THE ORGANIZATIONAL CLIMATE OF OMANI SCHOOLS IN RELATION TO TEACHERS' SENSE OF EFFICACY: A MULTILEVEL EXAMINATION OF THE MEDIATING EFFECTS OF TEACHERS' PERCEIVED COLLECTIVE EFFICACY

by

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Abstract

In the current study, which examines the relationship between schools’ organizational climates and teachers’ sense of efficacy, I developed a conceptual framework in which teachers’ perceived collective efficacy (TPCE) was proposed to mediate the relationships between four dimensions of school climate and teachers’ sense of efficacy. These dimensions included: collegial leadership, teacher professionalism, academic press, and community engagement.

The sample consisted of 2,381 surveys (obtained from 98 schools) of Arabic elementary teachers from the Sultanate of Oman. These teachers volunteered to complete three measures assessing their individual efficacy beliefs (the Teacher Sense of Efficacy Scale), their perceived collective efficacy (the Teachers’ Perceived Collective Efficacy Scale), and their perceptions of school climate (the School Climate Index). These measures were adapted through a comprehensive test adaptation (following the International Test Commission’s guidelines) that involved two pilot studies. A hierarchical linear modeling (HLM) technique was applied to examine the nine hypotheses proposed to answer the two main questions guiding the present study: What dimensions of school climate directly predict teachers’ sense of efficacy? And what is the role, if any, of TPCE in the relationship between these school climate dimensions and teachers’ sense of efficacy?

As proposed, TPCE mediated the effects of two school climate dimensions on teachers’ sense of efficacy. Supporting previous research, teacher professionalism and community engagement dimensions influenced teachers’ sense of efficacy directly and indirectly through TPCE. The effects of these two dimensions were greater on TPCE than on teachers’ sense of efficacy. Based on the construct validity evidence obtained for the three measures, the findings indicate that when teachers respect, support, and collaborate with each
other and when the community is positively engaged in school activity, TPCE is enhanced, along with teachers' sense of efficacy.

Contrary to what was proposed, however, neither collegial leadership nor academic press was a statistically significant predictor of either teachers' sense of efficacy or TPCE. While these two variables showed high bivariate correlations with both efficacy belief constructs, their effects disappeared in the presence of other dimensions of school climate. The study concludes with a discussion of its implications, limitations, and future research recommendations.
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Dedication

In the Path of Allah, God

To:

The souls of my parents whom I miss
My wife whom I love
My brothers and sisters whom I respect
His Majesty, the Sultan Qaboos, whom I admire
All scholars who share my interests
Chapter 1
INTRODUCTION

1.1. Overview

A current theme nowadays in Omani public schools is to hasten the process of the transition of all schools from a traditional system to a new schooling system. This has changed the roles of both students and teachers in the learning process. This transition is happening because of a comprehensive reform plan that the Omani Ministry of Education has adopted as a means of improving the quality of education, and hence, insuring a high quality of school outcomes that will help drive the nation toward more general goal of improving the development of human resources.

The rapid transition policymakers have undertaken has focused on implementing new teaching strategies, providing more learning resources for students, and monitoring students’ academic development through ongoing assessments that demonstrate students’ progress throughout the academic year. This reform movement, however, has underestimated the effects such changes have had on teachers and their ability to carry out these important modifications to the Omani education system.

School reform is often combined with increasing challenges and uncertainty (Mesquita & Drake, 1994). One documented construct that predicts teachers’ coping abilities with these challenges is their perceived self-efficacy (Bandura, 1997; Mesquita & Drake, 1994). Teachers’ perceived self-efficacy represents the extent of teachers’ beliefs about the positive effect of their efforts on student achievement (Ross, 1994, p. 3). This motivational construct has been found to predict both teachers’ and students’ behaviors (Gibson & Dembo, 1984; Pajares, 1996; Soodak & Podell, 1994). It is important, then, to promote teachers’ sense of
efficacy (Gibbs, 2003). This promotion cannot be achieved without exploring the factors that determine such beliefs.

The organizational climate of schools is a promising construct for promoting understanding of how schools can foster teachers' sense of efficacy. Studies have linked the organizational climate of schools to productive teacher behaviors and positive student outcomes (Hoy, Hannum, & Tschannen-Moran, 1998; Hoy, Smith, & Sweetland, 2002a; Rosenholtz & Simpson, 1990; Tschannen-Moran, Parish, & DiPaola, in press). While some studies have focused on the effects of the organizational climate of schools on teachers' sense of efficacy (e.g., Cancro, 1992; Hoy & Woolfolk, 1993; Lee, Dedrick, & Smith, 1991), none has tried to understand the mechanism through which the organizational climate of schools affects teachers' sense of efficacy.

Recent work on the organizational level of teachers' efficacy beliefs (i.e., teachers' perceived collective efficacy) might provide a good lens through which to view the effects of the organizational climate of schools on teachers' sense of efficacy. Being an organizational variable, teachers' perceived collective efficacy (hereafter referred to as TPCE) is found to relate to many organizational level variables (Hoy, Smith, & Sweetland, 2002b; Ross & Gray, in press). Being an efficacy variable, TPCE has been linked to many other efficacy (Bandura, 1993; Goddard & Goddard, 2001; Parker, 1994) and achievement variables (Hoy et al., 2002b; Ross, Hogaboam-Gray, & Gray, 2004; Tschannen-Moran & Barr, 2004).

It is these possible links between TPCE and both organizational and individual-level variables that initiated the proposed model of this study to explain the mechanism through which the organizational climate of schools affects teachers' sense of efficacy. I propose that TPCE plays a mediating role in the relationship between the organizational climate of schools and teachers' individual perceptions of efficacy. I predict that the organizational climate of
schools will account for variance in TPCE, which, in turn, will be positively linked to teachers' sense of efficacy. The organizational climate of schools can also have a direct relationship to teachers' individual sense of efficacy. Those effects that are mediated through TPCE, however, will be much larger.

The significance of this proposed study rests on its design, which aims to look at these three important variables via an integrative model that takes into account the interrelationships among the organizational climate of schools, teachers' sense of efficacy, and TPCE. Previous studies have examined bivariate relations among these variables. Furthermore, the study tests the validity and reliability of scores of new school climate and efficacy belief measures that are needed for additional research on teachers' efficacy beliefs and school's organizational climate. An important piece of this validation is that the current study tests these measures in a culture different from the Western cultures, in which both the original measures and the conceptualizations were constructed. As such, this examination expands our understanding of these psychological constructs and their manifestations in non-Western cultures.

1.2. Definitions of the Constructs Investigated

Perceived self-efficacy is the foundation of human agency (Bandura, 1997). Humans exercise control over their lives through agentive actions. This control is powered by their efficacy beliefs. Based on the social cognitive theory, perceptions of efficacy are important for individual and organizational actions. Bandura writes that there are two distinct, though theoretically connected, types of efficacy: individual and collective. Both constructs are viewed as future-oriented judgments about capabilities to carry out actions that lead to behavior.
At the individual level, Bandura (1997) defines perceived self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Within school, for teachers, it refers to “the teacher’s belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 233). At the collective level, Bandura (1997) defines perceived collective efficacy as “a group’s shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments” (p. 477). Goddard, Hoy, and Woolfolk Hoy (2000) define TPCE as “the perception of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students” (p. 503).

Because efficacy beliefs should be viewed as people’s estimations of their actual abilities (and not people’s actual abilities; Goddard, Hoy, & Woolfolk Hoy, 2004), these estimations may or may not be accurate assessments of their capabilities. Accordingly, the accuracy of their assessments influences their success in possessing the required skills (Bandura, 1997). This distinction between actual competence and perception of competence is important, especially with regard to the common use of “teacher efficacy,” a term that may be misunderstood to be parallel to “teacher effectiveness” (Goddard et al., 2004). Thus, Goddard et al. (2004) and Anita Woolfolk Hoy (as recently interviewed in Shaughnessy, 2004) recommend the use of other terms, such as teachers’ perceived efficacy, teachers’ perceptions of efficacy, teachers’ efficacy judgments, instructional efficacy, or teachers’ sense of efficacy. In the current study, I take this advice and use these descriptors interchangeably. When referring to the organizational level of teachers’ efficacy beliefs, the term “collective” is added to the above-suggested terms.¹

¹ I also use the term “efficacy belief constructs” to refer to both types (the individual and the collective).
In addition to these two efficacy belief constructs, I adopt Hoy and colleagues' conceptualization of the organizational climate of schools (Hoy et al., 1998; Hoy, Hoffman, Sabo, & Bliss, 1996; Hoy et al., 2002a). That is, the organizational climate of schools refers to the school atmosphere that is experienced by teachers and administrators. It reflects the internal characteristics by which one school is distinguished from another. This set of characteristics influences school members' behaviors and attitudes that describe their collective perceptions of school behavior. These researchers do not differentiate among "the organizational climate of schools, school climate, and organizational factors;" thus, the three will be used interchangeably.

1.3. The Importance of Efficacy Beliefs

Self-efficacy influences behavior and affect (Fuller, Wood, Rapoport, & Dornbusch, 1982; Gresham, Evans, & Elliott, 1988; Pajares, 1996; Reeve, 1996) through cognitive (Bandura, 1989; Berry, 1989; Cavanaugh & Green, 1990; Hertzog, Dixon, & Hultsch, 1990; Qutami, 2000; Rebok & Balcerak, 1989; Schunk & Ertmer, 2000; Winne, 2001; Winne, Jamieson-Noel, & Muis, 2002), motivational (Bandura, 1993; Gaskill & Woolfolk Hoy, 2002; Schunk & Zimmerman, 2003), and affective processes (Bandura, 1995). Once established, efficacy perceptions contribute significantly to the quality of human functioning (Bandura, 1993).

Bandura (1993) summarizes the findings of research on the effects of perceived personal efficacy and states that people with a low sense of efficacy perceive difficult tasks as personal threats and shy away from them. Often, these people have a weak commitment to their goals and low aspirations. When they experience challenges or failure, instead of focusing on how to perform successfully, people with low efficacy tend toward a self-
diagnostic focus. They dwell on their deficiencies and lose confidence in their capabilities. They may even experience stress and depression.

In contrast, people with high levels of efficacy perceive difficult tasks as challenges to be attained, build interest into their activities, set manageable goals and commit to them (Bandura, 1993). In addition, they acquire a task-diagnostic focus that leads to effective performance. When faced with failure, they persist, often attributing failure to insufficient effort or skills and strategies that are attainable. Thus, it is easy for them to recover their efficacy beliefs following setbacks. They face threatening events with high confidence in their ability to take control of them. As a result, they develop coping strategies that help reduce stress and accomplish their goals.

1.4. The Importance of Teachers’ Sense of Efficacy

Most research on teachers’ sense of efficacy is based on Bandura’s conceptualization of self-efficacy. More than a quarter of a century has passed since the researchers at Rand introduced the concept of “teacher efficacy” as one important teacher characteristic that is linked to student learning (Armor et al., 1976; Berman et al., 1977, as cited in Goddard, 2002a).

Since then, tens of studies have investigated teachers’ sense of efficacy and its important contribution to student achievement (Allinder, 1995; Anderson, Greene, & Loewen, 1988; Ashton, 1985; Ashton & Webb, 1986; Czerniak & Schriver, 1994; Moore & Esselman, 1992; Olivier, 2001; Raudenbush, Bhumirat, & Kamali, 1992; Raudenbush, Rowan, & Cheong, 1992; Wenner, 2001; Woolfolk & Hoy, 1990). Goddard (2002a) notes that the relationship between teachers’ sense of efficacy and students’ achievement is indirect—with teachers’ sense of efficacy affecting numerous teacher attitudes and behaviors, which, in turn, promote student learning. Indeed, researchers have shown that teachers’ sense of efficacy

In addition to these factors, teachers' sense of efficacy relates to student achievement through its relationships with other characteristics of school effectiveness that are also related to student learning (Goddard, 2002a). For example, teachers' sense of efficacy is associated with teachers' trust (Da Costa & Riordan, 1996); positive attitudes toward educational consultation (DeForest & Hughes, 1992); commitment (Coladarci, 1992; Olivier, 2001; Rosenholtz & Simpson, 1990); openness to educational reform (Mesquita & Drake, 1994; Guskey, 1988); welcoming of parental involvement in school work (Hoover-Dempsey, Bassler, & Brissie, 1987); increased levels of teacher satisfaction (Lee et al., 1991); perception of their school effectiveness (Olivier, 2001); and feeling better prepared for teaching (Darling-Hammond, Chung, & Frelow, 2002).

1.5. The Importance of TPCE

Besides teachers' self-referential efficacy beliefs, there are perceptions that relate to the whole school faculty's capabilities of influencing student learning; that is, TPCE (Goddard et al., 2004). Considering the cumulative work on teachers' sense of efficacy, researchers have started looking at the importance of TPCE and its connection to school-related variables. Goddard et al. (2004) reviewed previous research about collective efficacy perceptions' correlations, and concluded that the construct is a robust one that relates strongly to various group processes and outcomes. The authors declared that, similar to teachers' sense
of efficacy, TPCE is related to many variables, such as persistence, shared thoughts, level of effort, stress levels, and group achievement (Goddard et al., 2004).

Recent studies have linked TPCE to student achievement (Cybulski, Hoy, & Sweetland, 2005; Goddard, Hoy, et al., 2000; Goddard, 2001; Ross et al., 2004; Tschannen-Moran & Barr, 2004), teachers’ perceptions of school effectiveness, and their intentions to remain employed in the teaching profession (Olivier, 2001). In an unprecedented study, Bandura (1993) found positive relationships between TPCE and student achievement. Notably, the relationship between TPCE and student achievement is indirect. As teachers’ sense of efficacy influences student achievement through teacher behaviors and attitudes, so does TPCE, which may affect individual teacher behaviors and school practices. In turn, these behaviors and practices influence student learning (Goddard, 2002a). Researchers have found that TPCE significantly predicts teachers’ sense of efficacy (Goddard & Goddard, 2001).

Even though Bandura postulated the importance of collective efficacy beliefs early in his work (1982), it was not until recently that researchers started looking at the function of this construct within school contexts (e.g., Goddard, Hoy, et al., 2000). In his book, Self-Efficacy: The Exercise of Control, Bandura (1997) writes, “although perceived collective efficacy is widely recognized to be highly important to a full understanding of organizational functioning, it has been the subject of little research” (p. 468).

To sum up, both the individual and the collective levels of teachers’ efficacy beliefs seem to be important for both student achievement and teacher behaviors. Bandura (1993) asserts that “the task of creating environments conducive to learning rests heavily on the talents and self-efficacy of teachers” (p. 140). According to Guskey (1987), studies of effective schools found teachers’ sense of efficacy to be an important component of teaching effectiveness. Thus, efficacy should be a prominent variable in the discussion of educational
reform. Failure to consider efficacy may lead to more alienation of teachers and this can have negative effects on student achievement (Newmann, Rutter, & Smith, 1989). Educational reformers view efficacy as an alterable characteristic that should go through some reconstruction relative to changes made in teaching conditions (Moore & Esselman, 1994). This reconstruction will enhance teachers’ beliefs about their competence for handling the various challenges and complexities of teaching. Identifying the factors that affect teachers’ sense of efficacy may help us to understand how this construct functions and how educators can promote teachers’ sense of efficacy. Bandura’s social cognitive theory provides a strong conceptual framework for the study of factors affecting the development of teachers’ sense of efficacy, through the proposed four sources of efficacy information—mastery experiences, vicarious experiences, social persuasion, and emotional status.

Bandura (1997) contends that perceived self-efficacy develops through these four sources of efficacy information. These sources help conceptualize the influence of various individual and organizational factors that may affect teachers’ sense of efficacy and collective beliefs. While these four sources of efficacy information are not directly measured in research, their operationalized indicators are put to the test. Among these indicators are the effects of a school’s organizational climate on teachers’ sense of efficacy. Specifically, the effects of school climate on efficacy beliefs can be conceptualized through the last three sources of efficacy information: vicarious experiences, social persuasion, and emotional status. More discussion of how these sources relate to both teachers’ sense of efficacy and TPCE is given in the next chapter.

The most relevant research on these sources has focused on the effect of the school’s organizational climate (with differing dimensions and measures) on teachers’ efficacy beliefs. The preponderance of the research evidence indicates a link between a school’s organizational
climate and its teachers’ sense of efficacy (e.g., Coladarci & Breton, 1997; Cowley, 1999; Hoy & Woolfolk, 1993; Guskey, 1998; Reames & Spencer, 1998; Shaughnessy, 2004; Warren, 1993; Woolfolk Hoy, 2000). I discuss the conceptualization of a school’s organizational climate and its importance in relation to efficacy beliefs.

1.6. The Importance of the Organizational Climate of Schools

In the teachers’ sense of efficacy literature, the school’s organizational climate reflects the context in which teachers’ sense of efficacy develops. Milner and Woolfolk Hoy (2002) state that context is important to the way teachers define their teaching tasks, and hence, form their perceived self-efficacy. Calls for the importance of investigating the contextual nature of teachers’ experience continue in the efficacy literature (Ashton & Webb, 1986; Milner & Woolfolk Hoy, 2002; Tschannen-Moran et al., 1998; Tschannen-Moran & Woolfolk Hoy, 2002). Because teachers’ sense of efficacy is context specific (Goddard, Hoy, et al., 2000), organizational climates that provide an enriching positive context are more likely to develop high levels of efficacy beliefs in teachers. Depending on the teaching context, teachers define their teaching tasks differently (Milner & Woolfolk Hoy, 2002) and, thus, they differ in judging their capabilities to influence their students’ achievement.

Several conceptualizations exist for understanding the nature of the school’s organizational climate. Among these, two are more dominant than others in the school organization literature (Hoy et al., 1998; Tschannen-Moran et al., in press). The first and most eminent conceptualization of organizational climate stems from the work of Halpin and Croft (1963), who use the analogy of “personality” to describe a school’s organizational climate. In this view, school climate is described in a continuum from open to closed. An ‘open’ school is one in which teachers and principals have clear expectations of responsibility, respect each other, and the leadership emerges smoothly to fulfill the needs of both groups (Hoy et al.,
In these schools, climate is described as having open interaction between principal and school staff (Imants & Zoelen, 1995).

The second conceptualization is the concept of school health, which represents "the nature of student-teacher, teacher-teacher, and teacher-administrator interactions" (Hoy & Woolfolk, 1993, p. 356). This conceptualization focuses on the need for positive interrelationships among the people in school (and between school and community) in order to be a healthy school. At all levels, people press for academic excellence. Teachers and students believe in themselves, respect each other, set high but achievable goals, and work hard to achieve them. Principals are supportive, cooperative, friendly, and have high expectations for teachers (Hoy et al., 2002a).

A recent conceptualization of school climate has integrated these two previous conceptualizations in one precise framework that views school climate to consist of the combined characteristics of the open school and the healthy school conceptualizations. Hoy and his co-authors (Hoy et al., 1998; Hoy et al., 2002a) integrated these two most common frameworks into one comprehensive conceptualization, represented by four dimensions. These dimensions focus on the relationship between the principal and teachers (i.e., Collegial Leadership), the interrelationships among the teachers themselves (i.e., Professional Teacher Behavior), the school and students (i.e., Achievement Press), and the school and community (i.e., Institutional Vulnerability). Accordingly, my study assesses one horizontal relationship (among teachers) and three vertical linkages (for the other three dimensions). Recently, DiPaola and his co-authors (DiPaola & Tschannen-Mora, 2005; Tschannen-Moran et al., in press) replaced the fourth dimension of institutional vulnerability (a negative view of community effects) with community engagement (a positive view of community effects) that
also describes the relationship between school and community. Both of these school-community perspectives are examined in the current study.

In summary, using various conceptualizations, several empirical studies have shown evidence of the relationship between different dimensions of a school’s organizational climate and teachers’ sense of efficacy. My study examines this evidence and proposes a theoretical model to demonstrate the mechanism through which the school’s organizational climate predicts teachers’ sense of efficacy, TPCE.

1.7. Rationale for the Study

This study is based on the importance of the constructs that it examines. Each of the three constructs—school’s organizational climate, teachers’ sense of efficacy, and TPCE—is an important variable for influencing teacher behavior, student achievement and academic development.

This study is a response to several calls for an investigation into efficacy antecedents (Dembo & Gibson, 1985; Hebert, Lee, & Williamson, 1998), such as teachers’ personal variables, student-related variables, school processes, and particularly, the effects of school’s organizational climate. Woolfolk Hoy (2000) and other researchers (e.g., Denham & Michael, 1981) concluded that it is important to continue looking at efficacy antecedents in order to identify school characteristics that may influence the development of teachers’ efficacy beliefs. Such an investigation will help clarify the relationship between teachers’ efficacy beliefs and specific school characteristics (Woolfolk Hoy, 2000). In contrast, ignorance of the effects of some of these school characteristics (such as the school climate dimensions) on teachers’ efficacy beliefs might result in teachers questioning their potential to influence student behavior and, worse yet, may result in their leaving the profession altogether (Hipp, 1996).
Four general observations may be made about the studies that have examined school climate in relation to teachers' efficacy beliefs. First, these studies vary considerably in terms of the theoretical conceptualizations they adopt, as well as the measures, statistical designs, and analyses they use. Second, these studies report different findings with regard to the effects of school climate on teachers' efficacy beliefs and, in some cases, report contradictory results. Third, these studies focus on a bivariate relationship between a school's organizational climate and its teachers' sense of efficacy (i.e., the individual level of efficacy beliefs). As a result, these studies may have underestimated the role of the organizational level of teachers' efficacy beliefs (i.e., the TPCE) on the relationship between school climate and teachers' sense of efficacy. Fourth, these studies conducted their investigation of these variables only in Western school settings, with the majority of this research done in North America.

Accordingly, my study addresses these issues in four ways:

1. This study tries to build bridges among the reported findings of existing research about the relationship between school climate and teachers' sense of efficacy and, thus, may bring some clarity to the nature of this relationship. This study examines the available research on teachers' sense of efficacy in relation to school climate using the recent parsimonious conceptualization of school climate developed by Hoy et al. (2002a) and customized by DiPaola and Tschannen-Moran (2005). If empirically supported, the adoption of this framework can bring conceptual clarity about the dimensions of school climate, especially when measured in relation to teachers' sense of efficacy.

In addition, the current investigation may contribute to more conceptual clarity about efficacy sources of information. In order to enhance teachers' sense of efficacy and their perceived collective efficacy, it is important to understand the role the known
sources of efficacy information play and to further identify additional sources (Tschannen-Moran & Woolfolk Hoy, 2002). Once identified, these sources could provide a foundation for further school improvement research.

2. The contradictory findings concerning the relationship between the dimensions of school climate and teachers’ sense of efficacy can be attributed, in part, to the use of non-standard scales to measure this relationship. The current study adapts some standard measures that not only increase confidence in our examination of the relationships among the three variables under investigation, but also make it possible for future studies to examine the current study’s findings using the same three measures of school climate, teachers’ sense of efficacy, and TPCE.

3. Previous studies have examined a bivariate relationship between school climate and teachers’ sense of efficacy. This study expands on what is known about this relationship, by examining related variables that may influence the relationships, such as the organizational level of efficacy beliefs (i.e., TPCE). Because of its association with both school climate and teachers’ sense of efficacy, the study hypothesizes that TPCE mediates the relationship between these two variables. In its empirical examination of the theoretical proposed model, this study also examines the theories that support it. This model helps to explain the mechanism through which the school’s organizational climate predicts teachers’ sense of efficacy.

4. This study seeks to extend the research on teachers’ sense of efficacy, TPCE, and school’s organizational climate to the Arabic culture by investigating these variables using teachers from the Sultanate of Oman. Based on the researcher’s literature review, there are few Arabic studies that have examined teachers’ sense of efficacy and school’s organizational climate, separately. Nor has any Arabic study examined
This examination serves many purposes. First, it investigates the universality of these three variables, which provides evidence for the universality of Western theories in which these constructs were developed. Second, it contributes to the understanding of the dimensions of school climate in relation to teachers’ sense of efficacy, in terms of the strength of their association with efficacy beliefs. Finally, it investigates the possibility of new insights into these dimensions, which may be found in the Omani school context.

