An examination of the relationship between teachers' sense of efficacy and school culture

Ryan Patrick McLeod

This Dissertation is brought to you for free and open access by The University of Toledo Digital Repository. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of The University of Toledo Digital Repository. For more information, please see the repository's About page.
A Dissertation
titled
An Examination of the Relationship between
Teachers’ Sense of Efficacy and School Culture
by
Ryan Patrick McLeod
Submitted to the Graduate Faculty as partial fulfillment of the requirements for the
Doctor of Education Degree in Educational Administration and Supervision

_________________________________________
Dr. Dale Snauwaert, Committee Chair

_________________________________________
Dr. Cynthia Beekley, Committee Member

_________________________________________
Dr. Nancy Staub, Committee Member

_________________________________________
Dr. Randall Vesely, Committee Member

_________________________________________
Dr. Patricia R. Komuniecki, Dean
College of Graduate Studies

The University of Toledo

August 2012
An Abstract of

An Examination of the Relationship between Teachers’ Sense of Efficacy and School Culture

by

Ryan Patrick McLeod

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the Doctor of Education Degree in Educational Administration and Supervision

The University of Toledo
August 2012

Although a relationship between the constructs of teacher efficacy and school culture has been suggested in the literature (e.g., Beard, Hoy, & Hoy, 2010; Deemer, 2004; Tschannen-Moran & Woolfolk Hoy, 2001), no studies have actually examined the relationship directly. The purpose of this quantitative study was to examine the relationship among the components of school culture and the factors of teachers’ sense of efficacy. The perceptions of Michigan middle school teachers (n = 387) were obtained using an online survey via random cluster sampling. The survey included a professional demographic survey, the School Culture Survey (SCS) (Saphier & King, 1985 as modified by Edwards, Green & Lyons, 1996), and the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001). Correlations were used to examine the relationships among the TSES factors (Efficacy in Student Engagement, Instructional Strategies, and Classroom Management) and the SCS factors (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration). The study showed weak significant positive relationships between SCS and TSES in 13 of the 16 correlations conducted. All of the relationships determined in the study were found to have small effect sizes. The greatest correlation values occurred
between the SCS factors and teacher efficacy in student engagement. In addition, the
SCS factor of professional treatment by administration had the highest correlations with
each of the factors of TSES. Finally, teacher efficacy in classroom management did not
have significant relationships with two of the three SCS factors or the SCS composite
scores.
This dissertation is dedicated to my family. First to my parents, Rev. Wayne McLeod and Marilee McLeod, who served as role models and nurtured within me a life-long appreciation of learning. Secondly to my wife and love of my life, Stefanie, who has offered encouragement, love, and support that have helped me succeed in many endeavors, including this process. I am so blessed to have found such a wonderful life companion! Finally, to my amazing daughters Kate, Chloe, and Emilia, who have sacrificed their time with “Daddy” so that I could complete this project. May you always share my curiosity and love of learning.
Acknowledgements

I would like to acknowledge the many people who helped me to complete this dissertation. First, I would like to thank my committee chairperson, Dr. Dale Snauwaert, for his advice, guidance, and support. I never could have found my way through this work without his commitment and constant encouragement. I would also like to thank Dr. Cynthia Beekley, Dr. Nancy Staub, and Dr. Randall Vesely for their input and support. Each provided me with a wealth of knowledge and useful suggestions that helped to clarify my focus for this study. I would also like to thank Dr. Svetlana Beltyukova for providing me with valuable statistical guidance and advice.

I also need to give a special thank you to Dr. Michelle Baker-Herring and Dr. Mary Ann Cyr. Over the past four years, they have been helped to keep me motivated and made sure that I kept my eye on the goal. I cannot thank them enough for the support that has been provided me through the entire cohort.

Since I first entered the field of education, I have been blessed to have found a number of fellow educators who share my dedication to the profession, care and concern for the students we serve, and overall love of learning. There are far too many to mention here, which provides me with great hope for the future of education. I would be nothing in this profession if not for our sharing, friendships, and conversations. I am never sure which held the role of mentor and mentee since we so often learned together. Thank you for everything you have given to me, personally and professionally.

Finally, I need to thank my wife, Stefanie McLeod, for all of the support and encouragement that you have provided me throughout this process. I cannot thank you enough for being such an amazing life partner.
Table of Contents

Abstract iii
Acknowledgements vi
Table of Contents vii
List of Tables xi
List of Figures xii
List of Abbreviations xiii

I. Introduction and Background 1
   A. Introduction 1
   B. Researcher’s Perspective 4
   C. Statement of the Problem 5
   D. Purpose of the Study 7
   E. Research Questions 8
   F. Definition of Terms 8

II. Literature Review 15
   A. Introduction 15
   B. Teacher Impact on Student Learning 15
   C. Student Frustration and Effort 17
   D. Self-Efficacy 19
   E. Development of Self-Efficacy 21
      a. Performance Accomplishments 22
      b. Vicarious Experiences 22
      c. Verbal Persuasion 23
d. Emotional Arousal

F. Teacher Sense of Efficacy

G. Teacher Efficacy Construct and Measure
   a. Rotter’s Conceptual Strand
   b. Bandura’s Conceptual Strand
   c. Other Constructs of Teacher Efficacy
   d. GTE and PTE
   e. New Teacher Efficacy Model
   f. Development of TSES

H. Defining Culture

I. Organizational Culture

J. School Culture
   a. Individualistic School Culture
   b. Collaborative School Culture

K. Distinction between Culture and Climate

L. Measuring School Culture

M. School Culture Survey

N. Connections between School Culture and Teacher Sense of Efficacy

O. Summary

III. Research Design and Methods
   A. Introduction
   B. Statement of Research Questions
   C. Statement of Research Hypotheses
D. Variables
E. Sample and Population
F. Instrumentation
  a. Teachers’ Sense of Efficacy
  b. School Culture
G. Research Design
H. Data Collection Methods
I. Data Analysis Procedures
J. External Validity

IV. Analysis of the Data
A. Introduction
B. Level of Response from Principals
C. Level of Response from Teachers
D. Descriptive Statistics of Data
  a. Professional Demographic Data
  b. Teachers’ Sense of Efficacy Data
  c. School Culture Data
E. Correlations of TSES and SCS Factors
F. Analysis of the Research Questions
  a. Central Research Questions
  b. Results by Hypothesis – Composite Relationships
  c. Results by Hypothesis – Factor Relationships
G. Summary
V. Discussion and Conclusion 88
   A. Introduction 88
   B. Summary of Literature and Purpose 88
   C. Implications of the Study 93
      a. Summary of Research Findings – Composite Relationships 93
      b. Summary of Research Findings – Factor Relationships 98
   D. Limitations 102
   E. Recommendations for Future Research 104
   F. Conclusion 106

References 114

Appendices
   A. Teacher Demographic Instrument 127
   B. Teachers’ Sense of Efficacy Scale 128
   C. School Culture Survey 132
   D. Teacher Recruitment Materials 137
   E. IRB Approval 143
List of Tables

Table 1  Matrix representing SCS and TSES factors correlated in research questions.  56
Table 2  Highest Degree Obtained for Teacher Respondents ........................................ 67
Table 3  Categorical Description of Teachers Respondents by Total Years of
         Teaching Experience, Years Teaching at Current Grade Level, and Years
         Teaching at Current School ............................................................................ 68
Table 4  Descriptive Statistics for the Teachers’ Sense of Efficacy Scale for
         Respondents ......................................................................................................... 70
Table 5  Descriptive Statistics for the School Culture Survey for Respondents ........ 71
Table 6  Pearson Correlation Coefficients and Significance of Correlations between
         TSES Factors and SCS Factors ........................................................................... 72
Table 7  Coefficients of Determination and Percent Variability between the Variables
         of TSES Factors and SCS Factors ........................................................................ 73
Table 8  Pearson Correlation Coefficients and Significance of Correlations between
         TSES Factors and SCS Factors for Respondents with 11 to 20 Years Total
         Teaching Experience ............................................................................................. 74
Table 9  Pearson Correlation Coefficients and Significance of Correlations between
         TSES Factors and SCS Factors for Respondents with Highest Degree
         Obtained of Doctorate ............................................................................................ 75
Table 10 Matrix Representing SCS and TSES Composites and Factors Correlated in
         Sub-Questions 1 through 7 for Research Question a ............................................ 94
Table 11 Matrix Representing SCS and TSES Factors Correlated in Sub-Questions 8
         through 16 for Research Question b ....................................................................... 99
List of Figures

Figure 1  Diagrammatic representation of the difference between efficacy expectations and outcome expectations ....................................................... 20

Figure 2  Diagrammatic representation of the cyclical nature of teacher efficacy .......... 31

Figure 3  Diagram representing the levels of culture. ............................................................. 39
List of Abbreviations

GTE ......................... General Teaching Efficacy
PTE ......................... Personal Teaching Efficacy
SCS ......................... School Culture Survey
TSE ......................... Teacher Self-Efficacy
TSES ....................... Teachers’ Sense of Efficacy Scale
Chapter One

Introduction and Background

Introduction

Since the inception of public education, a separation between quick and struggling learners was not only acceptable, but in many cases, it was expected. The stratification that the educational environment provided ensured a clear division for the wide variety of highly-educated, skilled, and non-skilled workplace options that existed. In fact, there was a general belief that a student’s background and social context were the primary determining factors of a student’s academic achievement (Coleman et al., 1966). Students were encouraged to find their rightful place in society based on their background through the process of schooling. Overall, the system seemed to work for almost everyone, since even struggling students who were relegated to dropping out of school were pretty much assured a job opportunity. Although the job required less academic skill and a higher degree of physical labor, dropouts could still provide a living for themselves and their families. Even if educators wanted to change an individual student’s place in society, the thought was that schools had very little influence on the achievement outcomes of students (Coleman et al., 1966). It was this way of thinking that helped to relieve schools of accountability with regard to the success of all students.

Since that time, researchers have found that schools and individual teachers do have a profound impact on student achievement. In fact, after reviewing hundreds of studies conducted in the 1970s, researchers Brophy and Good (1986) commented: “The myth that teachers do not make a difference in student learning has been refuted” (as cited in Marzano, Pickering, & Pollock, 2001, p. 3). This research, along with the recent
education reform legislation, has changed the demands on public education. Schools are now being pushed to examine how to ensure that all students reach a level of proficiency in school and that all are prepared for the job demands of a changed economy. In order to achieve this, two promising areas of investigation are teachers’ sense of efficacy and school culture.

Teachers’ sense of efficacy, also referred to as teacher self-efficacy, is defined as the situation-specific belief that a teacher holds regarding his abilities and skills to positively impact student motivation and achievement (Gavora, 2010; Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk Hoy, 2001). The research on teachers’ sense of efficacy has revealed connections to a variety of positive student outcomes including increased student achievement (e.g., Armor et al., 1976; Ashton & Webb, 1986; Moore & Esselman, 1992; Skaalvik & Skaalvik, 2007; Wolter & Daugherty, 2007), improved motivation (e.g., Midgley, Feldlaufer & Eccles, 1989), and greater students’ sense of efficacy (Anderson, Greene, & Loewen, 1988). In addition, increased teacher self-efficacy has also been related to a number of teacher characteristics including greater enthusiasm for teaching (e.g., Guskey 1984), increased commitment to teaching (e.g., Coladarci, 1992), lower job stress (e.g., Moe, Pazzaglia, & Ronconi, 2010), a higher level of job commitment (e.g., Tschannen-Moran & Woolfolk Hoy, 2001), and higher likelihood of using more effective teaching strategies (e.g., Gibson & Dembo, 1984).

Most importantly for meeting the learning needs of all students, the beliefs held by teachers about their own effectiveness has been shown to influence teachers’ decision-making with regard to the instruction of struggling learners (Soodak & Podell, 1993,
The more effective teachers feel, the more likely they are to persist and utilize a variety of instructional strategies in their work with struggling learners.

School culture is another important consideration for schools as they work to meet the learning needs of diverse learners. School culture is a significant component of school climate and has been defined as the shared philosophies, ideologies, beliefs, feelings, assumptions, expectations, attitudes, and values that define how a school works (Bolman & Deal, 1997; Van Houtte, 2005). Research has demonstrated a strong relationship between collaborative school cultures and student achievement, motivation, and learning (Demirtas, 2010; Lewis & Wahlstrom, 2011). A school culture is considered collaborative when a school maintains an emphasis on continuous school improvement, increased efficacy, and high performance expectations (Fullan & Hargreaves, 1991). Collaborative schools provide organizational structures that support staff collaboration and often lead to changes in the status quo and improved performance and efficiency. Certain school norms are critical for improving teachers’ instructional practices in order to meet the learning needs of struggling students (Saphier & King, 1985). In addition, school culture influences the permanency of school reform efforts (Barth, 2004/2007a; Reeves, 2006/2007). Schools with a weak culture struggle to improve and rarely are able to meet the learning needs of all students. “Ultimately, a school’s culture has far more influence on life and learning in the schoolhouse than the state department of education, the superintendent, the school board, or even the principal can ever have” (Barth, 2004/2007a, p. 159). Despite this research, the focus of most school improvement efforts has been on student achievement data and accountability.
Although there is evidence that environmental factors, such as the socioeconomic status of students, have a strong influence in educational attainment and student performance, effective teachers can and do make a difference in the education of disadvantaged students. Scholars have pointed toward school culture and teacher efficacy as key components that can lead to lasting school improvement and increased student learning. Moving toward a collaborative school culture and improving teachers’ sense of efficacy may also provide an opportunity for school leaders to successfully meet the challenges presented by recent educational reform legislation. Various researchers have demonstrated that school culture and teachers’ sense of efficacy are related independently to improved educational performance. However, if a relationship exists between the factors of school culture and components of teachers’ sense of efficacy, it is possible that interventions used to improve school culture or teacher efficacy may have a compounding effect in positively influencing school, teacher, and student performance.

**Researcher’s Perspective**

When I was a middle school principal, my school implemented a series of school-wide interventions to address the needs of our struggling learners as part of our school improvement process. Through the implementation, the culture of our school began to evolve. In addition, my teachers began to develop a stronger sense of efficacy in working with our struggling learners. As I reflected on the process and evolution that my school experienced, questions began to develop in my mind regarding the connection that exists between school culture and teachers’ sense of efficacy.

Reviewing the literature involving teacher self-efficacy made it clear that contextual influences and organizational factors do impact individual self-efficacy
beliefs. However, there are a number of unanswered questions that make it challenging for school leaders to apply the research effectively to school reform initiatives. This study is intended to provide some additional information regarding the connections between school culture and teachers’ sense of efficacy to assist school leaders in their school improvement efforts.

**Statement of the Problem**

Various researchers have identified school culture and teacher self-efficacy as determining factors in school effectiveness and key components to successful educational reform (e.g., Deal, 1985; Deal & Kennedy, 1983; Wheatley, 2002). In fact, doubts regarding one’s personal teaching efficacy have been found to interfere with reform initiatives (Wheatley, 2002). Gaining a better understanding of the relationships between the components of school culture and the factors of teachers’ sense of efficacy may lead to the ability to improve student performance and increase success with educational reform initiatives. An examination of literature related to teacher self-efficacy makes it clear that there is significant value to school leaders in identifying interventions that help to increase the level of self-efficacy that teachers in their schools possess.

Despite the concern that educational reform efforts have focused on increasing the learning of all students, many teachers continue to have difficulty meeting the learning needs of struggling students. The willingness and ability of a teacher to respond to a student’s learning struggles may lead to indiscriminate academic interventions (DuFour, DuFour, Eaker, & Karhanek, 2004). Teachers who have a high level of self-efficacy believe that they have the capabilities necessary to help struggling students overcome learning difficulties (Gibson & Dembo, 1984). Low-efficacy teachers tend to blame a
lack of student achievement on outside influences such as a lack of intelligence, poor home conditions, various school-related issues, or other external causes (Gibson & Dembo, 1984). Depending on the teacher’s level of motivation and skill at developing and implementing interventions for struggling learners, a student could receive a high-level of support or none at all.

There has been a considerable amount of research that has shown a direct relationship between teachers’ sense of efficacy and academic outcomes including student achievement, motivation, and teacher use of effective teaching strategies (Gibson & Dembo, 1984; Guo et al., 2010; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2001; Wolters & Daugherty, 2007). In fact, Woolfolk and Hoy (1990) suggested that teacher self-efficacy is one of only a few consistent relationships that exist between teacher characteristics and the learning of students. By identifying school cultural components that relate to factors of teacher self-efficacy, cultural initiatives related to particular aspects of teacher efficacy may be implemented to increase the learning and achievement of struggling students.

Practicing school leaders and various authors allude to a connection between school culture and teacher sense of efficacy. One example is Barth’s (2004/2007a) description of a school where a teacher struggles to manage a class of difficult students only to have every other teacher in the school step in to offer assistance. In this case, the culture of the school is one in which the staff support and collaboration provide positive efficacy feedback that may produce increased teacher self-efficacy. However, in another school, that same teacher may end up struggling with no one knowing or with other
teachers knowing but choosing not to help. In that cultural situation, it is likely that the struggle will eventually have a negative impact on the teacher’s sense of efficacy.

Despite the suggested connection between school culture and teacher self-efficacy in the stories of practicing school leaders and various authors, no studies have actually examined the relationship. There have been studies that have researched the relationship between school climate and teacher self-efficacy (Chong, Huan, Wong, Klassen, & Kates, 2010; Hoy & Woolfolk, 1993). However, in each case, the research included factors of climate that are not a part of the construct of culture. Still other authors have demonstrated indirect connections between culture factors and components of teacher self-efficacy (Beard, Hoy, & Hoy, 2010; Deemer, 2004; Demir, 2008; Milner & Hoy, 2003; Tschannen-Moran & Woolfolk Hoy, 2001).

Tschannen-Moran and Woolfolk Hoy (2001) have identified three correlated factors of teacher self-efficacy: efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management. These factors provide an opportunity for a new dimension of understanding in the relationship between school culture and teacher self-efficacy. By gaining a deeper understanding of the relationship between aspects of school culture and components of teacher self-efficacy, school leaders may be able to improve school culture and teacher efficacy and to meet the learning needs of all students through school reform initiatives.

Purpose of the Study

The publication of A Nation at Risk (National Commission on Excellence in Education, 1983) encouraged school leaders to focus school improvement efforts on accountability and improved student outcomes. Since that time, educational research has
suggested that lasting educational reform is dependent upon school culture, and the academic achievement of students is related to teacher efficacy. However, research on the relationship between school culture and teacher self-efficacy has been limited. The purpose of this study is to determine the relationship between school culture and teacher sense of efficacy while examining the relationship among the three factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management) and three components of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration).

Research Questions

This study will address the central research questions:

1. What relationship, if any, exists between teachers’ sense of efficacy and school culture?

2. What relationships, if any, exists among the factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management) and the factors of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration)?

Definition of Terms

To clarify the terms used in this study of school culture and teachers’ sense of efficacy, the following definitions are offered:

Balkanization. A pseudo-collaborative school culture based on the teacher as the king or queen of his or her classroom resulting in a competitive atmosphere from one
classroom to another. Schools with this type of culture focus on immediate, rather than long range issues and work in isolation implementing traditional practices (Fullan & Hargreaves, 1991).

**Collaborative School Culture.** A type of school culture that maintains an emphasis on continuous school improvement, increased efficacy, and high performance expectations (Fullan & Hargreaves, 1991). Collaborative schools provide organizational structures that support staff collaboration and often lead to changes in the status quo and improved performance and efficiency.

**Comfortable Collaboration.** A pseudo-collaborative school culture based on selective restrictions on teacher collaboration (Fullan & Hargreaves, 1991). Teachers do not engage in deep, extended conversations and instead focus on comfortable issues that address immediate, short-term problems but never get to more meaningful level that may become uncomfortable and challenge the status quo.

**Conservatism.** Non-collaborative school culture characterized by a focus on maintaining long-standing traditions (Lortie, 1975/2002).

**Contrived Collegiality.** A pseudo-collaborative school culture where specific structures are used to allow staff collaboration on a limited level that rarely addresses the deep issues of school improvement or challenge to the status quo (Fullan & Hargreaves, 1991). Some examples of these structures are site-based management councils, team planning periods, peer coaching, and school improvement teams.
Efficacy Expectation. The conviction that one has the ability, knowledge, and skills to successfully execute a plan of action (the belief that a person can behave in a certain manner) (Bandura, 1977).

Efficacy in Classroom Management. One of three factors of teacher sense of efficacy determined by Tschannen-Moran and Woolfolk Hoy (2001). This factor relates to a teacher’s sense of efficacy in the methods and strategies used to maintain a classroom environment that is conducive to learning. This continuous variable corresponds to items #3, 5, 8, 13, 15, 16, 19, and 21 on the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001).

Efficacy in Instructional Strategies. One of three factors of teacher sense of efficacy determined by Tschannen-Moran and Woolfolk Hoy (2001). This factor relates to a teacher’s sense of efficacy in utilizing a variety of best practice teaching strategies to positively influence the learning of students. This continuous variable corresponds to items #7, 10, 11, 17, 18, 20, 23, and 24 on the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001).

