. A few thoughts appear relevant to frame why and how the function of community learning can be a source that reduces the apparent conflict between autonomy and accountability. Indeed, teacher leadership, shared instructional leadership, and distributed leadership are not mutually exclusive. Securing accountability while embracing teacher autonomy may be improved in two important ways.

Interdependent Autonomous Action. The desire, or perhaps the intuitive demand, for autonomy is not silent among teachers. Equally important is the internalized sense of accountability for each teacher. The recommendation of interdependent autonomous action points toward teams of teachers forming agreements for improving student learning together. Each contributes to the plan with recognition of how each member's actions depend on the

actions of others for successful outcomes. Subsequent action is imbued by a social commitment as well as individual autonomy to enact their part of the plan. Principals can be instrumental in facilitating this kind of action through professional learning communities.

Accountable Cultural Action. A second recommendation combines community accountability with cultural action. Cultural action is enacted when two or more people do, say, or create something which alters the culture- in this case the culture of learning in a school. It is more than standard task completion. A team of teachers working with their principal to alter the norms of students or teachers as it relates to learning are engaging in cultural action. However, if a small group of teens instigated bullying activities over time, it would also be cultural action. We must embrace accountability for collective *impact*. Thus, accountable cultural action occurs when two or more educators act to influence school culture with a commitment to give an account for their impact. For this concept to have power, involvement is needed in planning, enacting, and giving a public account for impact on the community. In many cases, such an account would be an occasion for celebration. This recommendation is consonant with shared instructional leadership, distributed leadership as well as professional learning communities. It would take an important step forward to enacting the community learning function in ways that respect the dual need for autonomy and accountability.

Preservice Principal Training and Professional Development

There are several implications from this study for training and developing principals. First, the power of instructional leadership to improve teacher and student learning must be retained as critical to any integrated leadership model. Dimensions of instructional leadership demonstrated the strongest associations with extra effort and personal accomplishment and consistently predicted teacher effectiveness outcomes in regression models. Function two

derived in DFA was mainly composed of instructional leadership practices. Although other styles and practices are needed to maximize impact, the importance of instructional leadership to performance outcomes was made clear in this study. Monitoring, for example, must be a salient and essential practice of principals.

Moreover, principal training and professional development should include more than development of knowledge and skills; aspiring leaders need guidance in moderating the frequency of practices which, if neglected or excessively used, can have negative unintended outcomes for teachers. Professional learning communities offer a theory of action consonant with practices reported in this study. Further, varying degrees of shared or distributed leadership can be more effectively implemented when autonomy and accountability are held to be simultaneously essential.

Policies for Principal Practice, Training, and Professional Development

Policies for accountability at the state and district level should recognize the middle manager role principals play. Specifically, principals must moderate improvement efforts with responsivity to their teachers and enact learning with teachers to impact student achievement. Therefore, accountability should include student achievement gains, perceptions of teachers, students, and parents to assess principals' effectiveness directly on their community/organization and indirectly on student learning. Moreover, the relative emphasis on student achievement must not be dropped nor raised to a level that negates the direct influence of teachers and the impact of the community/organization. Finally, recommendations that principals share or distribute leadership must also account for the reality that hiring, evaluation, and termination decisions impacting a principal are neither shared nor distributed. Therefore, principals need to know they

will be evaluated fairly with recognition of their direct and indirect impact as well as the limits of outcomes they cannot directly impact.

This study illustrated the need for both skillful enactment of varied styles together with moderating frequency to stimulate teacher improvement and be responsive to teacher needs. Adaptive leadership has informed leadership in multiple contexts with some application to K-12 leadership (Conrad, 2013; R. Heifetz et al., 2009). Therefore, it is recommended that training programs incorporate adaptive leadership and further research applying this theory of leadership be conducted in K-12 settings.

Limitations and Recommendations for Future Research

Limitations

There were several limitations for this study. First, the sample was not representative so conclusions must be tentative. Second, the discriminant functions were derived from the sample they predicted. Replication is needed to confirm the predictive power of these functions. In addition, the initial efforts to link student achievement to findings were ultimately not feasible. Therefore, the final sample of teachers could not be linked to student achievement data. It is possible teachers perceived themselves to be effective but were actually ineffective. Furthermore, survey methodology limited the study as responses from the same source were used for the independent and dependent variables, a limitation referred to as common source bias (Dionne et al., 2002). Teacher perceptions of their effectiveness and morale were predicted using teacher perceptions of principal frequency for a range of practices. Because the data was provided from the same source, there was an inherent relationship.

Future Research

There are several opportunities to expand on the results of this study. Replication is needed to confirm the predictive power of the integrated leadership functions derived in this exploratory study. Specifically, a representative sample may be engaged with these functions to test the predictive power of derived functions. Second, if morale is improved at the expense of performance (ineffective teachers) or performance is improved while morale deteriorates (overextended teachers), then we have gained very little for educational reform. We must improve both morale and performance.

Future research needs to grapple with the dual need for performance and morale as two distinct outcomes of equal and concurrent importance. Third, this study focused on direct influence of principals on teacher effectiveness and teacher morale. Other recent studies focused on principal direct effects on organizational processes. However, findings are limited if we are unclear about the ultimate outcome- student achievement gains. Future studies need to incorporate student achievement as a critical endogenous variable included in integrated leadership models. Fourth, this study uncovered the concurrent influence of efforts to improve teacher effectiveness combined with principal responsivity to teachers' urgent matters. However, it did not explore the nuance of how such a function is enacted. Qualitative case study of principals whose record demonstrates a proven ability to improve teacher effectiveness would provide rich data for exploring how principals concurrently promote improvement and balance the need for responsivity.

Finally, the importance of responsivity raised by this study suggests a need to further study the cultivation of leader resources identified in Table 2. These resources include problem-solving, knowing school and classroom conditions, and developing ability to perceive and alter

the internal states of self and others (Leithwood & Beatty, 2008; Marzano et al., 2005). More research is needed to understand how principals develop these capacities. Future research should, for example, explore leader internal states that are antecedent to principal decisions to respond to urgent issues or questions. How do antecedents relate to actual decisions made? What contextual factors influence decisions that are made? How do principals grow in perception and ability to alter internal states of self and of their teachers? Qualitative study using direct observation and/or retrospective interviews can advance our knowledge in these and other related questions.

Final Word: A Tale of Two Principals

In closing, I offer a brief personal statement from my professional experience. Two middle school principals led with different styles. The first was highly responsive to staff issues and, in many ways, the apotheosis of a transformational leader for many years. However, when it was evident progress in teacher improvement and student achievement were stagnant, this leader was "promoted" to the district office. A short time later this leader retired. I was selected as an instructional leader to replace this much-loved principal. For five years I took seriously the mission to provide hope and choice to *every student* that walked through our doors. My approach was decidedly focused on teacher improvement but lower in responsivity to issues which appeared urgent to teachers, but not central to student learning. After five years, stunning gains for the school and our vulnerable subgroups had earned me a reputation as a strong instructional leader, parents approved our performance by 99%, and I received phone calls asking, "how did we do it." However, the process simultaneously resulted in an overextended staff, pushing back with profound frustration. I too was "promoted" to the district office.

The need for policy makers, teacher federations, principals, and teachers to define our common mission has never been greater. If the problem of student achievement gaps is truly important; then we must prioritize the learning of our students in poverty, students with special needs, students of color, and English language learners as the mission that truly matters. The function of improvement-responsivity speaks to leaders who artfully refuse to compromise teacher improvement and likewise are deeply committed to teacher well-being. The function of community learning offers empirically proven practices which may be progressively used to narrow learning gaps until every student has the same hope and choice. God grant that each of us will embrace our role to advance this cause.

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APPENDICES

Appendix A IRB Exemption letter

Reply Delete Junk Block ···

[External] Exemption Notification: IRB #3510 Principal Practices for High Performance, High Morale Teachers

Getting too much email? Unsubscribe

Attachments, pictures, and links in this message have been blocked because the sender isn't in your Safe Senders list.
I trust content from noreply@axiommentor.com. | Show blocked content

CGU IRB <noreply@axiommentor.com>
Wed 7/24/2019 5:08 PM
David Grant

Letterhead logo: Claremont Graduate University
Institutional Review Board

Dear David,

Thank you for submitting your research protocol to the IRB at Claremont Graduate University for review. On 07/24/2019, based on the information provided for Protocol #3510, we have certified it as *exempt from IRB supervision* under CGU policy and federal regulations at 45 CFR 46.101(b)(2).