This study also has important implications for educational practice. These include:

1. The current study examines two organizational variables that are expected to predict teachers’ sense of efficacy. The investigation of the organizational factors is warranted because of the practical implications that result from such investigations. Organizational factors have a major impact on school function, and are apt to change. These factors may inspire teacher educators to better plan their teacher education programs to suit preservice teachers’ needs and prepare them not only in terms of knowledge and subject content, but also in terms of being able to band together and create a school climate that is characterized by thought-out relationships, responsibilities, and expectations.

2. This study will provide useful measures by which Omani educators can monitor the effects of the current school reform on Omani teachers’ perceived efficacy. In addition, its findings should draw Omani educators’ and policymakers’ attention to the importance of promoting teachers’ sense of efficacy and their collective efficacy beliefs, as a means of achieving the ultimate goals of this current school improvement reform.
1.8. My Study and Research Questions

Based on Bandura's social cognitive theory and the more recent work of Goddard, Hoy, Tschannen-Moran, Woolfolk Hoy, Ross and their colleagues, I have proposed a theoretical model which suggests that TPCE plays a mediating role on the relationship between a school's organizational climate and teachers' sense of efficacy.

The current study was guided by two questions:

1. *What dimensions of the school's organizational climate can directly predict teachers' sense of efficacy?*

2. *What is the role, if any, of TPCE in the relationship between the school's organizational climate and teachers' sense of efficacy?*

To answer these two questions, data were collected from Omani elementary teachers who responded to three questionnaires that measured their sense of efficacy, perceived collective efficacy, and perceptions of the organizational climate of their schools. These questionnaires were adapted for use with the current Omani teacher sample. I followed the International Test Commission's (ITC) guidelines for test adaptation in order to reduce biases inherent in research that uses adapted measures. These three questionnaires were piloted before their use in the actual study that took place in April of 2005. The data gathered for this study were analyzed using Hierarchical Linear Modeling (HLM) technique, which is suitable for the multilevel nature of the current data under study.
Chapter 2

LITERATURE REVIEW

2.1. Overview

Teachers’ sense of efficacy is an important motivational construct that has been found to relate to student and teacher behavior. Scholars have become increasingly interested in understanding how this construct develops and how it can be enhanced in order to keep teachers motivated to persist in the face of the many difficult challenges associated with the profession of teaching.

The school’s organizational climate is considered one potent factor that predicts teachers’ sense of efficacy. Teachers work within a group of relationships that links them with principals, colleagues, students, and the community. These relationships influence teachers’ beliefs about their abilities to influence student learning. These relationships, however, appear to be complex. This complexity requires more research to understand the mechanism through which dimensions of the school’s organizational climate predict teachers’ sense of efficacy. To this end, the current study tests a model that builds on existing theory and empirical findings in this field of research (see Figure 2-1). Its unique contribution is how it connects the three variables investigated so far: school’s organizational climate, teachers’ sense of efficacy, and teachers’ perceived collective efficacy (TPCE). The current chapter elaborates on the proposed model and discusses its theoretical and empirical grounds.

This chapter consists of three sections. In the first section, I describe the proposed mediational model of TPCE that represents the theoretical framework of the study. I discuss the theoretical roots of the model, its significance, and its major proposed paths that describe the relationships among the three main variables included in the model. In the second section,
I comment on how previous studies have conceptualized and measured these three variables. I also discuss the selected measures for this study and the unit of analysis problem associated with nested data. The third section builds on the measurement part of the second section and discusses the construct comparability of teachers’ sense of efficacy in the Arabic culture.

This chapter concludes with a summary that recaps all the issues discussed in the three sections. It then restates the two main questions guiding the study along with the nine hypotheses proposed by the TPCE mediational model.

2.2. The Theoretical Framework of the Study: The Proposed Mediational Model of TPCE

The aim of the proposed model is to examine the mechanism through which a school’s organizational climate predicts teachers’ sense of efficacy. I hypothesize that TPCE mediates the relationship between school climate and teachers’ sense of efficacy. As will be discussed
soon, previous research reports weak relationships between the dimensions of the school’s organizational climate and teachers’ sense of efficacy. The nature of these relationships is yet to be explained by available research. Tschannen-Moran and Woolfolk Hoy (2002) attribute their findings of the absence of a relationship between teachers’ sense of efficacy and social support to the nature of the teaching profession in which teachers tend to develop their efficacy beliefs without depending on administrators or feedback and support from colleagues. Being in an isolated working environment, teachers learn to adjust to the dearth of support they get from colleagues, administrators, or the community. Thus, support does not come as a meaningful indicator of their beliefs in their own efficacy to impact student learning.

This interpretation, however, may underestimate the relationship between the school’s organizational climate and teachers’ sense of efficacy. Being in an isolated working environment may not mean that these teachers cannot be influenced by what is going on in their schools (Bandura, 2001). Bandura stated that “people working independently within a group structure do not function as social isolates totally immune to the influence of those around them” (Bandura, 1997, p.469). Thus, teachers’ efficacy beliefs are more likely to be influenced by the various impediments and resources that teachers encounter in their school system. Tschannen-Moran and Barr (2004) assert that, as a result of state standards and the increase in accountability, teachers no longer work in isolation (p. 191). Reported influences of TPCE on teachers’ sense of efficacy may also contradict this interpretation (Goddard & Goddard, 2001).

The multilevel nature of the two variables (i.e., the school’s organizational climate and individual teachers’ feelings of efficacy) might be a good starting point for a possible explanation of the findings of previous studies. Researchers have mostly shown awareness of
how this issue contributes to the complexity of their investigations and analyses. This awareness, however, was not sufficient to interpret the different findings reported by these researchers. As interest has increased recently in investigating TPCE and its relationship to other school-related variables, it appears that TPCE can contribute to an understanding of the complex interrelationship reported for the school’s organizational climate and a teacher’s sense of efficacy. In a recent interview (Shaughnessy, 2004), Woolfolk Hoy attributed the weak relationship reported for these two variables to possible weak connections between efficacy measured at the individual level and school climate measured at an organizational level. To address this problem, Bandura (1997) suggests the use of the same level of generality for both self-efficacy instruments and the related variables under investigation.

The school’s organizational climate represents an organizational level construct, while teachers’ sense of efficacy represents an individual level construct. Thus, the relationship between these two may not be understood unless a mediating role played by another variable (that is tied to both of these differing constructs) is considered in this relationship. Because school climate and TPCE are both organizational-level variables, and TPCE and teachers’ sense of efficacy are both efficacy belief constructs, TPCE has strong connections at both ends of the relationship. Accordingly, TPCE is an appropriate variable to mediate the relationship between school climate and teachers’ sense of efficacy.

The significance of this model lies in what it tries to explain from the literature and in its comprehensive and unique design. Previous studies have reported mixed findings about the relationship between teachers’ sense of efficacy and the school’s organizational climate, while ignoring the possible role of TPCE in this relationship. Furthermore, the findings of these

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2 This awareness appears in the selection of the statistical techniques used to examine the relationship between two variables that belong to different levels of analysis. In this case, teachers’ sense of efficacy was viewed as an individual-level variable, while school climate was viewed as an organizational-level variable. Accordingly, the use of the Hierarchical Linear Modeling (HLM) technique was a common practice among these researchers.
studies have been confounded by many conceptual and methodological problems (Hoy & Woolfolk, 1993) such as the use of one-item scales. The proposed model incorporates both levels of teacher efficacy beliefs in relation to the school’s organizational climate. This is important because it allows the study to examine the effect of the efficacy measurement level (individual versus organizational) on the relationship between school climate and efficacy beliefs.

Furthermore, Hoy et al. (2002b) state that many researchers in education have limited their investigation by looking at bivariate relationships (e.g., one independent and one dependent variable). To understand interrelated constructs, there is a need for more elaborated models that look at a group of variables that shape an explanatory system (Hoy et al., 2002b). A better way of understanding learning outcomes is to look at a set of variables and examine how these variables work together. In response to—and following up on—Hoy et al.’s work, the proposed theoretical model empirically examines the interrelationships among three theoretically and conceptually connected constructs.

As can be seen in Figure 2-1, the proposed model hypothesizes several paths to explain the interrelationships among the three variables. For each dimension of the school’s organizational climate, there is a direct path to teachers’ sense of efficacy, with the exception of institutional vulnerability. In addition, there are four paths linking the four dimensions of the school’s organizational climate to TPCE (i.e., the mediator). Finally, there is one path linking TPCE to teachers’ sense of efficacy. Next, I discuss each of the proposed paths and present a theoretical argument for its significance, which I support with empirical evidence whenever available.
2.2.1. Paths Linking School Climate to Teachers’ Sense of Efficacy

Teachers acquire beliefs about their abilities to influence students through the four sources of efficacy information introduced in Chapter 1 (Bandura, 1977, 1997), despite variations in the importance of each one of these sources. Empirical research has supported the importance of these sources of efficacy information in building teachers’ sense of efficacy (Cancro, 1992; Hoy & Woolfolk, 1993; Lee et al., 1991; Newmann et al., 1989). These sources include: mastery experiences, vicarious experiences, social persuasion, and emotional status.

Based on these four sources of efficacy information, previous research has examined various factors that may affect teachers’ sense of efficacy. Most of this research has focused on the role of mastery experiences while neglecting the influence of the other three sources of efficacy information. The current study is a response to the call to investigate these other three sources of information (Tschannen-Moran & Woolfolk Hoy, 2002) as possible starting places from which to promote teachers’ sense of efficacy. It is important to note here that these sources are assumed and not observed. That is, their influence on teachers’ sense of efficacy is operationalized by the factors that affect teachers’ sense of efficacy (such as school climate). These factors demonstrate their impact by the implementation of the conceptualized processes of these three sources of efficacy information. An example of these factors is a school’s organizational climate, which is the focus of the current study. I discuss each of the three sources to conceptualize the effects of the school climate on teachers’ sense of efficacy.

The first source is vicarious experiences. These experiences represent those in which skills are modeled by others with whom the observer identifies. If these models perform well, the observer’s efficacy beliefs are enhanced. If the models perform poorly, the efficacy beliefs
of the observer decrease (Tschannen-Moran et al., 1998). Teachers can encounter these experiences in their teacher education programs, during professional development, or from their colleagues at school. Through these vicarious experiences, teachers get impressions about the nature of teaching tasks and their ability to execute them successfully. Also, they judge the adequacy of situational and personal resources (Tschannen-Moran et al., 1998). Particularly, the examination of the professional teacher behavior dimension of school climate used in the current study captures this source of efficacy information.

The second source of efficacy information, social persuasion, is represented in feedback, encouragement, praise, specific help, and norms of achievement (Milner & Woolfolk Hoy, 2002). The effects of such persuasion depend on the credibility, trustworthiness, and expertise of the persuader (Bandura, 1997). For teachers, social persuasion may come from students’ behaviors (Mulholland & Wallace, 2001), administrators’ and colleagues’ support (Chester & Beaudin, 1996), and parental support and involvement (Tschannen-Moran & Woolfolk Hoy, 2002). The effects of social persuasion, depending on the information conveyed, may lead to either increases or decreases in teachers’ efficacy beliefs (Bandura, 1993; Milner & Woolfolk Hoy, 2002). Depending on the source of this persuasion, each of the four dimensions of school climate is designed to capture the effects of a certain persuasion source.

Finally, teachers’ sense of efficacy can be affected by the emotional status that may accompany the individual’s experience and maximize the positive effects (e.g., excitement) or the negative effects (e.g., anxiety) of these experiences (Bandura, 1982, 1997; El-Okda & Al-Humaidi, 2003). Moderate levels of these emotional states can positively influence performance by focusing attention and energy on the teaching activity (Tschannen-Moran et al., 1998). Teachers’ abilities to cope with negative affect or to maximize positive affect
depend on their personal experience, vicarious experience, and social persuasion from people around them. Accordingly, all four dimensions of school climate can capture the influence of the emotional status, depending on the teachers' incorporation of certain sources.

The school's organizational climate\(^3\) is found to influence teachers' sense of efficacy in several ways that correspond to these three sources of information. These sources of efficacy information are encountered in the context in which teachers work. Because teachers' sense of efficacy is viewed as context specific (Goddard, Hoy, et al., 2000), the development of these efficacy beliefs depends on the climate or context found in each school.

Fuller et al. (1982) proposed a model in which teachers' sense of efficacy is affected by the many aspects of the school's organizational structure. Based on this model, teachers' sense of efficacy is enhanced when teachers and principals have clearly-delineated responsibilities and tasks, work for common goals, are connected by good professional relationships that allow for an exchange of resources, and when teachers feel that the various procedures used to evaluate their performances are accurate.

Ross et al. (1996) suggest that the school's organizational climate influences teachers' sense of efficacy by providing opportunities for teachers to be persuaded by feedback from their supervisors and colleagues about their own competence. Their efficacy beliefs are also affected by the opportunity to learn vicariously from the successful experiences of their peers.

Calling attention to the importance of school-level effects (such as school climate), Tschannen-Moran et al. (1998) emphasize the role of school contexts on the development of teachers' sense of efficacy. School-level effects represent the environment with which personal factors interact to promote teachers' sense of efficacy beliefs, based on social cognitive theory. Because of differences in school climate, teachers' sense of efficacy has

\(^3\) Some previous research reviewed in this chapter refers to the dimensions of school climate as "school process" or "organizational factors."
been found to differ across school grades (Ashton, Webb, & Doda, 1986). The cumulative empirical findings on the associations between the dimensions of the school’s organizational climate and teachers’ sense of efficacy provide a strong rationale for continuing to investigate the relationship between school climate and teachers’ sense of efficacy.

The proposed model deals separately with each dimension of the school’s organizational climate. While these dimensions are interrelated (Hoy et al., 2002a; Hoy & Woolfolk, 1993; Lee et al., 1991; Moore & Esselman, 1992; Newmann et al., 1989), each one of these dimensions may have a unique relationship with teachers’ sense of efficacy (Imants & Zoelen, 1995; Kruger, 1997). Next, I define each of these dimensions, conceptualize its link to teachers’ sense of efficacy, and report empirical findings.

2.2.1.1. Collegial Leadership and Teachers’ Sense of Efficacy

The first dimension of school climate is collegial leadership. This dimension is concerned with the behavior of the school principal in trying to balance the goals of the school and meeting the social needs of the faculty (Hoy et al., 2002a). This balance requires principals to create and maintain open collegial relationships with teachers that do not interfere with the need for having standards of performance and meeting these standards. Principals who are collegial are open with teachers, treat them as colleagues, and are friendly and considerate.

This role of principals in promoting teachers’ sense of efficacy has been emphasized in the literature for decades. For example, Ashton (1985, p. 151) asserts that principals’ support, recognition, and allocation of resources are likely to sustain teachers’ sense of efficacy. Bandura (1993) argued that the quality of leadership is vital in the development of effective schools. Effective school leadership encourages collaboration among teachers, promotes the faculty’s goals, and strengthens the beliefs of the school staff about their
capabilities of promoting student achievement and attaining educational accomplishments. Research on effective schools has shown that principals play a major role in facilitating the work environments of teachers (Rosenholtz, Bassler, & Hoover-Dempsey, 1986; Stanovich & Jordan, 1998).

Qualitative research has documented the importance of principals’ behaviors on promoting teachers’ sense of efficacy. Ashton et al. (1986) observed differences in teachers’ sense of efficacy between middle and high school teachers, favoring middle school teachers. The researchers attributed these differences to the organizational features of the middle school that support efficacy beliefs.

Teachers who participated in Hipp’s (1996) study indicated the importance of both the personal and professional support of their principals in promoting their sense of efficacy. Similarly, in another qualitative study, teachers reported that their principals’ behavior and support was influential in their sustaining of efficacy beliefs (Ross, McKeiver, & Hogaboam-Gray, 1997). Ashton and Webb (1986) provide a long list of principals’ behaviors that are theoretically hypothesized or empirically found to relate to teachers’ sense of efficacy.

Quantitatively, Selove (1984) examined the relationship between teachers’ sense of efficacy and teachers’ perceptions of five organizational characteristics of their school: orderliness, staff rapport, participation in—and satisfaction with—decision-making, and leadership. Holding the first four variables constant, Selove (1984) found a relationship between principals’ involvement as an instructional leader (i.e., instructional leadership) and teachers’ sense of efficacy ($\beta = .08$).

Newmann et al. (1989) found significant relationships between teachers’ sense of efficacy and a number of leadership behaviors. That is, teachers’ efficacy was positively
correlated with administrator responsiveness (i.e., support and recognition of the school staff, \( r = .48 \)) and principal leadership (i.e., goals set and actions taken to solve school problems, \( r = .47 \)). When considering the effects of principals’ behaviors on teachers’ sense of efficacy, the effects of school size, urbanicity, and percentage of white and disadvantaged students diminish. However, when the principal’s behaviors are considered with the presence of other organizational factors (e.g., orderly behavior of students and encouragement of innovation), only administrator responsiveness made a significant contribution to teachers’ sense of efficacy \( (\beta = .18, p < .05) \). Lee et al. (1991) supported these findings, using a larger sample from the same sampling pool that Newmann et al. (1989) used. Lee et al. (1991) reported that principals’ leadership skills were related to teachers’ sense of efficacy \( (\beta = .06, p < .001) \).

Hoy and Woolfolk (1993) found instrumental support (i.e., task-related and goal direction) of principals (and not their emotional and relationship centered support) to be significantly and positively related to teachers’ sense of efficacy \( (r = .26, p < .01) \). With the presence of other organizational variables (i.e., academic emphasis, institutional integrity, resource support, consideration, and morale) as well as personal variables (i.e., education level and teacher experience), instrumental support appeared to be a significant indicator of teachers’ sense of efficacy \( (\beta = .23, p < .05) \). Taylor and Tashakkori (1995) examined five dimensions of the school’s organizational climate: principal leadership, student discipline, faculty collegiality, lack of obstacles to teaching, and faculty communication. Of these, the researchers found that the principals’ leadership was the most significant indicator of teachers’ sense of efficacy \( (\beta = .19, p < .001) \).

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4 Researchers used institutional integrity, environmental press, and institutional vulnerability synonymously. Names change from one scale to another with some slight change in items. However, all these three names refer to buffering strategies that schools undertake to protect its staff from outside pressure (DiPaola & Tschannen-Moran, 2005; Tschannen-Moran et al., in press).
Hipp (1996) examined how principals' behavior impacted teachers' individual and collaborative work through focusing on settings that helped teachers feel efficacious and competent. The researcher found that at least two behaviors of principals correlated significantly with the teachers' sense of efficacy: modeling behaviors \( (r = .14) \) and providing contingent rewards \( (r = .11) \).

Coladarci and Breton (1997) found a significant relationship between the utility (but not frequency) of instructional supervision and teachers' sense of efficacy \( (\beta = .13, p < .05) \). Based on this finding, teachers who perceived their supervisors as helpful reported higher levels of efficacy beliefs than those who held less-positive views of their supervisors (including principals).

Olivier (2001) examined the relationship between shared leadership and a group of specified teachers' sense of efficacy subscales. The researcher reported statistically significant positive relationships between leadership and efficacy for communication/clarification \( (r = .27) \), efficacy for management \( (r = .25) \), efficacy for accommodation of individual differences \( (r = .23) \), efficacy for motivating students \( (r = .21) \), and efficacy for development of higher order thinking skills \( (r = .22) \) \( (ps < .05, N=1,437) \). Shechtman, Levy, and Leichtentritt (2005) examined the effects of a training program in teachers' sense of efficacy and teachers' perceptions of their work environment. As dependent variables, the researchers reported a significant correlation between teachers' self-efficacy and supervisor support (as a subscale of work environment, \( r = .17, p < .05, N = 342 \)).

In contrast to these studies, two studies did not find a significant relationship between collegial leadership and teachers' sense of efficacy. Raudenbush, Rowan, et al. (1992) investigated a group of class-and teacher-level variables in relation to teachers' sense of efficacy. The researchers examined teachers' perceptions of their organizational environment
using three scales of principal leadership, staff cooperation, and teacher control over school and classroom policy. The researchers found no effects on adjusted mean levels of teachers' sense of efficacy that could be attributed to principal leadership. This finding might have resulted from the use of a one-item scale to measure teachers' sense of efficacy. Similarly, and also using a one-item scale to measure teachers' perceptions of administration support, Tschannen-Moran and Woolfolk Hoy (2002) found no significant relationship between administration support and teachers' sense of efficacy ($r = .11, n.s.$).

Overall, the empirical studies reviewed above support the importance of collegial leadership in affecting teachers' sense of efficacy. These studies found that collegial leadership was a significant predictor of teachers' sense of efficacy, even when examined with the presence of other organizational factors (Hoy & Woolfolk, 1993; Taylor & Tashakkori, 1995). Thus, the first hypothesis of the proposed model is:

$H_1$: The collegial leadership dimension of the school's organizational climate will predict teachers' sense of efficacy directly.

2.2.1.2. Professional Teacher Behavior and Teachers’ Sense of Efficacy

The second link in the proposed model corresponds to the dimension of professional teacher behavior. This second dimension of the school's organizational climate describes the interpersonal relationships among teachers that require cooperation and support for each other, as well as a commitment to students (Hoy et al., 2002a).

Consistent with studies on school restructuring, most studies of teachers' sense of efficacy have emphasized the importance of collaboration and supportive relationships among teachers within the school (Raudenbush, Rowan, et al., 1992). Early on, Ashton (1985, p. 151)
suggested that teachers’ relationships with their colleagues might serve to boost and strengthen teachers’ sense of efficacy. Teachers’ positive feelings about their colleagues and their working relationships are likely to promote confidence in teachers and to encourage effective teaching (Selove, 1984). Rosenholtz (1989) considers teachers’ collaboration and repeated instructional interaction with their colleagues to be two critical process variables of a school’s culture that are likely to relate to teachers’ sense of efficacy.

Mostly, the studies that have examined the role of principals have examined this dimension in relation to teachers’ sense of efficacy. For example, Selove (1984) found that teacher rapport (i.e., the quality of the relationships among teachers) was the most significant indicator of teachers’ sense of efficacy ($\beta = .22$) among the five organizational factors mentioned earlier. The author concludes that teacher rapport is the most salient feature of the school organizational climate when examining teachers’ sense of efficacy. Ashton et al. (1986) reported that middle school provides a better school climate than junior high school for fostering teachers’ sense of efficacy. The authors partly attribute this qualitative difference to the collective work that middle school teachers engage in and the collaborative nature of their team planning work. Smylie (1988) investigated a group of variables within the school context and found that teachers’ sense of efficacy was indirectly predicted by teachers’ interactions with colleagues about instructional matters. This effect was mediated by teachers’ certainty about their own teaching practices. Teachers’ interaction with their colleagues develops knowledge about effective teaching practices ($\beta = .33, p < .01$), which in turn influences their efficacy beliefs ($\beta = .30, p < .01$).

Among other organizational features, Newmann et al. (1989) investigated the relationship between teacher’s characteristics and teachers’ sense of efficacy. The researchers found teachers’ knowledge of other teachers’ courses not only to be related significantly to
teachers' sense of efficacy \((r = .27)\) but also to be a significant indicator of teachers' efficacy beliefs \((\beta = .11, p < .05)\) when measured with other organizational features. In addition, Lee et al. (1991) examined a group of social organizational variables (listed earlier) and found that the teachers' sense of community (i.e., dependence on colleagues, sharing of beliefs and values, respect and cooperation) related to teachers' sense of efficacy \((\beta = .09, p \leq .001)\).

Raudenbush, Rowan, et al. (1992) examined the effects of principal leadership, staff cooperation, and teachers' control over school and classroom policy on teachers' sense of efficacy. These researchers found marginally significant small effects for staff cooperation on teachers' sense of efficacy \((b = .082, t = 1.97;\) that is, .09 units of the total standard deviation in teachers' sense of efficacy). Cancro (1992) reported similar results when he found that teachers' sense of efficacy was related to school cultures that value constructive interpersonal relationships \((r = .22)\). Investigating the effects of the five dimensions of the school climate (mentioned above) on teachers' sense of efficacy, Taylor and Tashakkori (1995) found that "faculty communication" was the best indicator of teachers' sense of efficacy \((\beta = .24, p < .001)\). In the same study, faculty collegiality significantly predicted teachers' sense of efficacy \((\beta = .16, p < .001)\). Warren and Payne (1997) examined the effects of collaboration and colleagues' interaction on teachers' sense of efficacy and school environment. The researchers found significant differences in the teachers' sense of efficacy, in favor of teachers who worked on teams and had common planning time, compared with those who were without planning time or those who were organized departmentally, \(F(2, 79) = 8.21, p < .001\).