Efficacy in Student Engagement. One of three factors of teacher sense of efficacy determined by Tschannen-Moran and Woolfolk Hoy (2001). This factor relates to a teacher’s sense of efficacy in actively engaging students in the learning process. This continuous variable corresponds to items #1, 2, 4, 6, 9, 12, 14, and 22 on the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001).

Emotional Arousal. A source of efficacy information that occurs through changes in an individual’s physiology and emotion (Bandura, 1977).
General Teaching Efficacy. The belief that an individual holds regarding the ability that teachers generally possess to overcome external factors that influence student learning (Ashton & Webb, 1986; Gibson & Dembo, 1984).

Individualism. Non-collaborative school culture characterized by a focus on teachers working by themselves (Lortie, 1975/2002).

Individualistic School Culture. (Also referred to as Non-Collaborative Culture) A school culture characterized by a lack of professional interaction and sharing. This type of culture often impedes school improvement efforts through a focus on maintaining the status quo and is oriented toward individualism, conservatism, or presentism (Lortie, 1975/2002).

Non-Collaborative Culture. (Also referred to as Individualistic Culture) A school culture characterized by a lack of professional interaction and sharing. This type of culture often impedes school improvement efforts through a focus on maintaining the status quo and is oriented toward individualism, conservatism, or presentism (Lortie, 1975/2002).

Outcome Expectation. The assumption that the person’s behavior will actually lead to the desired outcome (the belief that a behavior will lead to a certain outcome) (Bandura, 1977).

Performance Accomplishments. A source of efficacy information that is based on personal mastery experiences of the individual (Bandura, 1977).

Personal Teaching Efficacy. A personal dimension of teacher efficacy that focuses on whether a teacher believes he personally possesses the power to influence his students (Ashton, Olejnik, Crocker, & McAuliffe, 1982; Gibson & Dembo, 1984;

**Presentism.** Non-collaborative school culture characterized by a focus on the immediate issues that face the school (Lortie, 1975/2002).

**Professional Treatment by Administration.** One of three major factors of school culture identified by Edwards, Green, and Lyons (1996) from the School Culture Survey (Saphier & King, 1985). This factor relates to how the administrators in a school treat the teachers with whom they work. This factor includes characteristics such as professional respect, encouragement, and support that teachers receive from administration. This continuous variable corresponds to items #6 and 8-14 on the School Culture Survey (Saphier & King, 1985; as modified by Edwards, Green, & Lyons, 1996).

**Pseudo-Collaborative School Culture.** A school environment that mimics a collaborative school culture in structure but does not lead to true collaboration. Three non-collaborative cultures are *balkanization, comfortable collaboration*, and *contrived collegiality* (Fullan & Hargreaves, 1991).

**School Climate.** The collective personality of a school that is based on the atmosphere created by the social and professional interactions that take place in the school (Deal & Kennedy, 1983). School culture is a component of school climate (Van Houtte, 2005).

**School Culture.** The shared philosophies, ideologies, beliefs, feelings, assumptions, expectations, attitudes, and values that define how a school works (Bolman & Deal, 1997). School culture is a component of school climate (Van Houtte, 2005).
Self-Efficacy. An individual’s judgment of his capabilities to organize and execute courses of action required to achieve a desired outcome (Bandura, 1986).

Teacher Efficacy. A general belief that an individual holds regarding a teacher’s ability to help even the most difficult or unmotivated students. Educators with higher levels of teacher efficacy tend to persist in their teaching efforts in order to use their potentials to enhance student learning (Gibson & Dembo, 1984; Gavora, 2010).

Teacher Professionalism and Goal Setting. One of three major factors of school culture identified by Edwards, Green, and Lyons (1996) from the School Culture Survey (Saphier & King, 1985). This factor relates to the level of professionalism exhibited by the teachers in a school and the degree to which they utilize goal setting within the school environment. This continuous variable corresponds to items #15-24 on the School Culture Survey (Saphier & King, 1985; as modified by Edwards, Green & Lyons, 1996).

Teacher Collaboration. One of three major factors of school culture identified by Edwards, Green, and Lyons (1996) from the School Culture Survey (Saphier & King, 1985). This factor relates to the amount that the staff of a school works together to achieve common educational goals. This continuous variable corresponds to items #1-5 and 7 on the School Culture Survey (Saphier & King, 1985; as modified by Edwards, Green & Lyons, 1996).

Teacher Self-Efficacy (TSE). A multidimensional construct that is the situation-specific belief that a teacher holds regarding his abilities and skills to bring about a positive impact on student motivation and achievement (Gavora, 2010; Gibson &

**Teacher Sense of Efficacy.** A multidimensional construct that is the situation-specific belief that a teacher holds regarding his abilities and skills to bring about a positive impact on student motivation and achievement (Gavora, 2010; Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk Hoy, 2001). Used interchangeably with Teacher Self-Efficacy (TSE). The terminology of *sense of efficacy* highlights that teacher self-efficacy is only the *perception* that a teacher has about his ability to execute a course of action (Tschannen-Moran & Woolfolk Hoy, 2001).

**Verbal Persuasion.** A source of efficacy expectation that occurs when one is verbally convinced that they possess the capability to accomplish a desired outcome (Bandura, 1977).

**Vicarious experiences.** A source of efficacy expectation that learned through the modeling of others (Bandura, 1977).
Chapter Two

Literature Review

Introduction

This chapter is organized to provide a review of the related literature on teachers’ sense of efficacy and school culture. It begins with an investigation of the literature related to a teacher’s impact on student learning and frustration, establishing the importance of teacher efficacy in addressing the needs of struggling learners. The second section uses the related literature to develop the concept of teacher sense of efficacy and examine its measurement. The concept of school culture and its measure is developed in the third major part of the chapter. The final section highlights the literature that suggests a relationship between teachers’ sense of efficacy and school culture.

Teacher Impact on Student Learning

Wright, Horn, and Sanders (1997) indicated that “the most important factor affecting student learning is the teacher” (p. 63). Their study found that effective teachers are able to show progress in the learning of all students, regardless of achievement level. Despite this fact, when even the best teachers reach the conclusion of a lesson, they are faced with the sobering fact that not every student in their class may have learned the concept or material that was just taught. The reality that not all students learn the first time around is not much of a surprise. Since the inception of formal education, teachers have taught lessons in which at least a few of their students did not fully grasp the material presented. Additional support interventions have traditionally been a function of individual teachers and have subjected “students to a haphazard, random, de facto educational lottery program” (DuFour, DuFour, Eaker, & Karhanek,
The interventions that struggling students received depended on the individual teacher, her willingness to implement the strategy, her effectiveness at implementing the intervention, and a number of other school factors that were beyond the teacher’s and student’s control (DuFour et al., 2004).

Student failure is the result of a complex combination of variables that includes both in-school and out-of-school components. However, Anagnostopoulos (2003) found that “the overwhelming majority of teachers located the cause of student failure within students and their environments” (p. 310). Often, even when teachers are able to link their own instructional practices with student failure, educators choose to adopt defensive strategies in order to cope with the feelings of frustration instead of changing the instructional practices (Anagnostopoulos, 2003). These defense mechanisms include continuing the use of ineffective teaching strategies, lowering expectations, providing extra credit, rationing resources, altering test results, and using the threat of failure to try to entice students to succeed (Anagnostopoulos, 2003). Unfortunately, these are the exact strategies that continue the cycle of teacher and student failure and frustration.

Without question, the amount of frustration that teachers experience due to student failure is tremendous. Lortie (1975) found that teachers often responded to student failure with feelings of anxiety, self-blame, and anger toward students. Given these reactions, it is no surprise that teachers might find a lack of satisfaction in their work and withdraw from offering struggling students additional assistance. DuFour, DuFour, Eaker, and Many (2006) stressed the point that an individual teacher working independently to assist struggling learners quickly leads to an overwhelming sense of frustration for the teacher. This is compounded by the fact that often, the school structure
and policies prevent teachers from providing students with increased learning support and time. Beaton (2007) noted in a review of his own school’s journey to implement a school-wide academic intervention program for struggling students that “although many of our teachers had the creativity and perseverance to succeed with students who had limited skills and a resistance to learning, our school had no collective response to struggling students” (p. 75). By offering students a choice to fail, the school essentially guaranteed itself that some students would choose that option. The variety of learning needs for a diverse group of students creates a tremendous tension between covering the content and responding to the learning needs of struggling students (DuFour et al., 2004). In order for schools to improve the learning of students, educators must take a critical look at school culture and teacher efficacy to determine ways to make improvements.

**Student Frustration and Effort**

In addressing the issue of struggling learners, it is not only educators who feel frustration. As students progress further through their K-12 education, they also learn that struggling through learning is no fun. “For the majority of students who drop out of high school, the major cause is not an unanticipated life event or disinterest in receiving a diploma; but rather school failure” (Neild, Balfanz, & Herzog, 2007, p. 32). The interdependency between achievement and academic self-concept has been demonstrated by Choi (2005). An increase in one can lead to an increase in the other and vice versa (Chapman, Tunmer, & Prochnow, 2000). However, by the time most struggling students reach adolescence, they have developed coping mechanisms to protect themselves from the cycle of failure and the negative impact on their self-esteem that comes with it.
(Darling-Hammond & Ifill-Lynch, 2006). Often, students choose not to attempt schoolwork rather than face continued failure.

Student failure is further impacted by the finding that many struggling students have not figured out the connection between effort and success in school (Marzano, Pickering, & Pollack, 2001). They suggested that not all students realize the value of effort in school. Marzano et al. (2001) stated that students generally “attribute success at any given task to one of four causes: ability, other people, luck, or effort” (p. 50). Unfortunately, the first three factors only act to inhibit a student’s performance because the causes are outside the control of the student. However, students can learn to change their beliefs about effort through a demonstration that added effort makes a difference in student achievement (Marzano et al., 2001).

Despite the adversity that struggling students often experience, research found that some students have the ability to improve their likelihood of success through the concept of resilience (Borman & Overman, 2004; Downey, 2003; Knapp, 2001). Some at-risk students, despite many indicators of potential risk factors for low academic achievement, overcome the adversity they face and develop high self-esteem and optimism, set personal goals, expect to succeed and believe that they are responsible for their own success (Downey, 2003). In almost all cases, these students are able to identify at least one adult in their lives who has taken a special interest in their academic success (Reis, Colbert, & Hébert, 2005). In order to reverse student defense responses and help students to realize the role that effort plays in achievement, schools must create “a strong academic culture that changes students’ beliefs and behaviors, convincing them to engage with their schoolwork” (Darling-Hammond & Ifill-Lynch, 2006, p. 9).
Self-Efficacy

Efficacy is defined in the simplest of terms as the power or capacity to produce a desired effect (Merriam-Webster Online Dictionary, n.d.). From this definition, self-efficacy is the belief that an individual holds regarding the power he possesses to produce a desired effect. The concept of self-efficacy was originally introduced into the literature as a psychological construct and component of social cognitive theory by Bandura (1977). Bandura (1986) formally defined self-efficacy as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performance” (p. 391).

Social cognitive theory is not quite as simple as equating a high-level of self-efficacy with achieving a desired outcome. Bandura (1977) distinguished between two components that “serve as a means of creating and strengthening expectations of personal efficacy” (p. 193): efficacy expectation and outcome expectation. A diagram of these two expectations is shown in Figure 1. It is the combination of these two components that describes the role that self-efficacy plays in how an individual chooses to behave.

Efficacy expectation is a conviction that one has the ability, knowledge, and skills to successfully execute a plan of action (the person can behave in a certain manner). Outcome expectation is the assumption that the person’s behavior will actually lead to the desired outcome (the behavior will lead to a certain outcome). It is possible for an individual to believe that a particular course of action will result in a desired outcome but doubt his ability to execute the behavior. In contrast, one might be able to perform the behavior but doubt that it would lead to the desired outcome. In either case, it is not likely that an individual would choose to behave in a certain manner unless he possesses both
an efficacy and outcome expectation. That is, he believed he could perform the behavior and he believed that the behavior would result in the desired outcome.

Figure 1. Diagrammatic representation of the difference between efficacy expectations and outcome expectations. Reprinted from “Self-efficacy: Toward a unifying theory of behavioral change,” by Bandura, 1977, Psychological Review, 84 (2), p. 193.

Self-efficacy is not to be confused with competence. Although the synonyms of efficacy include effectiveness, efficiency, and productiveness (Merriam-Webster Online Dictionary, n.d.); self-efficacy is only the perception that one can execute a course of action, not the actual ability to carry it out. However, Bandura (1977) pointed out that self-efficacy is not just a guess that an individual makes regarding his level of ability to attain a goal. According to social cognitive theory, self-efficacy is developed over time based on the interaction between person, behavior, and outcome. As one chooses behaviors and executes those actions, people around the individual and the environment provide consequences and feedback that helps to inform self-efficacy and future behaviors (Bandura, 1977). Over a sequence of events, the individual begins to gain a perception of the degree to which his actions have produced the desired outcome and hence he develops his sense of self-efficacy. Judgments of self-efficacy determine an
individual’s behaviors, how much effort he will expend, and how long he will persist in the face of obstacles (Bandura, 1982).

**Development of Self-Efficacy**

Bandura (2001) has asserted, “People are not only agents of action but self-examiners of their own functioning” (p. 10). The belief that a person possesses the power over his own functioning and over the environment is one of the most powerful mechanisms of personal agency (Bandura, 1977). A person determines his own level of efficacy based on learning that takes place from response consequences. By analyzing the differential effects of the actions a person chooses, he can figure out which responses provide the desired response and act accordingly (Bandura, 1977). However, the influence information has on self-efficacy depends heavily on how it is cognitively appraised. There are a number of contextual factors, such as social and situational circumstances, that are also considered to determine one’s efficacy. Therefore, successfully attaining a desired outcome may not necessarily result in an increase in self-efficacy. Overtime, repeated and consistent feedback is likely to have a greater impact on self-efficacy determination (Bandura, 1977). In the event that task demands or situational circumstance change significantly, an individual is forced to reevaluate his self-efficacy given the new context (Bandura, 1982).

It is through the on-going process of self-reflection that individuals make an assessment of motivation, values, and efficacy in a variety of different circumstances and tasks. Regardless of the context or task, this social learning analysis involves four major sources of information that a person uses to form a sense of efficacy. They are
performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977).

**Performance accomplishments.** Performance accomplishment is a source of efficacy information that is based on personal mastery experiences of the individual (Bandura, 1977). Basically, it is the old adage that success breeds success. The more a person obtains successful results from his behaviors, the more his sense of efficacy increases. Repeated failures in achieving a desired outcome eventually lower his sense of efficacy. Personal mastery experiences provide authentic evidence for a person regarding his level of ability to influence others and/or the environment. After an individual develops a strong sense of efficacy, either positive or negative, it is unlikely that a single source of feedback that is contrary to his efficacy belief will change his sense of efficacy (Bandura, 1977). For example, after one develops a strong positive sense of efficacy, an occasional failure will not likely lower his self-efficacy. In fact, occasional failures can sustain effort and strengthen the level of resolve to overcome even the most difficult obstacles to reach continued success. “The effects of failure on personal efficacy therefore partly depend on timing and the total pattern of experiences in which failures occur” (Bandura, 1977, p. 195). Performance accomplishments are regarded as the most influential source of self-efficacy information (Bandura, 1977; Bong & Skaalvik, 2003; Usher & Pajares, 2008).

**Vicarious experiences.** People do not just determine a sense of efficacy through their own experienced mastery. In fact, much of human behavior and efficacy expectation is learned through modeling others (Bandura, 1977). Therefore, a second source of self-efficacy information is through vicarious experiences. Vicarious experiences occur when
an individual witnesses another person, like himself, persevering and succeeding to reach a goal. “Seeing similar others perform successfully can raise efficacy expectations in observers who then judge that they too can possess the capabilities to master comparable activities” (Bandura, 1982, p. 126). Similarly, if an individual observes others fail to accomplish a goal despite high effort, the observer is likely to lower the judgment of his own capability (Brown & Inouye, 1978). This source of efficacy information is most effective when an individual has little personal experience or doesn’t know his performance level with an activity (Schunk, 1987). Overall, social modeling is a less dependable source of efficacy information since individual ability can vary. Hence, self-efficacy based mainly on vicarious experiences is more easily changed based on other sources of efficacy information (Bandura, 1977).

**Verbal persuasion.** The attempt to influence human behavior by verbally convincing someone that they possess the capability to accomplish a desired outcome is verbal persuasion (Bandura, 1977). Efficacy information received through verbal persuasion is most effective when it is provided by someone who is viewed as “competent and reliable” (Skaalvik & Skaalvik, 2007, p. 612) and in a manner that provides realistic outcome expectations (Bandura, 1982). Providers of verbal efficacy information not only offer positive appraisals and encouragement but also structure situations that improve the opportunity for success. Efficacy expectations developed through this source are likely to be weaker than authentic experiential information and can be easily eliminated by negative performance feedback (Bandura, 1977).

**Emotional arousal.** Human beings are extremely sensitive to changes in physiology and emotion. The information that one interprets from changes in the human
state account for the fourth source of efficacy information, emotional arousal (Bandura, 1977). Physiological responses such as fatigue, sweating, and rapid heartbeats and/or breathing may send a message of stress and failure while emotional sensations of excitement and enthusiasm send a message of success. Stress, tension, and fatigue are often signals of inefficacy and often debilitate performance (Bandura, 1982). “By conjuring up fear-provoking thoughts about their ineptitude, individuals can rouse themselves to elevated levels of anxiety that far exceed the fear experienced during the actual threatening situation” (Bandura, 1977, p. 199). Techniques for stress reduction, mood enhancement, and improving physical and mental health are used to positively influence the physiological and emotional states and enhance efficacy beliefs related to emotional arousal.

Regardless of the source of efficacy, different people receiving the same information may develop varying levels of efficacy expectations (Bandura, 1977). Bandura (1977) offered a couple of possibilities to explain this difference in expectation development. One such reason may be the difference from one individual to another in how they cognitively assess the efficacy information that is received. Another explanation might be a person’s previous experiences with a particular activity. For example, if one has succeeded in previous performance accomplishments, he may not react to a single negative source of efficacy feedback to the same degree that another person lacking the previous experience may. These variations in effect make the development and maintenance of self-efficacy highly individualized and complex.
**Teacher Sense of Efficacy**

Teacher sense of efficacy is the situation-specific belief that a teacher holds regarding his abilities and skills to bring about a positive impact on student motivation and achievement (Gavora, 2010; Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk Hoy, 2001). As teachers engage in the activities related to teaching and learning, they receive feedback from others (students, peers, parents, administrators, etc.) and their environments that provides them with efficacy information. The information is obtained as described previously through performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. The interpretation that an individual teacher makes regarding this efficacy information helps the educator determine his level of TSE. As with other forms of efficacy, in general, consistent success in a teaching activity increases self-efficacy and failure reduces it (Gavora, 2010).

As shared earlier about efficacy in general, TSE should be distinguished from competence, which is usually considered to refer to a teacher’s professional knowledge and skills (Gavora, 2010). A high level of TSE enables and permits an individual teacher to successfully apply his professional knowledge and skills to benefit his students. A low level of TSE interferes with the application of skills and knowledge, even if the teacher possesses a great deal of both. Hence, Gavora (2010) asserted that TSE is “a strong self-regulatory characteristic that enables teachers to use their potential to enhance pupils’ learning” (p 18). Soodak and Podell’s (1994) findings seem to support this distinction. They found that, even if teachers possessed certain professional skills and knowledge, they were less likely to initiate interventions for students if the teachers did not believe that their efforts would improve student outcomes.
Teacher Efficacy Construct and Measure

There have been a number of studies conducted relative to TSE and its influence on various educational outcomes. In examining the related literature, there is general agreement that TSE is a multidimensional and context-specific construct. There have been two conceptual strands of theory and research that have helped to shape the construct of teacher efficacy. They are locus of control (Rotter, 1966) and social cognitive theory (Bandura, 1977).

Rotter’s conceptual strand. Teacher efficacy research essentially began with two questions being added to an already lengthy questionnaire distributed by the RAND organization (Armor et al., 1976). The questions were developed using Rotter’s (1966) theoretical base of action-outcome contingencies. That is, the theory focuses on the teacher’s belief that he had more influence over student outcomes than the student’s environmental factors. According to Rotter’s (1966) framework, “teachers who believe that they are competent to teach difficult or unmotivated students are considered to have internal control, whereas teachers who believe that the environment has more influence on student learning than their own teaching ability are considered to have external control” (Brouwers & Tomic, 2003, p. 67). The first RAND question from Armor et al. (1976) asked teachers about whether they felt teachers could overcome the influence of a student’s home environment. This question revealed teachers’ beliefs about the ability of schools and teachers to overcome the power of external factors (external control). The second RAND question was about teachers’ ability to get through to difficult or unmotivated students. This question led to whether or not a teacher believed he personally possessed the power to influence his students (internal control). Both
questions were aimed to determine the confidence that teachers had in being able to overcome adverse educational circumstances. Additional measures of teacher efficacy using the Rotter (1966) theoretical framework included Rose and Medway’s (1981) Teacher Locus of Control (TLC), Guskey’s (1981) Responsibility for Student Achievement (RSA), and the Webb Efficacy Scale (Ashton et al., 1982).