Exempt status means that so long as the study does not vary significantly from the description you have given us, further review in the form of filing annual Renewal or project Closure forms is not necessary. You may specify in relevant study documents, such as consent forms, that CGU human subjects protection staff members have reviewed the study and determined it to be exempt from IRB supervision. The IRB does not "*approve*" (or disapprove) studies that are exempt, so kindly avoid use of this verb.

Please note carefully that maintaining exempt status requires that (a) the risks of the study *remain minimal*, that is, as described in the application; (b) that *anonymity or confidentiality* of participants, *or protection* of participants against any higher level of risk due to the internal knowledge or disclosure of identity by the researcher, is maintained as described in the application; (c) that *no deception* is introduced, such as reducing the accuracy or specificity of information about the research protocol that is given to prospective participants; (d) the research *purpose*, *sponsor*, and recruited *study population* remain as described; and (e) the principal investigator (PI) continues and is not replaced.

Changes in *any such features* of the study as described may affect one or more of the conditions of exemption and would very likely warrant a reclassification of the research protocol from exempt status and require additional IRB review. If any such changes are contemplated, please notify the IRB as soon as possible and before the study is begun or changes are implemented. If any events occur during the course of research, such as unexpected adverse consequences to participants, that call into question the features that permitted a determination of exempt status, you must notify the IRB as soon as possible.

Please note that a series of suggestions may also be attached to this email. These are suggestions to develop or improve your research protocol. These suggestions are highly recommended but not required. You do not need to send anything back to the IRB.

If Applicable: Most listservs, websites, and bulletin boards have policies regulating the types of advertisements or solicitations that may be posted, including from whom prior approval must be obtained. Many institutions and even classroom instructors have policies regarding who can solicit potential research participants from among their students, employees, etc., what information must be included in solicitations, and how recruitment notices are distributed or posted. You should familiarize yourself with the policies and approval procedures required of you to recruit for or conduct your study by listservs, websites, institutions, and/or instructors. Approval or exemption by the CGU IRB does not substitute for these approvals or release you from assuring that you have gained appropriate approvals before advertising or conducting your study in such venues.

The IRB may be reached at (909) 607-9406 or via email to irb@cgu.edu. KGI personnel with questions about their exempt status should contact KGI's Office of Research and Sponsored Projects at (909) 607-9313 or irb@kgi.edu. The IRB wishes you well in the conduct of your research project.

Sincerely,

Andrew Conway,	James Griffith,
IRB Chair	IRB Manager
andrew.conway@cgu.edu	james.griffith2@cgu.edu

Appendix B PIMRS authorization for use in research

Gmail

David Grant <transformation2021@gmail.com>

update

Philip Hallinger <hallinger@gmail.com> Mon, May 20, 2019 at 7:19 PM
To: David Grant <transformation2021@gmail.com>

Dear David Grant:

You have my permission to use the PIMRS in your research. You now are able to access various PIMRS resources on my website at http://philiphallinger.com/tool/survey/pimrs/a/researcherLogin-2.html.

Please enter the following requested information during 2019:

- Research User ID: **PIMRS**
- Your Password: **4494836**
- Name: Your **FirstName LastName**
- Email: Your **email address**
- Click the *Submit button*

The webpage contains a variety of resources including:

1. Forms of the English language PIMRS for your copying and adaptation
2. Translated versions of the PIMRS for Malay, Chinese, Arabic, Thai, Persian, Amharic, Portuguese, Spanish, Turkish, Vietnamese
3. Support resources including the Technical Report (new), User Manual (old)
4. PIMRS related articles and book chapters
5. Other instructional leadership articles
6. List and zipped PDF files of 400 PIMRS Studies

For full and up-to-date information on the PIMRS and its use as a research and evaluation tool, please my latest book, Assessing Principal Instructional Leadership with the PIMRS. The book contains useful information for researchers on the scale including its development, use, validity and reliability. The book also details how to use the short form and plan research with the instrument. For more info, go to: http://www.springer.com/cn/book/9783319155326. Individual chapters may also be purchased.

Please keep in mind the conditions of your purchase including sending me: 1) a copy of the translated PIMRS (if applicable), 2) a copy of your RAW DATASET, and 3) a pdf copy of your completed study.

Please also note that the user is required to include ALL questions including demographic questions (i.e., gender, years of experience, school level) included in the PIMRS unless otherwise waived by the publisher.

If you need any assistance, please contact me directly.

Best of luck.

Prof. Hallinger

Thailand: +668 1881 1667
Vietnam: +849 4729 7428
www.philiphallinger.com

Dr. Philip Hallinger
TSDF Chair Professor of Leadership
College of Management, Mahidol University
Thailand: +668 1881 1667

Appendix C MLQ license for online administration (150+90 extension)

Multifactor Leadership Questionnaire™

Instrument (Leader and Rater Form)

and Scoring Guide
(Form 5X-Short)

by Bruce Avolio and Bernard Bass

Published by Mind Garden, Inc.

info@mindgarden.com
www.mindgarden.com

Appendix D MBI-ES license for online use (150 + 90 extension)

Maslach Burnout Inventory™

Instruments and Scoring Keys

Includes MBI Forms:

Human Services - MBI-HSS
Medical Personnel - MBI-HSS (MP)
Educators - MBI-ES
General - MBI-GS
Students - MBI-GS (S)

Christina Maslach
Susan E. Jackson
Michael P. Leiter
Wilmar B. Schaufeli
Richard L. Schwab

Published by Mind Garden, Inc.

info@mindgarden.com
www.mindgarden.com

Important Note to Licensee

Appendix E Recruitment letter to superintendents

[name] School District
Dear [superintendent name/title]

We share a common purpose in providing high quality education for all students. My name is David Grant and I am a doctoral candidate at Claremont Graduate University. I am requesting permission to conduct an online survey study with teachers. Although this study was certified as exempt from IRB supervision, I want to cooperate with your district expectations. The teacher consent form is attached with this letter.

The purpose of this study is to explore the relationship between principal practices, student achievement, and teacher morale from the perspective of teachers. Criteria for this study focus on middle schools in low socioeconomic contexts (defined as >70% free & reduced lunch in this study) where the current principal has been in place at least two years.

The online survey takes about 15 minutes. Participation is voluntary, confidential, and compensated with a $5 Amazon gift card to teachers completing the survey.