Another dimension of professional teacher behavior that seems to be related to teachers' sense of efficacy is the "reassurance of worth." In this dimension, teachers' sense of efficacy is related to their perceptions that their co-workers appreciate and respect their
abilities and skills (Kruger, 1997, p. 167). Reassurance of worth significantly predicted teacher efficacy in overall problem-solving ability ($\beta = .41, p < .01$) and teacher efficacy in planning and evaluating interventions ($\beta = .42, p < .01$). Along with another two variables of social support (i.e., reliable alliance and guidance by colleagues), reassurance of worth explained 22% of variance in efficacy for problem solving and 27% of variance in efficacy for planning interventions. Olivier (2001) examined this dimension, which she named collegial teaching and learning, and found it to be statistically-significant when correlated with teachers’ sense of efficacy for: communication/clarification ($r = .30$), management ($r = .32$), accommodation of individual differences ($r = .31$), motivating students ($r = .23$), and development of higher order thinking skills ($r = .31$) ($ps < .05, N = 1,437$).

To conclude, empirical research points to a relationship between professional teacher behavior and teachers’ sense of efficacy. This research has shown a weak to a moderate relationship between professional teacher behavior and their efficacy beliefs. Together, these studies suggest that teachers’ sense of efficacy is more likely to be high in schools in which teachers collaborate, and communicate with each other and respect, interact, and help each other. Accordingly, the second hypothesis is:

**H2**: The dimension of professional teacher behavior in the school’s organizational climate will predict teachers’ sense of efficacy directly.

### 2.2.1.3. Achievement Press and Teachers' Sense of Efficacy

The third dimension of school climate is achievement press. This dimension refers to the extent to which parents, teachers, principals, and students in a school community value
academic achievement and press for high standards and school improvement. Such a school often sets high but achievable academic standards and goals (Hoy et al., 2002a). Hoy et al. (2002b) argued that achievement press has enduring influence on teacher behavior. A strong orientation toward academic pursuits builds a supportive school climate that fosters teacher and student persistence in meeting achievement goals or standards (Hoy et al., 2002b).

This dimension has not been sufficiently investigated. Rather, researchers have examined a related variable that can represent achievement press; that is, orderliness of school environment and student behavior (Hoy & Woolfolk, 1993). For instance, Selove (1984) found that a “safe and orderly environment” (i.e., orderliness) was one of the best indicators of the teachers’ sense of efficacy ($\beta = .17$). Similarly, Newmann et al. (1989) reported that, beyond the effects of many background variables, orderly student behavior was among the strongest indicators of the teachers’ sense of efficacy ($\beta = .25, p < .001$).

Supporting the findings of Newmann et al. (1989), Lee et al. (1991) found a negative relationship between students’ disorderly behaviors and teachers’ sense of efficacy ($\beta = -.09, p \leq .001$). Moore and Esselman (1992) reported a significant relationship ($r = .20, p \leq .01$) between school atmosphere and teachers’ sense of efficacy. Consistent with previous research, Hoy and Woolfolk (1993) found that academic emphasis was significantly associated with teachers’ sense of efficacy ($r = .23, p < .01$). Along with principals’ influence, academic emphasis had unique significant effects on teachers’ sense of efficacy ($\beta = .19, p < .05$). Finally, Taylor and Tashakkori (1995) found that “student discipline” was a significant indicator of teachers’ sense of efficacy ($\beta = .12, p < .001$).

While achievement press (as conceptualized in the present study) has not been examined, except by one study (Hoy & Woolfolk, 1993), Hoy and Woolfolk assert that orderliness of school environment and student behavior represents aspects of achievement
press. Based on this argument, it seems important for teachers to have orderly student behavior in order to preserve high levels of confidence. Such student behaviors ensure the stability of the teaching environment and allow for teachers’ perceptions of collective unity in their work (Newmann et al., 1989). Furthermore, teachers’ sense of efficacy is enhanced when teachers feel that their colleagues respect academic excellence, set high but realistic goals, and build an orderly and serious learning environment (Hoy & Woolfolk, 1993).

Together, these cited studies support the association between achievement press and teachers’ sense of efficacy. Thus, the relationship between achievement press and teachers’ sense of efficacy is expressed through the third hypothesis of the proposed model:

**H₃:** The achievement press dimension of the school’s organizational climate will predict teachers’ sense of efficacy directly.

2.2.1.4. School-Community Connection and Teachers’ Sense of Efficacy

There are two views on how to conceptualize the relationship between school and community as a dimension of the organizational climate of schools. These views are based on two early organizational theories: rational systems theory and open systems theory (DiPaola & Tschannen-Moran, 2005). Two competing strategies emerged from these two theories, which schools often implement in their interactions with their communities. These are: buffering and bridging strategies.

Buffering strategies can be represented by the fourth dimension of Hoy et al.’s (2002a) framework that is called institutional vulnerability. This term refers to the degree to which parents and the outside community make teachers and principals feel unprotected and on the defensive (Hoy et al., 2002a). Community factors are treated as threats to the school and
school administrators tend to buffer the school’s tasks from the expected disruptive influences of the community (DiPaola & Tschannen-Moran, 2005).

Bridging strategies, on the other hand, are “cooperative strategies that schools employ to increase the interdependence of the organization with elements in its environment” (DiPaola & Tschannen-Moran, 2005, p. 64). Community is viewed as a partner in the learning process and school staffs involve parents and other community members in school life. This positive view of the school-community connection is represented by the community engagement dimension of DiPaola and Tschannen-Moran’s conceptualization of school climate.

The institutional vulnerability dimension of Hoy et al.’s framework is the least investigated dimension of school climate in relation to teachers’ sense of efficacy. Only Hoy and Woolfolk (1993) have examined this dimension. In their study, these researchers used the “institutional integrity” subscale of the Organizational Health Inventory (OHI) but found no significant relationship between institutional integrity and teachers’ sense of efficacy ($r = .01$, n.s.). Because there is no empirical evidence to support a link between this dimension and teachers’ sense of efficacy, there is no reason to expect a link between these two variables, especially in the Omani school context, in which the community tends not to put pressure on schools.

Similarly, the community engagement dimension was not investigated in relation to teachers’ sense of efficacy as a dimension of school climate. This dimension was examined in relation to student achievement. DiPaola and Tschannen-Moran (2005) examined both bridging (as measured by the community engagement dimension) and buffering strategies (as measured by institutional integrity) in relation to student math and English achievement. The researchers found that only the community engagement dimension showed any significant
independent prediction for student math ($\beta = .62, p < .001$) and English achievement ($\beta = .59, p < .001$). Among other school climate dimensions, community engagement was also the only dimension to have significant independent effects on student achievements in both math ($\beta = .52, p < .01$) and English ($\beta = .50, p < .05$) (Tschannen-Moran et al., in press).

A survey of the general literature on parental involvement in schools shows that parents’ involvement in their children’s schools is related to many school-related variables, including teachers’ sense of efficacy. For example, Hoover-Dempsey et al. (1987) found a statistically significant association between high levels of parental involvement in children’s schooling and high levels of teachers’ sense of efficacy (p. 429). Particularly, teachers’ sense of efficacy correlated significantly with parent-teacher conferences ($r = .49, p < .001$), parent volunteers ($r = .40, p < .01$), parent home tutoring ($r = .42, p < .01$), parent home instruction ($r = .34, p \leq .05$), and support from parents ($r = .60, p < .001$). Tschannen-Moran and Woolfolk Hoy (2002) found a statistically significant (but somewhat weak) correlation between teachers’ sense of efficacy and support from parents ($r = .16, p < .05$).

Based on these related findings, the initial hypothesis included in the proposed TPCE mediational model shows community engagement (but not institutional vulnerability) as a possible predictor of teachers’ sense of efficacy. This leads us to the fourth hypothesis:

**H4:** The community engagement dimension will be a better predictor of teachers’ sense of efficacy than the institutional vulnerability dimension.

Due to a lack of Arabic studies on school climate conceptualization and measurement, I examine both of these views in relation to teachers’ efficacy beliefs in a separate study that
precedes the actual study. Based on this comparison, institutional vulnerability or community engagement is selected to represent the fourth dimension of school climate examined in the model.

To conclude, then, four direct links are expected between the four dimensions of school climate and teachers' sense of efficacy. The mediating role of TPCE in the relationship between these four dimensions and teachers' sense of efficacy requires that TPCE be linked to both the predictor variables (here, these four school climate dimensions) and the outcome variable (here, teachers' sense of efficacy) (Baron & Kenny, 1986). The first link reflects the hypotheses that dimensions of the school’s organizational climate predict TPCE whereas in the second link, TPCE is a predictor of teachers’ sense of efficacy. First, I discuss the relationship between the school’s organizational climate and TPCE.

2.2.2. Paths Linking School Climate to TPCE

Prior to the discussion of the first link, namely, the impact of the school’s organizational climate on TPCE, it is important to understand how TPCE is formed. Thus, I outline a theoretical conceptualization that redefines Bandura’s sources of teacher efficacy information (discussed earlier) to include the development of TPCE.

Many researchers (Goddard, Hoy, et al., 2000; Goddard et al., 2004; Hoy et al., 2002b; Ross et al., 2004) argue that Bandura’s sources of efficacy information could also apply to the development of TPCE. Goddard and his colleagues have developed theoretical arguments to expand Bandura’s sources of efficacy information for the development of TPCE. As outlined earlier, our focus is on the three sources (i.e., vicarious experiences, social persuasion, and emotional status) that are associated with the effects of school climate on efficacy beliefs. While my proposed model hypothesizes that school climate predicts TPCE directly, it is only
through the operationalization of vicarious experience, social persuasion, and emotional status that the school climate produces its effects on TPCE.

Vicarious experience is viewed as a possible contributor to TPCE, by drawing an analogy between individual and organizational learning (Goddard, Hoy, et al., 2000; Goddard, 2002a; Goddard et al., 2004). At the collective level, vicarious experience means that a school learns from other schools. For example, schools look for successful educational programs and tend to replicate them. Similarly, if some schools are successful in overcoming obstacles, the TPCE of the observing schools should rise. Hoy et al. (2002b) stated that schools may engage in some curricular reforms to remedy possible declines in achievement scores, especially if these reforms have proved to be effective in another district.

Ross et al. (2004) argue, however, that there is a limited opportunity, if any, for teachers to observe other schools. Instead, teacher collaboration may foster a climate that supports interactions among teachers through collaboration in instructional experimentation, joint problem solving, and help seeking. By observing their colleagues, teachers can improve their teaching strategies and acquire more effective ones, thus enhancing their efficacy perceptions, collective efficacy beliefs and expectations for future success. Both Hoy et al.’s and Ross et al.’s interpretations are plausible in explaining how vicarious experiences contribute to the development of TPCE. The current study’s use of the professional teacher behavior dimension, however, leans toward Ross et al.’s conceptualization.

Social persuasion, as a source of efficacy information, can influence TPCE. Through the socialization of teachers (Hoy & Rees, 1977; Hoy & Woolfolk, 1990), all teachers become aware of the school’s normative expectations for goal attainment and perceive the group’s capabilities of influencing students’ learning. This meaning of social persuasion is largely captured by the achievement press dimension of the current examination.
Also, school members persuade each other about the effective work of the team and their ability to influence learning outcomes (Ross et al., 2004, p. 167). A school’s faculty can be persuaded about its capability to achieve what it seeks through feedback about achievement, professional development, and workshops (Hoy et al., 2002b). This persuasion is affected by the degree of cohesiveness of the whole faculty (Goddard, Hoy, et al., 2000). Greater cohesion allows for proper selections of skills and better handling of individual teachers’ concerns, aside from creating more chances for teachers to observe examples of successful collaborations (Ross et al., 2004, p. 167). While social persuasion might be limited in its effects, it is more likely to influence the faculty’s certainty that it has the ability to influence student learning, when it occurs along with successful mastery experiences and good models of success (Bandura, 1997; Goddard et al., 2004). In addition, its possible impact may be strong when a school faculty experiences enough self-doubt to interrupt its persistence (Goddard et al., 2004). These effects of social persuasion are captured mostly through the collegial leadership and professional teacher behavior dimensions. The fourth dimension, school-community connection, is also implicated, as some parents’ involvement may represent a source of persuasion about teachers’ capabilities or incapabilities to influence student learning.

Finally, TPCE is affected by various emotional states that result from collective successful or unsuccessful conditions (Goddard, 2002a). Goddard et al. (2004) argue that, just as individuals experience anxiety or excitement, so do organizations such as schools, when working to achieve their goals. Because of the publicization of school performance on state-mandated tests and the influence of media in this regard, schools become affected by their cumulative achievement year after a year (Goddard et al., 2004). Without strong collective efficacy beliefs, some schools become attenuated by pressure and crises, which interferes with
their ability to persist for a long time and leads to a breakdown in functioning (Goddard et al., 2004).

Accordingly, developing coping mechanisms and adaptation strategies helps school faculties to function effectively and to be able to develop positive interpretations of their experiences and challenges (Hoy et al., 2002b). Leadership has a major influence on how to react to pressure and crisis in a way that can protect the collective perceptions of the school faculty (Bandura, 1997). In addition, such negative emotions can be reduced through peer support, similarly to what is reported for the individual level of teachers' perceived efficacy (Brouwers, Evers, & Tomic, 1999). Parents' support can also minimize such negative effects. Finally, a high achievement press may help teachers retain positive beliefs about their collective ability and, thus, eliminate the negative influences of unsuccessful experiences. Accordingly, this source of efficacy information is generally captured by the four dimensions of school climate used in the current investigation.

Building on the conceptual arguments of Bandura, Goddard, Hoy, Ross, and their colleagues about the development of TPCE, the proposed model examines how the sources of efficacy information may impact TPCE by examining the impact of school climate on TPCE. Goddard et al. (2004) reviewed research on TPCE and stated that one of the understudied areas in collective efficacy perception research is the connection between this construct and the organizational climate of the school.

A group of studies have investigated the relationships between school climate and TPCE. While many of these studies reported bivariate correlations only, there are some studies that used prediction-type models to examine the effects of the dimensions of school climate on TPCE. Results are reported for each dimension separately.
2.2.2.1. Collegial Leadership and TPCE

Goddard (Goddard, 2001; Goddard & Goddard, 2001) argued that school leadership is in a good position to influence the collective efficacy of a school by empowering the faculty’s efficacy beliefs to influence their students’ learning. An important task for school leaders is “to construct a self-directing community that unifies, enables, and motivates its residents” to achieve their collective goals (Bandura, 1997, p. 501). Because of their position in the schools, principals can adopt strategies to promote collaborative work and encourage teamwork, thereby increasing the opportunities for exchange of ideas and enhancement of TPCE (Ross et al., 2004, p. 168). Furthermore, principals can structure the interpretation and attribution of school achievement in a way that facilitates teachers’ motivation and enhances their beliefs about the faculty’s capabilities of achieving their goals (Ross et al., 2004, p. 168). Reviewing the principal’s leadership behavior and its connection with teachers’ efficacy beliefs, Tschannen-Moran and Barr (2004, p. 195) concluded that the principal has a major role in influencing TPCE to facilitate higher individual senses of efficacy.

Even though there is scant research on the relationship between principals’ behavior and TPCE, available research indicates that principals influence individual senses of efficacy; hence, their contribution may also occur in relation to TPCE (Ross & Gray, in press). In a correlational examination, Olivier (2001) found a strong bivariate positive correlation between TPCE and shared leadership ($r = .68, p < .05, N = 65$). Ross et al. (2004) found a significant positive correlation between “empowering school leadership” and TPCE ($r = .44, p < .001$). Thus, the relationship between collegial leadership and TPCE can be represented as follows:
$H_5$: The collegial leadership dimension of school climate will indirectly predict teachers' sense of efficacy through TPCE.

2.2.2.2. Professional Teacher Behavior and TPCE

In addition to the role of collegial leadership, professional teacher behavior is expected to directly predict TPCE. Olivier (2001) examined a bivariate relationship between TPCE and collegial teaching and learning and found a statistically significant correlation ($r = .71, p < .05, N = 65$). In their study, Ross et al. (2004) examined some related variables such as teachers' perceptions of shared school goals, perceived support for their professional learning, and their feelings about collaborative work with their colleagues. The three dimensions showed moderate relationships with TPCE, with correlation values of .49, .41, and .38 ($ps < .001$), respectively. These three dimensions, along with the aforementioned "empowering school leadership" dimension, comprised a latent construct that significantly predicted TPCE ($\beta = .48, p < .05$) while controlling for student past achievement. Similarly, Dale (2004) examined the effects of teacher collaboration on TPCE. The researcher found that teacher-teacher trust ($\beta = .19, p < .05$) and collaboration ($\beta = .30, p < .01$) significantly predicted their perceived collective efficacy, while controlling for other variables, including principals' behaviors, prior academic skills, and SES.

TPCE is expected to increase in schools with an atmosphere of trust that provides opportunities for teachers to share concerns, discuss teaching issues, and work collaboratively with their colleagues. This leads us to the sixth hypothesis I want to test:

$H_6$: The professional teacher behavior dimension of school climate will indirectly predict teachers’ sense of efficacy through TPCE.
2.2.2.3. Achievement Press and TPCE

Similarly, the third dimension of the school’s organizational climate, achievement press, has been found to predict TPCE. Hoy et al. (2002b) stated that academic press represents norms that affect schools’ actions and achievements. It also represents social perceptions that influence teaching and learning. Group norms that emphasize high academic standards relate to the beliefs that teachers hold about themselves (Goddard, Sweetland, & Hoy, 2000).

Little empirical research has been done on the effects of achievement press on teachers’ beliefs. Examining the effects of achievement press on student achievement, Goddard, Sweetland, et al. (2000) concluded that achievement press seems to enhance a positive pattern of collective beliefs, which in turn influences achievement. Importantly, Hoy et al. (2002b) found academic press to have significant effects on TPCE over and above the effects of SES ($\beta = .47, p < .05$). Based on this finding, I hypothesize that:

**H7:** As a dimension of school climate, the achievement press of a school will indirectly predict teachers’ sense of efficacy, by directly predicting TPCE.

2.2.2.4. School-Community Connection and TPCE

Finally, neither buffering strategies (as measured by institutional vulnerability) nor bridging strategies (as measured by community engagement) have been examined in relation to TPCE. Nevertheless, I can argue that the relationship between TPCE and these two competing perspectives of the school-community connection will be the same as their relationship with teachers’ sense of efficacy, as predicted earlier in the fourth hypothesis.
There is no theoretical basis to argue for a relationship between institutional vulnerability and TPCE. Rather, Goddard, Hoy, et al. (2000) reported a non-significant relationship \( (r = .05, n.s., N = 47) \) between TPCE and "the extent to which teachers experience 'unreasonable community demands'" (Goddard, Hoy, et al., 2000, p. 494). Also, it can be argued that the effect of this dimension might diminish in the presence of a school's other organizational climate dimensions, especially collegial leadership. Ross et al. (2004, p. 168) wrote that principals are responsible for protecting their staff from any emotional harm resulting from community pressure or district initiatives; thus, reducing the possibility of teachers' stress and depression.

In contrast, a significant relationship is expected between community engagement and TPCE. As mentioned earlier, there is evidence of association between community engagement and the individual level of teacher efficacy perceptions (Hoover-Dempsey et al., 1987). Furthermore, it can be argued that the link found between community engagement and student achievement (DiPaola & Tschannen-Moran, 2005; Tschannen-Moran et al., in press) is indirect and that TPCE mediates this relationship. This leads us to the eighth hypothesis:

\( H_8: \) The community engagement dimension is more likely to predict TPCE than the institutional vulnerability dimension.

Similar to the fourth hypothesis, this eighth hypothesis is put to the test in the second pilot study conducted prior to the actual study. The dimension that best predicts TPCE will be included in the actual study along with the other three dimensions of school climate.
2.2.3. A Path Linking TPCE to Teachers' Sense of Efficacy

The last relationship proposed by the suggested model is the path between TPCE and teachers' sense of efficacy. This path is a requirement in order for TPCE to function as a mediator in the relationship between school climate and teachers' sense of efficacy (Baron & Kenny, 1986). Thus, TPCE is expected to have a major association with teachers' sense of efficacy, mediating the effects of the four dimensions of the school's organizational climate on teachers' sense of efficacy.

While researchers have examined each of the two efficacy constructs (TPCE and teachers' sense of efficacy) separately, little research has considered their interrelationship (Goddard & Goddard, 2001). There are many reasons to expect that TPCE will directly predict teachers' sense of efficacy.

First, both constructs are based on Bandura's social cognitive theory. Bandura (1982) contends that "knowledge of personal efficacy is not unrelated to perceived group efficacy" (p. 143). He adds that teachers' perceptions of faculty capability affect their beliefs and behaviors (Bandura, 1982, 1997). Second, both constructs share the same four sources of information that Bandura has suggested (1997). As discussed earlier, these four sources of efficacy information operate on both levels.

Third, Goddard et al. (2004) traced the influence of TPCE on individual teacher's behavior through the norms developed inside schools that allow for school community members to influence other members of the school. This argument is consistent with social cognitive theory. Bandura (1993) claims that schools which have staff who collectively perceive themselves as incapable of educating students, convey a group sense of academic futility that can weaken the school's collective life. In contrast, school staff members who
collectively perceive themselves as having powerful influences on their students’ learning outcomes are likely to create a positive environment for academic growth. For example, if teachers think highly of the faculty’s collective capability, they may expect to succeed in teaching and work to achieve success in their classrooms. The opposite is true, too. When the faculty’s collective sense of efficacy is low, teachers are less likely to be pressed by their colleagues to persist when faced with challenging tasks or difficult students (Goddard, 2002a; Goddard & Goddard, 2001).

Empirically, the direct link between TPCE and teachers’ sense of efficacy has been put to the test. For example, Parker (1994) examined the relationships between TPCE and teachers’ sense of efficacy in three areas: reading, language, and mathematics. The researchers reported correlations of .73, .73, and .60 (ps < .001) between the two efficacy constructs in the three domains, respectively. In their pilot and actual studies, Goddard, Hoy, et al. (2000) examined the relationship between TPCE and teachers’ sense of efficacy and found a significant correlation between the two constructs (r = .41, r = .54, ps < .01). In her study, Olivier (2001) found statistically significant correlations between TPCE and specified subscales of teachers’ sense of efficacy, including efficacies to: develop students’ higher thinking skills (r = .38), motivate students (r = .37), accommodate individual differences (r = .34), manage the classroom and maintain positive classroom climate (r = .38), and clarify and communicate (r = .40) (ps ≤ .05, N = 1,437).

Importantly, Goddard and Goddard (2001) found that a one standard deviation increase in TPCE was related to a 0.24 standard deviation increase in teachers’ sense of efficacy. The researchers found that TPCE accounted for variance in teachers’ sense of efficacy above and beyond that explained by two other contextual controls in schools (i.e., mean SES and mean prior achievement).
Consequently, these theoretical underpinnings and empirical findings support the link between these two efficacy constructs—TPCE and teachers' sense of efficacy. An individual teacher's sense of efficacy may decrease or increase as a function of TPCE. Accordingly, I hypothesize that:

\( H_0 \): TPCE will be a significant positive predictor of differences among schools in teachers' sense of efficacy.

2.2.4. Conclusion of the Theoretical framework: the Proposed Mediational Model of TPCE

Previous research has examined the relationships between school climate and teachers' sense of efficacy through bivariate designs. While this research shows that school climate dimensions relate to teachers' sense of efficacy, no research has examined whether this relationship can be explained by TPCE. Theoretical and empirical findings suggest that school climate also predicts TPCE, which was found to predict teachers' sense of efficacy.

These relationships suggest a mediating role for TPCE in the relationship between school climate and teachers' sense of efficacy. While this mediating role can be inferred from some previous research (e.g., Tschannen-Moran & Barr, 2004), it was yet to be examined empirically. The current proposed model suggests nine paths: four linking the four dimensions of school climate to teachers' sense of efficacy, another four linking the same dimensions to TPCE, and one path linking TPCE to teachers' sense of efficacy (Figure 2-1).