**Bandura’s conceptual strand.** The second conceptual strand was developed from the theoretical base of Bandura’s (1977) social cognitive theory and his construct of self-efficacy. Bandura’s (1977) cognitively based sources of efficacy expectations and outcome expectations differed from Rotter’s (1966) framework, which only focused on the behavior-outcome contingency. He argued that self-efficacy was not just determined by whether or not one believed a behavior would produce an outcome. But, it was critical to consider whether or not the individual believed he could perform the behavior necessary to produce the outcome when determining self-efficacy. This argument has positioned Bandura’s (1977) theoretical framework as the one favored by researchers for the study of teacher efficacy.

Gibson and Dembo (1984) were among the first to develop a more extensive and reliable instrument to measure teacher efficacy based on Bandura’s (1977) framework. Gibson and Dembo’s (1984) Teacher Efficacy Scale quickly became that standard for measuring teacher efficacy. “Much of what we know – and do not know – about the construct of teacher efficacy and its correlates…derives from research based on either the Rand items or the Teacher Efficacy Scale” (Coladarci, 1992, p. 325). Modifications have been made to the Teacher Efficacy Scale by different researchers to measure TSE for subject-specific research (Riggs & Enochs, 1990; Rubeck & Enochs, 1991), to better
reflect the domain of classroom management (Emmer & Hickman, 1990), and to explore TSE in the context of special education (Coladarci & Brenton, 1997). In addition, the tool has been translated for use in other countries (Gavora, 2010).

Other constructs of teacher efficacy. There have been a number of other attempts at measuring efficacy that have varied from a strict alignment with Rotter’s or Bandura’s frameworks outlined previously. Some of these measures involved the use of a long, detailed series of vignettes (Ashton, Buhr, & Crocker, 1984) while others simply combined components of various measures from both theoretical frameworks (Midgley, Feldlaufer, & Eccles, 1989). In the middle of the discussion regarding the teacher efficacy construct, Bandura (1997) even decided to get involved and produced his own version of a teacher efficacy scale. However, his instrument met mixed reviews from teachers and teacher educators who felt that his item distribution did not accurately reflect the types of tasks representative of a teacher’s work life (Tschannen & Woolfolk Hoy, 2001). As Tschannen-Moran et al. (1998) suggest, “The conceptual confusion around the concept of teacher efficacy has made finding appropriate measures of efficacy difficult” (p. 219). For the most part, the arguments surrounding the measure of teacher efficacy are focused on finding the appropriate balance between generality and specificity of measuring teacher efficacy related to teaching tasks.

GTE and PTE. Teacher efficacy researchers, regardless of which conceptual strand they most closely align with, have traditionally identified two sets of efficacy beliefs, General Teaching Efficacy (GTE) and Personal Teaching Efficacy (PTE) (Ashton & Webb, 1986; Gibson & Dembo, 1984). Since the RAND questions of Armor et al. (1976), researchers have labeled teachers’ general beliefs of ability to overcome
external factors as General Teaching Efficacy. A second, more personal, dimension of teacher efficacy focuses on whether or not a teacher believes he personally possesses the power to influence his students has been called Personal Teaching Efficacy (Ashton, Olejnik, Crocker, & McAuliffe, 1982; Gibson & Dembo, 1984; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; Webb, 1982; Woolfolk & Hoy, 1990).

While there has been a general agreement among researchers on the importance and dimension of PTE, the GTE dimension has been often debated in the literature. GTE includes factors of self-efficacy that are outside of a teacher’s PTE. Some researchers have considered the GTE dimension to include environmental and external factors that influence efficacy (Emmer & Hickman, 1990; Guskey & Passaro, 1994) while others have more closely aligned the dimension with Bandura’s outcome expectancy (Gibson & Dembo, 1984; Riggs & Enochs, 1990; Soodak & Podell, 1996). Still others disagree with both of the previous ideas and suggest that GTE is actually about how teachers believe other educators could perform in a similar situation (Woolfolk & Hoy, 1990). In an attempt to settle the debate over the GTE dimension of teacher efficacy, Coladarci and Fink (1995) attempted to correlate the various measures of this dimension. They found that the correlations that existed suggested that that the different measures were describing related constructs, but the overlap between them was not perfect. Regardless, most researchers agree that the distinction between GTE and PTE is important because it is possible that a teacher may believe a certain course of action will result in a positive outcome (GTE) but may doubt his own ability to perform the specific activities (PTE) (Bandura, 1977; Coladarci, 1992; Skaalvik & Skaalvik, 2007). Hoy and Woolfolk (1993) found that research using only a GTE or PTE score or research where the scores were
summed produced misleading teacher efficacy measures since the two dimensions are relatively independent. Despite the on-going debate over the construct, researchers have made significant contributions in the area of teacher efficacy using various measures and constructs over the past 30 years.

**New teacher efficacy model.** In order to address these concerns, Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) conducted a comprehensive review of the teacher efficacy literature and related research. They proposed integrating the conceptual strands of Rotter and Bandura into a single model that was consistent with “the substantial body of research” (p. 227) related to teacher efficacy. The model developed by Tschannen-Moran et al. is represented in the diagram provided in Figure 2. It embraced Bandura’s (1977) sources of efficacy beliefs which were then interpreted and processed cognitively to determine how the information is weighed by the individual and allowed to influence the analysis of the teaching task and personal competence. Tschannen-Moran et al. then utilized Rotter’s (1966) conceptual strand as an individual analyzes the teaching task and assesses his own level of personal teaching competence. Through the examination of the teaching task and personal teaching competence, the teacher makes a self-judgment of his teaching efficacy related to a particular task. Tschannen-Moran et al. believed that the level of teacher efficacy one feels directly influences the teacher’s choice of behaviors resulting in feedback that provides new efficacy information.

Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) were the first in the literature on self-efficacy to explain the formation of self-efficacy through teaching task analysis and evaluating an individual’s personal teaching competence. These two factors are related to the previously identified dimensions PTE and GTE, but they are not identical.
Figure 2. Diagrammatic representation of the cyclical nature of teacher efficacy.


The teaching task analysis suggested by Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) occurs as a teacher examines the relative importance of a variety of factors that act to create challenges that must be overcome in the teaching process. In part, a teacher considers various external attributes that influence student learning, similar to GTE (Gibson & Dembo, 1984; Guskey & Passaro, 1994). However, Tschannen-Moran et al. (1998) pointed out that GTE only reflects part of analysis of the teaching task. A complete analysis of the teaching task includes the consideration of the means and actions required to accomplish the task goal and the likelihood that the desired outcome
will result (Tschannen-Moran et al.). They felt that it was not just enough for a teacher to consider the external resources and constraints that exist, but the teacher must also examine the likelihood that the means and actions will result in the desired outcome.

The second dimension, an assessment of personal teaching competence that an individual teacher possesses refers to an evaluation of a teacher’s strengths and weaknesses in relation to a particular teaching task (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Personal teaching competence differs from PTE in that it is an evaluation of past achievement and present functioning (Tschannen-Moran et al.). In contrast, PTE is a prediction of a teacher’s ability to accomplish a task in the future. Tschannen-Moran et al. argued that the confusion between past, present, and future performance in efficacy measures may produce inconsistent results when determining efficacy. By focusing on current competence, Tschannen-Moran et al. (1998) determined teacher efficacy, “in part, by the individual’s comparative judgment of whether his or her current abilities and strategies are adequate for the teaching task in question” (p. 233).

**Development of TSES.** Researchers have not only questioned the construct of teacher efficacy, they have also questioned the validity and reliability of the various instruments that have been developed to measure it (Heneman, Kimball, & Milanowski, 2006; Tschannen-Moran & Hoy, 2001; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; Usher & Pajares, 2008). Specifically, inconsistencies have arisen with continued research using Gibson and Dembo’s (1984) Teacher Efficacy Scale. Using factor analysis, researchers have determined that several of the items in the instrument loaded on both GTE and PTE. This encouraged some researchers to eliminate items that did not correspond uniquely to one of the factors (Soodak & Podell, 1993; Woolfolk & Hoy,
Research using the shortened version of the Teacher Efficacy Scale continued to show inconsistencies and raised additional concerns about the tool (Hoy & Woolfolk, 1993). “Although the Gibson and Dembo measure has been the most popular of the teacher efficacy instruments to date, problems remain both conceptually and statistically” (Tschannen-Moran & Woolfolk Hoy, 2001, p. 789).

In 2001, Tschannen-Moran and Woolfolk Hoy created a new instrument using the construct of teacher efficacy developed by Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) as a guide. In addition, Tschannen-Moran and Woolfolk Hoy (2001) attempted to develop an instrument that addressed many of the concerns and construct issues that were conveyed in the previous 25 years of teacher efficacy research. They developed a 24-item scale consisting of three dimensions of teacher efficacy: instructional strategies, classroom management, and student engagement. These three dimensions were thought to provide results that are generalizable enough to assess teacher efficacy across a wide range of teaching tasks and activities, but specific enough to be useful in a variety of contexts. Klassen and Chiu (2010) pointed out:

Although earlier measures were marred by faulty conceptualization…more recent measures such as Tschannen-Moran and Woolfolk Hoy’s (2001) Teachers’ Self-Efficacy Scale adhere more closely to the theoretical guidelines proposed by Bandura (1977, 2006), specifically in the focus on forward-looking capabilities (e.g., “I can craft good questions for students”) and not global ability (e.g., “I am a good teacher”). (p. 742)
Tschannen-Moran and Woolfolk Hoy (2001) called their new teacher efficacy measure the *Teaches’ Sense of Efficacy Scale* (TSES) (originally called the Ohio State Teacher Efficacy Scale (OSTES)) (see Appendix A).

Tschannen-Moran and Woolfolk Hoy (2001) carried out extensive reliability and validity testing of the TSES. They found it to be “superior to previous measures of teacher efficacy in that it has a unified and stable factor structure and assesses a broad range of capabilities that teachers consider important to good teaching, without being so specific as to render it useless for comparisons across contexts, levels, and subjects” (Tschannen-Moran & Woolfolk Hoy, 2001, p. 801). However, they were also careful to suggest additional testing and validation in a variety of settings. In response, various researchers have tested the use of the TSES in various contexts over the 10 years since its development. The TSES has been used to explore and validate the teacher sense of efficacy construct in relation to teacher performance, teacher growth, student achievement, and educational reform (e.g., Betoret, 2009; Gavora, 2010; Guo, Piasta, Justice, & Kaderavek, 2010; Klassen & Chiu, 2010; Milner & Hoy, 2003; Moe, Pazzaglia, & Ronconi, 2010; Pas, Bradshaw, Hershfeldt & Leaf, 2010; Wheatley, 2002).

Items on the TSES have also been translated into various languages and have been tested in a variety of geographically and culturally contrasting countries, the results of which have found the TSES to have strong internal consistency and international validity (e.g., Fives & Buehl, 2010; Klassen et al., 2009; Moe et al., 2010; Tsui & Kennedy, 2009; Wolters & Daugherty, 2007).

The use of the TSES has not occurred without its critics. Skaalvik and Skaalvik (2007) supported the high reliability of the TSES and even felt the scale seemed to be
“well designed” (p. 613). However, they argued that the three teaching dimensions of the TSES are simply not enough. “The variety of tasks and demands put on a teacher cannot, in our view, be reduced to three dimensions” (Skaalvik & Skaalvik, 2007, p. 621). In fact, their research found strong support for six separate but correlated dimensions of teachers’ sense of efficacy. The other concern that Skaalvik and Skaalvik (2007) had with the TSES was the lack of clear obstacles present in the various scale items. Bandura (1997) specifically pointed out that “If there are no obstacles to surmount, the activity is easy to perform, and everyone has a uniformly high perceived self-efficacy for it” (p. 42). As Skaalvik and Skaalvik (2007) worked to create their own teacher efficacy scale, called the Norwegian Teacher Self-Efficacy Scale (NTSES), they specifically tried to address this concern by including various obstacles to teaching in the item design.

Despite the concerns of Skaalvik and Skaalvik (2007, 2010), there has not been much support in the literature for a move away from the use of the TSES as the preferred teacher efficacy measure. There also has not been significant research exploring the teachers’ sense of efficacy construct developed by Skaalvik and Skaalvik (2007) or the use of the NTSES to measure teacher efficacy. The issues that Skaalvik and Skaalvik (2007, 2010) presented seem to be more along the lines of developing an improved scale as opposed to discrediting the value of the TSES as a reliable and valid instrument for measuring teacher efficacy. Overall, the TSES has proven to be a reliable and valid measure of teacher efficacy and it is currently the instrument favored in the recent literature. For these reasons, this study will use the TSES to measure teachers’ sense of efficacy.
Defining Culture

Although many researchers seem to share a common understanding of the concept of organizational culture, identifying the central features of culture and defining it is difficult. Many authors have relied on the traditional roots in anthropology and sociology to develop their definitions, while others utilized the more contemporary roots of organizational theory and cross-cultural psychology (Bustamante, Nelson, & Onwuegbuzie, 2009). Regardless of the source, having an awareness of the concept of culture is critical to understanding schools and the cultures that develop there.

Bustamante, Nelson, and Onwuegbuzie (2009) define culture as “a learned system of shared beliefs, values, norms, symbols, customs, behaviors, and artifacts that members of a group use to make sense of their world and foster a sense of identity and community” (p. 796). This definition helps to convey the complexity of concept of culture. Morgan (1997) seemed to support this complexity when he suggested that the word culture had “been derived metaphorically from the idea of cultivation: the process of tilling and developing the land” (p. 120). This metaphor paints a picture of culture building that is a complex process involving a number of components that come together to produce the final cultural product. As with cultivating land, developing a culture is a process that is a product of circumstances that occur over a period of time. The developmental process of culture is a social practice that is influenced overtime by interactions, events, and situations that help the culture to evolve in a self-organizing manner (Morgan, 1997).

Deal and Peterson (1999/2007) supported this notion of culture building as they explained that the cultural components (shared beliefs, values, norms, etc.) of a group were developed over time in response to various circumstances and challenges that the
group faced. Interestingly enough, many of the components that make up the culture of a
group also act to preserve and maintain it. For example, the symbols, customs, behaviors,
and artifacts that a group develops as part of its culture also serve to preserve the existing
culture across generations, sometimes without the conscious awareness of the group
members (Bustamante et al., 2009). After a period of time, it becomes difficult to
distinguish between whether the people are developing the culture or the culture is
developing them. Deal and Peterson (1999/2007) expressed this sentiment with their
statement, “People create culture; thereafter it shapes them” (p. 197).

**Organizational Culture**

Organizations develop a culture in much the same manner as other groups. However, defining organizational culture comes with its own set of complex issues. The
literature reveals a range of definitions of organizational culture from a surface view of
human behavior within an organization (Hargreaves & Hopkins, 1991) to a deeper,
underlying quality of an organization and its environment (Schein, 2010). The most
widely adopted definitions embody a variety of organizational characteristics. For
example, Bolman and Deal (1991) described organizational culture as the “beliefs,
values, practices, and artifacts” (p. 250) that define how an organization works.
Definitions of organizational culture often include organizational beliefs, feelings,
behaviors, rituals, ceremonies, and symbols in addition to the behavior standards, norms,
and organizational expectations of its members.

Schein (2010) classified organizational culture into three distinct levels that help
to bring understanding to the abstract concept of culture (Figure 3). His model also
provided descriptions of the visibility and awareness that members of the organization
have about each layer. The first level is made up of the basic underlying assumptions that are shared by the organizations members that include beliefs, perceptions, thoughts, and feelings that the members assume to be true (Schein, 2010). The first level of culture is the least tangible level of culture and usually goes unnoticed by the members of the organization. The conscious awareness of this level of culture usually comes to the members of the organization through challenges that are made to the assumptions.

The second level of culture is the values and norms of the organization (Schein, 2010). Values represent those things that are important to the organization and/or its members. The organization’s values are often used to help define the behavioral expectations of the members called norms. In fact, the values are often used to justify why certain behaviors are expected within the organization. The norms and the members’ agreement with them are often unwritten but are clearly understood by the members within the organization (Schein, 2010). Despite the clarity of the behavioral expectations to the organization’s members, this level of culture is often difficult to put the norms and values into words. Often, the values and norms are just understood and therefore do not have a high level of visibility to someone outside of the organization.

The third level of culture described by Schein (2010) is the most visible and consists of the organizational structure, processes, and artifacts. This is the level at which the previous two levels of culture (assumptions and values) are displayed. For example, Deal (1985) points out that an organization’s myths articulate which past events have been important its members. In another example, Deal (1985) explained that the practices and procedures of an organization develop from the behaviors that are socially accepted or reinforced in the organization.
School Culture

Since schools are organizations, each school also possesses its own organizational culture. Waller (1932) was the first to describe the complex rituals that define the way a school operates as the culture of the school. However, the concept of school culture did not become popular until the 1970’s when educational researchers attempted to understand the process of change in schools and to look for the barriers the prevented educational change (see Maslowski, 2006). A decade later, educational researchers began to realize the importance of school culture as a result of the expanding research related to organizational culture.
School cultures are defined in similar terms to what has been presented previously about organizational cultures. Bolman and Deal (1997) defined school culture as shared philosophies, ideologies, beliefs, feelings, assumptions, expectations, attitudes, and values that define how a school works. Barth’s (2004/2007a) description, although more simplistic, explains that “The school’s culture dictates in no uncertain terms, ‘the way we do things around here’” (p. 159). In addition to a definition, Bolman and Deal (1997) suggested that school culture is a *product* and a *process*. It is a *product* because it exists based on the involvement of individuals over the long-history. In most cases, the culture was developed long before the current stakeholders were a part of the school. They also suggested that school culture is a *process* due to the evolutionary nature of it. Regardless of the state of a school’s culture, the current members influence it and can either reinforce the current culture or change it based on their interactions and behaviors. Not only is the culture in a school a product of the past but it is also influenced by the processes that are occurring in the present.

**Individualistic school culture.** In general, the literature seems to support the separation of school cultures into two general categories: *individualistic* and *collaborative* (e.g., Fullan & Hargreaves, 1991; Lortie, 1975/2002). Individualistic cultures, also known as non-collaborative, is a type of school culture that is characterized by a lack of professional collaboration and sharing and often impedes school improvement efforts through a focus on maintaining the status quo. Lortie (1975/2002) further described the factors of non-collaboration as school cultures that are oriented toward *individualism, conservatism, or presentism*. The culture in these non-collaborative schools is classified through a focus on teachers working by themselves (*individualism*),
a focus on maintaining long-standing traditions (*conservatism*), or by a focus on the immediate issues that face the school (*presentism*). In addition to non-collaborative school cultures being defined by the isolated teaching practices identified by Lortie (1975/2002), Fullan and Hargreaves (1991) explained that there are some types of pseudo-collaborative school environments that really do not lead to a true collaborative school culture. These three non-collaborative cultures are *balkanization, comfortable collaboration, and contrived collegiality*.

*Balkanization* is where the teacher is the king or queen of his or her classroom resulting in a competitive atmosphere from one classroom to another. These schools focus on immediate, rather than long range issues and work in isolation implementing traditional practices (Fullan & Hargreaves, 1991). This type of school culture is often found in secondary schools and large elementary schools where teachers are compartmentalized and staff members find it difficult to build a sense of community.

In schools that exhibit a culture of *comfortable collaboration*, the prevailing culture selectively restricts teacher collaboration (Fullan & Hargreaves, 1991). Teachers remain away from deep, extended conversations and the collaboration is thin and superficial. Although teachers in these schools often can found sharing instructional materials or strategies, the staff stays away from long-range planning, teaching philosophy, or other deep professional conversations. Collegial conversations, when they do occur, focus on comfortable issues that address immediate, short-term problems but never get to a more meaningful level that may become uncomfortable and challenge the status quo.
Finally, the third non-collaborative school culture is that of *contrived collegiality*. In these schools, very specific structures and procedures have been developed to bring teachers together and to encourage collaboration (Fullan & Hargreaves, 1991). Some examples of these structures are site-based management councils, team planning periods, peer coaching, and school improvement teams. While these structures may be an important aspect of a collaborative school culture, without the buy-in of teachers and the willingness of the staff to engage in deep, meaningful discourse about educational issues, the school never reaches the shared norms, commitments, and values that are critical to a truly collaborative culture. “Collaborative cultures are not balkanized, simply congenial, or only structures of shared work. Rather, they are cultures that support deeper, richer professional exchange” (Peterson, 1994, “What Types of School Cultures Exist?”, para. 6).

**Collaborative school culture.** In contrast to *individualistic* school cultures, *collaborative* school cultures maintain an emphasis on continuous improvement, increased efficacy, and high performance expectations (Fullan & Hargreaves, 1991). In addition to providing school structures that support collaboration, the teachers are committed to using the time provided to engage in deep discussions about educational issues that result in challenges to the status quo and improved performance and efficiency. This type of meaningful professional engagement is only possible with a high level of commitment to the organization, well-defined norms, and a shared vision for the future of the school. Lewis and Wahlstrom (2011) found three elements that help to support a collaborative school culture and stimulate teachers to improve instruction. The elements are:
- a culture of excellent instruction that focuses on deep organizational learning
- shared norms and values that break down the isolation and motivates teachers to take collective responsibility for the learning of all students
- a culture of trust that supports students and teachers as they attempt new ideas to improve learning (Lewis & Wahlstrom, 2011).