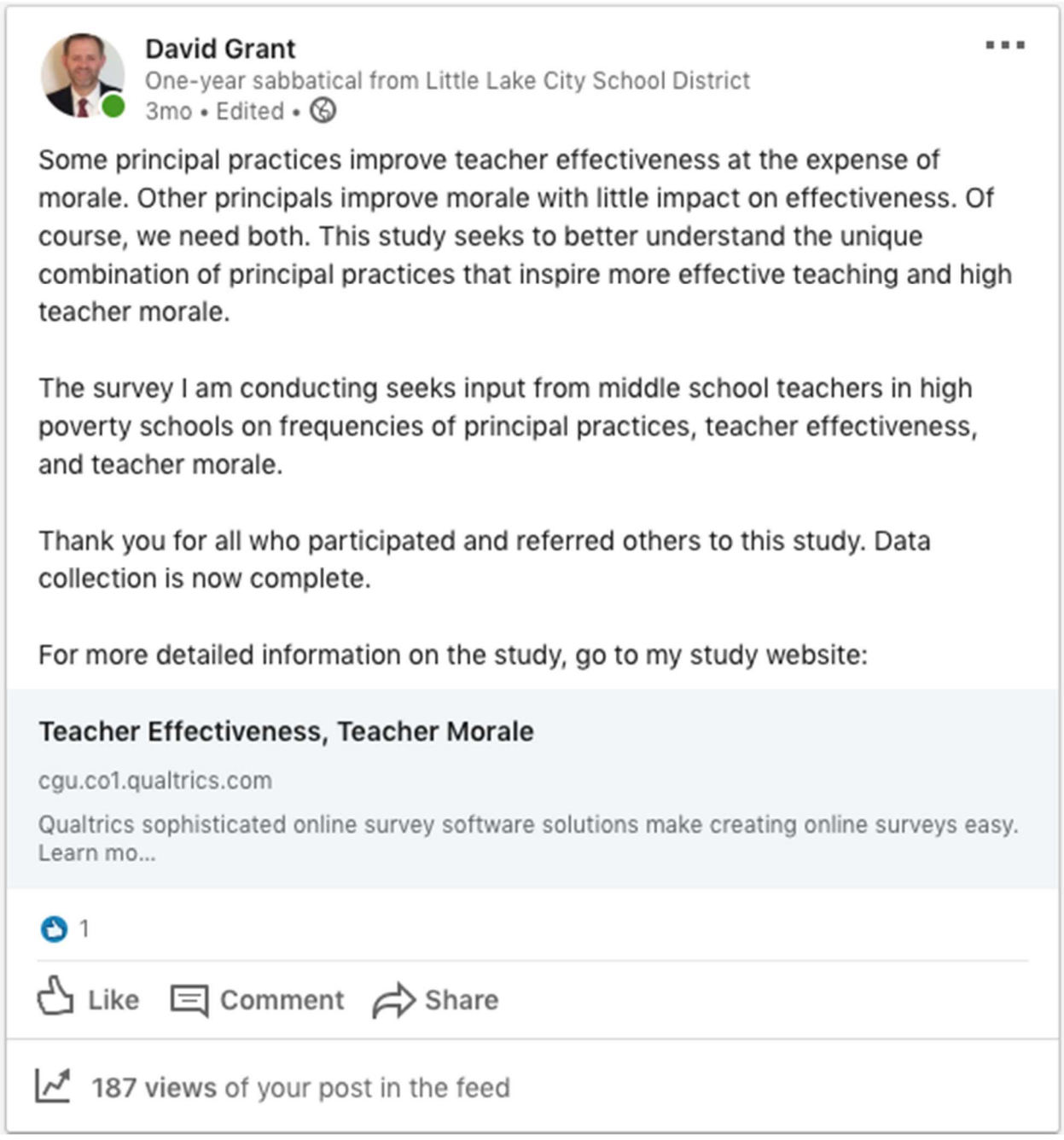
I request your approval to coordinate with principals to request teacher participation in this study. If you agree, please let me know in writing or by phone call (David.grant@cgu.edu or cell phone 909-560-7601).

Thank you for your consideration,

David G. Grant, Doctoral Candidate
Claremont Graduate University

Appendix F Recruitment via Social Media

Linked In
The original posting included a link to the survey which was removed after the survey was closed. The posting remains available for review and the link to the study website continues to be live.



Linked In messaging to known contacts.

Hi (name of contact),

I was a middle school teacher for years and now exploring how principals impact teachers' effectiveness and morale.

Would you be willing to connect and take a 15-minute survey? I'd be glad to send you a $5 gift card to say thank you and you would contribute a teacher's perspective to improving leadership.

The survey is at the link below:
https://cgu.co1.qualtrics.com/jfe/form/SV_3WvbzgYPiZqi2qh

A detailed consent form describing the study has been posted at this website:
https://sites.google.com/view/dissertation-grant-cgu/home

The link to my Facebook page is as follows: https://www.facebook.com/david.grant.355

Thank you!

David Grant

Appendix G Recruitment via email using snowball method

Hi,

The survey is now open for any middle school teacher. The link copied below can be shared with any middle school teacher willing to take the survey.
https://cgu.co1.qualtrics.com/jfe/form/SV_3WvbzgYPiZqi2qh

The purpose of the study is to understand the relationship between principal practices, teacher effectiveness, and teacher morale. We are looking for (1) middle school teachers (grades 6, 7, or 8); (2) in schools serving students from socioeconomically disadvantaged contexts (which means high free and reduced lunch or generally higher poverty rates); (3) who have taught with the same principal from 2017-2019. The survey takes about 15 minutes. To express appreciation, teachers who complete the survey will be provided a $5 Amazon gift card. Following data collection and analysis, all identifying information and emails will be permanently deleted. No teachers, schools, or districts will be identified in the study or any future presentation of the study. Detailed explanation of all aspects of the study and consent form are available on the study website at https://sites.google.com/view/dissertation-grant-cgu/home. Please invite other middle school teachers you know to participate in this study.

If you are willing to participate in this study, please click the link below. Survey link:
https://cgu.co1.qualtrics.com/jfe/form/SV_3WvbzgYPiZqi2qh

The survey will ask you for your school's socioeconomic disadvantaged % (70% or greater OR less than 70%). If you don't know, you can check at www.caschooldashboard.org

You may forward this to teachers you know to encourage them to participate. The referral method is part of the study design. It is not intended that you send this to a list, but to individuals you know in a professional capacity.

This is a personal/professional referral. Thank you!

David

Hi friends,

In getting my data, I would appreciate your support and advocacy. My sampling design is "referral based." I need middle school teachers who worked in CA middle schools (prefer schools with greater than 70% free and reduced lunch) with the same principal from 2017-2019 (longer is fine). Any referred teacher who completes the survey will be thanked with a $5 Amazon gift card via email.

The survey is at the link below:
https://cgu.co1.qualtrics.com/jfe/form/SV_3WvbzgYPiZqi2qh

A detailed consent form describing the study has been posted at my study website:
https://sites.google.com/view/dissertation-grant-cgu/home

You can also share my Linked In introduction of the study with the link as follows:
https://www.linkedin.com/feed/update/urn:li:activity:6598295493057540097/

Finally, my Facebook post also offers a description and the link to the survey:
https://www.facebook.com/david.grant.355

Let me know if you have additional ideas for how I can recruit!

Thank you!

David

Appendix H Consent Form

Claremont Graduate University

AGREEMENT TO PARTICIPATE IN

Principal Practices for High Performance, High Morale Teachers

You are invited to take a survey for a research project. While volunteering will probably not benefit you directly, you will be helping the investigator to understand how principal practices impact teacher performance and teacher morale. If you decide to volunteer, you will take an online survey, which would require about 15 minutes of your time. Volunteering for this study does not involve risk beyond what a typical person would experience during an ordinary day. Since your involvement is entirely voluntary, you may withdraw at any time for any reason. Please continue reading for more information about the study.

STUDY LEADERSHIP: This research project is led by David Grant, doctoral candidate of Claremont Graduate University, who is being supervised by David Drew, professor of education and Joseph B. Platt Chair in the Management of Technology at Claremont Graduate University.

PURPOSE: This study seeks to better understand the relationship between principal practices, teacher effectiveness and teacher morale in California middle schools in low SES contexts.

ELIGIBILITY: California middle schools with 70% or more free and reduced lunch count serving students in grades 6-8. The target sample will include a minimum sample of 150 teachers who worked with the same principal during the 2017-2019 school year (or more).

PARTICIPATION: During the study, you will be asked to complete an online survey. This will take about 15 minutes for most participants.

RISKS OF PARTICIPATION: The risks that you run by taking part in this study are minimal. You may experience frustration with items highlighting principal practices your find undesirable or survey fatigue in the midst of a busy professional schedule.

BENEFITS OF PARTICIPATION: I do not expect the study to benefit you personally in the present; however, it may benefit you in the future as principals apply knowledge produced by this study. This study will benefit researchers by adding to our knowledge of principal impact on student achievement and teacher morale. This study is also intended to improve teacher morale, teacher effectiveness, and inform professional development for principals.

COMPENSATION: You will be directly compensated with a $5 Amazon gift card for participating in this study.

VOLUNTARY PARTICIPATION: Your participation in this study is completely voluntary. You may stop or withdraw from the study for any reason at any time without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at CGU. In schools agreeing to a brief presentation of this study, nonparticipants may engage in other routine professional activities.

CONFIDENTIALITY: Your individual privacy will be protected in all publications, talks, or training resulting from this study. Individual teacher and school data will not be shared with districts, though final aggregate results of the study will be available. Individual school data will be coded with letters in reporting data so that schools will not be identifiable from results. Further, this method makes it very unlikely that a district could be identified from reported results. We may use the data we collect for future research or share it with other researchers, but we will not reveal your identity nor the identities of your respective schools/districts.

FURTHER INFORMATION: The CGU Institutional Review Board has certified this study as exempt from IRB supervision under CGU policy and federal regulations at 45 CFR 46.101(b)(2). If you have any ethical concerns about this project or about your rights as a human subject in research, you may contact the CGU IRB at (909) 607-9406 or at irb@cgu.edu. You may also contact professor David Drew at David.Drew@cgu.edu. A copy of this form will be given to you if you wish to keep it. If you have any questions or would like additional information about this study, please contact David Grant at 909-560-7601 (David.grant@cgu.edu).