The research I reviewed so far used various measures of school climate, teachers' sense of efficacy, and TPCE to examine the relationships between each two of these three variables. While most research focused on self-efficacy, this concept was defined differently in some studies. Some of the mixed results I have reported can be partly explained by this
variation in measures and conceptualization. The next section discusses these issues further and outlines the measures I plan to use in the current study.

2.3. Measuring the Proposed Model

In order to maximize the benefits of this model, researchers need to establish clearly defined bases to allow for comparison across various studies. One way of reaching this goal is to examine the proposed relationships of this model according to measures that have solid theoretical and empirical grounds. Next, I discuss previous studies’ conceptualizations and measurements of the three main variables examined in the model.

2.3.1. Teachers’ Sense of Efficacy Conceptualizations and Measurements

While most of the studies reviewed have used Bandura’s conceptualization of perceived self-efficacy to examine teachers’ sense of efficacy, initially some studies used Rotter’s locus of control (1966) to guide their investigation of efficacy beliefs. For example, the Rand studies examined the importance of teachers’ efficacy perceptions based on Rotter’s (1966) theory of locus of control. Teachers’ sense of efficacy was measured by two items (e.g., Glickman & Tamashiro, 1982). The first Rand item examined general teaching efficacy that was defined as “teachers’ beliefs about the power of...external factors [to influence students’ learning] compared to the influence of teachers and schools” (Tschannen-Moran et al., 1998, p. 204). The second Rand item examined personal teaching efficacy and referred to the teachers’ beliefs about their abilities to influence their students and to overcome factors that might make learning difficult (Tschannen-Moran & Woolfolk Hoy, 2001, p. 785). The sum of the two items reflects what was called teacher efficacy (TE) and indicates the extent to which teachers believe that the consequences of their teaching efforts are in their own hands, and not externally controlled (Tschannen-Moran & Woolfolk Hoy, 2001). As the reliability of
the two-item scale was questionable, more comprehensive scales were constructed, based on Rotter's theory of locus of control (Guskey, 1981; Rose & Medway, 1981).

At almost the same time, a new conceptualization of teachers' sense of efficacy was developed as part of Bandura's social cognitive theory (1977). While locus of control refers to beliefs about how one's actions affect outcomes, perceived self-efficacy focuses on the individual's belief that he can produce specific actions (Bandura, 1997). Bandura's construct appears to be a more powerful predictor of teachers' and students' behaviors (Tschannen-Moran et al., 1998). Some researchers have tried to integrate both views of efficacy (e.g., Moore & Esselman, 1992), but the majority of researchers have focused on the social cognitive theory as a framework for their investigation.

Several previous studies have investigated the effects of the school's organizational climate on teachers' sense of efficacy, using the Gibson and Dembo (1984) Teacher Efficacy Scale (TES). This measure consisted of two dimensions resembling the two Rand items: Personal Teaching Efficacy (PTE) and General Teaching Efficacy (GTE). The TES became the most widely used scale in measuring teachers' sense of efficacy (for review of previous studies that used the TES, see Tschannen-Moran et al., 1998; Tschannen-Moran & Woolfolk Hoy, 2001). Due to the preponderance of evidence for its reliability, the TES has been adopted in different cultures, including the Arabic culture (Al-Bolushi, 2002; Al-Nahar & Al-Rababea, 1992).

This measure, however, has raised debate among efficacy researchers (Guskey, 1998) and has received a lot of criticism (Deemer & Minke, 1999; Henson, 2001), with some calls for excluding its GTE subscale from teachers' sense of efficacy research (Henson, 2001; Henson, Kogan, & Vacha-Haase, 2001). Up to now, the conceptual stand of the GTE has not been clear. Some researchers argue that the GTE represents "external influences" that are part
of Rotter's construct of external control (see reviewed studies in Tschannen-Moran et al., 1998). Others argue that the GTE represents Bandura's outcome expectancy (see for example Gibson & Dembo, 1984; Soodak & Podell, 1996).

In addition to the problems with the TES, there are other problems in measuring teachers' sense of efficacy attributable to using non-standard measures (one-item scales, Raudenbush, Rowan, et al., 1992; Ross et al., 1996; Smylie, 1988), equalizing efficacy beliefs with other constructs such as responsibility and job satisfaction (Guskey, 1987, 1998; Lee et al., 1991; Newmann et al., 1989), and using measures with low scores reliability coefficients (e.g., Newmann et al., 1989). These practices have resulted in inconsistencies in measuring teachers' sense of efficacy and difficulties in comparing findings across studies.

To conclude, while there is a considerable body of research on teachers' sense of efficacy, this construct "remains a conceptually elusive construct, rendering it difficult to assess with certainty" (Hebert, Lee, & Williamson, 1998, p. 224). Recent work on the conceptualization of teachers' sense of efficacy (Bandura, 2001; Henson, 2001; Tschannen-Moran et al., 1998), however, has contributed to the understanding of the construct of teachers' sense of efficacy and allowed for more valid measures to appear.

The Teacher Sense of Efficacy Scale (TSES) is an example of these new measures. This measure was constructed to meet Bandura's conceptualization of teachers' sense of efficacy and to overcome the limitations of previous measures. Having constructed the TSES, Tschannen-Moran and Woolfolk Hoy (2001) stated that the TSES is a balanced instrument

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5 Because of these conceptual and methodological concerns about the GTE, the results reported so far in this chapter included only PTE findings (for the studies that have used the TES). PTE is considered the best representation of Bandura's conceptualization of teachers' sense of efficacy. The new Teacher Sense of Efficacy Scale (TSES), (adopted for the current study and discussed below) was found to correlate positively to the PTE but not to the GTE. Thus, reporting the findings of the GTE while attempting to use the TSES will contribute to additional confusion about the construct of teachers' sense of efficacy. However, this should not indicate that I view this construct as unidimensional. Rather, it is simply because the GTE is not in a good position to represent the teachers' sense of efficacy construct.
that is not so specific as to lose its utility for comparing teachers across subject specializations and school levels and not so general as to compromise its predictive power.

A good efficacy measure needs to capture teachers' perceptions of their capabilities to perform different teaching tasks. Based on Tschannen-Moran et al.'s (1998) model, an efficacy measure should account for both the individual's competence and the resources and constraints of a particular teaching task. Goddard et al. (2000) state that the interaction between these two dimensions forms self-efficacy judgments about the presented teaching task. Most existing scales neglect one of these components (Tschannen-Moran & Woolfolk Hoy, 2001).

The TSES, compared with some previous measures (e.g., Gibson and Dembo's Teacher Efficacy Scale and the Rand items), is not limited to coping with students' difficulties and overcoming environmental impediments. Rather, it focuses on a wider range of teaching tasks that include: "assessments of teaching in support of student thinking, effectiveness with capable students, creativity in teaching, and the flexible application of alternative assessment and teaching strategies" (Tschannen-Moran & Woolfolk Hoy, 2001, p. 801).

This scale, however, is in its early stages of development and needs further testing (Henson, 2001; J. Ross, personal communication, June 28, 2004), especially when used in cross-cultural research. The current study contributes to the validation of this measure by administering it to a teaching population that may differ from the Western population of the original measure.

2.3.2. School Climate Conceptualizations and Measurements

Similarly, differences in the conceptualization of the school's organizational climate have confounded the investigation of this construct in relation to teachers' sense of efficacy.
Studies varied in the dimensions used to reflect the construct of school climate. Available findings suggest that each dimension may have its unique association with teachers' sense of efficacy and this association may vary within a single dimension because of the level of specificity (Imants & Zoelen, 1995; Kruger, 1997; Newmann et al., 1989). For example, Hoy and Woolfolk (1993) differentiated between two types of principal support (work-related versus emotional) and found each type to relate differently to teachers' sense of efficacy.

As a result of the variation in conceptualizing the construct, researchers have used different measures that varied in terms of their reliability, validity, and other measurement properties. Hoy and Woolfolk (1993) indicated that many studies did not use established and reliable indices of the school's organizational climate. For example, some studies used post-defined items that were found in existing data to match with their proposed variables (e.g., Newmann et al., 1989; Lee et al., 1991), and others used single- or two-item scales (e.g., Tschannen-Moran & Woolfolk Hoy, 2002). A good number of studies, however, included validated measures of the dimensions of school climate or related constructs (e.g., Dale, 2004; Hipp, 1996; Hoy & Woolfolk, 1993; Olivier, 2001; Ross et al., 1996; Ross et al., 2004; Selove, 1984).  

Among the few most commonly used school climate measures are the Organizational Climate Description Questionnaire (OCDQ) and the Organizational Health Index (OHI). These two measures have been used extensively (Hoy, Tarter, & Bliss, 1990). Both measures were found to relate to different school variables such as student achievement, teacher commitment, and faculty trust (Hoy & Ferguson, 1985; Hoy & Miskel, 1978; Hoy et al., 1990; Hoy et al., 1998; Tarter, Hoy, & Kottkamp, 1990; Tarter, Sabo, & Hoy, 1995). For

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6 Within each dimension reported by these studies however, different items were used to measure the aspects of that dimension. The variation in measures and in items within measures hinders a confident conclusion about the relationship between school climate dimensions and efficacy beliefs across studies.
decades, the OCDQ and the OHI have been considered reasonable instruments to capture the main aspects of organizational climate (Hoy & Woolfolk, 1993; Hoy et al., 2002a).

Because of the overlap between the OCDQ and the OHI, Hoy et al. (2002a) integrated the twelve dimensions of these two measures into a new measure with only four general dimensions discussed earlier. The Organizational Climate Index (OCI) was selected for this study because it is a short measure that seems to capture important dimensions of school climate in relation to teachers' sense of efficacy. The OCI is a 27-item questionnaire. The validity checks of the OCI scores were performed using different statistical techniques (as reported in the next chapter). Examination of the fourth dimension of the OCI, however, indicates that, consistent with previous measures, the OCI approaches the school-community connection through negative perceptions articulated by its dimension of institutional vulnerability. Hoy et al. (2002a) pointed to the absence of positive views of the relationship between school and community as a limitation in their measure.

As a response to this limitation in the OCI, DiPaola and Tschannen-Moran (2005) constructed a new subscale called "community engagement," which includes in seven items. The dimension of community engagement reflects constructive relationships between the school and its community. Compared to institutional vulnerability, this new dimension was found to better predict student achievement (DiPaola & Tschannen-Moran, 2005).

Accordingly, Tschannen-Moran et al. (in press) substituted the fourth dimension of the OCI with this new dimension of community engagement to measure school climate in a new measure called the School Climate Index (SCI). I explore how these two dimensions function in the Omani culture in the second pilot study. Based on the findings, a decision is made to use either community engagement (with other SCI dimensions) or institutional vulnerability (with other OCI dimensions) in the actual study.
2.3.3. TPCE Conceptualizations and Measurements

Different approaches have been used to measure TPCE (see description in Goddard et al., 2004). Bandura (1993, 1997, 2000, 2001) indicates that there are two common approaches for investigating the effects of perceived collective efficacy on organizational performance. The first approach is to aggregate, for a given school, teachers' individual efficacy beliefs to reflect a group mean of self-referent beliefs (Bandura, 1993). The items used in this approach start with "I" statements and responses are averaged to determine teachers' perceptions of collective efficacy (Goddard et al., 2004). Another approach is to aggregate measures of individuals' group-referent perceptions, using "we" instead of "I" in the items, and averaging the responses to these "we" referent statements to measure TPCE (Goddard et al., 2004). Goddard et al. (2004) argued convincingly that, consistent with Bandura's conceptualization, the second approach is the most effective means of assessing TPCE; therefore, I use it in my study.

The reviewed studies in this chapter were mostly based on the conceptual framework developed by Goddard and his colleagues (Goddard & Goddard, 2001; Goddard, Hoy, et al., 2000; Goddard et al., 2004). These researchers built their conceptualization of the TPCE on Bandura's (1997) formulation of perceived self and collective efficacy. In addition to the work of Goddard and his colleagues, it is difficult to identify a clear line of research that has provided measures of collective efficacy consistent with Bandura's social cognitive theory, although individual studies do exist (e.g., Parker, 1994).

Goddard and his colleagues constructed the Collective Efficacy Scale (CE-Scale). This instrument consists of two dimensions (as proposed by Tschannen-Moran et al.'s model: perceptions of teaching competence and analysis of the teaching task, Goddard, Hoy, et al., 2000). Expanding Tschannen-Moran et al.'s model to the collective level of efficacy beliefs,
Goddard (2001) indicated that group teaching competence perceptions are reflected in teachers' judgments about the faculty's capabilities to influence student learning. Group task analysis, on the other hand, is based on teachers' perceptions of difficulties and support connected to the groups' task. Hence, TPCE represents an emergent organizational characteristic resulting from the interaction of teacher beliefs about faculty teaching competence and the constraints and opportunities attached to a given teaching task. Goddard, Hoy et al. (2000) demonstrated evidence for the reliability and validity of the scores obtained by the CE-Scale.

For the purposes of the current proposed study, the use of the CE-Scale is provisional. While it is a promising scale for measuring TPCE, the CE-Scale seems to have some limitations (J. Ross, personal communication, November 9, 2004). Because of the absence of other measures of TPCE, and because of the high reliabilities reported for the scores of this scale, I use the CE-Scale after examining its validity and reliability in a pilot study.

2.3.4. Levels of Data Analysis

Variations across the studies reviewed were not limited to the conceptualization and measurement of both school climate and teachers' sense of efficacy. Additional variation appears in the level of analysis that these studies have used to examine the effects of school climate on teachers' sense of efficacy.

The unit of analysis problem becomes a concern when measuring school effects on individual teachers (i.e., multi-level relationships, Sirotnik, 1980; Teddlie & Reynolds, 2000). Two important assumptions are violated in school nested data: errors are dependent within
Alternative methods have been used to aggregate all individual levels to the school level or to treat the school-level constructs as if they were individual-level constructs. In the first case, researchers aggregate individual-level variables to the school level, using methods that depend on single-level analysis (Rowan, Raudenbush, & Kang, 1991). This analysis may lead “to the problems of aggregation bias, mis-estimated standard errors, and heterogeneity of regression” (Goddard, 2002a, p. 175). When ordinary least squares (OLS) regression analysis is run at the school level, it masks much of the variance in teacher characteristics within schools. In the second case, researchers ignore the membership of the individuals and examine school-level variables as if they were individual-level characteristics. As both of these strategies have biases, they may result in ambiguous findings, especially that such changes may result in changing the meaning of the construct under investigation (Krull & MacKinnon, 2001; Lee & Bryk, 1989).

These two practices of data analysis could be found in efficacy research. Some researchers have aggregated teachers’ responses to reflect school-level constructs and used a single level of analysis at the school-level (e.g., Moore & Esselman, 1992; Newmann et al., 1989; Hoover-Dempsey et al., 1987). Other researchers applied the teacher-level (i.e., a single level) as a unit of analysis while ignoring the organizational unit (i.e., the school) (e.g., Hoy & Woolfolk, 1993).

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7 People within a specific group are more likely to be similar to each other than people from a randomly selected group of individuals (Krull & MacKinnon, 2001). This similarity might be attributed to different factors that relate to the group per se. Thus, when data is gathered from such grouped individuals, “the within-group homogeneity (indexed by the intraclass correlations or ICC) results in positively correlated error terms among the individuals within a particular group,” and hence, violates the independent observations assumption of ordinary least squares (OLS) estimation (Krull & MacKinnon, 2001, p. 250).
Raudenbush and Bryk (2002) contend that both the teacher-level analysis and the school-level analysis have limitations when applied to nested data. A better modeling of nested data is to acknowledge the existence of the two levels and measure the corresponding variables at their appropriate levels. Hierarchical linear modeling (HLM) appears to be an appropriate model to deal with the unit of analysis problem, while avoiding the problem of aggregation (Kreft & de Leeuw, 2001). Thus, it has been applied in several of the studies reviewed (Goddard, 2001; Goddard, 2002a, 2002b). HLM allows researchers to model the effects of teacher and school characteristics while accounting for the interdependence of individual measures collected within the same organizational unit (e.g., teachers within the same school) (Goddard, 2001). Based on Rowan et al. (1991), previous research has shown that significant between-school variation exists in the social organization and climate of schools; this variation cannot be accounted for unless school-level variables are measured at the appropriate level. HLM allows for better representation of the variation source and offers trusted estimates of treatment effects, even if an unbalanced design is used (i.e., when within-unit observations vary across the units; Raudenbush & Bryk, 2002). The use of multiple levels of analysis (i.e., HLM) is the most widely used technique in efficacy research (Goddard, Sweetland, et al., 2000; Lee et al., 1991; Raudenbush, Rowan, et al., 1992; Ross et al., 1996) and, thus, it is used in the current study.

2.4. Efficacy Measurement in Cross Cultural Research

The current study's adaptation of the TSES, CE-Scale, and OCI scales has three goals: (1) to examine the potential of these new measures to obtain better efficacy and climate information, (2) to establish a basis upon which future studies can compare across studies' findings related to the variables investigated in the current study, and (3) to extend the
examination of these measures and their respective constructs to a culture that differs from the Western culture.

Accordingly, the presence of these new measures can motivate additional research not only in Western cultures, but also in other cultures in which efficacy and school climate have not been examined in relation to each other. The constructs of efficacy beliefs and school climate need further examination in other non-North American cultures (Al-Nahar & Al-Rababea, 1992). Milner and Woolfolk Hoy (2002) assert that only when researchers have examined teachers’ sense of efficacy across a variety of cultural contexts will it be possible to examine cultural differences across different cases, which may reveal differences in ways of knowing and experiencing the world. Research linking these two variables in the school context, however, is rare.

One possible factor behind the scant research of other cultures is the conceptual and measurement concerns and challenges associated with cross-cultural research (see for review, van de Vijver & Leung, 2000). While some researchers have concluded that school climate (Thomas, 1976) and efficacy beliefs (Redhwan, 1997; Schwarzer, n.d.; Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002) are universal phenomena, this conclusion is confronted by the challenges associated with the issue of psychological universals in cultural psychology (Norenzayan & Heine, 2005).

For instance, the use of Western measurements to examine these constructs in other cultures should be preceded with assurances not only of scale validity for the populations under investigation (Dawis, 1987; Yu, 2005) but also of construct comparability. Because “measurement involves understandings about a target, its environment, and causal relationships that connect the two” (Winne & Perry, 2000, p. 562), recent views of scale validation warn against considering validity as a “holy trinity” of the scales (i.e., fixed
property of the scales, Hubley & Zumbo, 1996). Rather, validating scales should be viewed as an integrative process that ensures “the meaningfulness, appropriateness, and usefulness of the specific inferences made from test scores” (Hubley & Zumbo, 1996, p. 214).

With this view in mind, cross-cultural researchers need to use the various adaptation methodologies and statistical techniques of appropriate testing to ensure the construct comparability of their measures (for examples of these techniques, see Byrne & Watkins, 2003; Ercikan, 1998, 2002; Ercikan & McCreith, 2002; Hambleton, 2005; Hambleton & de Jong, 2003; Hambleton & Jones, 1994; Hambleton & Kanjee, 1995; Maxwell, 1996; Zumbo, 1999; Zumbo, Sireci, & Hambleton, 2003).

Construct comparability takes in both structural and measurement equivalence. The former refers to the invariant relations among the constructs, across groups (i.e., the underlying conceptual structure of the measure), while the latter refers to the invariant operation of the scale items (Byrne & Watkins, 2003). Construct comparability, in part, is a reflection of the validity of the measures. To make inferences from any given measure, first its validity should be established (Zumbo, 1999). In many cross-cultural studies, researchers prefer to adapt existing measures rather than construct new measures for various reasons (Hambleton & Kanjee, 1995; Zumbo, 2003). When adapting existing measures, it is important to establish measurement equivalence of the measures’ versions (Zumbo, 2003). Poorly adapted measures result in invalid findings and flawed cross-cultural research (Hambleton, 2005).

The International Test Commission’s (ITC) guidelines provide an example of the effort made to help researchers meet the challenge of test adaptation (van de Vijver & Leung, 2000). The ITC guidelines describe “a practice that is judged as important for conducting and
evaluating the adaptation or parallel development of psychological and educational tests for use in different populations" (Hambleton, 2005, p. 21).

Hambleton and Patsula (1999) articulated the 22 items of the ITC guidelines in 13 steps (see Appendix B). These guidelines include all that is needed to prepare a measure to be used in a different culture, starting from the decision of using an existing scale (instead of constructing a new scale), selecting translators, and checking its equivalence judgementally and statistically (Hambleton, 2005). Based on these steps (Hambleton & Patsula, 1999), I reviewed Arabic studies’ practices concerning the adaptation of the Teacher Efficacy Scale (TES, Gibson & Dembo, 1984) to examine the comparability of the efficacy construct across Arabic and primarily North American populations.

2.4.1. Evidences of Efficacy Construct Comparability in the Arabic Culture

Examining construct comparability can be achieved through answering two questions: Does the construct of efficacy exist in the Arabic culture? If yes, does it manifest itself in similar ways in both the Western and Arabic cultures? The sample of studies reviewed here was located through different approaches.\(^8\) I identified seven studies on teachers’ sense of efficacy, three on counselors’ sense of efficacy, and seven on general self-efficacy. All identified studies were obtained except one (i.e., Al-Kuwaiti, 2000, as cited in Al-Bolushi, 2002). I am confident, to a large extent, that these are the only available studies and there has not been much research done on teachers’ efficacy beliefs.\(^9\)

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\(^8\) As there are no Arabic research engines, I examined some Western research engines (e.g., ERIC, PsycINFO), the publications of researchers in Arabic universities and research centers websites, two available online indexes for two Arabic journals, and some Internet search engines (e.g., Google). In addition, I contacted more than one hundred and fifty Arabic researchers via electronic mail, in addition to locating the studies that have been cited in other studies.

\(^9\) This claim was not only confirmed by some of the Arabic researchers contacted (M. M. Abu-Hilal, personal communication, February 6, 2004) but was also stated in some Arabic studies (e.g., Qutami, 2000; Redhwan, 1997).
The first question can be answered by the teacher efficacy means and coefficient alphas of the two dimensions of the TES (the PTE and the GTE) reported in Arabic studies, compared to what is reported in Western studies. With limited reporting of teachers' mean scores, Arabic researchers conclude that their findings are consistent with those of Western researchers.

Additional evidence can be found in the alpha coefficients reported by the Arabic studies, which fall within the range of alphas reported for non-Arabic studies. Tschannen-Moran et al. (1998) reviewed previous research and wrote that previous studies reported alphas for the TES that ranged from .75 to .81 for PTE and from .64 to .77 for GTE. Tables 2-1 and 2-2 show the findings from some Arabic and Western studies that have reported this information. Further construct comparability evidence can be found in the studies that have examined Arabic general self-efficacy (Abdurrahman, 1998; Abdurrahman & Hashem, 1998; Al-Zayat, 1990; Redhwan, 1997; Schwarzer, Mueller, & Greenglass, 1999) and counselors' self-efficacy (Al-Darmaki, 2004, 2005a, 2005b).

Other construct comparability evidence can be compiled to answer the second question: Whether or not the efficacy construct manifests itself in similar ways across the Arabic and Western cultures. Specifically, both item and scale levels need to show comparability (Zumbo, 2003). At the scale level, as can be seen in Table 2-3, Arabic studies retained two factors that accounted for almost similar amounts of variance as reported by Western studies. At the item level, it is difficult to reach a conclusion because not all researchers reported item loadings.
Table 2-1

*Arabic Studies' Alpha Coefficients and Correlations of the Two Dimensions of the TES*

<table>
<thead>
<tr>
<th>The Study</th>
<th>No. of Items</th>
<th>PTE</th>
<th>GTE</th>
<th>TES</th>
<th>r^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al-Nahar &amp; Al-Rababea (1992)</td>
<td>316</td>
<td>.84</td>
<td>.63</td>
<td>.79</td>
<td>-.10</td>
</tr>
<tr>
<td>Ghaith &amp; Yaghi (1997)</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-.08</td>
</tr>
<tr>
<td>Ghaith &amp; Shaaban (1999)</td>
<td>225</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.03</td>
</tr>
<tr>
<td>Al-Kuwaiti (2000)</td>
<td>349</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Al-Bolushi (2002)</td>
<td>448</td>
<td>.84</td>
<td>.69</td>
<td>.76</td>
<td>-</td>
</tr>
<tr>
<td>Gumpel &amp; Awartani (2003)</td>
<td>600</td>
<td>.72</td>
<td>.65</td>
<td>-</td>
<td>.25^*</td>
</tr>
</tbody>
</table>

Note. A dash "-" indicates data were not reported.