This third characteristic is explained best by Barth (2004/2007b), “…human learning is most profound, most transformative, and most enduring when two conditions are present: when we take risks and when a safety strap or belaying line supports us when we fall, so that we don’t get killed” (p. 215).

There is a significant amount of literature that describes the benefits of a collaborative school culture. Collaborative school cultures have been found to improve member (teacher and student) motivation, learning, achievement, commitment, and capacity for innovation (e.g., Demirtas, 2010; Jurasaite-Harbison & Rex, 2010; Lewis & Wahlstrom, 2011; Sezgin, 2010). In addition, it has been suggested that collaborative school cultures are a prerequisite to achieving lasting school reform (Barth, 2004/2007a; Reeves, 2006/2007). Despite this research, educational leaders often overlook school culture factors in the implementation of school reform initiatives. Instead, they tend to focus solely on student achievement data as they make school improvement decisions (Frattura & Capper, 2007). Developing and maintaining a positive school culture is not an easy task. In the same way that “unhealthy school cultures tend to beget ‘at-risk’ students” (Barth, 2004/2007a, p. 165) cultures of success result from efforts proactively employed to result in student success (Rodriguez, 2008).
Distinction between Culture and Climate

The literature on school culture and school climate often seems to use the terms interchangeably as if they were the same (Schoen & Teddlie, 2008). Regardless of whether researchers are examining school climate (e.g., Brookover & Lezotte, 1979; Brookover et al., 1978) or culture (e.g., Deal & Kennedy, 1982) many of the variables studied overlap. In general, it seems as though there was very little effort made to distinguish between school culture and climate, at least initially. Schoen and Teddlie (2008) point out:

The concepts of climate and culture are very similar, though they emanate from different research traditions and research communities. Hoy et al. (1991) noted that school and organizational climate are typically viewed from a psychological perspective, while school culture is viewed from an anthropological perspective. (p. 133)

To add to the confusion regarding the constructs, Marzano (2003) explained that the descriptions of school climate often were very broad and included a variety of school factors like classroom instruction, classroom management, and leadership.

In an effort to clarify the concepts of school culture and climate, Van Houtte (2005) reviewed the literature surrounding the terms and found that they are separate constructs and suggested that school culture should be viewed as a component of climate. His perspective is shared by some notable researchers (e.g., Anderson, 1982; Hoy, Tarter, & Kottkamp, 1991) and challenged by others (e.g., Schoen & Teddlie, 2008). Schoen and Teddlie (2008) suggested that school climate, which they defined as espoused beliefs, and school culture, which they defined as assumptions, were different levels of the same
construct. Their view appears to conflict with Schein’s (2010) posited levels of culture in which both assumptions and espoused beliefs are part of organizational culture.

Van Houtte (2005) concluded that school culture was the better frame from which to study school cognitive structures, such as teacher efficacy. He suggested that the climate, including culture as a component, was more suitable for examining the school as a whole. Since the debate over the construct and relationship between school culture and climate does not have a clear resolution, the theoretical framework of school culture provided by Van Houtte (2005) will be adopted for this study. This choice was primarily made due the alignment between his framework and Schein’s (2010) cultural levels.

**Measuring School Culture**

The confusion over the construct of school culture and its separation and relationship with school climate has created challenges for researchers when trying to measure school culture. Because of these challenges, the initial research related to school culture was qualitative and interpretive in nature (Maslowski, 2006). This method fits well with the suggestion from Deal and Peterson (1999) that “reading culture takes several forms: watching, sensing, listening, interpreting, using all of one’s senses, and even employing intuition when necessary” (p. 198). Shortly thereafter, researchers began to explore the use of large-scale surveys in order to quantitatively examine school culture and its relationship to school effectiveness, school improvement, and other school factors (Maslowski, 2006). There have also been a variety of mixed method approaches that combine data from multiple sources to gain an assessment of culture (Bustamante, Nelson, & Onwuegbuzie, 2009). The challenge of mixed method assessments, like strictly qualitative methods, is that researchers are limited to small sample sizes that make
it difficult to generalize the results to other settings. Maslowski (2006) suggested that the use of school culture surveys fits best when researchers compare cultures from one school to another or when diagnosing specific elements of culture.

Since educational scholars have not agreed on a clear and consistent definition of school culture, there are as many school culture questionnaires as there are definitions. The wide variety of school culture instruments makes it difficult to compare results from one study to another. However, the majority of surveys used to examine school culture have been developed from the norms of school culture presented by Saphier and King (1985).

Saphier and King (1985) suggested that school culture is best understood through cultural norms. Their research focused on the relationships and value that members had with each other. Saphier and King (1985) identified 12 norms of school culture that influence the success of school improvement efforts. They are collegiality; experimentation; high expectations; trust and confidence; tangible support; reaching out to the knowledge base; appreciation and recognition; caring, celebration, and humor; involvement in decision making; protection of what’s important; traditions; and honest, open communication. “Wherever these norms exist, they reside in teachers and administrators beliefs and show up in their actions” (Saphier & King, 1985, p. 68).

Saphier and King’s (1985) statement aligns closely with the levels of culture suggested by Schein (2010) where the norms (level two) in an organization reveal the underlying assumptions (level three) and behaviors (level one) of the members.

Saphier and King’s (1985) adoption of norms as the primary indicator of culture reveals an underlying normative theory of what constitute effective schools and teachers.
(Maslowski, 2006). They argued that norms focusing on improving teachers’ skills, curriculum, organizational processes, and school-parent and school-community relationships were the keys to successful school improvement efforts (Saphier and King, 1985). In essence, Saphier and King (1985) proposed, the more closely aligned the teachers in a school are with their 12 norms, the more the teachers’ actions will contribute to the improvement of the school.

**School Culture Survey**

From the 12 cultural norms, Saphier and King (1985) developed the School Culture Survey (SCS) for use in school improvement seminars (see Appendix B). The original instrument consisted of 29 questions focused on teacher norms, core values, and beliefs. In 1996, Edwards, Green, and Lyons used factor and Rasch analyses on the SCS and identified three subscales that were contained in the instrument. The subscales were *teacher professionalism and goal setting*, *administrator professional treatment of teachers*, and *teacher collaboration* (Edwards et al). During their analysis, Edwards et al. modified the SCS and removed five of the original items due to low factor loadings and a misfit in the Rasch analysis. Edwards et al. found that all three identified scales were significantly correlated and had internal consistency reliabilities ranging from .81 to .91 (Cronbach’s alpha).

In 2006, Maslowski conducted a critical review of school culture inventories and identified the SCS as one of six “validated instruments…available for measuring cultural factors” of schools (p. 6). Maslowski (2006) only examined school culture instruments that met the following five criteria:
• The instrument was intended to measure the various cultural elements outlined in Schein’s (2010) model of culture including assumptions, norms, values, or cultural artifacts in a school. This excluded questionnaires that focused on school climate, teacher commitment, organizational health, etc.

• The instrument measured multiple dimensions of school culture. Any surveys that focused on individual aspects of culture were not reviewed.

• The instrument must have been specifically designed to measure school culture. There were a number of tools that were excluded due to a focus on the more general concept of organizational culture instead of an emphasis on schools.

• The instrument was designed to reveal the organizational processes that were present in the school. The surveys that met this criterion were intended for school staff and did not include “instruments primarily aimed at measuring culture in terms of normative expectations in classrooms or values teachers show in their relationship to students” (p. 10)

• And finally, the instrument must have been validated as a measure of school culture. Any questionnaires that had not been analyzed for reliability and validity were not considered.

These criteria excluded a number of school culture inventories and left only six that were reviewed by Maslowski (2006). Of the survey tools reviewed, Saphier and King’s (1985) School Culture Survey, as modified by Edwards et al. (1996), was the only instrument that had been used in secondary schools in the United States. In addition, the SCS provided individual and school level cultural analysis. In agreement with the criteria
that Maslowsk (2006) used for school culture inventories and for the reasons identified above from his review, the SCS was chosen to measure school culture in this study.

**Connections between School Culture and Teacher Sense of Efficacy**

Self-efficacy has been described as a context-specific construct (Bandura, 1997; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998) which seems to support the possibility of a connection between the self-efficacy of teachers and the school culture. Bandura (2006) explained that social cognitive theory, which is the basis of self-efficacy, considers human agency and social structure as one. He suggested, “People create social systems, and these systems, in turn, organize and influence people’s lives” (p. 164). Considered within a school setting, Bandura’s explanation seems to match closely with Deal and Peterson’s (1999/2007) statement that “People create culture; thereafter it shapes them” (p. 197). Senge et al. (2005) pointed out that school culture is deeply rooted in the embodiment of the attitudes, values, and skills of the people. It is this apparent inseparability of teachers from their school culture and the limited research examining the relationships between teacher factors, such as teacher efficacy, and school culture that has given rise to the research questions presented in this study.

The connection between school culture and teacher efficacy is alluded to in a number of studies (e.g., Knoblauch & Hoy (2008); Midgley, Anderman, & Hicks, 1995; Moore & Esselman, 1992; Newmann, Rutter, & Smith; 1989; Tschannnen-Moran & Woolfolk Hoy, 2001) but none have researched the relationship directly. A few researchers have looked at the relationship between teachers’ efficacy and school climate (Chong, Huan, Wong, Klassen, & Kates, 2010; Hoy & Woolfolk, 1993). Hoy and Woolfolk (1993) examined the relationship between general and personal teaching
efficacy and aspects of a healthy school climate. They identified institutional integrity, principal influence, consideration, resource support, morale, and academic emphasis as the components of a healthy school climate. Hoy and Woolfolk (1993) found that “teachers’ confidence that they can reach students was supported by organizational factors” (p. 355). While some of the climate factors that Hoy and Woolfolk used are similar to the components of culture suggested by Schein (2010), the comparison between the two varies enough to support the idea that the constructs of culture and climate are different, despite the fact that they are treated as synonyms by many authors. Despite the examinations of school climate and teacher efficacy, there still has not been a direct examination of the relationship that may exist between school culture and teachers’ sense of efficacy.

Other authors have compared individual characteristics of school culture to various factors that are a part of teacher efficacy. Beard, Hoy, and Hoy (2010) found that organizational structures (culture) that enable the work of teachers improve the confidence of teachers in their work with students (efficacy). Milner and Hoy (2003) discovered the social support systems (culture) in schools provide the encouragement and praise that increase teachers’ persistence with struggling students (efficacy). In addition, school-level organizational variables such as principal leadership, available resources, and collegial support all have an influence on teachers’ sense of efficacy and improved instructional practices (Deemer, 2004; Demir, 2008; Tschannen-Moran & Woolfolk Hoy, 2001).
Summary

Although the literature supports school culture and teacher efficacy as independent factors related to improved student performance, school leaders often overlook these constructs as they work to reach higher levels of student achievement. Many teachers, administrators, and schools continue to struggle to reform their educational practices to improve student learning, meet the new legislative requirements, and meet the needs of 21st century learners. The focus on student outcomes and accountability that is prevalent in today’s schools ignores the potential benefits that teachers’ sense of efficacy and school culture can have on various student, teacher, and school performance factors. In addition, the literature suggests a connection between school culture and teachers’ sense of efficacy. However, the relationship between the two has never been specifically examined.

The research that has been conducted on school climate and other organizational factors when correlated with teachers’ sense of efficacy seems to support the likelihood of a relationship between school culture and teachers’ sense of efficacy. Although they are different constructs, organizational climate has a number of characteristics in common with organizational culture. It is these commonalities that suggest school culture and teachers’ sense of efficacy are related. If a relationship is shown to exist, it is possible that interventions used to improve school culture or teacher efficacy may have a compounding effect in positively influencing school, teacher, and student performance.

This study intends to provide an understanding of the relationships between the three correlated factors of teachers’ sense of efficacy (efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management) (Tschannen-
Moran & Woolfolk Hoy, 2001) and the three factors of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration) (Edwards, Green & Lyons, 1996). By identifying school cultural components that relate to factors of teachers’ sense of efficacy, school culture initiatives related to particular aspects of teacher efficacy may result in increased success of school reform initiatives and improved student achievement.
Chapter Three

Research Design and Methods

Introduction

The intent of this study was to compare teachers’ perception of components of school culture with factors of their sense of teaching efficacy. Therefore, a survey study, also referred to as a descriptive study, was chosen to determine the relationships, if any, that exists between school culture and teacher sense of efficacy. This chapter discusses the research design, research questions, hypotheses, variables, sample, population, instrumentation, data gathering methods, and data analysis procedures for the study.

Statement of Research Questions

This study addressed the central research questions:

a. What relationship, if any, exists between teachers’ sense of efficacy and school culture?

b. What relationships, if any, exists among the factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management) and the factors of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration)?

These central questions were operationalized through an examination of the following sub-questions:
RQ1: Is there a relationship between teachers’ composite scores on School Culture Survey (SCS) and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES)?

RQ2: Is there a relationship between teachers’ composite scores on School Culture Survey (SCS) and their TSES Efficacy in Student Engagement subscore?

RQ3: Is there a relationship between teachers’ composite scores on School Culture Survey (SCS) and their TSES Efficacy in Instructional Strategies subscore?

RQ4: Is there a relationship between teachers’ composite scores on School Culture Survey (SCS) and their TSES Efficacy in Classroom Management subscore?

RQ5: Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES)?

RQ6: Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES)?

RQ7: Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES)?

RQ8: Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Student Engagement subscore?

RQ9: Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Instructional Strategies subscore?

RQ10: Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Classroom Management subscore?
RQ11: Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Student Engagement subscore?

RQ12: Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Instructional Strategies subscore?

RQ13: Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Classroom Management subscore?

RQ14: Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Student Engagement subscore?

RQ15: Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Instructional Strategies subscore?

RQ16: Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Classroom Management subscore?
Table 1

*Matrix Representing SCS and TSES Factors Correlated in Research Questions*

<table>
<thead>
<tr>
<th>Teacher sense of efficacy factors</th>
<th>School culture factors</th>
<th>Teacher Professionalism and goal setting</th>
<th>Professional treatment by administration</th>
<th>Teacher collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite</td>
<td>RQ1</td>
<td>RQ5</td>
<td>RQ6</td>
<td>RQ7</td>
</tr>
<tr>
<td>Student engagement</td>
<td>RQ2</td>
<td>RQ8</td>
<td>RQ11</td>
<td>RQ14</td>
</tr>
<tr>
<td>Instructional strategies</td>
<td>RQ3</td>
<td>RQ9</td>
<td>RQ12</td>
<td>RQ15</td>
</tr>
<tr>
<td>Classroom management</td>
<td>RQ4</td>
<td>RQ10</td>
<td>RQ13</td>
<td>RQ16</td>
</tr>
</tbody>
</table>

**Statement of Research Hypotheses**

The central research hypotheses in this study are:

\[ H_a: \rho \neq 0 \] (There is a significant positive relationship between school culture and teacher sense of efficacy in the population)

\[ H_b: \rho \neq 0 \] (There is a significant positive relationship between the factors of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration) and three factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional...
These central hypotheses were operationalized through an examination of the following sub-hypotheses:

**Research Hypothesis for RQ1:** $H1_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ composite scores on School Culture Survey (SCS) and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES) in the population)

**Research Hypothesis for RQ2:** $H2_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ composite scores on School Culture Survey (SCS) and their TSES Efficacy in Student Engagement subscore in the population)

**Research Hypothesis for RQ3:** $H3_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ composite scores on School Culture Survey (SCS) and their TSES Efficacy in Instructional Strategies subscore in the population)

**Research Hypothesis for RQ4:** $H4_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ composite scores on School Culture Survey (SCS) and their TSES Efficacy in Classroom Management subscore in the population)

**Research Hypothesis for RQ5:** $H5_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES) in the population)

**Research Hypothesis for RQ6:** $H6_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and
their composite scores on the Teachers’ Sense of Efficacy Scale (TSES) in the population)

**Research Hypothesis for RQ7:** $H7_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES) in the population)

**Research Hypothesis for RQ8:** $H8_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Student Engagement subscore in the population)

**Research Hypothesis for RQ9:** $H9_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Instructional Strategies subscore in the population)

**Research Hypothesis for RQ10:** $H10_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Classroom Management subscore in the population)

**Research Hypothesis for RQ11:** $H11_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Student Engagement subscore in the population)

**Research Hypothesis for RQ12:** $H12_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Instructional Strategies subscore in the population)

**Research Hypothesis for RQ13:** $H13_1$: $\rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Classroom Management subscore in the population)
Research Hypothesis for RQ14: $H_{14}: \rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Student Engagement subscore in the population)

Research Hypothesis for RQ15: $H_{15}: \rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Instructional Strategies subscore in the population)

Research Hypothesis for RQ16: $H_{16}: \rho \neq 0$ (There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Classroom Management subscore in the population)

Variables

The variables measured in this study included:

School Culture Survey (SCS) composite score – This continuous variable is the total score of the 24 items on the School Culture Survey and ranges between 24 and 120.

SCS Teacher Professionalism and Goal Setting subscore - This continuous variable is the subtotal of ten items (#15-24) on the School Culture Survey and ranges between 10 and 50.

SCS Professional Treatment by Administration subscore - This continuous variable is the subtotal of eight items (#6 and 8-14) on the School Culture Survey and ranges between 8 and 40.

SCS Teacher Collaboration subscore - This continuous variable is the subtotal of seven items (#1-5 and 7) on the School Culture Survey and ranges between 6 and 30.
Teacher Sense of Efficacy (TSES) composite score - This continuous variable is the total score of the 24 items on the Teacher Sense of Efficacy Scale and ranges between 24 and 216.

TSES Efficacy in Student Engagement subscore - This continuous variable is the subtotal of eight items (#1, 2, 4, 6, 9, 12, 14, and 22) on the Teacher Sense of Efficacy Scale and ranges between 8 and 72.

TSES Efficacy in Instructional Strategies subscore - This continuous variable is the subtotal of eight items (#7, 10, 11, 17, 18, 20, 23, and 24) of the Teacher Sense of Efficacy Scale and ranges between 8 and 72.

TSES Efficacy in Classroom Management subscore - This continuous variable is the subtotal of eight items (#3, 5, 8, 13, 15, 16, 19, and 21) on the Teacher Sense of Efficacy Scale and ranges between 8 and 72.

Sample and Population

The population for this study were all public middle school teachers in the State of Michigan. Cluster sampling with replacement was used to select the teachers from 15 middle schools to participate in the study. All public middle schools in the State of Michigan were assigned a number from 1 to 659. Random numbers were generated until 15 middle schools had been selected for participation. The principals of the 15 schools were contacted to determine their willingness to participate in the study. Schools in which the principal declined participation were replaced using the same process as above until 15 participating schools were identified. All teachers who volunteered to participate in the survey at each participating school were included in the sample. An assumption of 30 teacher participants per school was made providing approximately 450 subjects for the
study. This sample size allowed the findings to be generalizable to the population. In response to non-participation concerns, if 15 participating schools did not provide at least 377 subjects who chose to participate in the study, additional schools were selected the manner described above to reach the minimum number of subjects needed to ensure the sample could be generalized to the population.

**Instrumentation**

The online survey instrument consisted of a five item demographic questionnaire, the 24 item Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001), and the 24 item School Culture Survey (Saphier & King, 1985; as modified by Edwards, Green & Lyons, 1996). The professional demographic questionnaire (see Appendix A) consisted of: (a) school name; (b) highest degree obtained; (c) total years of teaching experience; (d) years teaching at current grade level; and (e) years teaching at current school.

**Teachers’ sense of efficacy.** The Teacher Sense of Efficacy Scale (TSES) (see Appendix B) was designed by Tschannen-Moran and Woolfolk Hoy (2001). They have identified three factors of teachers’ sense of efficacy (*Efficacy in Student Engagement*, *Efficacy in Instructional Strategies*, and *Efficacy in Classroom Management*) with eight items corresponding to each of the factors. The 24 item TSES (Tschannen-Moran & Woolfolk Hoy, 2001) is a nine point Likert-type scale (1: Nothing; 3: Very Little; 5: Some Influence; 7: Quite a Bit; and 9: A Great Deal).

**School culture.** The School Culture Survey (SCS) (see Appendix C) was originally designed as a 29 item survey by Saphier and King (1985) and revised to a 24 item survey in 1996 by Edwards, Green, and Lyons. Rasch and exploratory factor
analyses indicate that the School Culture Survey consists of three scales: teacher professionalism and goal setting; professional treatment by administration; and teacher collaboration (Edwards et al., 1996). The revision of the original survey was due to items having low correlation to the three subscales and a misfit with the Rasch analysis. The resulting 24 item School Culture Survey (Edwards et al., 1996) that will be used for this study is a five point Likert-type scale (1: almost never; 2: less often than not; 3: about half the time; 4: more often than not; and 5: almost always).