CONSENT: Your signature below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it. You may provide consent in person by signing this form or by checking the online consent in the online survey checkbox.

Signature of Participant _____ Date _____

Printed Name of Participant _____

The undersigned researcher has reviewed the information in this consent form with the participant and answered any of his or her questions about the study.

Signature of Researcher _____ Date _____ Printed Name of Researcher _____

Appendix I Procedures to Identify Four Teacher Profiles

I wanted to create a categorical variable that accounted for teacher effectiveness *and* teacher morale using reliable measures of these constructs. Given the low reliabilities of the MLQ measure of extra effort (.443) and satisfaction (.371), these were expected to reduce predictability and therefore not used in determining teacher profiles. Personal accomplishment (PA), Emotional Exhaustion (EX), and Depersonalization (DP) were further analyzed for the purpose of identifying profiles. Analyses found that PA reliability was improved with a 7-item dimension (.693). Second, combining EX and DP into one weighted composite factor confirmed a unitary structure and increased reliability (.915). Procedures for arriving at these conclusions and deriving these variables are described below. Finally, the mid-point for each of these two variables was used to dichotomize and then combine these variables into four teacher profiles that accounted for effectiveness and morale. This categorical variable was used as the criterion variable in discriminant function analysis.

Ineffective-Effective Continuum

A review of internal reliability scores and item analysis yielded two conclusions. First, the reliabilities of EX (.880), DP (.833), and PA (.676) were sufficiently consistent for what I intended. Analysis of PA indicated reliability could be improved by removing an item, resulting in .693 reliability. The dropped item, "I feel energetic," was not as closely related to accomplishment as other items. Thus, a 7-item composite variable was formed to measure effectiveness. I created a new composite variable for personal accomplishment without the item "I feel energetic" yielding a composite variable with .693 reliability.

Burnout-Morale Continuum

A reexamination of correlations seemed appropriate in light of the revised composite variable for personal achievement (PA, 7-item solution). EX and DP had a strong correlation (.745, p=.01). Each had a weak correlation with PA in the original 8-item composite variable (EX= .208, p=.01; DP= .257, p=.01 from Table 15). I tested the correlation for the revised PA-EX finding a trivial increase .210 (p=.01) while the PA-DP correlation was a bit smaller .241 (p=.01). These relationships suggest a strong relationship between EX-DP and a unique but related dimension in PA.

Given the high correlation, I wanted to better understand if the items for EX and DP were more closely related for this sample than in previous studies using the MBI or MBI-ES. First, I tested the scale internal reliability using 14 items of both EX and DP to test whether internal reliability of the collection of items would be higher or lower than each unique dimension. If the internal reliability was at least as strong as for each individual dimension, I intended to create a new composite variable for morale-burnout of teachers. I would then use PA with the new composite dimension to create a four-level categorical variable in SPSS for PA and burnout (EX-DP combined). The four levels would be determined by scores of low-low, low-high, high-low, and high-high scores. By creating four groups of teachers with such variation on these two dimensions, I could then test the potential integration of leader practices to predict group membership for teachers.

Internal reliability was .915 for fourteen items of negative feelings indicating burnout. Depersonalization and emotional exhaustion formed a composite dimension with greater consistency as one dimension than when evaluated as two separate dimensions. This is not to say that emotional exhaustion is sufficient to measure burnout; rather, it indicates that for this

sample, combining these items provided a more reliable measure of teacher emotions on the engagement-burnout continuum than either one separately considered. Item analysis revealed that removal of any item would reduce overall reliability. Therefore, I decided to test the dimension further using principal components analysis of the underlying dimension.

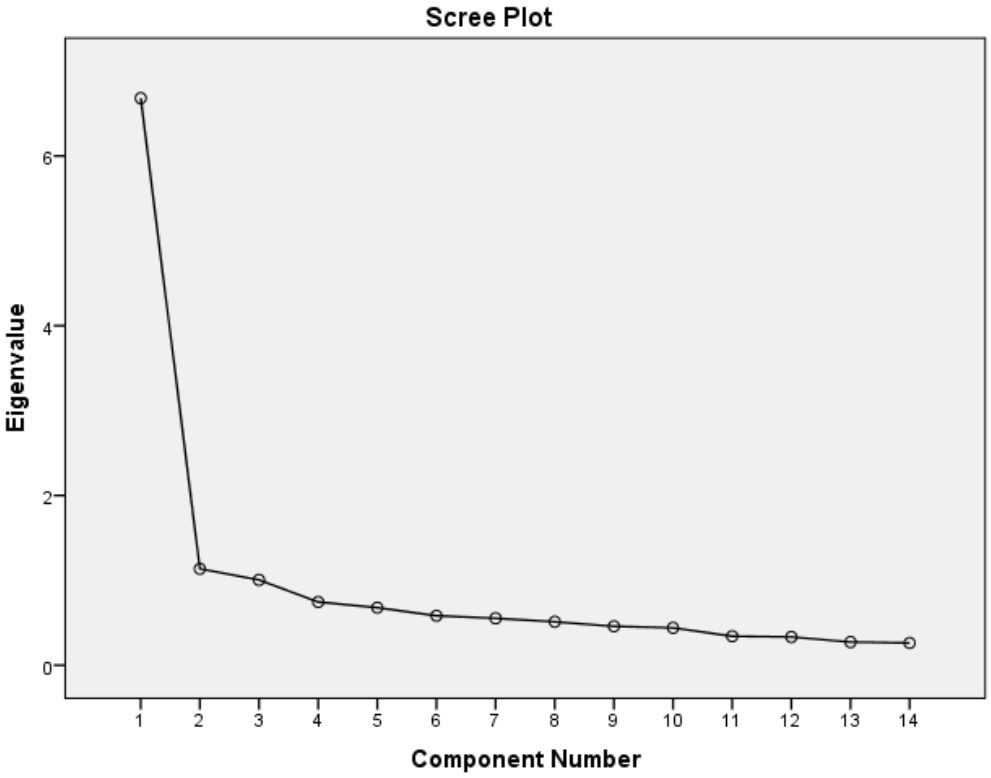
Exploratory PCA

I tested the credibility of combining items from DP and EX using exploratory factor analysis. I ran principal components analysis limiting output to one factor to test this component. I tested KMO measure of sampling accuracy (KMO= .921, $p<.001$). I analyzed the scree plot for multiple factors finding a sharp high level for factor one. Although two other factors were found with eigenvalues over 1.0, these were so much lower than factor one, these factors appeared to add very little. I re-ran the test using a one-factor solution, again reporting the scree plot. I saved results as a variable with weighted items using the regression method. I excluded missing data listwise and suppressed small coefficients (i.e. <.40).

The one-component solution produced an eigenvalue of 6.681 explaining 47.72% of variance. Although 63.012% of variance can be explained by adding two more components, each component had eigenvalues of 1.36 and 1.005 respectively.

Further analysis of the scree plot confirmed a decision to accept the one-component solution. Significant but much weaker eigenvalues existed at component numbers 2 and 3 but these did not appear to provide substantively unique factors. Such variants were likely accounted for by the variation implicit in the dimensionality of emotional exhaustion and depersonalization scales, albeit at a much weaker level than has been found in prior studies. For this sample, component one had an internal reliability of .915 and an eigenvalue of 6.681 demonstrating a dominant and unique dimension.

Figure 4 Scree Plot from Principal Component Analysis



The component matrix provides further evidence that this dimension is one, rather than two. All items below .50 were suppressed yet all fourteen items loaded to the matrix. Further, no predictable pattern of EX and DP appears. Rather, there are items above .70 from EX (4) vs. DP (3). The mix of items for differing loading scores indicates that while important to the overall dimension, separation of the two dimensions does not improve the factor. Because only one factor was extracted, no factor rotation was employed.

Table 32 Component Matrix for Emotional Exhaustion and Depersonalization

	Component 1
I feel emotionally drained from my work	.755
I feel used up at the end of the workday	.599
I feel fatigued when I get up in the morning and have to face another day on the job	.690
I feel I treat some students as if they were impersonal objects	.721
Working with people all day is really a strain for me	.546
I feel burned out from my work	.706
I've become more callous toward people since I took this job	.749
I worry that this job is hardening me emotionally	.688
I feel frustrated by my job	.707
I feel I'm working too hard on my job	.695
I don't really care what happens to some students	.629
Working with people directly puts too much stress on me	.723
I feel like I'm at the end of my rope	.747
I feel students blame me for some of their problems	.680

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

In sum, dimensions of morale-burnout continuum, EX and DP, were found to form one dimension with high reliability. A weighted composite variable was created and analyzed using PCA and saved for use in creating teacher profiles. Discussion of how such profiles were determined are described below.