TES: Gibson and Dembo's Teacher Efficacy Scale; PTE: Personal Teaching Efficacy, the first subscale of the TES; GTE: General Teaching Efficacy, the second subscale of the TES.

^aCorrelations between PTE and GTE.

\^p < 0.001.

In addition to examining the factorial structure of the TES, the answer to question two can be obtained by testing the relationships of the TES against some personal and organizational variables.\(^{10}\) Generally, cumulative Western results related to gender have shown that females scored higher than males in PTE (Anderson et al., 1988; Coladarci, 1992;
Table 2-2

*Western Studies’ Alpha Coefficients and Correlations of the Two Dimensions of the TES*

<table>
<thead>
<tr>
<th>The Study</th>
<th>No. of</th>
<th>α</th>
<th>PTE</th>
<th>GTE</th>
<th>TES</th>
<th>(r^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gibson &amp; Dembo (1984)</td>
<td>208</td>
<td>16</td>
<td>.78</td>
<td>.75</td>
<td>.79</td>
<td>-.19(^b)</td>
</tr>
<tr>
<td>Saklofske et al. (1988)</td>
<td>-</td>
<td>24</td>
<td>.79</td>
<td>.64</td>
<td>-</td>
<td>.03</td>
</tr>
<tr>
<td>Woolfolk &amp; Hoy (1990)</td>
<td>182</td>
<td>22</td>
<td>.82</td>
<td>.74</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Woolfolk et al. (1990)</td>
<td>55</td>
<td>22</td>
<td>.81</td>
<td>.77</td>
<td>-</td>
<td>.18</td>
</tr>
<tr>
<td>Coladarci (1992)(^c)</td>
<td>170</td>
<td>16</td>
<td>.75</td>
<td>.55</td>
<td>-</td>
<td>.07</td>
</tr>
<tr>
<td>Hoy &amp; Woolfolk (1993)</td>
<td>179</td>
<td>10</td>
<td>.77</td>
<td>.72</td>
<td>-</td>
<td>.15(^*)</td>
</tr>
<tr>
<td>Allinder (1994)(^c)</td>
<td>200</td>
<td>30</td>
<td>.76</td>
<td>.56</td>
<td>-</td>
<td>.21</td>
</tr>
<tr>
<td>Soodak &amp; Podell (1993)</td>
<td>192</td>
<td>16</td>
<td>.76</td>
<td>.70</td>
<td>.75</td>
<td>.24</td>
</tr>
<tr>
<td>Soodak &amp; Podell (1994)</td>
<td>110</td>
<td>16</td>
<td>.74</td>
<td>.66</td>
<td>.74</td>
<td>-</td>
</tr>
<tr>
<td>Edwards et al. (1996)</td>
<td>357</td>
<td>30</td>
<td>.74</td>
<td>.65</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Coladarci &amp; Breton (1997)</td>
<td>520</td>
<td>30</td>
<td>.75</td>
<td>-</td>
<td>.77</td>
<td>-</td>
</tr>
<tr>
<td>Henson (2001)</td>
<td>126</td>
<td>10</td>
<td>.68</td>
<td>.67</td>
<td>-</td>
<td>-.09</td>
</tr>
</tbody>
</table>

*Note.* A dash “-” indicates data were not reported.

TES: Gibson and Dembo’s Teacher Efficacy Scale; PTE: Personal Teaching Efficacy, the first subscale of the TES; GTE: General Teaching Efficacy, the second subscale of the TES.

\(^a\)Correlations between PTE and GTE.

\(^b\)This value was reported to be significant without indication of \(p\) value.

\(^c\)These two studies used a five-point Likert scale.

\(^*\)\(p < 0.05\).
Table 2-3

*Factorial Structure of the TES for Western and Arabic Studies*

<table>
<thead>
<tr>
<th>The Study</th>
<th>% of Variance</th>
<th>Eigenvalues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PTE</td>
<td>GTE</td>
</tr>
<tr>
<td><strong>Arabic Studies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Al-Nahar &amp; Al-Rababea (1992)</td>
<td>18.5</td>
<td>7.9</td>
</tr>
<tr>
<td>Al-Bolushi (2002)</td>
<td>19.9</td>
<td>10.9</td>
</tr>
<tr>
<td><strong>Western Studies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gibson &amp; Dembo (1984)</td>
<td>18.2</td>
<td>10.6</td>
</tr>
<tr>
<td>Soodak &amp; Podell (1993)</td>
<td>19.6</td>
<td>10.3</td>
</tr>
<tr>
<td>Edwards et al. (1996)</td>
<td>(total of 23.5%)</td>
<td>3.90</td>
</tr>
<tr>
<td>Coladarci &amp; Breton (1997)</td>
<td>17</td>
<td>11</td>
</tr>
</tbody>
</table>

*Note.* A dash “-” indicates data were not reported.

TES: Gibson and Dembo’s Teacher Efficacy Scale; PTE: Personal Teaching Efficacy, the first subscale of the TES; GTE: General Teaching Efficacy, the second subscale of the TES.

^aCorrelations between PTE and GTE.

^bThis value was reported to be significant without indication of p value.

Coladarci & Breton, 1997; Evans & Tribble, 1986; Raudenbush, Rowan, et al., 1992; Taylor & Tashakkori, 1995), a difference that was also found in Arabic studies (Al-Nahar & Al-Rababea, 1992). Though uncommon, non-significant differences are reported by both Western (e.g., Housego, 1992; Hoy & Woolfolk, 1993) and Arabic studies (Al-Bolushi, 2002; Al-Kuwaiti, 2000, as cited in Al-Bolushi, 2002).
Teacher years of experience showed no significant relationship with teacher PTE across the two cultures (see for example, Al-Bolushi, 2002; Al-Nahar & Al-Rababea, 1992; Coladarci, 1992; Edwards, Green, & Lyons, 1996; Ghaith & Shaaban, 1999; Hebert et al., 1998; Soodak & Podell, 1996; Woolfolk, Rosoff, & Hoy, 1990). Some Western studies, however, reported significant correlations between teacher experience and PTE (e.g., Hoy & Woolfolk, 1993).

The only non-personal variable commonly investigated in relation to Arabic teachers’ sense of efficacy was school grade. Consistent Western findings showed that elementary teachers reported higher levels of PTE than middle and high school teachers (Evans & Tribble, 1986; Moore & Esselman, 1992; Parkay, Greenwood, Olejnik, & Proller, 1988). In contrast, all four Arabic studies that have investigated PTE in relation to school grade have constantly shown no significant differences between elementary and secondary school teachers’ sense of efficacy (Al-Bolushi, 2002; Al-Kuwaiti, 2000, as cited in Al-Bolushi, 2002; Al-Nahar & Al-Rababea, 1992; Ghaith & Shaaban, 1999). These findings may indicate some cultural differences.

The high levels of PTE reported for Western elementary teachers can be attributed to the size and organizational structure of elementary schools that provide better working conditions and allow for more teacher interaction and engagement with students (Ross, 1994). Western elementary teachers have their own classrooms and spend more time with their students, something that does not exist in some Arabic educational systems, except for the first three grades (Al-Nahar & Al-Rababea, 1992). In addition, in Arabic educational systems, teachers teach at more than one school level, which results in more similarities across grades. These similarities have spread the effects of the school level variable, which was shown in the non-significant differences among Arabic teachers from the two school levels. Moreover,
these differences might be attributed to the large number of females teaching in Western elementary schools (Ross, 1994). Different from Western schools, Arabic elementary schools have an almost equal number of male and female teachers, especially where single-sex education exists.\(^{11}\)

In addition, because of the large number of students in Western middle and high schools, teachers do not have the same opportunities for interaction; thus, the teachers' beliefs about their efficacy to influence their students decrease (Ross, 1994). In many Arabic schools, large numbers of students in the elementary school classes make them similar to secondary school classes.

2.4.2. Conclusion of the Efficacy Measurement in Cross Cultural Research

Some evidence indicates teachers' sense of efficacy manifests itself similarly across Arabic and Western studies. Arabic researchers reported similar factorial structures of the TES to those reported by Western researchers, both in term of factors retained, variance accounted for, and the correlation between the two factors. In addition, studies across the two cultures showed consistently similar relationships between PTE and experience and gender.

However, there is also some evidence indicating the TES may function differently across cultures, especially when investigating PTE in relation to more culturally oriented variables,\(^{12}\) such as school grade. I argue that more cultural differences are expected if other culturally oriented variables are examined in relation to teachers' sense of efficacy. Support for this claim is found in some efficacy studies that have examined efficacy and its

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\(^{11}\) This is true for most Arabic Gulf countries, except for Oman, which is in the process of feminizing elementary school staff. This is apparent from the current study sample, in which 92% are females. However, this is true for grade one to grade 4 only. Other elementary grades (5-7 and beyond) will remain as single-sex. I return to this point in the final chapter.

\(^{12}\) Gender should be among the variables that are considered culturally oriented. Because the social construction of gender differs across the two cultures (Karabenick & Moosa, in press), gender was expected to function differently, especially with the preponderance of single-sex education in Arabic culture. However, inconsistencies in gender differences are reported within and across the two cultures.
components in other cultures. For example, cognitive processes (which are an important component of efficacy beliefs; Bandura, 1982, 1989) are reported to differ across cultures (Nisbett & Norenzayan, 2002; Norenzayan, Choi, & Nisbett, 2002), especially in research that has used the individualism-collectivism (I-C) paradigm to compare cultures (Triandis, 1989; Markus & Kitayama, 1991). This argument for possible cultural differences is supported by some existing cross-cultural research indicating some cultural differences in the efficacy construct (see examples in Earley, 1994; Earley, Gibson, & Chen, 1999; Lin & Gorrell, 2001; Lin, Gorrell, & Taylor, 2002; Scholz et al., 2002).

The conclusions reached in this section should be taken with some caution. While these early studies have contributed to the Arabic literature by examining the efficacy construct, their conclusion of the comparability of the construct is constrained by their limitations. Examples of these limitations include: the use of a single translator, dependence on only the forward-translation technique, the use of a single culture’s sample, the use of only personal variables (rather than more environmental and social contextual variables), the absence of the documentation of test adaptation process, and the use of the TES, a limited measure of teachers’ sense of efficacy (for a detailed review of these studies’ practices and limitations, see Aldhafri, 2004). The effects of these practices on the obtained conclusions can be found in the test adaptation literature (Ercikan, 1998; Ercikan & McCreith, 2002; Hambleton, 2005; Hambleton & Kanjee, 1995; Kristjansson, Desrochers, & Zumbo, 1999; Maxwell, 1996; Zumbo, 2003; Zumbo et al., 2003). The current study was intended to overcome these limitations in terms of its design, inclusion of variables, selection of measures, test adaptation practices, and data analyses.

Variations in test adaptation practices exist among Arabic studies that examine teachers’ sense of efficacy (e.g., Al-Bolushi, 2002; Al-Nahar & Al-Rababea, 1992) or other non-teacher efficacy studies (e.g., Abdalla, 1995; Al-Darmaki, 2005b). For more details, see my review of these studies (Aldhafri, 2004).
2.5. Summary of Chapter Two

The first section of this chapter provided a thorough review and evaluation of previous studies that have examined the relationship between the three main variables: school’s organizational climate, teachers’ sense of efficacy, and TPCE. Previous research indicated that the four dimensions of school climate are weakly to moderately related to teachers’ sense of efficacy. Each dimension of the school’s organizational climate seems to have its own relationship with teachers’ sense of efficacy, which may vary across different studies. Evidence shows that teachers’ sense of efficacy is enhanced when positive relationships exist among the school’s members, when individuals respect each other, when the school faculty, students, and parents press for high achievement levels, and when the school and community interact positively with each other.

The nature of these relations, however, was not explored by this research, especially since the majority of this research depended on bivariate designs. I proposed a model in which TPCE mediates the effects of school climate dimensions on teachers’ sense of efficacy. In order to build the argument for each of the nine paths of the model, theoretical and empirical findings were reported.

All nine hypotheses were stated and graphically displayed in Figure 2-1. These hypotheses are constructed to be true based on the operational definitions of the three major variables. These variables are operationally defined based on the measures used to examine each one of them. Thus, the teachers’ sense of efficacy is defined as it is measured by the TSES, the TPCE as it is measured by the CE-Scale, and the school’s organizational climate as it is measured by the OCI (or probably by the SCI).

In the second section, I analyzed previous researches’ conceptualizations and measurements of the three major variables. The investigation of these variables has been
confounded with variations and problems in conceptualization and measurement. Furthermore, previous studies differed in terms of the statistical techniques used to examine the data. These variations in conceptualization, measurement, and techniques of data analyses made it difficult to clearly compare these studies’ findings. In this section, I also developed an argument for the selection of the measures intended to examine each variable in the proposed model.

In the third section, I discussed the concerns and challenges of adapting Western measures to other cultures like the Arabic culture. While a few studies exist in the Arabic efficacy literature, these studies did not examine teachers’ sense of efficacy in relation to either school climate or TPCE. These studies have adapted some Western measures and varied with regards to their test adaptation practices, which have influenced the validation of their reported findings. I agree that the teachers’ sense of efficacy construct exists in the Arabic culture, but it might manifest itself differently, especially when measured with more culturally sensitive constructs.

To sum up, there is a need in both the Western and the Arabic literature to examine the interrelationships among the three variables included in this study. This need cannot be met unless researchers start using more clearly defined conceptual frameworks that allow for consistent operational definitions of these variables to enable comparisons across studies. This study improves on previous studies by making use of parsimonious conceptual frameworks for the three investigated variables and using new promising scales. The use of these scales in the Omani school context expands our understanding of these constructs and informs researchers about the psychometric properties of these measures in a non-Western culture. In addition, the current study’s use of the hierarchical linear modeling (HLM) should exclude some analysis biases found in some previous studies.
To recap, the current study is guided by two questions:

1. *What dimensions of the school's organizational climate can directly predict teachers' sense of efficacy?*

Four hypotheses were developed to answer this question. These include:

**H₁**: The collegial leadership dimension of the school's organizational climate will directly predict teachers' sense of efficacy.

**H₂**: The dimension of professional teacher behavior of the school's organizational climate will directly predict teachers' sense of efficacy.

**H₃**: The achievement press dimension of the school's organizational climate will directly predict teachers' sense of efficacy.

**H₄**: The community engagement dimension will be a better direct predictor of teachers' sense of efficacy than the institutional vulnerability dimension.

2. *What is the role, if any, of TPCE in the relationship between the dimensions of school climate and teachers' sense of efficacy?*

This second question will be answered through examining the remaining five proposed hypotheses (along with the results from the first four hypotheses):

**H₅**: The collegial leadership dimension of school climate will indirectly predict teachers' sense of efficacy through TPCE.

**H₆**: The professional teacher behavior dimension of school climate will indirectly predict teachers' sense of efficacy through TPCE.

**H₇**: As a dimension of school climate, the achievement press of a school will indirectly predict teachers' sense of efficacy, through TPCE.
H₉: The community engagement dimension will predict TPCE while the institutional vulnerability dimension of school climate will not be related to TPCE.

H₀: TPCE will be a significant positive predictor of differences among schools in teachers' sense of efficacy.

I turn next to a discussion of the methodology through which my study hypotheses are tested.
Chapter 3

METHOD

3.1. Overview

This chapter outlines the methodology used to conduct the investigation necessary to answer the two main questions of the study:

1. *What dimensions of the school's organizational climate directly predict teachers' sense of efficacy?*

2. *What is the role, if any, of teachers' perceived collective efficacy (TPCE) in the relationship between the school's organizational climate and teachers' sense of efficacy?*

First, I present the research design that incorporates the structure of the proposed study. This is followed by a description of the sample and the context in which the study took place. Next, I report on the test adaptation procedures (including the two pilot studies) undertaken to prepare the three main measures used in this study. This chapter ends with a description of the data collection procedure.

3.2. Research Design

The principal aim of this research was to study the effects of a school's organizational climate on teachers' sense of efficacy. In order to address the questions of interest in this study, I proposed that there was a need to describe the mechanism through which school climate might predict teachers' sense of efficacy. This mechanism could be understood by looking at the mediating role of TPCE. I believed this approach had the potential to uncover new and valuable insights about the possible effects of the school's climate on teachers' efficacy beliefs.
The multilevel mediating model constructed for the current study guided the investigation of the interrelationships among the three main variables: school climate, TPCE, and teachers' sense of efficacy. This model was designed as an exploratory model that postulated nine hypotheses, eight of which described the relationships between dimensions of school climate (i.e., collegial leadership, teacher professional behavior, academic press, and community engagement) and both constructs of efficacy beliefs—TPCE and teachers' sense of efficacy. In addition, a ninth hypothesis described the relationship between the two efficacy belief constructs. Figure 2-1 displayed the nine paths of the proposed model.

The data of the current study have a hierarchically nested structure, hence the use of a multilevel model to analyze the data. Based on Kreft and de Leeuw (2001), hierarchies consist of lower level observations (here, individual teachers' perceptions) nested within higher-level units (here, the school level). The level of the individual teacher is postulated as being at the micro level and the school level measurement at the macro level. Accordingly, I used both the teacher and the school levels to analyze the current data through the Hierarchical Linear Modeling (HLM) technique.

3.3. The Sample and the Context

In the first part of this section, I describe the study sample, its population, sample size determination, and school settings. In the second part, some demographic information about

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14 While it would have not served the purpose of this study, a moderator model could be used to examine the interrelationships among the three main variables of this study. Such a model is widely used when the assumption is made that the influence of an independent variable (e.g., school climate) on a dependent variable (e.g., teachers' sense of efficacy) is a function of the level of another variable (most likely to be a categorical variable; Baron & Kenny, 1986). Applying this model to the current research problem would require a static classification procedure (Baron & Kenny, 1986) by which teachers would be divided into subcategories with different levels of TPCE (e.g., high and low). However, this approach would not have served the purpose of the current study, especially given that moderator models tend to focus on the role of the independent variables, rather than on both the independent variable and the third variable (that is, a mediator or a moderator). In the case of this study, it would not have been sufficient to focus on the independent variable because the connection between the independent variable (i.e., school climate) and the dependent variable (i.e., teachers' sense of efficacy) was not clear.
the participating teachers and the context in which teachers teach is given. This information was obtained through a demographic questionnaire that the teachers completed for the current study.

### 3.3.1. The Sample and the Study Population

A total number of 2,544 teachers participated in the study. Participants were elementary school teachers in the Sultanate of Oman. Ninety two percent of participants were females. An effort was made to contact only schools that have elementary school grades (1-6/7 or less) to allow for comparison with previous Western studies that have used elementary school teachers. According to data files obtained from the Ministry of Education, there were 249 elementary schools that qualified for this study.

Even though the sample was not random, the inclusion of schools from all districts should ensure a fair representation of the Omani school population. An attempt was made to get a representative sample of the Omani elementary schools in terms of the number of teachers, number of classes, and number of students (i.e., school size). Table 3-1 displays the average number of teachers, classes, and students for both the sample of the study and the Omani elementary population organized by districts. The average number of teachers and classes, displayed for the sample, roughly approximated the averages across the entire country. The average school size for the whole sample varied less than 67 students from the population’s average school size. The highest difference in school size was for Al-Dakhliyah district, but both its sample’s and population’s average sizes are consistent with middle-sized schools.

The response rate was very high for the current study at the school level and also high at the teacher level. Out of 102 schools that were contacted, 101 schools returned their questionnaires (i.e., a percentage of 99.01). A total of 3,238 surveys were distributed across
the 102 schools, of which 2,700 were returned. Among this number, 156 surveys were returned as empty surveys which were not used.\textsuperscript{15} Excluding this number of empty surveys, a total number of 2,544 was obtained (i.e., a percentage of 78.56 of the initial distributed 3,238 surveys).

Table 3-1

\textit{Comparison of Sample’s and Nation’s Elementary Schools (2004/2005): Average Number of Students, Number of Classes, and Number of Teachers Distributed by District}

<table>
<thead>
<tr>
<th>Districts</th>
<th>Sample</th>
<th></th>
<th></th>
<th>Population</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students</td>
<td>Classes</td>
<td>Teachers</td>
<td>Students</td>
<td>Classes</td>
<td>Teachers</td>
</tr>
<tr>
<td>Muscat</td>
<td>679.76</td>
<td>21.05</td>
<td>34.76</td>
<td>600.32</td>
<td>19.59</td>
<td>33.32</td>
</tr>
<tr>
<td>Al-Batina N</td>
<td>588.52</td>
<td>19.19</td>
<td>33.30</td>
<td>605.81</td>
<td>20.07</td>
<td>35.67</td>
</tr>
<tr>
<td>Al-Batina S</td>
<td>544.43</td>
<td>18.64</td>
<td>32.71</td>
<td>565.14</td>
<td>19.82</td>
<td>34.86</td>
</tr>
<tr>
<td>Al-Dakhliyah</td>
<td>648.20</td>
<td>21.80</td>
<td>37.20</td>
<td>534.03</td>
<td>18.76</td>
<td>33.15</td>
</tr>
<tr>
<td>Al-Sharkiyah N</td>
<td>567.00</td>
<td>20.67</td>
<td>37.67</td>
<td>465.29</td>
<td>17.35</td>
<td>31.82</td>
</tr>
<tr>
<td>Al-Sharkiyah S</td>
<td>600.14</td>
<td>19.43</td>
<td>33.29</td>
<td>509.33</td>
<td>18.05</td>
<td>32.24</td>
</tr>
<tr>
<td>Al-Dhahirah N</td>
<td>421.25</td>
<td>16.25</td>
<td>31.75</td>
<td>352.78</td>
<td>14.22</td>
<td>25.89</td>
</tr>
<tr>
<td>Al-Dhahirah S</td>
<td>514.20</td>
<td>17.16</td>
<td>34.20</td>
<td>447.75</td>
<td>16.38</td>
<td>30.94</td>
</tr>
<tr>
<td>Dhofar</td>
<td>258.67</td>
<td>11.33</td>
<td>21.67</td>
<td>329.16</td>
<td>12.97</td>
<td>23.19</td>
</tr>
<tr>
<td>Musandam</td>
<td>307.25</td>
<td>12.50</td>
<td>22.75</td>
<td>246.14</td>
<td>9.86</td>
<td>17.29</td>
</tr>
</tbody>
</table>

\textsuperscript{15} This amount is attributed to the fact that I submitted to each school a total of surveys equal to the official number of teachers in each school. However, and particularly for female teachers (who represent the major portion of the study sample), many schools had at least three to six female teachers who were on post-delivery parental leave (i.e., 45 days).
Because the data were to be analyzed at the school (for school climate and TPCE) and the teacher levels (for teachers’ sense of efficacy), the focus of the sample size was on both the number of schools participating and the number of teachers (i.e., observations) within each school. Accordingly, the sample size of this study consisted of 101 schools, representing 40.56% of the target Omani elementary school population. At the teacher level, the 2,544 participants represented 32.39% of the total target Omani elementary teacher population.

A group of 35 questionnaires were excluded as a result of an unintentional mixing of two schools’ surveys. Another group of 125 surveys was excluded because at least one questionnaire (out of the three main questionnaires) was left unanswered. Hence, data of 2,384 teachers (from 99 schools) were deemed acceptably completed.

3.3.2. Sample Size Determination

There is not yet a clear guideline for determining sample size for multilevel data analysis (Hox, 1995). Reviewing the research that used multilevel analysis, Kreft and de Leeuw (2001) concluded that because of the various factors involved in determining sample size and power analysis, it is “hard to state unambiguous conclusions, or even suggest useful rules of thumb” (p. 228).