**Research Design**

Since this study examined the relationships between the components of school culture and the factors of teachers’ sense of efficacy without the manipulation of any of the variables, the design of this study was correlational. The study involved administering an online survey instrument that consisted of a five item demographic questionnaire, the 24 item School Culture Survey (Saphier & King, 1985 as modified by Edwards, Green & Lyons, 1996), and the 24 item Teacher Sense of Efficacy Scale (Tschanne-Moran & Woolfolk Hoy, 2001).

**Data Collection Methods**

The data collection consisted of online survey instruments that were accessed by the individual teachers. After the 15 participating schools were identified, the researcher mailed letters to the principals that described the scope and importance of the study and requested the schools’ participation (see Appendix D). A follow-up email containing the same information was sent to the principals one week after the mailing. Once the schools were identified, a series of three emails were sent to each principal and forwarded to the teachers asking for their participation in the survey. Each of the teacher emails included
a link to the online survey. It was expected that the online survey participation would be completed in a two-week period.

**Data Analysis Procedures**

To determine if there were relationships between the various school culture variables and the teacher sense of efficacy variables, a Pearson (r) correlation was used for each research question. The continuous nature of the school culture and teacher sense of efficacy variables made the Pearson (r), also referred to as the product moment correlation coefficient, the ideal technique for determining correlation in this study. All statistical computations were completed using the SPSS statistical software and survey results were summarized into tables including descriptive information.

**External Validity**

Since cluster sampling was used in this study, the population validity was high and the results could be safely generalized to the population of Michigan public middle school teachers. The ecological validity was also high in that the results could be generalized to other school teachers across the nation.
Chapter Four

Analysis of the Data

Introduction

The data for this study were gathered from 387 teacher volunteers from 24 Michigan middle schools using an online survey. The survey consisted of four parts including an online informed consent document and the three survey instruments. Collection of responses began in January of 2012 and was closed at the beginning of March 2012. The survey was accessible for respondents for an eight week period.

The opening page of the online survey welcomed and thanked respondents for participating in the study. It also provided an overview of the four parts of the survey. The second page was the online informed consent documentation as approved by the IRB. The final statement on the informed consent explained that respondents should only continue if they have read and accepted the information contained in the consent document and provided their consent to participate in the research study. The three survey instruments that followed the informed consent were a five item professional demographic survey, the 24 item School Culture Survey (Saphier & King, 1985 as modified by Edwards, Green & Lyons, 1996), and the 24 item Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001).

The data from the individual item responses were downloaded into a spreadsheet where the scale values were summed for each respondent to determine composite scores for the School Culture Survey and Teachers’ Sense of Efficacy Scale. The scale values for each respondent’s questions were also summed based on the various factors of school

The sections that follow describe the levels of response, demographics of the respondents, descriptions and statistics, and an analysis of the hypotheses of the study.

**Level of Response from Principals**

Information about the study and a sample of the online survey was mailed to 20 middle schools that were randomly identified from a list of 659 Michigan middle schools. Only two principals responded via the self-addressed, stamped envelopes that were included in the informational packet. Follow-up emails and telephone calls were placed by the researcher to the principals of the remaining 18 schools. Based on the emails and phone calls, another seven principals agreed to allow their teachers’ participation. The first round of research inquiries resulted in nine (45%) principals agreeing to participate in the study out of the 20 contacted. However, the size of the teacher sample provided by the nine schools did not provide a large enough sample size in order to statistically generalize the results to the population.

Additional middle schools were randomly selected using the same cluster sampling procedure described above in order to identify schools for a second mailing. Based on the response rate from the first round and the necessary sample size for generalizability, 40 additional schools were selected. The same packet of information was mailed to the principals of the 40 schools. Emails and telephone calls were used to follow-up in a similar manner to the first group of schools. Fifteen (37.5%) additional principals agreed to allow the teachers from their schools to participate in the research bringing the total participation in the study to 24 schools.
The principals who chose not to participate in the study were asked for information about their decisions to decline participation. Although the responses varied, they could be categorized into one of three reasons for declining participation:

- They did not have time to be involved with the study due to other commitments.
- They have previously been involved in educational research and wanted to limit the school’s involvement in additional studies.
- Their school or district does not participate in educational research.

None of the principals indicated that the decision to decline participation was due to the content or format of this study or survey, even when specifically asked.

**Level of Response from Teachers**

Once the 24 participating schools were identified, the link to the online survey was sent via email to the teachers in the schools. An initial email was sent inviting teacher participation with a reminder email sent a week later. A final thank you email was sent two weeks following the initial email.

Of the 992 teachers in the participating schools, 398 (40.12%) teachers responded to the emails and completed at least a portion of the online survey. Eleven of the surveys were unusable due to incomplete responses (for example, some respondents completed the Teachers’ Sense of Efficacy Scale but failed to complete the School Culture Scale). There were 387 surveys that were completed and usable providing for an overall 39.01% teacher response rate. It was not possible to determine individual school response rates due to the small percentage of respondents (13.32%) who completed the ‘school name’ question on the professional demographic survey.
Descriptive Statistics of Data

The narrative and tables contained in this section describe the data collected for this study. The data will be described for the three parts of the survey: professional demographic survey, School Culture Survey (Saphier & King, 1985 as modified by Edwards, Green & Lyons, 1996), and Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001).

Professional demographic data. The professional demographic portion of the survey instrument consisted of five questions. Data were collected regarding the teacher’s school name, highest degree obtained, total years of teaching experience, years teaching at the current grade level, and years teaching at the current school. The school name information was intended to be used to determine response rates for the 24 schools.

Table 2

Highest Degree Obtained for Teacher Respondents

<table>
<thead>
<tr>
<th>Highest degree obtained</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>39</td>
<td>10.08%</td>
</tr>
<tr>
<td>Master</td>
<td>318</td>
<td>82.17%</td>
</tr>
<tr>
<td>Specialist</td>
<td>18</td>
<td>4.65%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>12</td>
<td>3.10%</td>
</tr>
</tbody>
</table>

Table 2 represents the data that was collected from respondents regarding the highest degree obtained. The subjects were given four choices and could only select one
option for the question. Teachers with a Master’s degree as the highest degree obtained made up the large majority of respondents to the survey ($n=318, 82.17\%$).

Table 3

*Categorical Description of Teachers Respondents by Total Years of Teaching Experience, Years Teaching at Current Grade Level, and Years Teaching at Current School.*

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Total $n$ (%)</th>
<th>Current grade level $n$ (%)</th>
<th>Current school $n$ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>0 (0.00)</td>
<td>41 (10.59)</td>
<td>25 (6.46)</td>
</tr>
<tr>
<td>1-2 Years</td>
<td>2 (0.52)</td>
<td>43 (11.11)</td>
<td>31 (8.01)</td>
</tr>
<tr>
<td>3-5 Years</td>
<td>33 (8.53)</td>
<td>66 (17.05)</td>
<td>63 (16.28)</td>
</tr>
<tr>
<td>6-10 Years</td>
<td>94 (24.29)</td>
<td>97 (25.06)</td>
<td>111 (28.68)</td>
</tr>
<tr>
<td>1-10 Years*</td>
<td>129 (33.34)*</td>
<td>247 (63.81)*</td>
<td>230 (59.43)*</td>
</tr>
<tr>
<td>11-20 Years</td>
<td>165 (42.64)</td>
<td>81 (20.93)</td>
<td>99 (25.58)</td>
</tr>
<tr>
<td>21-30 Years</td>
<td>74 (19.12)</td>
<td>50 (12.92)</td>
<td>51 (13.18)</td>
</tr>
<tr>
<td>31+ Years</td>
<td>19 (4.91)</td>
<td>9 (2.33)</td>
<td>7 (1.81)</td>
</tr>
</tbody>
</table>

*Note:* Data obtained by summing first, 1-2, 3-5, and 6-10 years.

Table 3 represents the data collected from the remaining three questions on the professional demographic survey. All of the questions had a similar format and respondents were asked to select a range for the years of teaching experience they had in total teaching experience, in the current grade level, and at the current school.
The majority of teachers surveyed \((n=165, 42.64\%)\) had between 11 and 20 years of total teaching experience. The majority of respondents \((n=230, 59.43\%)\) also indicated they had 10 or fewer years of teaching experience at their current grade level with 63.82\% \((n=247)\) having 10 or fewer years teaching in their current school building. The ranges used to identify the number of years of teaching experience were created for the study in order to identify characteristics of the teacher respondents.

**Teachers’ sense of efficacy data.** Teachers’ sense of efficacy data were obtained using the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001). The TSES consists of 24 Likert-type items using a nine point scale (1: Nothing; 3: Very Little; 5: Some Influence; 7: Quite a Bit; and 9: A Great Deal). The individual item scores were summed to determine a composite efficacy score, student engagement efficacy score, instructional strategy efficacy score, and a classroom management efficacy score for each respondent. The *TSES Composite* score was obtained by summing the individual scores for all 24 items on the Teacher Sense of Efficacy Scale. For each of the factors of the TSES, subscores were determined as follows:

- **TSES Efficacy in Student Engagement** subscore was calculated by summing the individual scores of items #1, 2, 4, 6, 9, 12, 14, and 22 from the Teacher Sense of Efficacy Scale.

- **TSES Efficacy in Instructional Strategies** subscore was calculated by summing the individual scores of items #7, 10, 11, 17, 18, 20, 23, and 24 from the Teacher Sense of Efficacy Scale.
- *TSES Efficacy in Classroom Management* subscore was calculated by summing the individual scores of items #3, 5, 8, 13, 15, 16, 19, and 21 from the Teacher Sense of Efficacy Scale.

Table 4 describes the TSES composite and subtotal scores of respondents.

Table 4

*Descriptive Statistics for the Teachers’ Sense of Efficacy Scale for Teacher Respondents.*

<table>
<thead>
<tr>
<th>TSES efficacy score</th>
<th>n</th>
<th>M (SD)</th>
<th>Range of possible scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite</td>
<td>387</td>
<td>172.63 (22.972)</td>
<td>24 - 216</td>
</tr>
<tr>
<td>Student Engagement</td>
<td>387</td>
<td>52.00 (10.556)</td>
<td>8 - 72</td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>387</td>
<td>59.91 (7.747)</td>
<td>8 - 72</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>387</td>
<td>60.72 (7.540)</td>
<td>8 - 72</td>
</tr>
</tbody>
</table>

School culture data. The data for the factors of school culture were collected using the School Culture Survey (SCS) (Saphier & King, 1985 as modified by Edwards, Green & Lyons, 1996). The SCS consists of 24 Likert-type items using a five point Likert-type scale (1: almost never; 2: less often than not; 3: about half the time; 4: more often than not; and 5: almost always). The individual item scores were summed to determine a composite school culture score, teacher professionalism and goal setting score, professional treatment by administration score, and teacher collaboration score for each respondent. The *SCS Composite* score was obtained by summing the individual
scores for all 24 items on the School Culture Survey. For each of the factors of the SCS, subscores were determined as follows:

- *SCS Teacher Professionalism and Goal Setting* subscore was calculated by summing the individual scores of items #15 through 24 from the School Culture Survey.
- *SCS Professional Treatment by Administration* subscore was calculated by summing the individual scores of items #6 and 8 through 14 from the School Culture Survey.
- *SCS Teacher Collaboration* subscore was calculated by summing the individual scores of items #1 through 5 and 7 from the School Culture Survey.

Table 5 describes the SCS composite and subtotal scores of respondents.

<table>
<thead>
<tr>
<th>SCS score</th>
<th>n</th>
<th>M (SD)</th>
<th>Range of possible scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite</td>
<td>387</td>
<td>73.47 (22.280)</td>
<td>24 - 120</td>
</tr>
<tr>
<td>Teacher professionalism and goal setting</td>
<td>387</td>
<td>31.98 (10.001)</td>
<td>10 - 50</td>
</tr>
<tr>
<td>Professional treatment by administration</td>
<td>387</td>
<td>24.49 (7.605)</td>
<td>8 - 40</td>
</tr>
<tr>
<td>Teacher collaboration</td>
<td>387</td>
<td>17.00 (6.194)</td>
<td>6 - 30</td>
</tr>
</tbody>
</table>
Correlations of TSES and SCS Factors

The research questions in this study consider the relationships between teachers’ sense of efficacy and school culture and the relationships among the factors of each. Therefore, the test statistic of principal interest was the Pearson ($r$) correlation. Table 6 shows the data corresponding to the 16 research questions and hypotheses in this study. These data established the correlation ($r$) and significance ($p$) between the TSES and SCS composites scores and factor subscores in each case. For each test, the alpha level was set to .05 ($\alpha = .05$) for the two-tailed tests of the correlation coefficients.

Table 6

*Pearson Correlation Coefficients and Significance of Correlations between TSES Factors and SCS Factors.*

<table>
<thead>
<tr>
<th>Teacher sense of efficacy factors</th>
<th>Composite</th>
<th>Teacher professionalism and goal setting</th>
<th>Professional treatment by administration</th>
<th>Teacher collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composite</strong></td>
<td>$r$</td>
<td>.265**</td>
<td>.207**</td>
<td>.327**</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Student engagement</strong></td>
<td>$r$</td>
<td>.343**</td>
<td>.297**</td>
<td>.384**</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Instructional strategies</strong></td>
<td>$r$</td>
<td>.236**</td>
<td>.169**</td>
<td>.291**</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Classroom management</strong></td>
<td>$r$</td>
<td>.083</td>
<td>.037</td>
<td>.158**</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>.103</td>
<td>.464</td>
<td>.002</td>
</tr>
</tbody>
</table>

*Note:* ** Correlation is significant at the .01 level ($p < .01$) (2-tailed). $n = 387$ for all correlations.
These results established significant positive relationships \((p < .01)\) in 13 of the 16 correlations. The TSES classroom management factor only showed a significant positive relationship \((p < .01)\) with the SCS professional treatment by administration factor. The other three correlations for classroom management were not significant.

Table 7

*Coefficients of Determination and Percent Variability between the Variables of TSES Factors and SCS Factors.*

<table>
<thead>
<tr>
<th>Teacher sense of efficacy factors</th>
<th>School culture factors</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Composite</td>
<td>Teacher professionalism and goal setting</td>
<td>Professional treatment by administration</td>
<td>Teacher collaboration</td>
<td></td>
</tr>
<tr>
<td>Composite (r^2)</td>
<td>.0702 (7.02%)</td>
<td>.0428 (4.28%)</td>
<td>.1069 (10.69%)</td>
<td>.0420 (4.20%)</td>
<td></td>
</tr>
<tr>
<td>Student engagement (r^2)</td>
<td>.1176 (11.76%)</td>
<td>.0882 (8.82%)</td>
<td>.1474 (14.74%)</td>
<td>.0718 (7.18%)</td>
<td></td>
</tr>
<tr>
<td>Instructional strategies (r^2)</td>
<td>.0556 (5.56%)</td>
<td>.0285 (2.85%)</td>
<td>.0846 (8.46%)</td>
<td>.0441 (4.41%)</td>
<td></td>
</tr>
<tr>
<td>Classroom management (r^2)</td>
<td></td>
<td>.0249 (2.49%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* \(n = 387\) for all correlations.  
\(r^2\) and \% are only calculated for correlations that are significant.

In Table 7, the coefficient of determination \((r^2)\) and percentage of variability were shown for each significant correlation. These statistics represent the measure of variability in one variable that can be determined from the relationship with the other
variable. The coefficients of determination for each of the significant correlations fell between \( r^2 = 0.0249 \) and \( r^2 = 0.1474 \) and represent small effect sizes for all of the correlations. For example, of all of the individual differences in school culture composite scores, 7.02% of those differences can be explained by the teachers’ sense of efficacy composite score. This is a small effect size.

Table 8

*Pearson Correlation Coefficients and Significance of Correlations between TSES Factors and SCS Factors for Respondents with 11 to 20 Years Total Teaching Experience.*

<table>
<thead>
<tr>
<th>Teacher sense of efficacy factors</th>
<th>School culture factors</th>
<th>Composite</th>
<th>Teacher professionalism and goal setting</th>
<th>Professional treatment by administration</th>
<th>Teacher collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite</td>
<td>( r )</td>
<td>.339**</td>
<td>.262**</td>
<td>.426**</td>
<td>.277**</td>
</tr>
<tr>
<td></td>
<td>( p )</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Student engagement</td>
<td>( r )</td>
<td>.455**</td>
<td>.384**</td>
<td>.521**</td>
<td>.382**</td>
</tr>
<tr>
<td></td>
<td>( p )</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Instructional strategies</td>
<td>( r )</td>
<td>.259**</td>
<td>.207**</td>
<td>.317**</td>
<td>.208**</td>
</tr>
<tr>
<td></td>
<td>( p )</td>
<td>.001</td>
<td>.008</td>
<td>.000</td>
<td>.007</td>
</tr>
<tr>
<td>Classroom management</td>
<td>( r )</td>
<td>.110</td>
<td>.030</td>
<td>.222**</td>
<td>.078</td>
</tr>
<tr>
<td></td>
<td>( p )</td>
<td>.161</td>
<td>.701</td>
<td>.004</td>
<td>.319</td>
</tr>
</tbody>
</table>

*Note:* ** Correlation is significant at the .01 level \((p < .01)\) (2-tailed).

\( n = 165 \) for all correlations.

The planned methodology included filtering the data by professional demographic group in order to examine the relationship between TSES and SCS scores by level of
education and various types of teaching experience. When correlations were calculated by professional demographic, groups that had larger sample sizes resulted in similar correlations, significance, and effect sizes as the sample as a whole. Table 8 provides one example of this.

Table 9

*Pearson Correlation Coefficients and Significance of Correlations between TSES Factors and SCS Factors for Respondents with Highest Degree Obtained of Doctorate.*

<table>
<thead>
<tr>
<th>Teacher sense of efficacy factors</th>
<th>School culture factors</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Composite</td>
<td>Teacher professionalism and goal setting</td>
<td>Professional treatment by administration</td>
<td>Teacher collaboration</td>
</tr>
<tr>
<td>Composite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>-.114</td>
<td>-.446</td>
<td>-.300</td>
<td>.478</td>
</tr>
<tr>
<td>p</td>
<td>.725</td>
<td>.147</td>
<td>.343</td>
<td>.116</td>
</tr>
<tr>
<td>Student engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>-.038</td>
<td>-.513</td>
<td>-.312</td>
<td>.713**</td>
</tr>
<tr>
<td>p</td>
<td>.907</td>
<td>.088</td>
<td>.323</td>
<td>.009</td>
</tr>
<tr>
<td>Instructional strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>-.158</td>
<td>-.160</td>
<td>-.146</td>
<td>-.030</td>
</tr>
<tr>
<td>p</td>
<td>.623</td>
<td>.620</td>
<td>.650</td>
<td>.926</td>
</tr>
<tr>
<td>Classroom management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>-.184</td>
<td>-.080</td>
<td>-.111</td>
<td>-.195</td>
</tr>
<tr>
<td>p</td>
<td>.566</td>
<td>.804</td>
<td>.731</td>
<td>.543</td>
</tr>
</tbody>
</table>

*Note:* ** Correlation is significant at the .01 level (*p* < .01) (2-tailed). 

\[ \text{\textit{n} = 12} \text{ for all correlations.} \]

In demographic groups with small sample sizes, the correlations had a great deal of variation from one demographic to another. This often resulted in smaller correlation values and larger values of significance. Table 9 provides an example of a demographic
group where \( n = 12 \). Due to the small sample sizes in many of the demographic categories, there is a high likelihood of committing either a type I or type II statistical error. For a type I error, a true null hypothesis would be rejected leading to the assumption of a relationship in a situation where one does not actually exist in the population. A type II error would result in failure to reject the null hypothesis when it is in fact false. In this case, the correlation would not find a significant relationship when one actually exists in the population. Due to the high likelihood of committing a statistical error, demographic analyses are not presented in this study.

**Analysis of the Research Questions**

Inferential statistical analysis through SPSS was used in order to answer the research questions developed for this study. There were two central research questions and hypotheses that were operationalized through 16 sub-questions and sub-hypotheses.

**Central research questions.**

\( RQ_a: \) What relationship, if any, exists between teachers’ sense of efficacy and school culture?

\( H_a: \) There is a significant positive relationship between school culture and teacher sense of efficacy in the population.

\( RQ_b: \) What relationships, if any, exists among the factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management) and the factors of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration)?
$H_b$: There is a significant positive relationship between the factors of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration) and three factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management) in the population.

The structure of this section examines each of the central research questions through an examination of the individual sub-questions that apply to the central questions. All questions were examined using Pearson product-moment correlations. The alpha level of .05 ($\alpha = .05$) was used to determine if any statistical significance existed in each question.

**Results by hypothesis – Composite relationships.** The first research question examines the correlation between the composite scores of the TSES and SCS. The remaining research questions in this section each examine the relationships among the composite scores of school culture and teacher efficacy with the various factors.

**Research question 1 (RQ1).** Is there a relationship between teachers’ composite scores on the School Culture Survey (SCS) and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES)?