Formation of Teacher Profiles Variable

In prior study, five profiles of burnout were generated using profile analysis with the general MBI (Leiter & Maslach, 2016). Their study conceptualized engagement and burnout as opposite ends of a continuum measuring varying degrees of a phenomenon with unique dimensions. The assumed continuum measured engagement (all low scores) to burnout (all high scores). Personal accomplishment scores were reverse coded so that a high score indicated feelings of inability. This conception was consistent with my own, which asserted that teacher morale (or its opposite, burnout) can be described on a continuum. The current study analyzed

predictors of five outcome dimensions of effectiveness and morale which included extra effort, satisfaction, emotional exhaustion, depersonalization, and personal accomplishment. However, regressions did not allow for predicting one outcome while simultaneously accounting for the others. This study sought to identify naturally occurring profiles of teachers that account for *both* effectiveness and morale.

In addition to the profiles of engaged and burned out teachers, Leiter and Maslach (2016) found three additional profiles. Overextended people scored high for emotional exhaustion, disengaged people scored high for cynicism (depersonalization is the comparable dimension in MBI-ES), and ineffective people scored high on inefficacy. However, Leiter and Maslach (2016) noted a limitation in their profiles. Only four of the profiles clearly reproduced in their replication study while the disengaged profile (high DP only) was less clear. Therefore, a four-profile methodology was selected for this study.

Three methods were considered for determining teacher profiles; median splits, cluster analysis, and latent profile analysis. The median splits advantage is simplicity; its disadvantage is the limitation of arbitrary division of the sample. Median splits may misleadingly be labeled high/low when meaningful distinctions are associated only with extreme scores. Second, differences between scores just above or below the median are given equal weight with the more meaningful differences demonstrated by the extreme scores. The two problems can mask important associations between other constructs (Leiter & Maslach, 2016). Cluster analysis has the advantage of greater sophistication in defining groups with unique correlation patterns among variables considered. The disadvantage is the approach favors clusters of relatively similar size. Also, cluster analysis provides no agreed-upon method for identifying the number of clusters that fit the data best (Meyer, Stanley, & Vandenberg, 2013). The third approach, Latent profile

analysis (Muthen & Muthen, 2010), combines ability to accommodate various data types as well as fitting metrics to guide the identification of the optimal number of profiles for a specified construct (Vandenberg & Stanley, 2009). This method creates latent variables based on the measures within the analysis using significant differences between the intercepts of latent variables to inform profile membership. The disadvantage is the necessity of an alternative software program, MPlus, which was a feasibility problem for me. It is also a complex procedure specific to the sample and does not provide a formula that may be applied to a new sample. After reviewing the distribution of sample data in this study, I opted for median split method. While it has limitations noted, it retains much of what Leiter & Maslach (2016) found and the median cut points are comparable to prior findings.

Consistent with above reasoning, I created teacher profiles drawing on three MBI-ES factors of morale. Two measured negative feelings (emotional exhaustion and depersonalization) while the third measured personal accomplishment. I converted scores for each respondent to z scores to analyze cut points in creating a new outcome variable with four levels.

After reviewing Leiter & Maslach (2016) as well as analyzing plots of the data, I used a cut point slightly above the mean for personal accomplishment. The frequency table for the revised 7-item z scores for personal accomplishment is presented in table 33. Notice that 41.7% are below a z score of -.12369. The next z score above this (.07964) was an increase beyond the mean that appeared to demarcate a shift in the group. Using a cut point of >.07 z score for high personal accomplishment is different but not dramatically different from the cut point found by Leiter & Maslach (2016) in latent profile analysis. A z score of .079 above the mean was found for 44 participants. Thus, a split at the mean or the median results in a 41-59 split for teacher profiles. This may weaken predictability in discriminant function analysis, as the predictive

power is greater when groups are of equal size (Klecka, 1980). However, there is no reasonable means to split at the 50th percentile and achieve an equal split into groups. The best option available for this sample data was found using the median split for the weighted composite variable of morale (EX & DP).

Table 33 Frequency distribution (z scores) personal accomplishment 7-item solution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-2.76691	1	.4	.4	.4
	-2.56359	3	1.3	1.3	1.7
	-2.36026	4	1.7	1.7	3.3
	-2.15694	2	.8	.8	4.2
	-1.95361	4	1.7	1.7	5.8
	-1.75029	3	1.3	1.3	7.1
	-1.54696	6	2.5	2.5	9.6
	-1.34364	3	1.3	1.3	10.8
	-1.14031	5	2.1	2.1	12.9
	-.93699	7	2.9	2.9	15.8
	-.73366	17	7.1	7.1	22.9
	-.53034	9	3.8	3.8	26.7
	-.32701	18	7.5	7.5	34.2
	-.12369	**18**	**7.5**	**7.5**	**41.7**
	.07964	44	18.3	18.3	60.0
	.28296	27	11.3	11.3	71.3
	.48629	10	4.2	4.2	75.4
	.68961	15	6.3	6.3	81.7
	.89294	10	4.2	4.2	85.8
	1.09626	10	4.2	4.2	90.0
	1.29959	7	2.9	2.9	92.9
	1.50291	5	2.1	2.1	95.0
	1.70623	2	.8	.8	95.8
	1.90956	1	.4	.4	96.3
	2.11288	5	2.1	2.1	98.3
	2.31621	3	1.3	1.3	99.6
	2.51953	1	.4	.4	100.0
	Total	240	100.0	100.0	

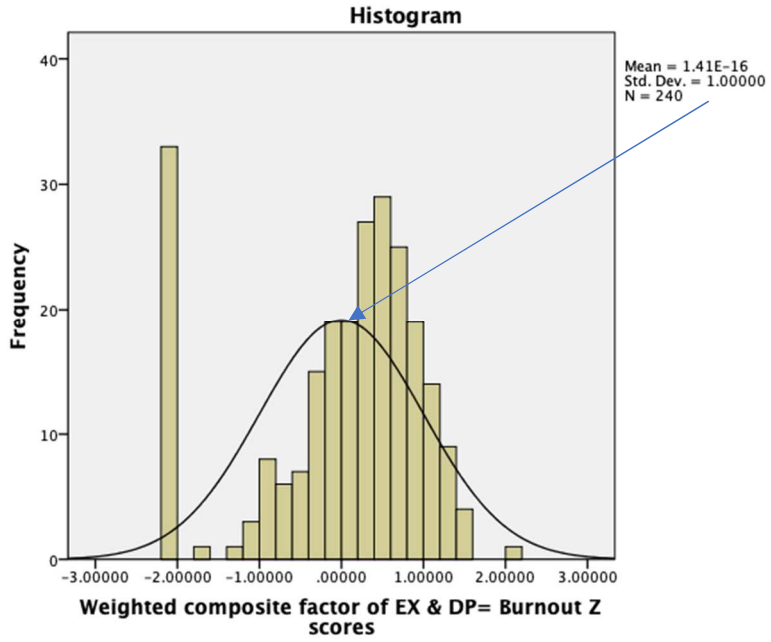
When Leiter and Maslach (2016) sought to replicate five profiles using latent profile analysis, the scores for DP did not replicate the strength of fit found in study one. In other words, the profile in which DP alone was high was uncertain. Given the strong correlation, the two

dimensions may measure the negative emotional dimension of the engagement-burnout continuum while personal accomplishment measures a related but unique construct.

Teachers who scored above the mean for both burnout and inefficacy can be described at the far end of low morale, low effectiveness. Teachers with below mean scores for burnout and ineffectiveness can be described as "engaged" teachers; i.e. high morale, high efficacy. The group that is low on inefficacy but high on burnout is at risk of burnout. The group that is low on burnout (i.e. positive feelings) but high on inefficacy is at risk of professional ineffectiveness and limited impact on student achievement.