Kreft and de Leeuw (2001) state, however, that when the focus of a study is on level-2 estimates, the number of groups (rather than individuals) is critical in achieving powerful estimates. Thus, my focus was to get more schools to participate in the study in order to increase the power of estimation. Increasing the number of level-2 units (here schools) is much more effective than increasing level-1 observations in many applications of multilevel analyses (Heck & Thomas, 2000).

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16 It was difficult to reassign these 35 questionnaires to their respective schools because there was no identification information on the teacher surveys.
Previous research in efficacy beliefs has used as low as five within-school observations (i.e., teachers) per school (Goddard, 2002b, with 47 schools and a total of 452 teachers). Halpin (1959) asserts that a sample of as low as five participants at the individual level will be sufficient to obtain reliable findings. Researchers using simulation and actual studies reached a similar conclusion about the sufficiency of the current sample size for the analyses intended (Maas & Hox, 2002).

Following Halpin’s (1959) assertion, Mass and Hox’s demonstration (2002), and previous research practice (e.g., Goddard, 2002b), my plan was to get as many schools as possible to participate in the study, with an initial target of 50 schools. In order to ensure that 50 schools could be obtained, I contacted double this number. With the high rate of response from the contacted Omani schools, a total of 99 schools were selected for inclusion. One school was excluded from the analyses because it has only three teachers. Accordingly, the sample was reduced to 2,381 teachers from 98 schools. The number of teachers in participating schools ranged from 6 to 39 ($M = 24$).\(^{17}\) Table 3-2 shows the distribution of teachers, based on the type of school, school district, and gender of school.

### 3.3.3. School Settings

The participating schools included co-educational schools where only female teachers teach mixed classes of boys and girls within a single school. These co-ed schools represent basic education schools. In addition, the sample included general education schools for girls (all faculty members and students are females) and schools for boys where male teachers teach male students in a given school.\(^{18}\) Participating schools differed in their size, ranging from 78 to 1,473 students, with an average of 576 ($SD = 194$) students per school.

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\(^{17}\) Only three schools had less than 10 teachers.

\(^{18}\) Other differences exist between basic and general-education schools. Basic-education schools generally tend to have more learning resources, school facilities, a better teacher-student rate, a morning-period only teaching, and more administrative staff.
Table 3-2

*Distribution of the Current Sample of Omani Elementary Schools and Their Teachers by Gender across School Districts*

<table>
<thead>
<tr>
<th>Districts</th>
<th>Teachers</th>
<th></th>
<th></th>
<th>Schools</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Coed*</td>
</tr>
<tr>
<td>Muscat</td>
<td>73</td>
<td>502</td>
<td>575</td>
<td>3</td>
<td>4</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>Al-Batina N</td>
<td>38</td>
<td>600</td>
<td>638</td>
<td>3</td>
<td>5</td>
<td>19</td>
<td>27</td>
</tr>
<tr>
<td>Al-Batina S</td>
<td>25</td>
<td>284</td>
<td>309</td>
<td>2</td>
<td>1</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Al-Dakhliyah</td>
<td>18</td>
<td>267</td>
<td>285</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Al-Sharkiyah S</td>
<td>22</td>
<td>154</td>
<td>176</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Al-Sharkiyah N</td>
<td>0</td>
<td>79</td>
<td>79</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Al-Dhahirah N</td>
<td>0</td>
<td>90</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Al-Dhahirah S</td>
<td>18</td>
<td>99</td>
<td>117</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Dhofar</td>
<td>0</td>
<td>42</td>
<td>42</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Musandam</td>
<td>0</td>
<td>70</td>
<td>70</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>194</td>
<td>2187</td>
<td>2381</td>
<td>11</td>
<td>13</td>
<td>74</td>
<td>98</td>
</tr>
</tbody>
</table>

*Coed schools represent basic education schools while male and female schools represent general education schools.

Because there is no clear classification for school settings (i.e., urban, rural, and suburban) in Oman, I ensured the inclusion of schools that represented the three "Western" school settings, by including all the 10 Omani school districts. It was not possible, however, to assure the inclusion of a range of social and economic status (SES is an important factor related to efficacy beliefs) of the schools participating due to the absence of indicators for this
classification (e.g., there is no free lunch provided for any student). A. Kazem (personal
communication, December 21, 2004) suggested other possible indicators that include
ownership of goods and houses, number of domestic helpers, education of parents, and family
income. Information about these indicators, however, was not available in the school records
and, thus, was difficult to obtain for the use of the current study.

3.3.4. Teachers' Demographic Information

Participating teachers' experience ranged from 1 to 28 years, with a mean of 9.05
years ($SD = 5.5$). Those teachers differed as well in the years they had spent at the current
school, ranging from 1 to 23 years ($M = 4.01$, $SD = 3.10$). Table 3-3 represents these teachers’
distribution based on their subjects and the highest educational degree earned.

Twenty percent of the teachers in the current sample indicated that they were teaching
subjects different from their specialty; 67% taught in their specialty; 10% specialized in at
least one subject among the ones taught; and 3% did not respond to the question. In the new
basic education system, teachers are assigned to a number of subjects that were grouped based
on assumed similarities, as it is shown in Table 3-3.

Teachers also rated the following question from 1 (very poor) to 5 (excellent): “In
general, how can you rate the quality of students in your classrooms?” Results showed a mean
of 3.79 ($SD = .64$) for this question. Some other demographic questions were excluded
because teachers’ responses were incongruent with the intent of the questions.

The demographic information reported in this section was obtained through a
demographic questionnaire which teachers completed. The original Arabic version used in the
actual study is presented in Appendix C with its English translated version displayed in
Appendix D.
Table 3-3

*Teachers Distributed based on Highest Degree Earned and Subject Taught*

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>No. of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Degree</strong>¹</td>
<td></td>
</tr>
<tr>
<td>Intermediate College</td>
<td>1328</td>
</tr>
<tr>
<td>B.ED</td>
<td>958</td>
</tr>
<tr>
<td>BA &amp; Diploma</td>
<td>53</td>
</tr>
<tr>
<td>Master's</td>
<td>3</td>
</tr>
<tr>
<td>Ph.D</td>
<td>1</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>2343</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First field: Science and math</td>
<td>654</td>
</tr>
<tr>
<td>Second field: Islamic education, Arabic language, and social studies</td>
<td>1031</td>
</tr>
<tr>
<td>Third field: English</td>
<td>253</td>
</tr>
<tr>
<td>Fourth field: Art, music, and physical education</td>
<td>211</td>
</tr>
<tr>
<td>Others (Learning resource, life skills, computer, and special education)</td>
<td>160</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>2309</td>
</tr>
</tbody>
</table>

*Note.* The two variables had missing values.
In the final analysis, these five categories of degree were grouped into two groups: the first group represents teachers who have "intermediate college" and the second group includes the other four groups.

### 3.4. Measures

In addition to the demographic questionnaire, the participating teachers responded to three measures. These included the Teacher Sense of Efficacy Scale (TSES), the Teachers' Perceived Collective Efficacy Scale (TPCES), and the School Climate Index (SCI). Below, I describe the rationale for selecting these measures, test adaptation, and the findings of the two pilot studies.

#### 3.4.1. The Teacher Sense of Efficacy Scale

The first questionnaire, the Teacher Sense of Efficacy Scale (TSES), was developed by Tschannen-Moran and Woolfolk Hoy (2001). This instrument measures teachers' efficacy beliefs in three domains: classroom management, student engagement, and instructional strategies. The 24-item TSES utilizes a nine-point, forced-choice Likert scale ranging from one = "nothing" to nine = "a great deal." Samples of the items used in the TSES include: "How much can you do to get through to the most difficult students?" (i.e., efficacy in student engagement), "How well can you respond to difficult questions from your students?" (i.e., efficacy in instructional strategies), and "How much can you do to control disruptive behavior in the classroom?" (i.e., efficacy in classroom management). The English TSES version is included in Appendix E.

Validity and reliability of the scores of the TSES have been demonstrated by previous researchers who have used this scale (Tschannen-Moran & Woolfolk Hoy, 2001, 2002). The scores of the TSES were found to have a positive correlation with personal teaching efficacy.
(PTE), the more reliable and valid dimension of Gibson and Dembo’s Teacher Efficacy Scale ($r = .64, p < .01$, Tschannen-Moran & Woolfolk Hoy, 2001). An alpha reliability coefficient of .94 was reported by these researchers as a measure of internal consistency of the scores of their sample.

3.4.1.1. Test Adaptation Process of the TSES

Because the original version of the TSES was in English, there was a need to have an Arabic version of the TSES, so Omani teachers could respond in their first language. As I pointed out earlier in Chapter 2, the use of Western questionnaires in other cultures should be guided by thorough test adaptation practices that eliminate any of the problems associated with the use of adapted measures, especially those that require language translation (Hambleton & de Jong, 2003). Thus, in April 2004, I (along with another Omani researcher, A. Ambusaidi) carried out the test adaptation process based on the ITC guidelines discussed in the previous chapter and included in Appendix B.

First, an examination of the construct comparability of efficacy beliefs was done. I reviewed Arabic studies that have investigated teachers’ sense of efficacy and evaluated their findings based on their test adaptation, measures, and designs. I concluded that there is some evidence that efficacy beliefs exist in the Arabic culture (see the discussion in Chapter 2).

Next, a decision was made to adapt Western scales instead of constructing a new Arabic scale. This decision was based on the lack of an Arabic efficacy-belief scale in the available Arabic studies. As I indicated earlier, the only efficacy belief scale adapted by the Arabic studies was the Gibson and Dembo’s Teacher Efficacy Scale (TES) that has been found to be limited in terms of its conceptual underpinnings and its psychometric properties (Deemer & Minke, 1999). I decided to adapt the TSES because it was the most appropriate scale published that met Bandura’s guidelines for constructing efficacy measures (2001).
The next step, based on the ITC guidelines, was to select qualified translators. I adopted both the forward and backward translation techniques to translate the TSES. Three qualified bilingual translators translated the TSES. These translators had finished their graduate degrees in English-speaking countries, had done research in English, and demonstrated sound knowledge of test construction. The translators were instructed to acknowledge possible cultural differences while trying to preserve the original form of the scale. Three translated samples were available for comparison.

I reviewed the three Arabic samples of the TSES and identified differences in some words (but not in the meaning) across the three samples. Disagreement among the translators was attributed to the absence of a specific Arabic word equivalent for the English one. In some cases, there were many Arabic words that might substitute for a single English word. In other cases, there was no Arabic phrase to substitute for the English phrase. For example, the three translators disagreed about how to translate the first phrase of the TSES items that started with “How much” and “How well.” One of the translators used the phrase “To what extent” to translate all the items of the TSES. This difficulty was also perceived by the translator who translated the TSES back from Arabic to English (see Appendix F). As recommended in the ITC literature (e.g., Hambleton, 2005), I documented all the changes made in the structure of the sentences and the wording of the items. These changes are included in Appendix G.

To reach a consistent form of the scale, I compared the three samples and wrote a fourth copy that was consistent with the translation provided by the majority of the three translators. In preparing this version, I took full account of possible cultural and linguistic differences. It was intended to make the items as accessible as possible for the target
participants, while observing both the cultural appropriateness of the items and the actual meaning of the original TSES.

Ten Omani teachers gave feedback with regard to the clarity of the items' meaning, the appropriateness of the instructions, and the relevance of the topics covered by the scale. Having teachers review this version of the instrument was intended to provide additional evaluation of the instrument before using it in the pilot study.

Some of the teachers suggested rewording a few items, clarifying others, and replacing the nine-point Likert type of response with a six-point type of response. These teachers reported that the nine-point type is not familiar to many Omani teachers. Most Omani researchers use four, five, or six-point item Likert scales in their studies. The participants' familiarity with item formats may affect the validity of the scale results in cross-cultural research (Byrne & Watkins, 2003; Hambleton, 2005). Compared with North American participants, participants from other cultures may not be exposed to the same degree to the item responses that are common in North America, such as multiple choice items in achievement tests (Hambleton, 2005) and the nine-point Likert scale. Teachers found it difficult to respond when a nine-point response form was used. To reduce this source of confusion, I ensured both a balance of item formats and a balance of participants' familiarity of item response (Hambleton, 2005). Thus, a change was made in the response scale for the TSES and a six-point response rate was adopted (ranging from “nothing” to “a great deal”). Examples of other changes suggested by the 10 participants are presented in Appendix G. Of course, there are other differences in punctuation, capitalization, typeface, and other formatting factors between Arabic and English. For the current study, these differences were not likely to affect the performance of the Omani teachers compared to English-speaking teachers and, thus, they are not reported here.
After this revision, the scale was sent to an Arabic-language specialist who reviewed the correctness of the items' wording. One possible threat to validity during the process of translation is the effect of dialects within a language (Hambleton, 2005). Scale adaptors are encouraged to adapt the scales using a language that is understandable across different dialects within a language (Hambleton, 2005). For Arabic, this is easily resolved by using the standard version of the Arabic language (i.e., Al-Fusha) that is known not only within a country, but across Arabic countries. This specialist made no changes. Thus, the scale was ready for administration. The final Arabic copy is included in Appendix H. Based on the ITC guidelines, it was highly recommended that the adapted scale be piloted before it be used with the target participants (Kristjansson et al., 2003). Thus, a pilot study was carried out. I report findings of this first pilot study after I describe the test adaptation process of the Collective Efficacy Scale.

3.4.2. The Collective Efficacy Scale

The second questionnaire measures TPCE. The Collective Efficacy Scale (CE-Scale, Goddard, Hoy, et al., 2000) was selected for three reasons. First, it was recommended by some researchers of teachers’ efficacy beliefs (A. Woolfolk Hoy and W. Hoy, personal communication, January 8, 2004). Second, the scores from the CE-Scale showed high reliability across several Western studies. Third, it was the only available measure that tried to respond to recent work on efficacy conceptualization and theory.

The CE-Scale consists of 21 items with Likert-scale responses ranging from 1 (strongly disagree) to 6 (strongly agree). Ten of these items are negatively worded (i.e., 3, 4, 8, 10, 11, 12, 16, 18, 19, and 20). A sample of these negatively worded items used in the CE-Scale include: “Teachers in this school do not have the skills to deal with student disciplinary problems,” and “Students here just aren’t motivated to learn.” The other eleven items are
positively worded. Samples of these items include: “Teachers in the school are able to get through to the most difficult students,” and “If a child doesn’t learn something the first time teachers will try another way.” The English version of the CE-Scale is included in Appendix I.

Previous studies have demonstrated the validity and reliability of the scores of the CE-Scale. Goddard, Hoy, et al. (2000) field-tested the measure in a pilot study (using 46 teachers in 46 schools) and then examined it again in a larger study using 452 teachers from 47 schools. Results were consistent in the two studies; high reliability coefficients ($\alpha = .92$ and $\alpha = .96$) were obtained and two highly correlated factors were extracted although some items did not show the expected loadings. Therefore, the researchers extracted one factor that represented the two key elements of TPCE: analysis of teaching tasks and judgment of competence. This factor accounted for 50.5% and 57.89% of the variance in the pilot and the actual studies, respectively. The CE-Scale scores negatively related to scores from conflict and teacher powerlessness scales ($r = -.51, p < .001$) and positively related to scores from a trust in colleagues scale ($r = .67, p < .001$) and with aggregated items of teachers’ sense of efficacy scale ($r = .41, p < .001$). Subsequent studies have reported similar evidence concerning the validity and reliability of the scores of the CE-Scale (e.g., Hoy et al., 2002b; Ross et al., 2004).

3.4.2.1. Test Adaptation Process of the CE-Scale

Similar to the TSES, the CE-Scale is an English scale that had to be translated and adapted for use with the Omani teachers. Different from teachers’ sense of efficacy, TPCE has not been investigated by Arabic researchers. I was not able to locate a single Arabic study dealing with collective efficacy beliefs. This lack of Arabic research in collective efficacy beliefs comes as no surprise, given the relatively few studies done in Western efficacy
literature until recently (Goddard, Hoy, et al., 2000). Thus, there was no predefined empirical evidence with regard to the existence of this construct in the Arabic culture.

With the exception of the first step in test adaptation (i.e., assurance of construct existence), the process used to adapt the TSES was followed to adapt this measure for the proposed study. The same three qualified translators translated the CE-Scale from English into Arabic and, thus, three Arabic samples of the CE-Scale were available. I reviewed the samples to reach a consistent version for administration. Much agreement was observed among translators with regard to the CE-Scale compared to the TSES. There were, however, some disagreements that were resolved by consulting with the translators. In addition, some cultural and linguistic differences appeared between the Arabic and the English versions of the CE-Scale. Examples of these differences and changes made in the CE-Scale, as well as examples of disagreements among the translators, are presented in Appendix J.

The same 10 teachers who responded to the TSES completed the CE-Scale. These teachers showed awareness of the examined construct and suggested some changes in the items. For example, the teachers agreed that the item “Drugs and alcohol abuse in the community make learning difficult for students here,” is not appropriate in the Omani culture. According to these teachers, the problem of drugs is not a concern in either the school or the family. Thus, this item was restated to reflect some of the problems that are relevant to the Omani culture. The teachers suggested dropping the word “drugs” or at least adding “cigarettes” to the item, so that teachers would recognize its intended meaning. This item appeared in the Arabic version of the CE-Scale as “The abuse of drugs, alcohol, and cigarettes in the community makes learning for students difficult in this school.” Examples of other changes are represented in Appendix J.
An important change that was made in the CE-Scale compared with the TSES was related to the structure of the sentences. ITC’s literature has warned against the tendency of some researchers to use some grammatical structures that are not appropriate for the target language, in order to ensure appropriate results of back translation technique. This practice can facilitate back-translation but negatively affect the target version of the scale (Hambleton, 2005). In the process of adapting the CE-Scale, the 10 teachers along with the three translators agreed upon the importance of changing the CE-Scale sentences so that they start with a verb instead of a noun, since Arabic sentences usually follow that structure. Twelve items of the CE-Scale were restructured to begin with a verb in the CE-Scale. These were items 3, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17, and 21.

Following these revisions, an Arabic-language specialist reviewed the items’ grammar and the structure of the sentences. No changes were made and the scale was ready for administration. The CE-Scale was back translated into Arabic by the same person who has back translated the TSES. Both the back-translation and the final Arabic versions of the CE-Scale are included in Appendix K and Appendix L respectively. The CE-Scale was then examined empirically in the first pilot study along with the TSES.

3.4.3 The First Pilot Study

This first pilot study aimed to examine both the TSES and the CE-Scale. Piloting these two adapted measures is highly recommended by the ITC guidelines before use with the target population (Hambleton, 2005). This examination allowed for inspection of reliability and validity issues with a sample of the target population in order to make sound inferences about the larger sample’s population (Thompson, 2003).

This study took place in April 2004. The sample consisted of 478 teachers from three different districts (Muscat, Al-Batina-North, and Al-Dakhliya). Fifty percent of participants
were females. Teachers majoring in science, math, Arabic language, and social sciences participated in the study. These participants represented different school grade levels (i.e., secondary, middle, and elementary schools) and were teaching in the Traditional (general) and the Basic Education schools (i.e., the modern reformed school system). All analyses were done at the individual level because there was no school identification numbers assigned for participants. These individual level analyses were helpful in determining the latent constructs of the questionnaires and in examining within-teachers’ variance (Olivier, 2001). In addition, the relatively low number of participating schools did not warrant running a school-level analysis.

3.4.3.1. Results of the First Pilot Study: The TSES

Two criteria were set for scale acceptability: a classical theory internal consistency of at least alpha = .70 and item-total correlations of .20 or more (consistent with Ross et al., 2004 and as suggested by Nunnally, 1978, as cited in Brouwers et al., 1999). Both criteria were met for the scores from the Arabic version of the TSES (α = .90). Corrected item-total correlations ranged from .39 to .60. The three subscales of the TSES (i.e., Engagement, Instruction, and Management) showed reasonable reliability coefficients of .76, .81, and .79, respectively, and were moderately positively correlated. Comparisons of the reliability coefficients of the scores from studies using the original TSES and my pilot study using the Arabic version of the TSES (along with the three subscales) are presented in Table 3-4.

Consistent with the researchers of the original TSES, I examined one-factor and three-factor solutions using principal components analysis. Two criteria were set in advance for a factor to be considered: (a) an eigenvalue equal to or greater than one (Tabachnick & Fidell, 2001, p. 620), and (b) a cut score of .40 for item loadings within each factor (Stevens, 1996) should be obtained.
Table 3-4

Reliability Coefficients of the Scores from the Teacher Sense of Efficacy Scale (TSES) and its Subscales (My Pilot Study Findings Compared with Western studies)

<table>
<thead>
<tr>
<th>The Study</th>
<th>Engagement</th>
<th>Instruction</th>
<th>Management</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tschannen-Moran &amp; Woolfolk Hoy (2001)</td>
<td>.87</td>
<td>.91</td>
<td>.90</td>
<td>.94</td>
</tr>
<tr>
<td>Tschannen-Moran &amp; Woolfolk Hoy (2002)</td>
<td>.84</td>
<td>.87</td>
<td>.88</td>
<td>-</td>
</tr>
<tr>
<td>Sutton &amp; Knight (in press)</td>
<td>.82</td>
<td>.80</td>
<td>.89</td>
<td>.91</td>
</tr>
<tr>
<td>My Pilot Study</td>
<td>.76</td>
<td>.81</td>
<td>.79</td>
<td>.90</td>
</tr>
</tbody>
</table>

When extracting one factor, as was suggested by the original researchers, this factor accounted for 32% of the variance, with an eigenvalue of 7.73. Factor loadings ranged from .43 to .67. When three factors were extracted they accounted for 44% of the variance. Using promax rotation, at least 5 items from each of the three subscales loaded, as expected, exclusively in their theoretical dimensions.\(^*\)\(^\text{19}\) Two items, however, did not reach the cut score (#12 & #14). A similar pattern was obtained when using varimax rotation except that only item 12 did not reach the cut score.\(^*\)\(^\text{20}\)

The correlations of this measure were assessed in relation to two existing measures of teachers’ sense of efficacy. Participants in this pilot study responded to Rand item 1 (discussed earlier in Chapter 2) and to a short version of Gibson and Dembo’s Teacher Efficacy Scale. Total scores on the TSES were positively related to both of these measures (\(r\)

\(^{19}\) Differences found in item loadings when extracting a three-factor solution may not necessarily reflect differences across Western and Arabic culture. These differences were found for the TSES item loadings within Western studies (e.g., Sutton & Knight, in press).

\(^{20}\) Because of its clarity, item 12 was retained, without changes, for further examination in the actual study.
= .33, and \( r = .52, ps < .001 \), respectively). In addition, the scores on the TSES correlated negatively to a measure of teaching anxiety \( (r = -.21, p < .001) \).

Before the actual study, and using the results of the factor analysis, item 21 was rephrased to reflect the original meaning intended in the TSES. An inspection of this item suggested that this item did not load with the management subscale because of inaccurate translation. In addition, the word “fail” in item 14 was replaced by “very poor” in the version used in the actual study. Some teachers indicated that “fail” portrays a very negative image of students and therefore has been banned from the school vocabulary.²¹ The Arabic version used in the actual study is presented in Appendix M.²²

To conclude, this comprehensive test adaptation process undertaken for the TSES before the actual study allowed me to examine several construct validity indicators of this measure’s scores. These included: review of previous research, translators’ judgment, individual administrations of the measure with a group of teachers, and the pilot study. In this pilot study, I reported findings of reliability coefficients, factor analysis, and correlations of the scores obtained from the current administration of the TSES with some related variables. I infer the TSES represents a valuable efficacy measure to capture the construct of teachers’ sense of efficacy in the general population of Omani elementary teachers (and possibly Arabic teachers). Consistent with previous Arabic research, the findings of this pilot study support the existence of the teachers’ sense of efficacy construct in the Arabic culture.

²¹ This view might be related to the changes made by the Ministry of Education in the recent education reform. No child fails in any class and all children are transferred each year to their next class level regardless of their achievement.