**Hypothesis for RQ1.** There is a significant positive relationship between the teachers’ composite scores on the School Culture Survey (SCS) and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES) in the population.

The data show a weak significant positive relationship between the SCS composite and the TSES composite ($r = 0.265, p < .01$) (Table 6). Therefore, the null hypothesis was rejected. Although the relationship was found to be significant, only
7.02% of the variability in the TSES composite scores can be explained by the variability in the SCS composite scores ($r^2 = .0702$) (Table 7). This means that of all of the individual differences in TSES composite scores, only 7.02% of those differences can be explained by the SCS composite scores. This represents a small effect size between these variables.

**Research question 2 (RQ2).** Is there a relationship between teachers’ composite scores on the SCS and their TSES Efficacy in Student Engagement subscore?

**Hypothesis for RQ2.** There is a significant positive relationship between teachers’ composite scores on the SCS and their TSES Efficacy in Student Engagement subscore in the population.

The data show a weak significant positive relationship between the SCS composite scores and the TSES Efficacy in Student Engagement subscores ($r = 0.343$, $p < .01$) (Table 6). Therefore, the null hypothesis was rejected. In this case, 11.76% of the variability in the TSES Student Engagement subscores can be explained by the variability in the SCS composite scores ($r^2 = .1176$) (Table 7). This represents a small effect size between these variables.

**Research question 3 (RQ3).** Is there a relationship between teachers’ composite scores on the SCS and their TSES Efficacy in Instructional Strategies subscore?

**Hypothesis for RQ3.** There is a significant positive relationship between teachers’ composite scores on the SCS and their TSES Efficacy in Instructional Strategies subscore in the population.

The null hypothesis was rejected because the data show a weak significant positive relationship between the SCS composite scores and the TSES Instructional
Strategies subscores ($r = 0.236, p < .01$) (Table 6). Of all of the individual differences in TSES Instructional Strategies subscores, only 5.56% of those differences can be explained by the SCS composite scores. The effect size between these variables is small.

**Research question 4 (RQ4).** Is there a relationship between teachers’ composite scores on the SCS and their TSES Efficacy in Classroom Management subscore?

**Hypothesis for RQ4.** There is a significant positive relationship between teachers’ composite scores on the SCS and their TSES Efficacy in Classroom Management subscore in the population.

There was not a significant relationship between the SCS composite scores and the TSES Efficacy in Classroom Management subscores ($r = 0.083, p = .103$) for the sample as a whole (Table 6). Since no statistical significance occurred, the null hypothesis was accepted.

**Research question 5 (RQ5).** Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES)?

**Hypothesis for RQ5.** There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their composite scores on the Teachers’ Sense of Efficacy Scale (TSES) in the population.

The data show a weak significant positive relationship between the SCS Teacher Professionalism and Goal Setting factor and the TSES composite scores ($r = 0.207, p < .01$) (Table 6). Once again, the null hypothesis was rejected and the coefficient of determination was calculated. A small effect size was determined since only 4.28% of
the variability in the TSES composite scores can be explained by the variability in the SCS Teacher Professionalism and Goal Setting subscores ($r^2 = .0428$) (Table 7).

**Research question 6 (RQ6).** Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their composite scores on the TSES?

**Hypothesis for RQ6.** There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and their composite scores on the TSES in the population.

The null hypothesis for this research question was rejected based on the correlation factor of $r = 0.327$ ($p < .01$) (Table 6). This demonstrates a weak significant positive relationship between the SCS Professional Treatment by Administration factor and the TSES composite scores. The coefficient of determination for the variables was calculated at $r^2 = .1069$ (Table 7). This indicates a small effect size and a weak relationship since less than 11% of the variance between the variables is shared.

**Research question 7 (RQ7).** Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their composite scores on the TSES?

**Hypothesis for RQ7.** There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their composite scores on the TSES in the population.

There is a weak significant positive relationship between the SCS Teacher Collaboration and the TSES composite scores ($r = 0.205$, $p < .01$) (Table 6). Therefore, the null hypothesis was rejected. The coefficient of determination for the relationship is
\[ r^2 = .0420 \] and only 4.20% of the variability in TSES composite scores can be predicted by the SCS Teacher Collaboration subscores (Table 7).

**Results by hypothesis – Factor relationships.** The remaining research questions examine the relationships between each of the factors of TSES with each of the SCS factors. There are nine correlations that were used to examine the factor relationships.

**Research question 8 (RQ8).** Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Student Engagement subscore?

**Hypothesis for RQ8.** There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Student Engagement subscore in the population.

The null hypothesis for this research question was rejected based on the correlation factor of \( r = 0.297 \) \((p < .01)\) (Table 6). This demonstrates a weak significant positive relationship between the SCS Teacher Professionalism and Goal Setting factor and the TSES Efficacy in Student Engagement subscores. The coefficient of determination for the variables was calculated at \( r^2 = .0882 \) (Table 7). This indicates a small effect size and a weak relationship since just less than 9% of the variance between the variables is shared.

**Research question 9 (RQ9).** Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Instructional Strategies subscore?
**Hypothesis for RQ9.** There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Instructional Strategies subscore in the population.

The data show a weak significant positive relationship between the SCS Teacher Professionalism and Goal Setting subscore and the TSES Efficacy in Instructional Strategies subscore ($r = 0.169, p < .01$) (Table 6). Therefore, the null hypothesis was rejected. Although the relationship was found to be significant, only 2.85% of the variability in the TSES Efficacy in Instructional Strategies subscores can be explained by the variability in the SCS Teacher Professionalism and Goal Setting subscores ($r^2 = .0285$) (Table 7). This represents a small effect size between these variables. The probability that the correlation coefficient for these two variables occurred by chance is $p = .001$.

**Research question 10 (RQ10).** Is there a relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Classroom Management subscore?

**Hypothesis for RQ10.** There is a significant positive relationship between teachers’ SCS Teacher Professionalism and Goal Setting subscore and their TSES Efficacy in Classroom Management subscore in the population.

The data do not show a significant relationship between the SCS Teacher Professionalism and Goal Setting subscore and the TSES Efficacy in Classroom Management subscore ($r = 0.037, p = .464$) for the sample as a whole (Table 6). Since no statistical significance occurred, the null hypothesis was accepted.
**Research question 11 (RQ11).** Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Student Engagement subscore?

**Hypothesis for RQ11.** There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Student Engagement subscore in the population.

The null hypothesis was rejected because the data show a weak significant positive relationship between the SCS Professional Treatment by Administration subscores and the TSES Efficacy in Student Engagement subscores \( (r = 0.384, p < .01) \) (Table 6). Of all of the individual differences in TSES Efficacy in Student Engagement subscores, 14.74% of those differences can be explained by the SCS Professional Treatment by Administration subscores. Although this correlation had the highest coefficient of determination in the study at \( r^2 = .1474 \) (Table 7), it still represents a small effect size.

**Research question 12 (RQ12).** Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Instructional Strategies subscore?

**Hypothesis for RQ12.** There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Instructional Strategies subscore in the population.

The data indicated that SCS Professional Treatment by Administration subscores and the TSES Efficacy in Instructional Strategies subscores demonstrated a weak significant positive relationship \( (r = 0.291, p < .01) \) (Table 6). Therefore, the null
hypothesis was rejected. The coefficient of determination for the relationship is $r^2 = .0846$ (Table 7). This, again, represents a small effect size.

**Research question 13 (RQ13).** Is there a relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Classroom Management subscore?

**Hypothesis for RQ13.** There is a significant positive relationship between teachers’ SCS Professional Treatment by Administration subscore and their TSES Efficacy in Classroom Management subscore in the population.

The null hypothesis was rejected because the data show a weak significant positive relationship between the SCS Professional Treatment by Administration subscores and TSES Efficacy in Classroom Management subscores ($r = 0.158, p < .01$) (Table 6). The coefficient of determination calculated for these two variables was $r^2 = .0249$ (Table 7). This is the least amount of shared variance between two significantly related variables in the study which is not surprising considering SCS Professional Treatment by Administration was the only school culture factor that showed any significant relationship with the TSES Efficacy in Classroom Management factor. A small effect size was determined since only 2.49% of the variability in the TSES Efficacy in Classroom Management subscores can be explained by the variability in the SCS Professional Treatment by Administration subscores. The probability that the correlation coefficient for these two variables occurred by chance is $p = .002$.

**Research question 14 (RQ14).** Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Student Engagement subscore?
**Hypothesis for RQ14.** There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Student Engagement subscore in the population.

The null hypothesis for this research question was rejected based on the correlation factor of \( r = 0.268 \) \((p < .01)\) (Table 6). This demonstrates a weak significant positive relationship between the SCS Teacher Collaboration subscores and TSES Efficacy in Student Engagement subscores. The coefficient of determination for the variables was calculated at \( r^2 = .0718 \) (Table 7). This indicates a small effect size and a weak relationship since just over 7% of the variance between the variables is shared.

**Research question 15 (RQ15).** Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Instructional Strategies subscore?

**Hypothesis for RQ15.** There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Instructional Strategies subscore in the population.

There is a weak significant positive relationship between the SCS Teacher Collaboration subscores and TSES Efficacy in Instructional Strategies subscores \((r = 0.210, p < .01)\) (Table 6). Therefore, the null hypothesis was rejected. The coefficient of determination for the relationship was calculated at \( r^2 = .0441 \) (Table 7). Therefore, 4.40% of the variability in TSES Efficacy in Instructional Strategies can be predicted by the SCS Teacher Collaboration.
Research question 16 (RQ16). Is there a relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Classroom Management subscore?

Hypothesis for RQ16. There is a significant positive relationship between teachers’ SCS Teacher Collaboration subscore and their TSES Efficacy in Classroom Management subscore in the population.

The correlation between the SCS Teacher Collaboration subscores and the TSES Efficacy in Classroom Management subscores was not significant at the .05 alpha level ($r = 0.033, p = .515$) (Table 6). Therefore, the null hypothesis was not rejected since there was no statistically significant relationship between the two variables.

Summary

Three hundred and eighty seven teachers from 24 different Michigan middle schools completed an online survey describing their teaching efficacy and school culture. The majority of teachers had a master’s degree and between 11-20 years total teaching experience. Although, most of the teachers who responded had fewer than 10 years of experience at their current school and grade level.

The composite scores of all respondents indicated a weak statistically significant relationship between school culture and teacher efficacy. When the factors of school culture and teacher efficacy were correlated to the composite scores, the factors demonstrated weak positive relationships in 5 of the 6 tests. The only test that did not show a significant relationship at the .05 alpha level was between the SCS composite scores and the TSES Efficacy in Classroom Management subscores ($r = .083, p = .103$). The TSES factors of Efficacy in Student Engagement ($r = .343, p < .01$) and Efficacy in
Instructional Strategies ($r = .236, p < .01$) showed weak significant relationships with the SCS composite. All of the school culture factors of teacher professionalism and goal setting ($r = .207, p < .01$), professional treatment by administration ($r = .327, p < .01$), and teacher collaboration ($r = .205, p < .01$) showed significant positive relationships with the TSES composite scores.

Among the factors of school culture and teacher sense of efficacy, nine correlations were considered and seven showed statistically significant relationships. The TSES factors of Efficacy in Student Engagement and Efficacy in Instructional Strategies had weak positive significant relationships with all three factors of school culture. However, TSES Efficacy in Classroom Management only had a significant relationship with SCS Professional Treatment by Administration ($r = .158, p < .01$). There were no other statistically significant relationships between any other school culture factor and TSES classroom management. Although all of the effect sizes in this study were small, the largest effect sizes for each SCS factor existed between the TSES Efficacy in Student Engagement and the school culture measures.
Chapter Five

Discussion and Conclusion

Introduction

This chapter provides a discussion of the results of this study presented in five sections. The first section will provide a summary of the related school culture and teacher efficacy literature and provides an overview of the study’s purpose. The second section will discuss the results of the statistical analysis of the data, the findings of the analysis, and the implications of the study. The limitations of the study will be analyzed in the next section. The fourth section presents recommendations for future research exploring the connection between school culture and teachers’ sense of efficacy. The final section summarizes the results and discusses new incites obtained from this study.

Summary of Literature and Purpose

Recent educational reform initiatives at the state and federal levels have increased the demands and accountability on public schools across Michigan. The traditional expectations have been replaced by goals that push schools to ensure that all students reach a high level of proficiency in school and that all are “college ready”. The focus of most school improvement legislation has been on student achievement data and accountability measures for teachers and schools. Although the educational reform efforts have also increased the demands on teachers, school culture and other best-practices often get overlooked leaving many educators struggling to meet the diverse needs of students. The challenge for educational leaders is to identify ways to improve the efficiency and effectiveness of public schools in order to meet the demands of accountability while improving teaching practices. School culture and teacher self-
efficacy are two promising constructs that researchers have identified as determining factors in school effectiveness and key components to successful educational reform (e.g., Deal, 1985; Deal & Kennedy, 1983; Wheatley, 2002).

School culture is an important consideration for schools as they work to improve the learning environment and achievement of students. As Barth (2004/2007a) explained, the school culture has a tremendous impact on the learning of a school far beyond that of other outside influences, including legislated mandates. Schools with a weak culture struggle to improve and rarely are able to meet the learning needs of all students. The shared beliefs, values, norms, expectations, and philosophies that define how a school works defines a school’s culture (Bolman & Deal, 1997; Van Houtte, 2005). A collaborative school culture has a strong relationship with the achievement, motivation, and learning of students within a school (Demirtas, 2010; Lewis & Wahlstrom, 2011). A school culture where an emphasis on continuous school improvement, increased efficacy, and high performance expectations occurs is considered collaborative (Fullan & Hargreaves, 1991). In addition, certain school norms are critical for improving teachers’ instructional practices, increasing the sense of efficacy that the teachers in school feel, and elevating the permanency of school reform efforts (Saphier & King, 1985; Barth, 2004/2007a; Reeves, 2006/2007).

Teacher sense of efficacy is another promising area of interest for school leaders looking to improve student achievement. Teacher sense of efficacy has been defined as the situation-specific belief that a teacher holds regarding his abilities and skills to positively impact student motivation and achievement (Gavora, 2010; Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk Hoy, 2001). Researchers have demonstrated a
direct relationship between teachers’ sense of efficacy and various academic outcomes including student achievement, motivation, and a teacher’s use of effective teaching strategies (Gibson & Dembo, 1984; Guo et al., 2010; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2001; Wolters & Daugherty, 2007). Teacher self-efficacy is one of only a few consistent relationships that exist between teacher characteristics and the learning of students (Woolfolk & Hoy, 1990). The more efficacious teachers feel, the more likely they are to persist and utilize a variety of instructional strategies in their work with struggling learners (Gibson & Dembo, 1984). The lower the sense of efficacy of teachers, the more likely they are to blame a student’s lack of achievement on environmental influences like socioeconomic background, a lack of intelligence, poor home conditions, or certain school-related issues (Gibson & Dembo, 1984).

Teachers are constantly in a cycle of efficacy determination. As Bandura (1977) pointed out, self-efficacy is more than a guess that an individual makes about his ability to perform a certain task. As a teacher chooses certain behaviors and executes those actions, he receives feedback from the environment (students, other teachers, administrators, etc.) that helps him to determine his level of teaching efficacy (Bandura, 1977). The feedback also helps to determine a teacher’s choice of future actions. For example, if the teacher attempts a new teaching strategy and his students become bored or do not adequately learn the content, the teacher may choose not to utilize the strategy in the future.

Teachers’ sense of efficacy research has demonstrated a variety of relationships with positive student outcomes. Higher levels of teaching efficacy have shown increased
student achievement (e.g., Armor et al., 1976; Ashton & Webb, 1986; Moore & Esselman, 1992; Skaalvik & Skaalvik, 2007; Wolter & Daugherty, 2007), improved motivation (e.g., Midgley, Feldlaufer & Eccles, 1989), and greater students’ sense of efficacy (Anderson, Greene, & Loewen, 1988). In addition, as Bandura (1982) suggested, judgments of self-efficacy determine an individual’s behaviors, how much effort he will expend, and how long he will persist in the face of obstacles. The efficacy beliefs of teachers influence decision-making with regard to the instruction of struggling learners (Soodak & Podell, 1993, 1994).

Practicing school leaders and some studies allude to a connection between school culture and teacher sense of efficacy. Chong et al. (2010) and Hoy and Woolfolk (1993) have conducted studies examining the relationship between school climate and teacher self-efficacy. However, both studies included climate factors that were not a part of the construct of culture. Other authors have studied individual factors of school culture and demonstrated indirect connections with components of teacher self-efficacy (Beard, Hoy, & Hoy, 2010; Deemer, 2004; Demir, 2008; Milner & Hoy, 2003; Tschannen-Moran & Woolfolk Hoy, 2001). Despite the evidence that suggests a connection between school culture and teacher self-efficacy, no studies have actually examined the relationship as complete constructs.

The related literature outlines a variety of definitions for the constructs of teacher efficacy and school culture. For the purposes of this study, the School Culture Scale (SCS) developed by Saphier and King’s (1985) and modified by Edwards, Green, and Lyons (1996) was used to assess school culture. One significant factor in the decision to use this survey tool was its alignment to the school culture theoretical framework of
Schein (2010). The three factors that were identified by Edwards et al. were teacher professionalism and goal setting, administrator professional treatment of teachers, and teacher collaboration (1996). In order to determine teacher sense of efficacy, the Teacher Sense of Efficacy Scale from Tschannen-Moran and Woolfolk Hoy (2001) was used in this study. The factors of teacher self-efficacy that they identified were efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management.

The purpose of this study is to determine the relationship between school culture and teacher sense of efficacy while examining the relationship among the three factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management) and three components of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration).

Considering the relationships between the School culture and teacher sense of efficacy scales and the related factors provides an opportunity for a new dimension of understanding of the relationship. By gaining a deeper understanding of the aspects of school culture and components of teacher self-efficacy, school leaders may be able to develop appropriate interventions to improve school culture and teacher efficacy and to meet the learning needs of all students through school reform initiatives. Moving toward a collaborative school culture and improving teachers’ sense of efficacy may also provide an opportunity for school leaders to successfully meet the challenges presented by recent educational reform legislation. Any positive relationship that exists between the factors of
school culture and components of teachers’ sense of efficacy may have a compounding
effect in improving school, teacher, and student performance.

Implications of the Study

In examining the literature review there were two central research questions that emerged and were included in this study:

a. What relationship, if any, exists between teachers’ sense of efficacy and school culture?

b. What relationships, if any, exists among the factors of teachers’ sense of efficacy (Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management) and the factors of school culture (Teacher Professionalism and Goal Setting, Professional Treatment by Administration, and Teacher Collaboration)?

The decision was made to operationalize these research questions into 16 sub-questions. The sub-questions examined the relationship of the School Culture Survey (SCS) composite score with the composite and factor scores of teachers’ sense of efficacy. In addition, the relationships between the three school culture factors were examined with the composite and factor scores of Teacher Sense of Efficacy Scale (TSES). This revealed some interesting information about the relationship that exists between school culture and teachers’ sense of efficacy.

Summary of research findings - composite relationships. The first research question was operationalized by examining the relationships between the TSES composite scores with the SCS composite scores (RQ1). The next three research questions (RQ2 – RQ4) correlated the SCS composite scores with each of the factors of
the TSES. The relationship was further examined by determining correlations between the TSES composite and each of the SCS factor scores (RQ5 – RQ7). Relationships among the factors and composite scores of school culture and teachers’ sense of efficacy were hypothesized to have a positive correlation with each other at an alpha level of .05. That is, as the score for a component of school culture increased it was expected that the score for a component of teacher efficacy would also increase. A matrix of the variables for the research questions is shown in Table 10.

Table 10

Matrix Representing SCS and TSES Composites and Factors Correlated in Sub-Questions 1 through 7 for Research Question a

<table>
<thead>
<tr>
<th>Teacher sense of efficacy composite and factors</th>
<th>School culture composite and factors</th>
<th>Teacher professionalism and goal setting</th>
<th>Professional treatment by administration</th>
<th>Teacher collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite</td>
<td>RQ1</td>
<td>RQ5</td>
<td>RQ6</td>
<td>RQ7</td>
</tr>
<tr>
<td>Student engagement</td>
<td>RQ2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional strategies</td>
<td>RQ3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom management</td>
<td>RQ4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TSES composite and SCS composite.** A significant positive relationship between teachers’ composite scores on School Culture Survey (SCS) and their composite scores
on the Teachers’ Sense of Efficacy Scale (TSES) was found in the study. As expected from the literature review, the study showed a weak significant positive relationship between the SCS composite and the TSES composite ($r = 0.265, p < .01$) (Table 6). Therefore, the null hypothesis for RQ1 was rejected. However, only 7.02% of the variability in the TSES composite scores can be explained by the variability in the SCS composite scores ($r^2 = .0702$) (Table 7). This represents a small effect size between the two composite variables.