Frequency table of z scores for the weighted composite variable of burnout demonstrates that the mean is not the true center. There was an important group of teachers with very low scores (> -2.0 z score). The histogram (below) illustrated outlier teachers at the low end as well as a group which, beginning above the mean score, reported scores above the normal curve. The median split cut point included z scores >.276 for high burnout with scores below this being "low burnout." This cut point for z scores demarcates the location in the data where an important difference is noted; it is also comparable to cut points for EX and DP found by Leiter and Maslach (2016) using latent profile analysis. Although I cannot be certain the profile is the same as in prior study with a different sample, splitting the sample at this place makes sense from a relative comparison basis. Findings are still limited by this approach.

Figure 5 Histogram of Composite Factor EX-DP in z Scores



I saved standardized values for three composite variables (z scores). These composite variables are presented in table 34 below.

Table 34 Descriptive Statistics z Scores for PA, DP, and EX

		Z score Personal accomplishment revised scale (7 items)	Z score Depersonalization scale (5 items)	Z score Emotional Exhaustion scale (9 items)
N	Valid	240	240	240
	Missing	0	0	0
Mean		.0000000	.0000000	.0000000
Std. Error of Mean		.06454972	.06454972	.06454972
Std. Deviation		1.00000000	1.00000000	1.00000000
Variance		1.000	1.000	1.000
Minimum		-2.76691	-2.25512	-1.81246
Maximum		2.51953	1.79777	2.02247
Percentiles	50	.0796356	.2779327	.2693584

SPSS Variable Transformation

Examination of frequencies showed 41.7% of teachers scored 3.43 or lower for PA. There were 18 teachers with a score of 3.43 for PA (Mean -.124 SD). The next score was 3.57 with 44 teachers (median score, +.079 SD above the mean). The cut point selected as the best split was +.079 above the mean resulting in low and high effectiveness groups. I coded low effectiveness as one and high effectiveness as three using scores for personal accomplishment. Frequencies are presented in Table 23.

Table 23 Low/High Effectiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	100	41.7	41.7	41.7
	3	140	58.3	58.3	100.0
	Total	240	100.0	100.0	

Teacher morale was measured using the weighted composite variable for emotional exhaustion and depersonalization, two measures of burnout. This study conceived morale as the opposite end of a burnout continuum. The median split was +.27 SD above the mean. Low feelings of burnout were coded 0 while high feelings of burnout were coded 1. The frequency table is presented in Table 24.

Table 24 Low/High Burnout

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	120	50.0	50.0	50.0
	1	120	50.0	50.0	100.0
	Total	240	100.0	100.0	

I then transformed the two dichotomous variables into a four-level categorical variable by summing the codes into four profiles. See the matrix in Table 25 below for descriptive statistics from the sample.

Table 25 Teacher Effectiveness-Teacher Morale Profiles

Group Membership	Low Burnout (emotional exhaustion and depersonalization) Coded 0	High Burnout (emotional exhaustion and depersonalization) Coded 1
Low Effectiveness, coded 1	Ineffective (group 1) N=58 (24.2%)	Burned Out (group 2) N=42 (17.5%)
High Effectiveness, coded 3	Engaged (group 3) N=62 (25.8%)	Overextended (group 4) N=78 (32.5%)

Summary

Data for five teacher outcomes were analyzed for reliability and modified into two variables that measured effectiveness and morale as continuums. These two factors were analyzed for the mid-point and dichotomous variables of low/high were formed for each dimension. I then combined the two into a four-level categorical variable which was subsequently employed as the dependent or criterion variable in discriminant function analysis.

Appendix J Discriminant Function Analyses Used to Identify 24 Principal Practices

In order to determine which items to include in a DFA predicting teacher morale and effectiveness, several steps were needed. First, I analyzed the predictive power of the 12 dimensions of leadership from correlation and regression analyses. Second, I compared DFA #1 with DFAs for each leadership style. Following an analytic comparison, I then selected items for a final DFA reported in chapter four results. Theoretical and statistical rationale for selection are provided.

DFA #1 Integrated Leadership Dimensions

I wanted to predict teacher profiles accounting for effectiveness and morale using leadership dimensions. A criterion variable of four profiles included engaged, overextended, ineffective, and burned out. Twelve independent variables (dimensions of leadership from four styles) were simultaneously entered in discriminant function analysis to predict the criterion variable. Missing predictor variable data were replaced with the mean.

Summary statistics about three discriminant functions were derived. Two of them were significant. Function one had an eigenvalue was .591, a canonical correlation of .609, and explained 65.3% of the variation (Lambda .472, $p<.001$). Function two had an eigenvalue of .244, a canonical correlation of .443 and explained 27% of the variation (Lambda .751, $p<.001$). The third function was insignificant. The structure matrix is presented in Table 35. Notice that eleven of twelve dimensions loaded on the structure matrix above .300 for the first function.

Table 35 Structure Matrix for 12 Leadership Dimensions

	Function		
	1	2	3
Management-by-Exception PASSIVE (four items)	**.662***	.083	-.476
Manages the Instructional Program	**.649***	-.379	.342
Individual Consideration (four items)	**.637***	.221	.226
Inspirational Motivation (four items)	**.592***	-.360	-.039
Management-by-Exception ACTIVE (four items)	**.557***	.035	.267
Idealized Influence Behavior (four items)	**.519***	-.450	-.043
Develops a Positive School Learning Climate	**.515***	-.455	.339
Intellectual Stimulation (four items)	**.441***	-.305	-.107
Contingent Reward (four items)	**.406***	-.062	-.019
Laissez-faire Leadership (four items)	**.372**	.689*	.264
Defines the School Mission	**.345**	-.508*	.281
Idealized Influence Attributed (four items)	.278	-.387*	-.203

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.
*Largest absolute correlation between each variable and any discriminant function.

The classification table is presented in Table 36. Note that in this analysis 58.8% of cases were predicted correctly. This compares favorably with the highest prior probability which was 32.5%. The proportional reduction in error was 38.9%. Given that nearly all dimensions loaded, this amounts to suggesting all styles equate to integrated leadership. The researcher hypothesized that identifying the specific practices would improve prediction because the predictive effects of all practices could be statistically accounted for. If an integrated set of practices substantially improves predicted teacher profile, it would also provide intuitively meaningful and specifically actionable guidance for principals.

Table 36 Classification Results for Leadership Dimensions

Leadership Dimensions		Teacher Profile for Effectiveness and Morale	Predicted Group Membership				
			Ineffective	Burned Out	Engaged	Overextended	Total
Original	Count	Ineffective	32	7	10	9	58
		Burned Out	12	15	2	13	42
		Engaged	9	4	39	10	62
		Overextended	4	8	11	55	78
	%	Ineffective	55.2	12.1	17.2	15.5	100.0
		Burned Out	28.6	35.7	4.8	31.0	100.0
		Engaged	14.5	6.5	62.9	16.1	100.0
		Overextended	5.1	10.3	14.1	70.5	100.0

a. 58.8% of original grouped cases correctly classified.

Two concerns emerged which required further investigation. First, discriminant function analysis, like multiple regression, limits predictor variables to 1 per 10 observations in the sample. This 10 to 1 rule means that in the current sample (n=240), only 24 items can be entered as independent variables. However, 58 specific leadership practices form the composite variables for dimensions of leadership. Since all 58 cannot be entered simultaneously, a theoretically sound method of reducing and selecting items was needed.

Theoretically, it made sense to ask if any single style can improve prediction beyond what was achieved with twelve dimensions of leadership. Further, it made sense to examine the practices from each style with the strongest loadings on the structure matrix.

Statistically, it made sense to focus on the first function identified for each leadership style. Discriminant function analysis searches statistically for the strongest function, which results in the greatest predictive power coming from the first function (Klecka, 1980). Given four unique leadership styles, one may hypothesize that the major function derived from each style is its greatest contribution. The items loaded for that function have the greatest possibility to form an integrated set of leadership practices predicting teacher effectiveness and teacher morale. Moreover, the weaker second function may relate to some part of a dimension that is central to

another style. In other words, combining items from the strongest function of each style is expected to produce the greatest predictive power.

Therefore, I performed four discriminant function analyses. Each used all practices for a given style of leadership. These styles included instructional leadership, transformational leadership, transactional leadership, and passive-avoidant leadership. Results were summarized in Table 46 which is presented as a summary at the conclusion of this appendix.

DFA #2 Instructional Leadership

I wanted to predict teacher profiles accounting for effectiveness and morale using leadership practices. A criterion variable of four profiles included engaged, overextended, ineffective, and burned out. Twenty-two independent variables (principal practices of instructional leadership) were simultaneously entered in discriminant function analysis to predict the criterion variable. Missing predictor variable data were replaced with the mean.