²² Note that, in the first pilot study, the TSES scale was changed from nine to six-point because of the teachers’ unfamiliarity with the original nine-point scale. Later on, the judges of the TPCES suggested changing the TSES from six-point to five-point to be consistent with the TPCES and the SCI (mentioned later). The version in Appendix M shows this change.
3.4.3.2. Results of the First Pilot Study: The CE-Scale

Different from the TSES scores, the scores from the CE-Scale showed a relatively low reliability coefficient of .65 compared to what is reported for the scores obtained from the English version (α = .96, Goddard, Hoy, et al., 2000), with item-total correlations less than .20 for seven items. Using principal components analysis, two factors were extracted. These two factors, however, did not correspond to the two factors found in previous research: analysis of teaching tasks and judgment of competence (e.g., Goddard, Hoy, et al., 2000; Tschannen-Moran et al., 1998). Rather, the two factors found for this Omani sample simply reflected negatively- (i.e., the first factor) and positively-worded items (i.e., the second factor). Similar results were obtained using varimax and promax rotation methods.

There was no clear interpretation of this finding. One possible interpretation was that the Omani participants might have responded differently to the negative and positive scale items. Possible cultural differences in relation to participants' responses to differences in item format and sentence structure are acknowledged in previous research (Byrne & Watkins, 2003; Hambleton, 2005). This interpretation might not be a strong one, knowing that the three Omani translators and the 10 Omani teachers did not oppose the use of the negatively worded items of the CE-Scale. In addition, it is not uncommon to use some negative items in scales administered by Arabic and Omani researchers (e.g., Al-Bandari & Atoum, 2002; Al-Nahar & Al-Rababea, 1992).

Another interpretation of these findings suggested that the construct of TPCE might manifest itself differently in Omani culture compared to Western culture. There was no research against which this interpretation could be examined. Compared with Arabic studies
investigating teachers' sense of efficacy, I was not able to locate any study that examined the construct of TPCE using Arabic samples.

A third explanation of the results obtained for the CE-Scale might be attributed to the translation procedure through which the CE-Scale was translated into Arabic. This procedure, however, was identical to the one used for the TSES. The three translators of the TSES and the 10 teachers who judged the TSES did so for the CE-Scale. In my judgment, the CE-Scale was easier to translate than the TSES. The translator who did the back translation of both measures agreed that the CE-Scale was easier to translate than the TSES.

A fourth plausible interpretation is related to the CE-Scale ability to measure the construct of TPCE. As I discussed earlier in Chapter 2, although the CE-Scale is the most appropriate measure available for use, this measure has some limitations that may hinder its use in efficacy belief research. For example, although the CE-Scale was based on two theoretical factors of efficacy beliefs, researchers have always reported only one factor, because of the high correlation between the two factors. In addition, the factor analysis results are not consistent across different samples (J. Ross, personal communication, November 9, 2004). Furthermore, the CE-Scale "artificially drives down the collective efficacy scores of schools in more challenging environments by its explicit measurement of task difficulty" (Tschannen-Moran & Barr, 2004, p. 199). Ross et al. (2004) indicated that the CE-Scale, in addressing the teaching tasks, is limited to student home and community issues. There are other resources and constraints that affect teachers' perception of their ability to affect student learning. Examples include professional development opportunities, classroom supplies, planning time, and the difficulty level of curriculum and its appropriateness to fulfill student needs. Moreover, the CE-Scale items were not written based on Bandura's guidelines for
wiring efficacy belief scales (2001). Rather, the CE-Scale items were worded based on Gibson and Dembo’s scale of teachers’ sense of efficacy.

3.4.4. The Construction of a new TPCE Scale

Thus, for the purpose of examining the mediating role of TPCE on the proposed model of the current study, I have constructed a new measure of collective efficacy that adheres to Bandura’s guidelines for writing efficacy beliefs scales (2001) and reflects both dimensions of Tschannen-Moran et al.’s model of efficacy beliefs: analysis of teaching tasks and personal competence. This new scale is mainly based on a recently published new collective scale by Tschannen-Moran & Barr (2004), the unpublished Bandura’s Teacher Self-Efficacy Scale (2001), the TSES, and Goddard et al.’s CE-Scale. In addition, some new items were written by the researcher. Consistent with previous research (Tschannen-Moran & Barr, 2004; Tschannen-Moran & Woolfolk Hoy, 2001), the new TPCE scale consists of items related to efficacy for instruction, efficacy for discipline, and items related to issues of resources in the teaching tasks that were suggested by Ross et al. (2004).

Tschannen-Moran and Barr’s Collective Teacher Belief Scale (CTBS, 2004) is a new 12-item scale with a nine-point Likert type format that was constructed based on the TSES after changing the items to reflect group ability instead of individual ability. A few items were also adapted from Goddard et al.’s CE-Scale. The scores from the CTBS demonstrated a reliability of .97. One factor was extracted with factor loadings ranging from .58 to .79. When the CTBS was forced to extract two factors to meet with two subscales’ predicted content (i.e., instructional strategies subscale and discipline subscale), the items loaded as expected. The loadings of the instructional strategies subscale items ranged from .67 to .78 and the loadings of the discipline subscale items ranged from .64 to .78. All 12 items are included in
the new scale without change because these items were constructed to examine collective efficacy beliefs and were worded based on Bandura’s guidelines.

Bandura’s Teacher Self-Efficacy Scale is an unpublished scale that consists of 30 items measuring teachers’ efficacy beliefs. There is no available reliability and validity information for this scale. Many of the scale items were included in the Tschannen-Moran and Woolfolk Hoy’s TSES mentioned above. Six items from Bandura’s scale were included in the new collective efficacy scale. These items were modified to reflect a group’s beliefs about its ability to perform certain actions. For example, an item that states “How much can you do to reduce school dropout?” was modified to read “To what extent can teachers reduce school dropout?”

A group of items were selected from the TSES. These items were modified to reflect teachers’ perceptions of the group’s efficacy beliefs to influence student learning. Changes made in the TSES items to reflect collective efficacy beliefs can be illustrated through one example. In the TSES, item 16 states “How well can you establish a classroom management system with each group of students?” In the new collective efficacy measure, this item was reworded to be “How well can teachers establish a school management system with each group of students?”

Another group of items was selected from the CE-Scale. The wording of these items was changed to adhere to Bandura’s guidelines about how to write efficacy items. To illustrate this change, item 6 in the CE-Scale states “Teachers in this school are skilled in various methods of teaching.” In the new collective efficacy measure, this item states “How well can teachers in your school use various effective teaching methods?”

I constructed the rest of the items in the new scale to respond to Ross et al.’s observation with regards to the limitations of items in Goddard’s scale as discussed above.
Ross et al. (2004) recommended the inclusion of items related to resources and constraints that influence the teaching tasks, besides home and community. I wrote six new items that examine the effects of other resources and constraints that might be important for the Omani school context. In addition, three new items were added to the instructional subscale to represent challenges that exist in the Omani teaching context. Examples include the use of ongoing assessment, writing test items that measure all levels of student learning, the encouragement of students to carry out their own projects, and making use of the professional development opportunities available for teachers.

This new scale of collective efficacy beliefs was sent to 13 bilingual experts (listed in Appendix A) working at the faculty of education at Sultan Qaboos University (SQU), Oman. These experts judged the appropriateness of the items’ content for the Omani culture and the relative importance of the items to measure Omani TPCE, in addition to the accuracy of translation. Each item was displayed in Arabic and in English for the judges. Based on the evaluation of the 13 judges, many items were rephrased for more clarity. For example, the word “adults” that appears in item 4 in the CTBS was replaced by the word “teachers.” The use of the Arabic translation of “adults” was not appropriate in the context of this item. The judges did not agree on the appropriateness of one item for the Omani culture. This item stated “How much can your school do to help students feel safe while they are at school?” (i.e., item # 12 in the CTBS, Tschannen-Moran & Barr, 2004). The argument was whether or not student safety is a challenge for Omani teachers. The interpretation of “feel safe” was an issue here. I included this item to allow for statistical examination of its behavior especially with the low number of items in the discipline subscale. Another four items were dropped.

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23 This item appears as item 6 in the TPCES version used in the second pilot study and displayed in Appendix N.
24 Those who considered “bullying” as a safety matter suggested the inclusion of this item. Those who viewed safety within the Western school context (matters such as gun shooting) suggested its exclusion.
because of redundancy. Thus, 42 items (out of 46) were recommended for inclusion by the majority of the judges. These judges suggested the use of a 5-point Likert type of response for the TPCES because of similar considerations that were raised for the TSES. Megan Tschannen-Moran (personal communication, February, 2005) suggested the use of the five labels used in her Collective Teacher Beliefs Scale.

Three teachers responded to the 42-item scale individually. I encouraged these teachers to give their feedback about the measure in terms of its clarity and appropriateness for the Omani teachers. No changes were suggested. The Arabic and the English versions of the new collective efficacy scale can be found in Appendix N and O.

The new measure, then, was examined in a pilot study administered in March 2005. I report the findings of this second pilot study after discussing how the four dimensions of school climate, which represent the four independent variables in the proposed model, were measured.

3.4.5. The School Climate Index

The third measure used in this study was the School Climate Index (SCI). I started with the adaptation of the Organizational Climate Index (OCI) to measure the four dimensions of the school’s organizational climate: collegial leadership, professional teacher behavior, achievement press, and institutional vulnerability. Besides institutional vulnerability, which measures the relationship between school and community, a fifth subscale (i.e., community engagement) was used for this relationship with a different perspective as discussed in Chapter 2. Tschannen-Moran et al. (in press) retained the first three subscales of the OCI along with this new community engagement subscale when constructing their new School Climate Index (SCI). Both scales (the OCI & the SCI) were examined in the second pilot study.
The OCI items were in Likert format with a five-point response scale, anchored by "never occurs" to "very frequently occurs." Samples of the OCI items include: "The principal treats all faculty members as his or her equal" (i.e., collegial leadership subscale), "Teachers help and support each other" (i.e., professional teacher behavior subscale), "The school sets high standards for academic performance" (i.e., achievement press subscale), and "Select citizen groups are influential with the board" (i.e., institutional vulnerability subscale). A complete copy of the English version of the OCI can be found in Appendix P. Hoy et al. (2002a) examined the OCI using high school samples and found that the scores from all four dimensions of the OCI showed high classical test theory reliability (alphas of .94, .88, .92, and .87, respectively). Construct validity was supported by a factor analysis that yielded four factors that corresponded to the theoretical framework. In addition, validity was also supported by the significant relationships found between the school climate dimensions and aspects of faculty trust.

The School Climate Index (SCI) was also examined for the current study. The first three subscales of the SCI are the same three subscales in the OCI. The difference between these two climate measures is in their fourth subscale, which examines the connection between school and community. The focus, therefore, was to examine the fourth dimension of the SCI: the community engagement subscale. To my knowledge, two studies so far have used this subscale. Reliability coefficients of .87 and .94 were reported by these two studies (DiPaola & Tschannen-Moran, 2005; Tschannen-Moran et al., in press) respectively. Validity evidence was provided by factor analysis and by examining the relationship between this dimension and other variables such as student achievement. This dimension consists of seven items with a five-point Likert response format. An example of an item is, "Our school makes
an effort to inform the community about our goals and achievements." The community
engagement subscale is included in Appendix Q.

3.4.5.1. Test Adaptation Process of the School Climate Measures

Similar to the first two measures adapted by the current study, the OCI and the SCI were adapted in several steps to ensure their validity for use in the Omani school context. The first step in test adaptation was to ensure the existence of the construct (as defined by Western theories) in the target population. This prerequisite was met by previous studies that have examined school climate (or some of its dimensions) in the Arabic and/or Omani school contexts (e.g., Al-Bandary & Atoum, 2002). Because I was not able to locate a measure of an Arabic school climate, the OCI was selected to measure the variable of a school’s organizational climate. The OCI was selected because of its strong validity and reliability evidence and its parsimonious construction compared to other available measures of school climate (e.g., OHI and OCDQ; Hoy et al., 2002a).

Four qualified translators separately translated the OCI. Four samples of the OCI were available for comparison. I reviewed these samples to create a single Arabic version of the OCI. I identified some disagreement among the translators (see examples in Appendix R). These disagreements were resolved and one final Arabic copy was prepared and shown to a group of teachers.

Fifteen teachers responded to the Arabic version of the OCI. While they identified with the construct measured by the OCI, many teachers raised some concerns and requested clarification of some items. These items corresponded to the third and fourth dimensions of the OCI—achievement press and institutional vulnerability. These teachers suggested the rewording of some items and clarification of others (see Appendix R). This version of the OCI, then, was sent to eleven bilingual experts (listed in Appendix A) who further judged the
appropriateness of the items’ content for the Omani school context and the relative importance of the items to measure the Omani school climate. These experts were professors at Sultan Qaboos University and some district-superintendents from two different districts. Some changes were made in the phrasing of a few items (see Appendix R). In addition, many judges suggested the inclusion of an additional item to the collegial leadership subscale. This item dealt with decision making and states “The principal involves teachers in making school-related decisions.” Later on, the OCI was again shown to three teachers in individual settings and no changes were made. The OCI was then ready for empirical examination, as suggested by the ITC guidelines, before the actual study. The second pilot study examined the OCI along with the TPCES discussed earlier.

In addition, the community engagement subscale (of the SCI) was also adapted for the current study. This subscale was examined by the eleven judges and later on by the three teachers who evaluated the OCI subscales. No concern was raised about the items of this subscale with the exception of one that was deemed inappropriate for the Omani school context. This item states “Organized community groups (e.g., PTA, PTO) meet regularly to discuss school issues.” Such organizations do not exist in Oman. Thus, this item was excluded. The community engagement subscale of the SCI was empirically examined in the second pilot study in March 2005. The Arabic version of the school climate measures (the OCI and the community engagement subscale of the SCI) can be found in Appendix S.

3.4.6. The Second Pilot Study

This second pilot study aimed to examine empirically the new TPCES and the OCI. In addition, this study aimed to answer the question: Which of the two views of school-community connection (bridging and buffering) would be a better predictor of TPCE? Recall that buffering was measured by the institutional vulnerability of the OCI and bridging was
measured by the community engagement of the SCI. The best predictor would be used to measure school climate dimensions in the actual study.

All 17 schools contacted agreed to participate in the study. These schools were selected from Muscat, Al-Batina-South, and Al-Sharkiyah-North school districts. A total of 601 questionnaires were distributed; 400 questionnaires were collected (a response rate of 74%); and 370 questionnaires were usable for inclusion in the analysis. Fifty-five percent of participants were females. For reasons similar to those mentioned in the first pilot study, analysis was only done at the individual level.

3.4.6.1. Results of the Second Pilot Study: The new TPCE Scale

Different from the first pilot study, this second pilot study showed promising psychometric properties for the scores of the new TPCES. A classical test theory internal consistency alpha reliability coefficient of .95 was obtained for the scores of the current Omani sample. I examined the validity of the scores using different indicators. First, the factorial structure of the 42 items was examined using a principal components analysis. Both scree plot and eigenvalues supported a one-factor solution. With an eigenvalue of 16.13, this factor explained 38.41% of variance, with loadings ranging from .41 to .75.

Second, the relationships between TPCES and a few other measures were examined using the Pearson correlation coefficient. TPCES was found to correlate significantly and positively ($r = .54, p < .001$) with teachers’ sense of efficacy (measured by a short form of the TSES) and with the school’s organizational climate ($r = .70, p < .001$; measured by the SCI, discussed later in this section). TPCES also had a small but significant negative correlation with a measure of teaching anxiety ($r = -.14, p < .05$).

Based on the findings of this pilot study, I developed a short form of the TPCES that consisted of 18 items. These 18 items characterized the general underlying factor of TPCE
while mirroring different challenges of teachers at the school level. Six items represented instructional challenges, another six focused on discipline issues, along with another six items (from the new items) that related to resources and constraints influencing the teaching tasks. All the 18 items selected for the final study loaded higher than .40 in this second pilot study. This trimming of the new TPCE scale to 18 items from 42 did not sacrifice the classical theory reliability coefficient of the scores (α = .91). The factorial structure of these 18 items supported a one-factor solution that accounted for 40% of variance with loadings ranging from .50 to .70. This factorial structure finding suggests that the remaining 18 items are consistently referring to the same underlying construct. This 18-item TPCES was used in the actual study to examine teachers’ perceived collective efficacy. The Arabic and the English versions of the scale are included in Appendices T and U.

The psychometric properties found for the current sample support construct validity of the scores obtained by the use of the new TPCES with this Omani sample. This finding may suggest that the TPCES is a good measure to use in examining the construct of teachers’ perceived collective efficacy in the Omani school context. The finding of one major factor (supported by the scree plot) holds up previous findings reported by Western researchers (Goddard, Hoy, et al., 2000; Ross et al., 2004), which can be considered as one indicator of a possibly comparable construct of TPCE in both the Western and the Arabic cultures. Additional evidence for construct comparability is reported in the next chapter.

3.4.6.2. Results of the Second Pilot Study: The OCI and the SCI

One main question to be answered through this second pilot study was: Which of the competing views of the school-community connection would best predict teachers’ sense of efficacy and TPCE? Prior to answering this question, reliability was examined for the two subscales of institutional vulnerability and the community engagement subscales. Based on a
classical test theory analysis, the scores in this pilot study had alpha coefficients of .61 and .73, respectively. The item-total correlations found for community engagement ranged from .37 to .55 while these values ranged from .25 to .40 for institutional vulnerability. To answer the question above, two separate equations were conducted to examine the relationship between these two dimensions and each of the efficacy belief constructs.

In the first equation, teachers’ sense of efficacy (measured by a short version of the TSES) was regressed on both dimensions of institutional vulnerability and community engagement. The results show that only the community engagement dimension significantly predicted teachers’ sense of efficacy ($\beta = .285, t = 5.130, p < .001$, Adjusted $R^2 = .07$). There was no relationship found between teachers’ sense of efficacy and institutional vulnerability ($\beta = -.066, t = -1.192, p = .234$, Adjusted $R^2 = -.002$) with a bivariate non-significant correlation of .035 ($p = .496$).

Similarly, TPCE was regressed on both dimensions. Regardless of the order of entry in the equation, only the community engagement subscale predicted TPCE significantly ($\beta = .585, t = 11.06, p < .001$, Adjusted $R^2 = .33$). The institutional vulnerability subscale showed no relationship with TPCE ($\beta = -.058, t = -1.09, p = .273$, Adjusted $R^2 = -.004$); the bivariate correlation was also non-significant ($r = .007, p = .915$).

Based on this finding, the community engagement dimension will remain in the proposed model as a conceptualization of the connection between school and community. Hypotheses four and eight are restated:

**H₄:** The community engagement dimension will directly predict teachers’ sense of efficacy.

**H₈:** The community engagement dimension will be a statistically significant predictor of TPCE.
The new proposed model is reproduced in Figure 3-1. All four subscales of the SCI are hypothesized to directly and indirectly predict TSES (through TPCES). Accordingly, the four subscales of the SCI (instead of the OCI) were adopted to examine the four dimensions of school climate in the actual study reported below. Even though the first three subscales of the SCI were reproduced from the first three subscales of the OCI, they were not identical. Some items were moved from one subscale to another based on their factor analysis loadings. Some minor changes were made by dropping a few problematic items from the teacher professional behavior and the achievement press subscales (M. Tschannen-Moran, personal communication, January 3, 2005). In addition, these two subscales were renamed: teacher professional behavior becomes teacher professionalism and achievement press becomes academic press. The labels used in the SCI will be used in the rest of the analysis.

\[\text{Figure 3-1. The Proposed TPCE Mediational Model Reproduced.}\]
At the individual level, the current scores of the SCI showed a classical theory reliability coefficient of .90 whereas the scores of the four subscales showed alpha coefficients of .83 for teacher professionalism, .83 for collegial leadership, .68 for academic press, and .73 for the community engagement subscale. Bivariate correlations were also calculated. These subscales correlated significantly with the TPCES (ranging from $r = .55$ to $r = .66$, $p < .001$) and with a short form of the TSES (ranging from $r = .27$ to $r = .33$, $p < .001$). Not one of these four subscales correlated with the two items measuring teaching anxiety. The four SCI subscales showed significant interrelationships with Pearson correlation coefficients that ranged from $r = .45$ to $r = .60$ ($p < .001$).

The factorial structure of the SCI was examined using the principal components analysis. With a pre-specified four-factor solution using promax rotation method, this solution accounted for 47.09% of variance in the data. The four factors had eigenvalues greater than one. The items loaded in their theoretical subscales except for two items from the academic press subscale (loaded in the teacher professionalism subscale) and one item from the community engagement subscale (loaded in the collegial leadership subscale). Another five items loaded with values less than .40 (all but one ≥ .35). A similar pattern was obtained when using the varimax rotation method.

Because one item was dropped from the original community engagement subscale (# 26) and one item was added to the collegial leadership subscale (appears as # 26), a total of 28 items of the SCI were used in the actual study. The Arabic and the English versions of the SCI (as it was used in the actual study) appear in Appendix V and W respectively.

Due to the cumulative evidence found for construct validity of the scores obtained for this sample, inferences can be made about this second pilot study's outcomes. These findings showed that Omani teachers identified overall with the construct examined by the SCI. The
manifestation of this construct in the Omani school context may assimilate what is found in the Western school context with some caution about the mixed loadings found for few items.

3.5. Data Collection

The actual study took place in the first week of April 2005. The data collection took a month and a half. I contacted the Ministry of Education in the Sultanate of Oman to gain access to schools in all school districts. Participation in the study was guaranteed by the Ministry of Education’s permission (rather than by contacting the individual schools). Thus, and as was expected, all schools which were contacted responded positively. Teachers’ decisions to participate in the study, however, were voluntary. Accordingly, the study depended upon teachers who chose to respond to the measures.

During February 2005, I obtained a description of the school locations in the 10 participating school districts. Questionnaires were distributed across schools through my visits to the participating schools. The school secretary gave each teacher an envelope containing the questionnaires, a short vita of the researcher, and a letter addressed to the participants explaining the nature of the study (see Appendix X). Additional short instructions appeared at the beginning of each questionnaire. As explained in the questionnaires’ cover sheet (see Appendix Y), it was assumed that teachers who completed and returned questionnaires have consented to participate in the study.

Due to the teachers’ limited time in school, they were given the questionnaires to complete at home and return when completed. I followed up with the school secretary who reminded the teachers to return the completed questionnaires. Upon completion, I picked up sealed envelopes from all the schools after one to two weeks from delivery.25

25 Especially in the far away school districts, the teachers were grateful for being asked to take part in the study; they also showed interest in getting the results’ summary. I was thanked for approaching these far away areas, which are rarely subject to research and that is mostly done by the Ministry of Education.
Using SPSS software, I manually entered all the data into an SPSS file, a process that was completed by mid June 2005. In order to use HLM software, the SPSS data file was imported into HLM software. Two SPSS data files were required to run the analysis. The first file contained teachers' sense of efficacy (i.e., the level-1 variable) while the second file contained data for school climate and TPCE (i.e., level-2 variables). The two files were linked hierarchically by an identification variable that was specified for each school (Heck & Thomas, 2000). That is, each school was given an identification number (ID) that was assigned for each teacher belonging to that given school.

The actual paper copies of the questionnaires were stored in a locked room in which they will be kept for another five years post-completion of the study. Then, all the questionnaires will be confidentially destroyed. The electronic version of the data was saved in my laptop. Data, by then, were ready for inspection and further analyses as reported in the next chapter.
Chapter 4

RESULTS

4.1. Overview

The current study was designed to extend previous research that examined the relationship between the four dimensions of school climate and teachers' sense of efficacy by accounting for a third variable that acts as a mediational factor. Teachers' perceived collective efficacy (TPCE) is viewed as the mechanism through which school climate dimensions predict teachers' sense of efficacy (see Figure 3-1). TPCE was hypothesized to function as a mediator for each of the four dimensions individually. Each dimension was believed to predict teachers' sense of efficacy directly and indirectly through TPCE. Thus, there are two proposed paths for each of the four school climate dimensions, describing their relationships with both the outcome variable (teachers' sense of efficacy) and the mediator (TPCE). Hence, eight hypotheses correspond to the four dimensions of school climate. A ninth hypothesis describes the relationship between TPCE and teachers' sense of efficacy. It was postulated that an examination of the first four hypotheses would reveal an answer to the first main question posed: "What dimensions of the school's organizational climate can directly predict teachers' sense of efficacy?" It was further supposed that, along with the findings of this examination, testing hypotheses five through nine would help answer the second main question posed: "What is the role, if any, of TPCE in the relationship between school climate dimensions and teachers' sense of efficacy?"