**SCS composite and the TSES factors.** The data for the SCS composite scores and the TSES Efficacy in Student Engagement subscores ($r = 0.343, p < .01$) and between the SCS composite scores and the TSES Instructional Strategies subscores ($r = 0.236, p < .01$) also show a weak significant positive relationship (Table 6). The null hypothesis for RQ2 and RQ3 were rejected. For the TSES student engagement subscores, 11.76% of the variability can be explained by the variability in the SCS composite scores ($r^2 = .1176$) (Table 7). Of all of the individual differences in TSES Instructional Strategies subscores, only 5.56% of those differences can be explained by the SCS composite scores. Both RQ2 and RQ3 resulted in small effect sizes between the variables correlated.

The final correlation between the SCS composite scores and the TSES factors did not find a significant relationship between the SCS composite scores and the TSES Efficacy in Classroom Management subscores ($r = 0.083, p = .103$) for the sample as a whole (Table 6). Since no statistical significance occurred, the study did not find a relationship between TSES classroom management and SCS composite and the null hypothesis was accepted.
**TSES composite and the SCS factors.** The data show a weak significant positive relationship between all of the SCS factors and the TSES composite scores. The correlations ranged between $r = 0.205$ ($p < .01$) for SCS Teacher Collaboration and the TSES composite scores and $r = 0.327$ ($p < .01$) for SCS Professional Treatment by Administration factor and the TSES composite scores. The correlation between SCS Teacher Professionalism and Goal Setting factor subscores and the TSES composite scores was $r = 0.207$ ($p < .01$) (Table 6). Once again, the null hypotheses were rejected and the coefficients of determination were calculated. The coefficients of determination were $r^2 = .0428$ for SCS Teacher Professionalism and Goal Setting, $r^2 = .1069$ for SCS Professional Treatment by Administration, and $r^2 = .0420$ for SCS Teacher Collaboration (Table 7). All of these coefficients represent a small effect size since only between 4.28% and 10.69% of the variability in the SCS factors scores can be explained by the variability in the TSES composite scores.

**Conclusion.** In each significant relationship between school culture and teachers’ sense of efficacy, a positive relationship was shown to exist. However, the magnitude of the relationship in each case was less than expected. The coefficients of determination ranged from $r^2 = .0420$ to .1176 and resulted in small effect sizes for all significant relationships. It is apparent that although school culture explains a small percentage of the variance in teachers’ sense of efficacy, a much larger amount of the variability is to be attributed to other influences outside of school culture.

The SCS composite had significant relationships with the TSES composite and each of the TSES factors, except classroom management ($r = .083, p = .103$) (Table 6). This indicates that school culture influences certain TSES factors (student engagement
and instructional strategies) while having no relationship with the teacher sense of efficacy in class management. The relationship between school culture and efficacy in classroom management will be examined more closely in the chapter conclusion.

The data from this study seem to support the findings of other researchers while they raise other questions. For example, the relationship between general and personal teaching efficacy and aspects of a healthy school climate was examined by Hoy and Woolfolk (1993). The results that were determined in their study identified institutional integrity, principal influence, consideration, resource support, morale, and academic emphasis as the components of a healthy school climate. Although the effect size was small, the results determined from this study seem to agree with that which was determined by Hoy and Woolfolk. Their study showed an influence of institutional integrity, the principal, resource support, and morale on teacher efficacy in the school. These characteristics of climate align very well with the SCS professional treatment by administration which had the highest level of variability between the TSES composite and the SCS factors at 10.69%. This variability is more than half the variability found between TSES composite scores and the SCS factors of teacher professionalism and goal setting (4.28%) and teacher collaboration (4.20%).

Other researchers results also align with the results of this study as they have identified similar school-level organizational variables such as principal leadership, available resources, and collegial support all have an influence on teachers’ sense of efficacy and improved instructional practices (Deemer, 2004; Demir, 2008; Tschannen-Moran & Woolfolk Hoy, 2001). However, based on these characteristics and others identified by Hoy and Woolfolk (1993), such as consideration and academic focus, one
might expect that the SCS factors of teacher professionalism and goal setting and teacher collaboration would have shown a higher variability and effect size than what was determined in this study.

The fact that the SCS variables did not have a higher effect size with the TSES variables may be due to the differences between culture and climate that were identified in the literature review. Schien’s (2010) components of culture share some commonalities with the construct of climate; however, the two vary enough to support the idea that the constructs of culture and climate are different. It is these differences that encouraged central research question b in this study. In the second central question, each of the relationships among the factors of SCS and TSES are examined and effort is made to determine the factor sources of the correlations between SCS and TSES.

**Summary of research findings – Factor relationships.** The second central research question was operationalized by examining the relationships among the individual factor subscores of TSES and SCS. Each TSES factor was correlated with each of the SCS factors and the existence and strength of each were examined. Once again, relationships among the factors of school culture and teachers’ sense of efficacy were hypothesized to have a positive correlation with each other. There were nine correlations that were used to examine the factor relationships and weak significant relationship was found in 7 of the 9 sub-questions. The variables correlated in research questions 8 through 16 are shown in Table 11.
Table 11

Matrix Representing SCS and TSES Factors Correlated in Sub-Questions 8 through 16 for Research Question b.

<table>
<thead>
<tr>
<th>Teacher sense of efficacy factors</th>
<th>School culture factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teacher professionalism and goal setting</td>
</tr>
<tr>
<td>Student engagement</td>
<td>RQ8</td>
</tr>
<tr>
<td>Instructional strategies</td>
<td>RQ9</td>
</tr>
<tr>
<td>Classroom management</td>
<td>RQ10</td>
</tr>
</tbody>
</table>

|                                  | Professional treatment by administration   |
|                                  | RQ11                                        |
|                                  | RQ12                                        |
|                                  | RQ13                                        |
|                                  | Teacher collaboration                       |
|                                  | RQ14                                        |
|                                  | RQ15                                        |
|                                  | RQ16                                        |

**TSES student engagement and the SCS factors.** The data show a weak significant positive relationship between all of the SCS factors and the TSES student engagement subscores. The correlations with the TSES student engagement scores were $r = 0.297 (p < .01)$ for SCS Teacher Professionalism and Goal Setting, $r = 0.384 (p < .01)$ for SCS Professional Treatment by Administration, and $r = 0.268 (p < .01)$ for the SCS Teacher Collaboration factor (Table 6). The null hypotheses for RQ8, RQ11, and RQ14 were rejected based on the significant correlations. The coefficients of determination for Teacher Professionalism and Goals Setting was $r^2 = .0882$ and for Teacher Collaboration was $r^2 = .0718$ (Table 7). As with the TSES composite, the TSES student engagement factor had the highest coefficient of determination with the SCS factor of Professional
Treatment by Administration ($r^2 = .1474$) (Table 7). Although this correlation had the highest coefficient of determination in the study, it still represents a small effect size. All of these coefficients represent small effect sizes since only between 7.18% and 14.74% of the variability in the SCS factors scores can be explained by the variability in the TSES student engagement. The study also found that TSES Student Engagement factor provided the highest explained variability of all of the TSES factors among the factors of SCS.

**TSES instructional strategies and the SCS factors.** Once again, the data found weak significant positive correlations between the efficacy in instructional strategies factor and the SCS factors. The correlations ranged from $r = 0.169$ ($p < .01$) to $r = 0.291$ ($p < .01$) (Table 6). The null hypotheses for RQ9, RQ12, and RQ15 were rejected based on these Pearson r values. As with previous factors of TSES, the largest coefficient of determination with efficacy in instructional strategies occurred with SCS professional treatment by administration ($r^2 = .0846$) (Table 7). Although the relationships were found to be significant, only between 2.85% and 8.46% of the variability in the TSES Efficacy in Instructional Strategies subscores can be explained by the variability in the SCS factor subscores. This represents a small effect size among all of the variables of SCS and TSES instructional strategies.

**TSES classroom management and the SCS factors.** The data for the SCS factor variables only found a weak significant positive relationship between the professional treatment by administration factor of SCS and the TSES classroom management factor ($r = 0.158$, $p < .01$) (Table 6). This is consistent with other correlations in the study since the same SCS factor had the highest coefficients of determination throughout the study.
For RQ13, the null hypothesis was rejected. However, the correlations between the SCS Teacher Professionalism and Goal Setting subscore ($r = 0.037, p = .464$) for the sample as a whole and the SCS Teacher Collaboration subscores ($r = 0.033, p = .515$) were not significant at the .05 alpha level when examined with the TSES Efficacy in Classroom Management subscores (Table 6). Therefore, the null hypotheses for both RQ10 and RQ16 were not rejected since there was no statistically significant relationship among the variables.

The coefficient of determination was calculated for the professional treatment by administration factor of SCS and the TSES classroom management factor ($r^2 = .0249$) (Table 7). This represents the least amount of shared variance between two significantly related variables in the study. A small effect size was determined based on only 2.49% of the variability in the TSES Efficacy in Classroom Management subscores can be explained by the variability in the SCS Professional Treatment by Administration subscores. The probability that the correlation coefficient for these two variables occurred by chance is $p = .002$.

**Conclusion.** The TSES and SCS factor correlations found 7 of 9 to have weak significant positive relationships between school culture factors and teachers’ sense of efficacy. Once again, as with the composite relationships, the magnitudes of the relationships were less than expected. The coefficients of determination ranged from $r^2 = .0249$ to .1474 and resulted in small effect sizes for each significant relationships.

The TSES factor that had the highest correlation with school culture was teachers’ efficacy in student engagement ($r = .384, p < .01$). The efficacy in student engagement correlations with the school culture factors had percent variabilities that were between
2.77% and 4.74% higher than the other TSES components. Although it was higher, only 14.74% of the variance is shared between the two variables. While this is still considered a small effect size, it may indicate a stronger relationship between school culture as a whole and the self-efficacy that teachers feel regarding student engagement.

The professional treatment by administration factor of school culture had the highest levels of correlation with the TSES composite and each of the TSES factors, including efficacy in classroom management. These correlations further demonstrate the influence that principal leadership has on teacher efficacy. It is evident that each factor of teacher efficacy is influenced by how teachers are treated by administrators in the school environment.

Efficacy in classroom management only had a significant correlation with SCS professional treatment by administration ($r = .158, p < .01$). Classroom management was the one factor of TSES that exhibited little to no relationship with school culture. This result was unexpected and will be examined further in the conclusion of this chapter.

**Limitations**

Several limitations surfaced while conducting this study. The first limitation arose in the sample sizes of certain demographic categories. A review of the literature related to teacher efficacy suggested that teachers in their first few years of entering the education profession often have significantly lower teacher self-efficacy scores. Therefore, the original methodology included a plan to examine the relationship between school culture and teacher efficacy by highest degree obtained and teaching experience. The small sample sizes of respondents with bachelor’s degrees ($n = 39$) and respondents in their first five years of teaching (first year ($n = 0$); 1-2 years ($n = 2$); and 3-5 years ($n =$
33)) created difficulties in examining the relationship by demographic group. The researcher did not have confidence that the correlations obtained from the small sample sizes could be reliably generalized to the population. However, when the responses of respondents with 10 years and less ($n = 129$) experience were combined to examine the relationship, the group resulted in similar correlations, significance, and effect sizes to what were determined by the sample as a whole.

Another limitation was the survey instruments chosen for use in the study. The SCS and the TSES are both self-reporting instruments. It is possible that the teachers’ perspective of their teaching efficacy is not reflective of their true level of efficacy. For example, a teacher may report a higher level of efficacy than what they actually possess. The same limitation exists for the SCS. Teachers within the same school could self-report a culture within the building that is very different depending on their position or the professional relationships that they maintain in the work environment. In addition, both surveys are subject to variances in respondent answers that could come from a variety of environmental factors beyond the control of the researcher. For example, teachers who complete the survey at the beginning of the week may have more optimistic responses to the questions than one who completed the survey at the end of a tough week.

Finally, the sampling method utilized in this study also created a limitation. It is not possible to determine the differences in characteristics that may exist between schools where the principals agreed to participate and those where they did not. Although the schools were randomly selected, the 40% of principals who agreed to participate may have differences in their school culture from the 60% of principals who chose not to participate. For an example, it is possible that principals who are more likely to
participate in educational research may also lead schools where the culture is more collaborative and research based. These potential differences in school characteristics might have influenced the results of the relationships between school culture and teacher efficacy found in this study.

**Recommendations for Future Research**

The results of this study suggest a number of directions for future research in the relationship between school culture and teacher sense of efficacy. Research related to teacher efficacy suggests that teachers who are newer to the profession often have a lower sense of efficacy (Gibson & Dembo, 1984). Teachers receive efficacy information from the responses that they receive as they perform various teaching activities. New teachers often have less confidence in the classroom and have received little or no efficacy feedback due to their limited teaching experience. In addition, an inexperienced teacher can receive negative efficacy feedback as they learn the intricacies of the day-to-day operations of a classroom. As with other forms of efficacy, in general, consistent success in a teaching activity increases self-efficacy and failure reduces it (Gavora, 2010). For this reason, the demographic items subdivided the 1-10 year range by first year, 1-2 years, 3-5 years, and 6-10 years categories. The hope was that the relationship between school culture and teachers’ sense of efficacy could be examined by demographic categories related to teaching experience. Unfortunately, when considered separately, the sub-categories had very small sample sizes which resulted in an inability to determine reliable correlations. The risk of a statistical error was too great to include the results in this study. The small number of respondents was most likely due to the state of the economy in Michigan at the time of the study. Many districts had engaged in limited
hiring over the previous years and have conducted layoffs of newer teachers. Future research that focuses on respondents within the first five years of teaching and obtaining larger numbers of teachers in that demographic may provide for an interesting further examination of the relationship between school culture and teacher efficacy.

There were other demographic groups that did not provide large enough sample sizes for reliable statistical conclusions. While no specific demographic results were presented as part of this study, there were some findings among the demographic groups that may be worth further investigation. For example, respondents with a bachelor degree ($n = 39$) had weak significant negative correlations between the school culture factors and the components of teachers’ sense of efficacy. The same was true for respondents with a doctorate ($n = 12$). This differs from the positive correlations between school culture and teacher efficacy that were reported in this study and is an area that should be investigated further. In addition to the demographic categories from this study, the influence of other census variables (e.g. urban vs. rural settings, socioeconomic variables, etc.) could be examined in the relationship between school culture and teacher efficacy.

Another area of potential research would be an examination of the relationship of principal tenure to both teacher sense of efficacy and school culture. Bolman and Deal’s (1997) definition of school culture includes the shared philosophies, ideologies, beliefs, feelings, assumptions, expectations, attitudes, and values that define how a school works. Changing the norms and values of school requires a significant time, commitment and effort. Therefore, the length of time a person holds the principalship in a school may impact the relationship between school culture and teacher efficacy. Understanding the
role on principal tenure in the relationship would provide educational leaders with valuable information for educational reform initiatives.

The limitation of the survey instruments chosen for use in the study also provides a final possible area of future research. The self-reporting nature of the SCS and the TSES provides for variances in the responses that may limit the understanding of the relationship between school culture and teacher efficacy. When teachers are asked to self-report the culture in their school, the opinion of the school culture may differ from teacher to teacher depending on a number of variables. One means of overcoming this would be to conduct future research using a qualitative phenomenological study. Examining the relationship in this manner would allow the researcher to identify the cultural characteristics of a school without relying on teachers’ opinions. The relationship between teachers’ sense of efficacy and school culture may differ from the results presented in this study when examined against a more consistent and objective determination of school culture.

**Conclusion**

The recent state and federal legislation related to school improvement, increased accountability, and improved student outcomes provided the impetus for this study. Much of the educational research suggests that lasting educational reform is dependent upon school culture, and the academic achievement of students is related to teacher efficacy. However, while a review of the literature seems to suggest a relationship between school culture and teacher self-efficacy, research has been limited.

The question examined in this study was whether or not the culture of school was related to teachers’ sense of efficacy. This question evolved from the researcher’s
experience as a middle school principal where the teachers appeared to improve their teaching practices as the culture of school evolved to become more collaborative in nature. Through the improved school culture factors of increased professional treatment of teachers by administration, increased teacher professionalism and goal setting, and increased teacher collaboration, it should follow that the teachers in the school would also receive a greater amount of positive environmental feedback regarding their teaching abilities. This connection between school culture and teacher efficacy is alluded to in a number of studies (e.g., Knoblauch & Hoy (2008); Midgley, Anderman, & Hicks, 1995; Moore & Esselman, 1992; Newmann, Rutter, & Smith; 1989; Tschannen-Moran & Woolfolk Hoy, 2001) but none have researched the relationship directly. Despite the examinations of school climate and teacher efficacy (e.g., Chong, Huan, Wong, Klassen, & Kates, 2010; Hoy & Woolfolk, 1993), there still has not been a direct examination of the relationship that may exist between school culture and teachers’ sense of efficacy.

The relationship between school culture and teacher sense of efficacy was supported in this study in 13 of the 16 correlations conducted. In all of the significant relationships, a weak positive relationship was determined between the SCS factors and the TSES factors. Although all of the significant relationships in the study were unexpectedly found to have small effect sizes, there were some notable results among the factor relationships. The greatest correlation values occurred between the each of the school culture factors and teachers’ efficacy in student engagement. In addition, the school culture factor of professional treatment by administration had the highest correlations with each of the factors of TSES. Finally, a teacher’s efficacy in classroom
management did not have significant relationships with 2 of the 3 school culture factors or the school culture composite scores.

The TSES factor of efficacy in student engagement had the highest correlation values with the composite SCS scores and each of the SCS factors. The variability for student engagement was 11.76% for the composite SCS, 8.82% for teacher professionalism and goal setting, 14.74% for professional treatment by administration, and 7.18% for teacher collaboration. Although the variabilities for student engagement are at only between 2.77 and 4.74 percentage points higher than other teacher efficacy factors, there is a stronger relationship between school culture and efficacy in student engagement. More of the variability in the TSES efficacy in student engagement scores can be explained by the variability in the school culture factors than for other teacher efficacy factors. On a practical level, the influence of school culture factors on teacher efficacy in student engagement over other teacher efficacy factors makes sense. The school culture definition provided by Bolman and Deal (1997) describes the shared philosophies, ideologies, expectations, attitudes, and values that would seem to provide the greatest amount of efficacy support for the efficacy factor of student engagement. The teacher efficacy factors of classroom management and instructional strategies are often viewed in educational circles as more individualized by teacher. Educators often maintain the academic freedom to choose instructional strategies that they view as being the most effective to convey the concepts being taught. However, highly engaged students are inherent in high performing cultures. Although individual teachers in any school could maximize student engagement, the support available in schools with high performing cultures makes the attainment of high levels of student engagement efficacy
possible. High level student engagement is often preceded by high levels of teacher engagement. Teacher engagement is more likely to occur in schools where teacher collaboration occurs and teachers are supported by administration – characteristics of high performing school cultures. This supports the results of other researchers who have found that social support systems in schools and supportive organizational structures that provide encouragement and praise increases teachers’ persistence with struggling students and improve the confidence in their work (Milner & Hoy, 2003; Beard, Hoy, & Hoy, 2010).

The second notable point in the results is that the SCS factor of professional treatment by administration had the highest correlation values with the composite TSES scores and each of the TSES factors. It was also the only school culture factor that had a significant relationship with teachers’ efficacy in classroom management. Although not specifically examined in this study, these results seem to support the idea that “leadership matters”. The higher the level of respect and professional treatment by the school administration, the higher the levels of teacher efficacy. The survey questions examining the SCS professional treatment of teachers included words like “encourage me…(to) try new things”, “good teaching is taken seriously here”, “worthwhile and productive”, “my boss backs me up”, and “fair”. One might expect that a teacher would feel a higher level of teaching efficacy in a school environment where those words summarize the school culture. As Bandura (1977) explained, efficacy information comes from the four sources of performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. All of these four sources of teacher efficacy information can be
maximized in a school where the administration is highly supportive and respectful of teachers.

The final point of interest in the data is the lack of relationships that occurred between teachers’ efficacy in classroom management and the school culture factors. The only significant relationship that occurred with efficacy in classroom management was with SCS professional treatment by administration. However, the relationship showed the smallest variability between two variables in the study at 2.49%. There are several concepts that may explain this outcome. It may be due to the increase in school improvement efforts related to student achievement. The focus of the State of Michigan school improvement framework tends to lean more toward instructional strategies and student engagement to address the academic performance of students. Therefore, teachers may see these efficacies as more in line with the various school culture factors. The lack of connection between school culture and a teacher’s efficacy in classroom management may also speak to the lack of teacher collaboration and goal setting that occurs related to classroom management.

Another explanation for the lack of relationship between efficacy and classroom management and most school culture factors may be the TSES tool itself. As the researcher considered the reasons for these results, an inherent problem with the TSES tool was discovered. The questions on the TSES were open to wide interpretation. For example, the efficacy in classroom management questions ask, “How much can you do control disruptive behavior in your classroom?” and “How well can you respond to defiant students?” On questions like these, a teacher who is a highly proficient, proactive classroom manager who rarely has any breeches in discipline may respond at the high
end of the survey. On the other hand, a reactive classroom manager who lacks control and sends all disruptive students to the office may also report themselves at the high end. Although most would see the first teacher being more efficacious than the second, they could both report themselves as highly effective. The lack of clarity that exists in the TSES questions for the efficacy in classroom management may have led to higher variance in responses compared to the school culture factors, with the exception of SCS professional treatment by administration. In that situation, both teacher groups may see the support of administration as critical to their classroom management. The first appreciates administrative treatment for the support provided to teachers in developing highly effective classroom management strategies. The second teacher depends on administrative support in a punitive manner in order to maintain his reactive classroom management strategies.