Table 37 presents summary statistics about the three discriminant functions that were derived. Notice that two of them were significant. For that function the eigenvalue was .546, the canonical correlation was .594, and the discriminant function explained 57% of the variation (Lambda .450, $p<.001$). Function two had an eigenvalue of .338, a canonical correlation of .503 and explained 35.3% of the variation (Lambda .696, $p<.001$). The third function was insignificant. The structure matrix is presented in Table 37. Notice there are nine practices which loaded on the structure matrix for the first function with coefficients above .300. These practices will be considered for an integrated DFA.

Table 37 Structure Matrix for Instructional Leadership Practices

	Function		
	1	2	3
P2 Use data on student performance when developing the school's academic goals [To what extent does your principal...]	**.506***	-.013	.129
P12 Use tests and other performance measures to assess progress toward school goals [To what extent does your principal...]	**.503***	.117	.179
P14 Take time to talk informally with students and teachers during recess and breaks [To what extent does your principal...]	**.495***	.044	.006
P20 Set aside time at faculty meetings for teachers to share ideas or information from in-service activities [To what extent does your principal...]	**.476***	.061	.110
P8 Make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, vice principal, or teacher-leaders) [To what extent does your principal...]	**.472***	-.001	-.040
P19 Lead or attend in-service activities concerned with instruction [To what extent does your principal...]	**.449***	.017	.139
P18 Create professional growth opportunities for teachers as a reward for special contributions to the school [To what extent does your principal...]	**.386***	-.021	-.322
P11 Meet individually with teachers to discuss student progress [To what extent does your principal...]	**.361***	.233	.222
P5 Refer to the school's academic goals when making curricular decisions with teachers [To what extent does your principal...]	**.310***	.055	-.126
P17 Acknowledge teachers' exceptional performance by writing memos for their personnel files [To what extent does your principal...]	.293*	-.062	-.232
P6 Ensure that the classroom priorities of teachers are consistent with the goals and direction of the school [To what extent does your principal...]	.210*	.071	-.158
P4 Communicate the school's mission effectively to members of the school community [To what extent does your principal...]	.156*	.096	-.146
P15 Attend/ participate in extra- and co-curricular activities [To what extent does your principal...]	.170	.443*	-.218
P7 Review student work products when evaluating classroom instruction [To what extent does your principal...]	.376	.423*	.137
P10 Participate actively in the review of curricular materials [To what extent does your principal...]	.130	.389*	.100
P9 Draw upon the results of school-wide testing when making curricular decisions [To what extent does your principal...]	.216	.329*	-.157
P3 Develop goals that are easily understood and used by teachers in the school [To what extent does your principal...]	.267	.281*	-.077
P22 Contact parents to communicate improved or exemplary student performance or contributions [To what extent does your principal...]	.106	.256*	.098
P21 Recognize superior achievement or improvement by seeing in the office the students with their work [To what extent does your principal...]	.213	.249*	.122
P13 Encourage teachers to use instructional time for teaching and practicing new skills and concepts [To what extent does your principal...]	.119	.178*	.080
P1 Develop a focused set of annual school-wide goals [To what extent does your principal...]	.291	-.393	.433*
P16 Compliment teachers privately for their efforts or performance [To what extent does your principal...]	.114	.116	.380*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function. Loadings > .300 for the first function are in bold.

*Largest absolute correlation between each variable and any discriminant function.

The classification table is presented in table 38. Note that in this analysis 60.8% of cases were predicted correctly. This compares favorably with the highest prior probability which was 32.5%. The proportional reduction in error was 42% which is greater than what was predicted by twelve leadership dimensions.

Table 38 Classification Results Instructional Leadership

Instructional Leadership Practices		Teacher Profile for Effectiveness and Morale	Predicted Group Membership				
			Ineffective	Burned Out	Engaged	Overextended	Total
Original	Count	Ineffective	23	11	11	13	58
		Burned Out	11	23	2	6	42
		Engaged	6	3	43	10	62
		Overextended	8	5	8	57	78
	%	Ineffective	39.7	19.0	19.0	22.4	100.0
		Burned Out	26.2	54.8	4.8	14.3	100.0
		Engaged	9.7	4.8	69.4	16.1	100.0
		Overextended	10.3	6.4	10.3	73.1	100.0

a. 60.8% of original grouped cases correctly classified.

DFA #3 Transformational Leadership Practices

I wanted to predict teacher profiles accounting for effectiveness and morale using leadership practices. A criterion variable of four profiles included engaged, overextended, ineffective, and burned out. Twenty independent variables (principal practices of transformational leadership) were simultaneously entered in discriminant function analysis to predict the criterion variable. Missing predictor variable data were replaced with the mean.

The first function had an eigenvalue of .510, a canonical correlation of .581, and explained 58.6% of the variation (Lambda .478, $p<.001$). Function two had an eigenvalue of .263, a canonical correlation of .457 and explained 30.2% of the variation (Lambda .721, $p<.001$). The third function was insignificant. The structure matrix is presented in Table 39. Notice there are eleven practices which loaded on the structure matrix for the first function with coefficients above .300. These practices will be considered for an integrated DFA.

Table 39 Structure Matrix Transformational Leadership Practice

	Function		
	1	2	3
Expresses confidence that goals will be achieved	**.575***	.289	-.325
Talks optimistically about the future	**.536***	-.029	.070
Spends time teaching and coaching	**.507***	-.108	-.274
Treats me as an individual rather than just as a member of a group	**.472***	-.189	.281
Suggests new ways of looking at how to complete assignments	**.448***	-.005	.123
Emphasizes the importance of having a collective sense of mission	**.409***	-.031	-.030
Re-examines critical assumptions to question whether they are appropriate	**.340***	-.010	.296
Talks about their most important values and beliefs	**.310***	-.097	.068
Considers me as having different needs, abilities, and aspirations from others	.291*	-.026	.095
Instills pride in me for being associated with him/her	.273*	-.025	.163
Considers the moral and ethical consequences of decisions	**.308**	.589*	.065
Gets me to look at problems from many different angles	.192	.449*	.072
Specifies the importance of having a strong sense of purpose	.274	.421*	.275
Helps me to develop my strengths	**.302**	-.406*	.130
Articulates a compelling vision of the future	.044	.377*	.225
Displays a sense of power and confidence	.004	.333*	.201
Acts in ways that builds my respect	.297	.319*	.312
Seeks differing perspectives when solving problems	.216	.218*	.040
Talks enthusiastically about what needs to be accomplished	**.314**	-.024	.472*
Goes beyond self-interest for the good of the group	.186	.202	-.211*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

* Largest absolute correlation between each variable and any discriminant function

The classification table is presented in Table 40. Note that in this analysis 58.3% of cases were predicted correctly. This compared favorably with the highest prior probability which was 32.5%. The proportional reduction in error was 38%, which slightly lower than the PRE using leadership dimensions.

Table 40 Classification Results Transformational Leadership Practices

Transformational Leadership Practices		Teacher Profile for Effectiveness and Morale	Predicted Group Membership				
			Ineffective	Burned Out	Engaged	Overextended	Total
Original	Count	Ineffective	30	11	10	7	58
		Burned Out	12	16	7	7	42
		Engaged	5	5	39	13	62
		Overextended	9	4	10	55	78
	%	Ineffective	51.7	19.0	17.2	12.1	100.0
		Burned Out	28.6	38.1	16.7	16.7	100.0
		Engaged	8.1	8.1	62.9	21.0	100.0
		Overextended	11.5	5.1	12.8	70.5	100.0

a. 58.3% of original grouped cases correctly classified.

DFA #4 Transactional Leadership Practices

I wanted to predict teacher profiles accounting for effectiveness and morale using leadership practices. A criterion variable of four profiles included engaged, overextended, ineffective, and burned out. Eight independent variables (principal practices of transactional leadership) were simultaneously entered in discriminant function analysis to predict the criterion variable. Missing predictor variable data were replaced with the mean.

The first function derived had an eigenvalue of .348, a canonical correlation of .508, and this discriminant function explained 58.9% of the variation (Lambda .595, $p<.001$). Function two had an eigenvalue of .226, a canonical correlation of .429 and explained 38.2% of the variation (Lambda .802, $p<.001$). The third function was insignificant. The structure matrix is presented in Table 41. Notice there are four practices which loaded on the structure matrix with coefficients above .300 for the first function. These practices will be considered for an integrated DFA.

Table 41 Structure Matrix Transactional Leadership Practices

	Function		
	1	2	3
Focuses attention on irregularities, mistakes, exceptions, and deviations from standards	**.709***	.086	-.285
Provides me with assistance in exchange for my efforts	**.504***	-.007	.070
Expresses satisfaction when I meet expectations	**.362***	.229	-.140
Concentrates his/her full attention on dealing with mistakes, complaints, and failures	-.207	**.629***	**-.**443
Discusses in specific terms who is responsible for achieving performance targets	-.056	.531*	.077
Directs my attention toward failures to meet standards	**.400**	**.**438*	.004
Keeps track of all mistakes	.299	.308*	.089
Makes clear what one can expect to receive when performance goals are achieved	.060	.371	**.**697*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.
*Largest absolute correlation between each variable and any discriminant function

The classification table is presented in table 42. Note that in this analysis 53.3% of cases were predicted correctly. This compares favorably with the highest prior probability which was 32.5%. The proportional reduction in error was 31%, lower than what was predicted using leadership dimensions from all four styles.

Table 42 Classification Results Transactional Leadership Practices

Transactional Leadership Practices		Teacher Profile for Effectiveness and Morale	Predicted Group Membership				
			Ineffective	Burned Out	Engaged	Overextended	Total
Original	Count	Ineffective	24	6	15	13	58
		Burned Out	14	10	1	17	42
		Engaged	8	2	40	12	62
		Overextended	11	3	10	54	78
	%	Ineffective	41.4	10.3	25.9	22.4	100.0
		Burned Out	33.3	23.8	2.4	40.5	100.0
		Engaged	12.9	3.2	64.5	19.4	100.0
		Overextended	14.1	3.8	12.8	69.2	100.0

a. 53.3% of original grouped cases correctly classified.

DFA #5 Passive-Avoidant Leadership Practices

I wanted to predict teacher profiles accounting for effectiveness and morale using leadership practices. A criterion variable of four profiles included engaged, overextended,

ineffective, and burned out. Eight independent variables (principal practices of passive-avoidant leadership) were simultaneously entered in discriminant function analysis to predict the criterion variable. Missing predictor variable data were replaced with the mean.

Summary statistics about three discriminant functions were derived. Two of them were significant. Function one had an eigenvalue of .406, a canonical correlation of .537, and explained 66.4% of the variation (Lambda .587, p<.001). Function two had an eigenvalue of .165, a canonical correlation of .376 and explained 27% of the variation (Lambda .825, p<.001). The third function was insignificant. The structure matrix is presented in Table 43. Notice there are six practices which loaded on the structure matrix above .300 for the first function. These practices will be considered for an integrated DFA.

Table 43 Structure Matrix for Passive-Avoidant Leadership

	Function		
	1	2	3
Fails to interfere until problems become serious	**.637***	-.169	.368
Delays responding to urgent questions	**.555***	-.329	.053
Waits for things to go wrong before taking action	**.548***	.286	.244
Shows that he/she is a firm believer in "If it ain't broke, don't fix it."	**.389***	.318	-.107
Avoids getting involved when important issues arise	**.329***	-.091	-.048
Demonstrates that problems must become chronic before taking action	.072	**.**687*	.119
Avoids making decisions	.115	**-.**448*	.300
Is absent when needed	**.522**	-.289	**-.**642*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.
*Largest absolute correlation between each variable and any discriminant function.

The classification table is presented in Table 44. Note that in this analysis 53.3% of cases were predicted correctly. This compares favorably with the highest prior probability which was 32.5%. In fact, the proportional reduction in error was 31%, which was lower than using dimensions of all four leadership styles.

Table 44 Classification Results Passive-Avoidant Leadership Practices

Passive-Avoidant Leadership Practices		Teacher Profile for Effectiveness and Morale	Predicted Group Membership				
			Ineffective	Burned Out	Engaged	Overextended	Total
Original	Count	Ineffective	34	6	10	8	58
		Burned Out	14	6	8	14	42
		Engaged	14	2	38	8	62
		Overextended	11	3	14	50	78
	%	Ineffective	58.6	10.3	17.2	13.8	100.0
		Burned Out	33.3	14.3	19.0	33.3	100.0
		Engaged	22.6	3.2	61.3	12.9	100.0
		Overextended	14.1	3.8	17.9	64.1	100.0

a. 53.3% of original grouped cases correctly classified.

Final Selection Process for Identifying Leader Practices

Four DFAs were performed, one for each leadership style. As a single style, only instructional leadership surpassed the integration of twelve leadership dimensions in predictive power. The 12 dimensions predicted a 39% proportional reduction in error (PRE), whereas instructional leadership predicted a 42% PRE. The other three styles were less powerful as a single style. The PRE of transformational leadership was 38% while transactional and passive-avoidant both had PREs of 31%. The hypothesis of this study was that integration of specific practices would better predict teacher effectiveness and teacher morale. Therefore, selecting the strongest items was important.

Selection of principal practices to test integrated leadership's predictive power was based on three main criteria. First, the strength of practice loading on the structure matrices in DFAs 2-5 indicate the relative importance of these items to the functions derived. An initial minimum strength of .300 was set. The second criterion was proportional balance or representation of leadership styles. A third feasibility criterion was meeting the 10 to 1 rule for the procedure by reducing the items to twenty-four. The final set of practices are theoretically grounded in leadership styles and statistically predictive in prior analyses. A final DFA of integrated

leadership was performed to test whether a significant and substantial improvement occurred. If successful, deeper analyses of these practices and the functions derived would be important.

At first glance the number of coefficients >.300 for instructional leadership was 9 which was 41% of the items. There were 11 practices from the transformational leadership style over .300, which was 55% of items. Fifty percent of transactional leadership practices (four) were above .300. Finally, passive-avoidant leadership had 75% of items (6) load above .300. The initial cut on strength yielded 30 items, too many for this test. Observation of passive-avoidant leadership showed two items could be dropped while minimizing lost information (coefficients of .320, .389). Three coefficients for transformational leadership were dropped (.310, .302, and .308). Finally, one item was dropped from instructional leadership (.310). The resulting group of practices had a tighter range with a higher minimum than .300 for items loading, balance among the four styles, and reasonably close proportion of items from each style. These became the independent variables for the final discriminant function analysis of integrated leadership. Table 45 below summarizes the item selection process.

Table 45 Item Selection for DFA

	Number of practices that loaded >.300	Initial % of leader style	Adjusted number of practices	Final % of leader style	Range of coefficients in final selected items
Instructional Leadership	9	41%	8	36%	.361-.506
Transformational Leadership	11	55%	8	40%	.340-575
Transactional Leadership	4	50%	4	50%	.362-.709
Passive-avoidant Leadership	6	75%	4	50%	.522-.637
Total	30		24		.340-.709

Summary

The process of selection of items for the integrated leadership discriminant function analysis (DFA) involved three stages. First, the predictive power of the twelve dimensions of leadership was tested. Second, four DFAs were conducted to test each leadership style for predictive power. Finally, a winnowing process led to selection of 24 practices for a final integrated leadership DFA. Summative results of key statistics and proportional reduction in error were presented in Table 46. Notice that the integrated model is the only model to predict substantial improvement (>50% PRE). The data confirm the strength of the final model and the power of integrating practices to account for two teacher outcomes of effectiveness and morale.

Table 46 Summary of Five Discriminant Function Analyses Predicting Teacher Profile

Independent Variables	Eigenvalue	% Variance	Canonical Correlation	Wild's Lambda	Structure matrix items loading >.300	Proportional Reduction in Error
Dimensions of leadership (12)	.591	65.3%	.609	.472*	11	39%
Instructional Leadership Practices (22)	.546	57%	.594	.450*	9	42%
Transformational Leadership Practices (20)	.510	58.6%	.581	.478*	11	38%
Transactional Leadership Practices (8)	.348	58.9	.508	.595*	4	31%
Passive-avoidant leadership practices (8)	.406	66.4%	.537	.587*	6	31%
Integration of leadership practices (24)	.781	53.1%	.662	.318*	19**	51%

Note: Eigenvalue, variance, canonical correlation, Lambda and structure matrix coefficients >.300 are reported for the first function. Proportional reduction in error is an outcome of all items. Integration of leadership reports coefficients above .300 for two significant functions.
*p<.001