The open interpretation of the TSES efficacy in classroom management questions encouraged a more critical examination of both the SCS and TSES questionnaires. Overall, the SCS questions had tighter interpretations associated with them and were “black and white”, for the most part. For example, “we talk in concrete and precise terms about things we’re trying in our teaching” and “we plan lessons and make materials together” are two statements used on the SCS. Both questions lend to a clear “yes” or “no” response. There would most likely be very little debate over what it means to “plan lessons together”. Either the things are happening in the school or they are not and the degree to which they are occurring can be expressed on the Likert-type scales.

In contrast, the TSES questions were open to more interpretation as described in the classroom management example above. Another example from the TSES is “how
much can you do to get through to the most difficult students?” What does it mean to “get through” and what is a “difficult” student? For some teachers, this question could be interpreted as academic in nature, meaning that they are able to get struggling students to learn. For other teachers, it could be interpreted as a classroom management issue where a “difficult student” is a disruptive student. Yet another example can be found in the question, “How well can you implement alternative strategies in your classroom?” In this question, it is not clear to what type of “alternative strategies” the question is referring. It could be interpreted as alternative instructional strategies, organizational strategies, or classroom management strategies.

Of the 24 questions on the TSES, the researcher found 11 of them to have vague wording that was open to the interpretation of the respondent. How the respondent interprets the TSES questions introduces a variance in TSES and SCS responses that could have resulted in the small effect sizes of the relationships. If the questions on the TSES were not open to interpretation, or if examples were provided to give additional context to the questions, the effect sizes may have be higher in the relationships between teacher efficacy and school culture. This would be another suggestion for further research.

Another possible explanation of the overall low effect sizes may be due to the teaching task analysis outlined by Tschannen-Moran, Woolfolk Hoy, and Hoy (1998). As Bandura (1977) pointed out, there are a number of contextual factors, such as social and situational circumstances, that are also considered to determine one’s efficacy. Tschannen-Moran et al. suggest that an analysis occurs as a teacher examines the relative importance of a variety of factors that act to create challenges that must be overcome in the teaching process. External attributes that influence student learning, such as the
school culture factors, are considered as a part of the process. However, Tschannen-Moran et al. (1998) also pointed out that a complete analysis of the teaching task includes the consideration of the means and actions required to accomplish the task goal and the likelihood that the desired outcome will result. It is possible that a teacher experiences the positive influences of school culture on the external resources and constraints, but the teacher fails to believe that the means and actions will result in improved performance. In other words, the influences of other contextual factors outside of school culture prove to be more dominant in the formation of teaching efficacy than the improved cultural aspects of the school.

The results of this study provide an initial examination of the relationship between teachers’ sense of efficacy and school culture. The constructs of school culture and teacher self-efficacy have already been identified as determining factors in school effectiveness and key components to successful educational reform (e.g., Deal, 1985; Deal & Kennedy, 1983; Wheatley, 2002). In addition, the connections between teacher efficacy and student performance has been well documented. Although there is more be learned about the relationships among the factors of school culture and teacher efficacy, an understanding of relationships can help school leaders improve student performance and increase success with educational reform initiatives. The evidence identified in this study should encourage to administrators to focus improvement efforts on the school culture factor of professional treatment by administration. The leadership in schools makes a difference but, how that leadership treats and values the work of the teachers in the school matters even more.
References


Appendix A
Teacher Demographic Instrument

Teachers' Sense of Efficacy and School Culture

### Professional Demographic Information

Select the answers to the following questions that best describe your teaching preparation and experience.

**Name of the middle school where you currently teach:**

**What is the highest degree you have obtained?**

- [ ] Bachelor Degree
- [ ] Master Degree
- [ ] Specialist Degree
- [ ] Doctorate

**Total Years Teaching Experience:**

- [ ] First Year
- [ ] 1-2 Years
- [ ] 3-5 Years
- [ ] 6-10 Years
- [ ] 11-20 Years
- [ ] 21-30 Years
- [ ] 31+ Years

**Years Teaching at Current Grade Level:**

- [ ] First Year
- [ ] 1-2 Years
- [ ] 3-5 Years
- [ ] 6-10 Years
- [ ] 11-20 Years
- [ ] 21-30 Years
- [ ] 31+ Years

**Years Teaching at Current School:**

- [ ] First Year
- [ ] 1-2 Years
- [ ] 3-5 Years
- [ ] 6-10 Years
- [ ] 11-20 Years
- [ ] 21-30 Years
- [ ] 31+ Years
Appendix B

Teachers’ Sense of Efficacy Scale

(Tschannen-Moran & Woolfolk Hoy, 2001)

Teachers’ Sense of Efficacy and School Culture

(Tschannen-Moran & Woolfolk Hoy, 2001)

Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.

<table>
<thead>
<tr>
<th>Nothing</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
</table>

How much can you do?

- How much can you do to get through to the most difficult students?
- How much can you do to help your students think critically?
- How much can you do to control disruptive behavior in the classroom?
- How much can you do to motivate students who show low interest in school work?
- To what extent can you make your expectations clear about student behavior?
- How much can you do to get students to believe they can do well in school work?
### Teachers' Sense of Efficacy and School Culture

**How much can you do?**

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well can you respond to difficult questions from your students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you establish routines to keep activities running smoothly?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to help your students value learning?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you gauge student comprehension of what you have taught?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent can you craft good questions for your students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to foster student creativity?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### How much can you do?

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much can you do to get children to follow classroom rules?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to improve the understanding of a student who is failing?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to calm a student who is disruptive or noisy?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you establish a classroom management system with each group of students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do to adjust your lessons to the proper level for individual students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you use a variety of assessment strategies?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you do?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>How well can you keep a few problem students from ruining an entire lesson?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent can you provide an alternative explanation or example when students are confused?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you respond to defiant students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much can you assist families in helping their children do well in school?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you implement alternative strategies in your classroom?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you provide appropriate challenges for very capable students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear Ryan McLeod

You have my permission to use the Teachers’ Sense of Efficacy Scale in your research. A copy of both the long and short forms of the instrument as well as scoring instructions can be found at:

http://www.coe.ohio-state.edu/ahoy/researchinstruments.htm

Best wishes in your work,

Anita Woolfolk Hoy, Ph.D.
Professor
Appendix C

School Culture Survey

(Saphier & King, 1985; as modified by Edwards, Green, & Lyons, 1996)

<table>
<thead>
<tr>
<th>Teachers’ Sense of Efficacy and School Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School Culture Survey</strong></td>
</tr>
<tr>
<td>Rate each item 1-5:</td>
</tr>
<tr>
<td>1 - almost never</td>
</tr>
<tr>
<td>2 - less often than not</td>
</tr>
<tr>
<td>3 - about half the time</td>
</tr>
<tr>
<td>4 - more often than not</td>
</tr>
<tr>
<td>5 - almost always</td>
</tr>
</tbody>
</table>

(Saphier & King, 1985; as modified by Edwards, Green, & Lyons, 1996)

1. **Norms**
   (Behavioral Norms - Qualities of the Environment the Teachers Experience)

<table>
<thead>
<tr>
<th><strong>Collegiality</strong></th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>We talk in concrete and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>precise terms about things</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>we’re trying in our teaching.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have productive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>observations of one</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>another.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We plan lessons and make</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>materials together.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We teach each other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>things we know about teaching.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We all recognize that</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teaching is inherently</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>difficult and ask for and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>give assistance for problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with students and teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>issues. And we know we’ll get</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>it without being judged.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Experimentation</strong></th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and administrators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>encourage me and back me up when</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I try new things.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Reaching Out to Knowledge Base</strong></th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is a curious school. We</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>are always searching for</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>new and improved ways to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teach.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Teachers' Sense of Efficacy and School Culture

## High Expectations

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Good teaching is taken seriously here. This shows up in serious attention to teacher evaluation and letting me know clearly how I stand in relation to the expectations of the district. I get prompt and useful feedback.</td>
<td>1 - almost never</td>
</tr>
</tbody>
</table>

## Appreciation & Recognition

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There is a close relationship in this school between job performance and recognition of that performance.</td>
<td>1 - almost never</td>
</tr>
</tbody>
</table>

## Protecting What’s Important

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Meetings are worthwhile and productive.</td>
<td>1 - almost never</td>
</tr>
</tbody>
</table>

## Tangible Support

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Priorities for use of money and time show me that the development of staff is a top priority.</td>
<td>1 - almost never</td>
</tr>
</tbody>
</table>

## Professional Respect

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel trusted and encouraged to make instructional decisions on my own, and my boss backs me up when I do.</td>
<td>1 - almost never</td>
</tr>
</tbody>
</table>

## Decision-Making

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel our decision-making processes are fair and legitimate.</td>
<td>1 - almost never</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I feel I am consulted about decisions to be made in this school and that I am listened to and can influence policy.</td>
<td>1 - almost never</td>
</tr>
</tbody>
</table>
### Teachers' Sense of Efficacy and School Culture

#### Honest, Open Communication

<table>
<thead>
<tr>
<th>People speak honestly but respectfully to one another. We are not afraid to disagree and can so without jeopardizing our relationships.</th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conflicts between individuals are resolved quickly and intelligently.</th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Initiative

<table>
<thead>
<tr>
<th>Staff members show initiative in developing new ideas for the school and seeing them come to life.</th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Collective Responsibility

<table>
<thead>
<tr>
<th>We work together in this school as a team and feel responsible collectively for our students and how they're doing.</th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Continuous Improvement and Non-Defensiveness

<table>
<thead>
<tr>
<th>We acknowledge our imperfections readily. No matter how good we perceive ourselves to be, we are always striving to get better. We constantly solicit input and feedback.</th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Reflective Environment

<table>
<thead>
<tr>
<th>We have an environment that encourages thoughtful stepping back to do analysis of our teaching and curriculum decisions.</th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### II. Beliefs

(Shared Beliefs about How We Should Operate as a School)

### Collective Responsibility

We work together in this school as a team and feel responsible collectively for our students and how they’re doing.

### Continuous Improvement and Non-Defensiveness

We acknowledge our imperfections readily. No matter how good we perceive ourselves to be, we are always striving to get better. We constantly solicit input and feedback.

### Reflective Environment

We have an environment that encourages thoughtful stepping back to do analysis of our teaching and curriculum decisions.

### III. Core Values

(What We Want for Our Students)
# Teachers' Sense of Efficacy and School Culture

## Goals

<table>
<thead>
<tr>
<th></th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enough time is spent clarifying and understanding the goals of our school year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Core Values

<table>
<thead>
<tr>
<th></th>
<th>1 - almost never</th>
<th>2 - less often than not</th>
<th>3 - about half the time</th>
<th>4 - more often than not</th>
<th>5 - almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, we know what we stand for as a school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a school, we can say what we want the big picture outcomes to be for our students after their years with us. Anyone visiting us could tell them, too, by watching what we do (even if no one told them).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our programs support our core values</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear Ryan,

Your request to see and then possibly use Dr. Saphier’s School Culture Survey found it’s way to my desk. I am attaching the document as requested with permission granted to use it during your research. Always please reference Research for Better Teaching as the source of this survey. If you do cite any results or outcomes from the survey, would you forward them back to me and I will make sure Dr. Saphier sees them?

There are 2 other accompanying documents that are generally included when we share the survey. One is an article “Good Seeds Grow in Strong Cultures” by Jon Saphier and Matthew King originally published in Educational Leadership, ASCD, 1985. The other is a Factor and Rasch Analysis of the School Culture Survey done in 1996. Regrettively, neither is online at this moment. Even though the copyrights may seem a little dated, Dr. Saphier would like to share them with you. Would you reply with a mailing address and I will mail these to you?

We appreciate your interest in Dr. Saphier’s work and encourage you to check out our website: www.RBTeach.com for additional information. Glad to be able to help.

Ivy

Ivy L. Schutt
Curriculum and Resource Manager
Research for Better Teaching
One Acton Place, Acton, MA 01720
T: 978-263-9449, F: 978-263-9959
schutt@RBTeach.com

SCHOOL CULTURE SURVEY.pdf
138K
Appendix D

Teacher Recruitment Materials

Introductory Letter for Principal

Date

Dear Principal ____________:

I am a graduate student working under the direction of Dr. Dale Snauwaert, in the Educational
Foundations and Leadership Department at University of Toledo.

If you choose to participate, your school will be part of a representative sample of 15 schools from
across Michigan participating in this project. This study is part of my doctoral dissertation examining
the relationship among the factors of teachers’ sense of efficacy and components of school culture.

What is involved for your school?

• You will be asked to provide a contact person for your school. The contact person will be asked
to forward three (3) emails to the teachers in your school:
  o An email will be sent introducing the study and asking teachers to complete an online survey
    within following two weeks.
  o One week later, an email will be sent a link to the online survey reminding teachers to
    consider their participation in the study.
  o One week later, an email will be sent thanking teachers for their participation in the study.
• At the conclusion of the research, your school will receive a summary of the study results.

What is involved for your teachers?

• Teachers will be asked to complete an online survey consisting of three parts:
  o PROFESSIONAL DEMOGRAPHIC INFORMATION: Teachers will be asked to provide
    some information about their teaching preparation and experience.
  o TEACHERS’ SENSE OF EFFICACY SCALE: Teachers will be asked questions related to
    their sense of teaching efficacy.
  o SCHOOL CULTURE SCALE: Teachers will be asked to describe their school culture.
• Most respondents will be able to complete the entire survey in a single 10 minute online session

Your school’s participation in this study is voluntary. If you choose not to participate or to withdraw
from the study at any time, there is no penalty.

If you have any questions concerning the research study, please contact me by phone at 734-
or by email at _____________. You can also contact Dr. Snauwaert at 419-

You will be receiving a follow-up email within a few days with a link for you to provide information
about a contact person for your school should you decide to have your school participate in this study.
Thank you for considering your school’s participation.

Sincerely,

Ryan McLeod
(734)___________
@pmail.com
Introductory Email for Principals

From: Ryan McLeod
To: School Principal
Subject: University of Toledo Research

Dear Principal ______:

This email is a follow-up to the letter I sent to you earlier in the week.

I am a graduate student working under the direction of Dr. Dale Snauwaert, in the Educational Foundations and Leadership Department at University of Toledo.

In my previous letter, I sent information about my study. I am asking for permission to include your school’s teachers in this research. Your school’s participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there is no penalty.

If you are willing to allow your teachers to participate in the online survey, please reply to this email with the name of a contact person who I can work with to forward the survey link to your teachers.

If you have any questions concerning the research study, please contact me by phone at 734- or by email at @pmail.com. You can also contact Dr. Snauwaert at 419-.

Thank you,

Ryan McLeod

What is involved for your school?

- You will be asked to provide a contact person for your school. The contact person will be asked to forward three (3) emails to the teachers in your school:
  - An email will be sent introducing the study and asking teachers to complete an online survey within following two weeks.
  - One week later, an email will be sent with a link to the online survey reminding teachers to consider their participation in the study.
  - One week later, an email will be sent thanking teachers for their participation in the study.
- At the conclusion of the research, your school will receive a summary of the study results.

What is involved for your teachers?

- Teachers will be asked to complete an online survey consisting of three parts:
  - PROFESSIONAL DEMOGRAPHIC INFORMATION: Teachers will be asked to provide some information about their teaching preparation and experience.
  - TEACHERS' SENSE OF EFFICACY SCALE: Teachers will be asked questions related to their sense of teaching efficacy.
  - SCHOOL CULTURE SCALE: Teachers will be asked to describe their school culture.
- Most respondents will be able to complete the entire survey in a single 10 minute online session.
Introductory Email to School Contact Person

From: Ryan McLeod
To: School Contact
Subject: University of Toledo Research

Dear School Contact:

I am a graduate student working under the direction of Dr. Dale Snaauwaert, in the Educational Foundations and Leadership Department at University of Toledo.

I have been in contact with Principal __________ who has agreed to allow the teachers at __________ middle school to participate in a research project with the University of Toledo.

Principal ________ has indicated that you will be the contact person for ________ middle school for this research. Thank you for agreeing to act as the contact person for your school.

Over the next two weeks, you will be asked to forward three (3) emails to the teachers in your school:

- An email will be sent introducing the study and asking teachers to complete an online survey within following two weeks.
- One week later, an email will be sent with a link to the online survey reminding teachers to consider their participation in the study.
- One week later, an email will be sent thanking teachers for their participation in the study.

If you have any questions concerning the research study, please contact me by phone at 734-____ or by email at ____________@gmail.com. You can also contact Dr. Snaauwaert at 419-____.

Thank you,

Ryan McLeod
Introductory Email for Teachers

From: Ryan McLeod
To: Teacher
Subject: University of Toledo Research

Dear ______ middle school teacher:

I am a graduate student working under the direction of Dr. Dale Snauwaert, in the Educational Foundations and Leadership Department at University of Toledo.

I would like to ask for your participation in this project examining the relationship among the factors of teachers' sense of efficacy and components of school culture.

What is involved for you?

- You are being invited to complete an online survey consisting of three parts:
  - PROFESSIONAL DEMOGRAPHIC INFORMATION: Teachers will be asked to provide some information about their teaching preparation and experience.
  - TEACHERS' SENSE OF EFFICACY SCALE: Teachers will be asked questions related to their sense of teaching efficacy.
  - SCHOOL CULTURE SCALE: Teachers will be asked to describe their school culture.
- Most respondents will be able to complete the entire survey in a single 10 minute online session.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there is no penalty.

For more information about the study or to take the online survey, please click this link:

http://www.surveymonkey.com/s/UofTResearch

If you have any questions concerning the research study, please contact me by phone at 734- or by email at RyanMcLeod@gmail.com. You can also contact Dr. Snauwaert at 419-

Sincerely,

Ryan McLeod
(734) @gmail.com
**Reminder Email for Teachers**

From: Ryan McLeod  
To: Teacher  
Subject: University of Toledo Research

Dear _________ middle school teacher:

A week ago, I sent an email inviting you to participate in a University of Toledo study examining the relationship among the factors of teachers' sense of efficacy and components of school culture.

For more information about the study or to take the online survey, please click this link:

http://www.surveymonkey.com/s/UoTResearch

**What is involved for you?**

- You are being invited to complete an online survey consisting of three parts:
  - PROFESSIONAL DEMOGRAPHIC INFORMATION: Teachers will be asked to provide some information about their teaching preparation and experience.
  - TEACHERS’ SENSE OF EFFICACY SCALE: Teachers will be asked questions related to their sense of teaching efficacy.
  - SCHOOL CULTURE SCALE: Teachers will be asked to describe their school culture.
- Most respondents will be able to complete the entire survey in a single 10 minute online session.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there is no penalty.

If you have any questions concerning the research study, please contact me by phone at 734- or by email at: ____________________________gmail.com. You can also contact Dr. Snaaert at 419- ____________________________gmail.com.

Sincerely,

Ryan McLeod  
(734)__________________gmail.com
Thank You Email for Teachers

From: Ryan McLeod  
To: Teacher  
Subject: University of Toledo Research

Dear __________ middle school teacher:

Two weeks ago, I sent an email inviting you to participate in a University of Toledo study examining the relationship among the factors of teachers’ sense of efficacy and components of school culture.

Thank you for considering your participation in this important research.

If you haven’t had a chance to consider the survey, there is still time. For more information about the study or to take the online survey, please click this link:

http://www.surveymonkey.com/s/UoTResearch

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there is no penalty.

Thank you,

Ryan McLeod  
(734) @gmail.com
Appendix E

IRB Approval

To: Dale Snauwaert, Ph.D. and Ryan McLeod
   Department of Educational Foundations and Leadership

From: Barbara K. Chesney, PhD., Chair
       Kamala London, Ph.D., Vice Chair
       Walter Edinger, Ph.D., Chair Designee

Signed: B. K. Chesney

Date: 01/10/12

Subject: IRB #107659
   Protocol Title: A Study of the Relationship between Teachers’ Sense of Efficacy and School Culture Factors

On 01/10/12, the Protocol listed below was reviewed and approved by the Chair and Chair Designee of the University of Toledo (UT) Social Behavioral & Educational Institutional Review Board (IRB) via the expedited process. The Chair and Chair Designee noted that a waiver of written consent has been granted. This action will be reported to the committee at its next scheduled meeting.

Items Reviewed:
   • IRB Application Requesting Expedited Review
   • Electronic Consent Form(s) (version date 01/10/12)
   • Survey(s) (version date 01/10/12)
   • Letters(s) (version date 01/10/12)

This protocol approval is in effect until the expiration date listed below, unless the IRB notifies you otherwise.

Only the most recent IRB approved Consent/Assent form(s) listed above may be used when enrolling participants into this research.

Approval Date: 01/10/2012                Expiration Date: 01/09/13

Number of Subjects Approved: 450

Please read the following attachment detailing Principal Investigator responsibilities.