The results of the present study are described in three sections. The first section deals with preliminary analyses in which several statistical techniques were used to prepare the available data for main analyses. These included screening data for missing data, examining data assumptions, and reporting descriptive analyses for the three main measures of the study.
The second section focuses on the primary analyses that addressed the two main questions guiding this study. The third section summarizes the findings of the present study.

4.2. Preliminary Analyses

4.2.1. Data Screening

Data were checked for missing data. I identified 861 cases with missing data. This represented 36.1% of the sample. More than half of these cases (58.1%) had missed only one item across the three measures and only 6.4% missed five or more items.

Due to the lack of "firm guidelines for how much missing data can be tolerated for a sample of a given size" (Tabachnick & Fidell, 2001, p. 59), I followed Hair, Anderson, Tatham, and Black (1998) in eliminating cases with 50% or more missing data while retaining other cases for further analysis. Not one of these 861 cases was anywhere near 50% of missing values in any of the three questionnaires. The case with the highest missing values missed only 21 percent.

Missing data were examined as possible entry errors by using the teachers' IDs and their school IDs that were assigned to the copies of their paper questionnaires; I checked them against the SPSS data file. No entry errors were identified. In addition, inspection of the distribution of missing data indicated that these missing data were not limited to a particular gender, type of school (basic education or general education), single district, or specific location of a school.

According to Tabachnick and Fidell (2001, p. 58), the presence of a pattern in the missing data is more serious than the amount of data missing. Thus, additional evidence was gathered to examine the existence of a pattern by exploring each of the main variables separately. I followed Hair et al.'s recommendation (1998) of the use of dummy variables to
compare those with and without missing data for each of the main variables. No significant differences were found.

The data imputation option was, therefore, adopted for this study. The selection of any imputation technique was justifiable because of the absence of any clear pattern in the missing data which eliminated any possible "hidden" impact of missing data (Hair et al., 1998). Compared to regression and mean substitution, the expectation maximization (EM) imputation method is preferable (for rationale see Hair et al., 1998; Tabachnick & Fidell, 2001).

Tabachnick and Fidell (2001) further suggested repeating the analysis using data with missing values and complete data (after values were entered). Table 4-1 and Table 4-2 show descriptive analyses for all variables (including teacher background variables) before and after imputation. Inspection of means, standard deviations, and reliability coefficients indicated that there was no change in the values. Similarly, the two correlation matrices supported this conclusion. Finally, the model was examined using data with missing values and data with imputed values. Given that there was no change in the model when both sets of the data were compared, the imputation method did not pose a serious threat to the generalizability of the results (Tabachnick & Fidell, 2001). The complete set of data (with imputed values) will be used in examining the hypotheses of the study.

4.2.2. Examining Data Assumptions

Because of this data design, we know already that the assumption of the independence of observations is violated; however, the multilevel design of the data analysis adopted for the study was meant to account for this dependency. Normality was the first assumption to test.

\[ r = .05, p < .05 \]

An exception to this replication of the results can only be seen in three coefficients related to some demographic variables. Even though significant, these coefficients were very low (the highest was \( r = .05, p < .05 \)) and none of them appeared in the relationship among the main variables used in the primary analyses.
Table 4-1

Descriptive Statistics for the Study's Variables before Missing Data Imputation

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Note. Bold values in the diagonal are reliability coefficients. A dash "-" is used in the diagonal for the background variables.

Note. Underlined values indicate change in the significance value of the Pearson coefficients after missing data imputation.

Experience = total years of teaching; Exper.Sch = Experience at the current school; TSE = teachers' sense of efficacy; TPCE = teachers' perceived collective efficacy; TPF = teacher professionalism; CLD = collegial leadership; ACP = academic press; COM = community engagement.

*Correlations ≥ .042 are significant (at $p < .05$).

**Correlations ≥ .063 are significant (at $p < .01$).
Table 4-2

Descriptive Statistics for the Study’s Variables after Missing Data Imputation

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<td>.481</td>
<td>.561</td>
<td>.909</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. ACP</td>
<td>25.30</td>
<td>4.17</td>
<td>.112</td>
<td>.058</td>
<td>-.036</td>
<td>.090</td>
<td>.045</td>
<td>.399</td>
<td>.594</td>
<td>.639</td>
<td>.607</td>
<td>.767</td>
<td></td>
</tr>
<tr>
<td>11. COM</td>
<td>20.27</td>
<td>4.29</td>
<td>.178</td>
<td>.077</td>
<td>-.012</td>
<td>.065</td>
<td>.030</td>
<td>.357</td>
<td>.529</td>
<td>.524</td>
<td>.578</td>
<td>.676</td>
<td>.802</td>
</tr>
</tbody>
</table>

Note. Bold values in the diagonal are reliability coefficients. A dash "—" is used in the diagonal for the background variables.

Note. Underlined values indicate change in the significance value of the Pearson coefficients after missing data imputation.

Exper = total years of teaching; Exper.Sch = Experience at the current school; TSE = teachers’ sense of efficacy; TPCE = teachers’ perceived collective efficacy; TPF = teacher professionalism; CLD = collegial leadership; ACP = academic press; COM = community engagement.

*Correlations ≥ .045 are significant (at p < .05).

**Correlations ≥ .053 are significant (at p < .01).
A total of 15 cases were identified as univariate (a criterion of $3.29, p < .001$, two-tailed test was adopted) and multivariate outliers (a criterion of $p < .001$, $\chi^2 (5) = 20.51$; Mahalanobis distance statistic, Tabachnick & Fidell, 2001). Examination of the data file assured that these values were part of the study population. These values did not show high leverage values; that is, none of these outliers were considered as influential scores (all were $\leq .016$, safe based on B. Zumbo, personal communication, October 24, 2005). Thus, I retained these 15 cases.

Based on the recommendation of B. Zumbo (personal communication, October 24, 2005), the model was also examined using the data set with and without these 15 values. There was no change found in the model. A related check of outliers was done at the school level for the four independent variables and the mediator. One school was detected as a univariate and a multivariate outlier. Running the model with and without this school did not show any change. Thus, the school was retained for later analysis.

Linearity was examined using residual plots and no evidence of nonlinearity was detected. Prior research findings of linear relationships among the variables under investigation could be considered as additional support of the graphical examination (Osborne & Waters, 2002).

To conclude, a total of 2,381 participants (91.9% were females) nested in 98 schools were retained for subsequent analysis. The descriptive analysis of the scores of the three main questionnaires follows.

4.2.3. Descriptive Statistics for the Main Questionnaires

To examine the model of this study, I administered three measures. The TSES was used to examine teachers' sense of efficacy (the outcome variable); TPCE (the mediator) was measured using the TPCES; and the four school climate dimensions (the predictor variables)
were examined by the SCI. Each of these dimensions of school climate has its subscale with a varying number of items for each scale.

4.2.3.1. The TSES

The classical test theory internal consistency reliability analysis of the responses of the 2,381 teachers indicated high internal consistency in the scores of the TSES ($\alpha = .92$).\textsuperscript{27} This value approximates the coefficient reported by Tschannen-Moran and Woolfolk Hoy (2001) using American participants ($\alpha = .94$). The 24 items showed corrected item-total correlations $\geq .46$. Table 4-3 displays the descriptive analysis results for the TSES. As can be seen, the mean obtained for the current sample indicates quite a high level of efficacy beliefs, with some variation across individual teachers.

Consistent with previous research (e.g., Tschannen-Moran & Woolfolk Hoy, 2001), one-factor and three-factor solutions were extracted for the TSES using principal components analysis.\textsuperscript{28} The results of the three-factor solutions can be obtained from the researcher. Of interest for the current examination is the one-factor solution, which explained 36.20% of the variance in the data with an eigenvalue of 8.68. Factor loadings ranged from a low of .51 (item # 5) to a high of .69 (item # 23).

Results obtained for the scores of the TSES in both the pilot and the actual studies indicate that proper inferences can be made about the Omani target population. The TSES seems to capture the essence of this construct within the current Omani sample. More discussion of reliability and construct validity indicators of the TSES scores was given when I reported the first pilot study findings in Chapter 3.

\textsuperscript{27} Alpha coefficients were also obtained for the scores of the three subscales. These were .83 for instruction, .83 for management, and .81 for engagement. Only the total score of the TSES is considered in the primary analyses.

\textsuperscript{28} Consistent with previous research (Sutton & Knight, in press), the principal components analysis (PCA) with both oblique and orthogonal rotation methods was used. The selection of a certain extraction method (here PCA) should not be problematic because differences between solutions are small with large data sets (Tabachnick & Fidell, 2001, p. 609).
Table 4-3

*Descriptive Statistics for the Main Variables at the School Level (N = 98)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Possible Min. &amp; Max.</th>
<th>Obtained Min. &amp; Max.</th>
<th>α</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSE</td>
<td>94.76</td>
<td>10.95</td>
<td>24-120</td>
<td>52-120</td>
<td>.92</td>
<td>24</td>
</tr>
<tr>
<td>TPCE</td>
<td>69.22</td>
<td>3.71</td>
<td>18-90</td>
<td>58-82</td>
<td>.96</td>
<td>18</td>
</tr>
<tr>
<td>TPF</td>
<td>27.94</td>
<td>1.72</td>
<td>7-35</td>
<td>24-33</td>
<td>.93</td>
<td>7</td>
</tr>
<tr>
<td>CLD</td>
<td>31.40</td>
<td>3.45</td>
<td>8-40</td>
<td>14-37</td>
<td>.97</td>
<td>8</td>
</tr>
<tr>
<td>ACP</td>
<td>25.20</td>
<td>1.78</td>
<td>7-35</td>
<td>20-31</td>
<td>.89</td>
<td>7</td>
</tr>
<tr>
<td>COM</td>
<td>20.20</td>
<td>2.04</td>
<td>6-30</td>
<td>15-27</td>
<td>.92</td>
<td>6</td>
</tr>
<tr>
<td>SCI</td>
<td>104.75</td>
<td>7.79</td>
<td>28-140</td>
<td>79-128</td>
<td>.96</td>
<td>28</td>
</tr>
</tbody>
</table>

*Note.* Except for the TSE, all values are calculated at the school level.

TSE = teachers’ sense of efficacy; TPCE = teachers’ perceived collective efficacy; TPF = teacher professionalism; CLD = collegial leadership; ACP = academic press; COM = community engagement; SCI = total score of the School Climate Index.

### 4.2.3.2. The TPCES

Consistent with previous research (e.g., Goddard & Goddard, 2001), at the school level, the scores from the 18-item TPCES showed high value of internal consistency, measured by Cronbach’s alpha coefficient (α = .96). Similar coefficients were found by

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29 Scores from the TPCES reflect a school-level construct. Thus, these scores were obtained by calculating a mean score for each of the TPCES items for each school, which produced 18 mean item scores for each school (see Goddard & Goddard, 2001). Then, to run the primary analysis, the 18 items were averaged to obtain one score for each school in the TPCES. This single score was used in a school-level SPSS file that was constructed separately from the first initial SPSS file in which the individual teachers’ responses were entered. As was explained earlier, the HLM software requires the use of two separated SPSS files each of which contains either level-1 or level-2 variables.
previous research using other measures such as the CE-Scale (α = .96, Goddard & Goddard, 2001) and the CTBS (α = .91, Schechter & Tschannen-Moran, 2005; α = .97, Tschannen-Moran & Barr, 2004). Corrected item-total correlations for all items were ≥ .63. Table 4-3 gives descriptive statistics for TPCES scores at the school level. As can be seen from the mean obtained for the current sample, on average, these Omani schools show moderately high levels of collective efficacy beliefs, with little variation across schools.

Similarly, at the school level, the 18 items were submitted to a principal components analysis to examine the factorial structure of the TPCES. Three-factor, two-factor, and one-factor solutions were examined. Similar to the TSES, of interest for the present study is the total score of the TPCES. Thus, only the one-factor solution result is reported here. The scree plot (presented in Figure 4-1) suggested the one-factor solution captured the structure of the TPCES better than other solutions. All items loaded with values ranging from .67 to .87. This one-factor solution accounted for 62.10% of variance in the data, with an eigenvalue of 11.17. Previous research favored the one-factor solution of teachers' perceived collective efficacy using different scales such as the CE-Scale (Goddard, Hoy, et al., 2000), the Teacher Efficacy Beliefs Scale-Collective (Olivier, 2001), and the CTBS (Tschannen-Moran & Barr, 2004). The reliability and construct validity indicators for the TPCES scores herein, and from the second pilot study, warrant inferences from the TPCES to the larger population of the Omani elementary teachers using these scores obtained from the current sample.

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30 Similar loadings were obtained at the individual level. One noticeable behavior of the items of the TPCES is the loading of item 13. This item loaded with a value of .398 in the one-factor solution. This behavior of item 13 was expected because the 13 judges who examined the TPCES did not agree about the appropriateness of this item to the Omani culture, as safety is not a major concern for teachers. I included this item, however, to be examined empirically.
4.2.3.3. The SCI

A classical test theory internal consistency of the scores of the four subscales was examined using Cronbach’s alpha coefficient that resulted in .93 for teacher professionalism, .97 for collegial leadership, .89 for academic press, and .92 for community engagement. The reliability coefficient for the total score was alpha = .96. School-level descriptive analysis for each of these subscales and the total score of the SCI was displayed in Table 4-3. As can be seen from the table, the participating schools, on average, showed moderate to high levels of these school climate dimensions, with community engagement being the lowest compared to other dimensions.

The four subscales of the SCI measured the four independent variables (i.e., the four dimensions of the school climate) each of which is hypothesized to have direct and indirect effects on teachers’ sense of efficacy. Thus, only a four-factor solution was of interest for the present analysis. The unconstrained solution identified four salient factors that retained 27 of 28 items accounting for 77.77% of the variance in the data. Eigenvalues of 15.40, 2.86, 2.27,
and 1.23 were obtained. The four factors corresponded to the four theoretical subscales found in previous research (e.g., Tschannen-Moran et al., in press). The first factor corresponded with the 8 items measuring collegial leadership. The second factor consisted of the six items related to community engagement and three items of academic press (15, 21, & 28). The third factor corresponded to five items (out of seven) measuring teacher professionalism and one item measuring academic press (# 6). The fourth factor was a mix of one item of achievement press (# 20) and two items related to teacher professionalism (13 & 19).

Inferences about the Omani scores from the current administration of academic press subscale of the SCI are somewhat limited. Scores from the other three subscales of the SCI seem to better capture their theoretical constructs than is the case with the academic press scores. Even though the fourth factor was not as apparent as the other three in the scree plot (see Figure 4-2), I made a decision to use a four-factor solution for the current investigation. This decision was based on the criteria adopted for the current study. The academic press subscale showed a high reliability coefficient ($\alpha = .89$) that was way beyond the initial cut score ($\alpha = .70$) and it had an eigenvalue greater than one. In addition, the inclusion of academic press subscale was supported by the grounding theory and previous empirical research (Tschannen-Moran et al., in press). The mixed loadings of its items, however, may indicate some problems with this subscale that needs further examination that is beyond the scope of the current investigation. Accordingly, for subsequent analyses, the four factors with all 28 items were retained with limitations discussed in the last chapter of this thesis.

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31 It would have been difficult to assume that the statistically obtained four factors represented the construct of school climate better than the four complete scales that have been examined in previous research. Dropping items from these scales would have influenced their content validity; that is, the content representation of the construct would have been affected by the changes in the items measuring each subscale. The obtained loadings might have resulted from other possible factors, above and beyond the connections of the items to the overall construct. For example, it is possible that the mixed loading of the academic press subscale resulted from multi-sources of academic press described in this dimension's items. These sources included: school, teachers, students, and parents. The effect of academic press sources on the loading of the items was observed in the development of the OCI (Hoy et al., 2002a).
Aside from this noticeable deviation of the behavior of the academic press subscale scores, construct validity indicators and reliability coefficients reported for the scores of the current investigation and the second pilot study indicate that the Omani teachers identified with the construct being measured by the SCI.

![Scree Plot for the SCI](image)

**Figure 4-2. Scree Plot for the SCI.**

4.2.4. Summary of Preliminary Analyses

Preliminary analyses started with data screening of missing data and input errors. The expectation maximization (EM) imputation method was used to replace missing values for 861 participants out of the total of 2,381 participants. This imputation did not pose any threat to the study's conclusions, as evident by the absence of any major significant changes in the psychometric properties of the measures and their bivariate correlations run with and without the imputed values (both were displayed in Table 4-1 and Table 4-2). All statistical assumptions about the data were met. Fifteen outliers were identified and retained. The model was examined with and without these retained outliers and no change was detected. The obtained construct validity evidence indicates inferences can be drawn about the target
population’s scores in the three main variables using this sample’s scores in the three measures: the TSES, the SCI, and the TPCES.

Because I have changed the response formats for some of these measures and because some of them are new in the literature, it is difficult to compare the means of this sample’s scores against specific norms of efficacy and school climate (M. Tschannen-Moran, personal communication, January 3, 2005). On average, however, the participants of this study showed moderate to high levels across these measures. Compared with other measures’ means, the community engagement mean score shows that these schools exerted less communication with their communities—a point I return to in the discussion chapter.

In examining the main questions of this study, the correlated mediator variable (TPCES) and the independent variables (SCI subscales) will be used together in some equations to predict the dependent variable (TSES). One concern about the use of correlated variables to predict an outcome variable is the existence of multicollinearity among these predictor variables. At the individual level, Table 4-2 shows that the highest bivariate correlation appeared between academic press and community engagement subscales ($r = .67$) with other correlations ranging from .35 to .64. Even though some of these correlations appeared to be high, they were all still within acceptable range (Tabachnick & Fidell, 2001). At the school level, these correlations were much higher than what is reported in Table 4-2. Table 4-4 shows the correlations at the school level. Again, the highest correlation was found between academic press and community engagement ($r = .81$) with other correlations ranging from .54 to .77. The high correlations of these aggregated variables are a product of restricted variability (Lee et al., 1991, p. 196).

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32 Examination of tolerance (1 - SMC: the squared multiple correlation) supported the non-existence of multicollinearity (the lowest value of tolerance was .39). Given the theoretical distinction and utility of these different variables, it was decided that these variables all be utilized in examining the study model. At the same time, further empirical testing for the direct and indirect paths proposed by the theoretical model is affirmed by these bivariate correlations among the study’s main variables.
Table 4-4

*Pearson Correlations for the School Level Variables (N = 98)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. District</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Type</td>
<td>.201*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. School Size</td>
<td>-.427</td>
<td>-.238</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. TPCE</td>
<td>.006</td>
<td>.267**</td>
<td>-.191</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. TPF</td>
<td>.032</td>
<td>.161</td>
<td>-.234</td>
<td>.776</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. CLD</td>
<td>.086</td>
<td>.154</td>
<td>-.185</td>
<td>.546</td>
<td>.565</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>7. ACP</td>
<td>.113</td>
<td>.259</td>
<td>-.211</td>
<td>.742</td>
<td>.714</td>
<td>.703</td>
<td>-</td>
</tr>
<tr>
<td>8. COM</td>
<td>.209</td>
<td>.428</td>
<td>-.320</td>
<td>.718</td>
<td>.602</td>
<td>.603</td>
<td>.812</td>
</tr>
</tbody>
</table>

TPCE = teachers' perceived collective efficacy; TPF = teacher professionalism; CLD = collegial leadership; ACP = academic press; COM = community engagement.

*Correlations ≥ .201 are significant at the 0.05 level (2-tailed).

**Correlations ≥ .267 are significant at the 0.01 level (2-tailed).

Indeed, mediational models assume a relationship exists between the independent variables and the mediator; thus, a concern about multicollinearity is possible, which may result in reduced power in the Step 3 of the between-school prediction model reported later (Baron & Kenny, 1986). To solve the problem, Baron and Kenny suggest that researchers examine the absolute values regardless of the significance for the independent variables with
and without the mediator\textsuperscript{33} (p. 1177). Next, I examine the proposed model of the current study.

4.3. Primary Analyses

The main feature of this analysis is a series of nested hierarchical models that combine teacher-and school-level covariates and variables. In reporting the data from these hierarchical models, I start with the rationale for adopting a nested mediational model (using Restricted Maximum Likelihood, REML). Then, two statistical models are examined: a base model and a between-school prediction model.

In the first model, I examine the variance of the dependent variable and the decomposition of variance into within and between-school variance. Because there is no predictor included in this model, this model is called a base-model, a null-model, or an unconditional model.

In the second model (i.e., a between-school prediction model or a conditional model), I examine the nine study hypotheses by running three sets of equations. Each set is presented as a separate step with its findings reported in both text and tables.

The first step examines the relationship between the four dimensions of school climate and TPCE. This examination addressed the four hypotheses (i.e., hypotheses five to eight), which proposed that each of the four dimensions of school climate would directly predict TPCE. Finding relationships between the four dimensions of school climate and TPCE is the first condition for examining the proposed mediational model.

The second step explores the predicted associations between the four dimensions of school climate and the outcome variable: teachers' sense of efficacy. This step allows an

\textsuperscript{33} Examining this possibility for the academic press subscale, this subscale was not a significant predictor in the second equation (step 2 in the next section of primary analysis) or the third equation (step 3). Thus, the question of whether multicollinearity resulted in reduced power in the third equation was not an issue.
examination of the first four hypotheses (hypotheses one to four) that predicted a direct relationship between each of the school climate dimensions and teachers’ sense of efficacy. Answering these four hypotheses answers the first major question of the study: *What dimensions of the school’s organizational climate directly predict teachers’ sense of efficacy?*

Finding direct relationships between the dimensions of school climate and teachers’ sense of efficacy is the second condition of examining the proposed mediational model.

The third step tests the ninth hypothesis: the one that assumed a direct relationship between TPCE and teachers’ sense of efficacy. This direct association represents the third condition of examining the proposed mediational model.

Assuming the three conditions are met, a comparison of the standardized beta weights obtained from the third step and the second step (for the effects of school climate on teachers’ sense of efficacy) should answer the second major question of the study: *What is the role, if any, of TPCE in the relationship between the dimensions of school climate and teachers’ sense of efficacy?*

### 4.3.1. Rationale for Using HLM

Because of the multilevel nature of the data, the assumptions of the ordinary least square (OLS) regression analysis for unbiased estimates are challenged through units of analysis concerns and dependence of observations within groups (Heck & Thomas, 2000).

The HLM approach has the advantage of handling the violation of independence of observations, through the use of REML (instead of OLS; Krull & MacKinnon, 2001). Also, HLM allows researchers to carry out analyses of group means that ensure appropriate adjustments for unbalanced group size (Raudenbush & Bryk, 2002). To avoid misestimation of standard errors, HLM takes into account random effects for each organizational unit when estimating standard errors. Heterogeneity of regression is resolved through estimating each
organizational unit's regression coefficients separately and then modeling "variation among the organizations in their sets of coefficients as multivariate outcomes to be explained by organizational factors" (p. 100). More detailed discussion of the HLM can be found elsewhere (Heck & Thomas, 2000; Kreft & de Leeuw, 2001; Krull & MacKinnon, 2001; Raudenbush & Bryk, 2002).

This multilevel model adopted for the current study allows us to understand how the school, as an organization, affects its members. At level one, the units are teachers and at level two, the units are schools. The hierarchical analysis of this study involves two models: a base model and a between-school prediction model. Standardized scores (instead of raw scores) were used in the analysis with a mean of zero and a standard deviation of one.

4.3.2. The Base Model

In this base-only model, I decomposed the variation in teachers' sense of efficacy (hereafter referred to as TSE) into within-and between-school levels through the specification of a one-way ANOVA with the random effects model. In equation form, this base model is written:

**Level 1 Model**

\[ TSE_{ij} = \beta_{0j} + r_{ij}, \]  

(1)

**Level 2 Model**

\[ \beta_{0j} = \gamma_{00} + u_{0j}. \]  

(2)

---

34 This model does not answer either of the two questions of this study. However, examining this model can be considered a prerequisite of subsequent analysis. Through this model, a researcher determines how much variation of the outcome variable can be explained by level-2 variables and, thus, the need for multilevel modeling.
The first step was to determine the proportion of variance at each level of the outcome variable: TSE. This can be obtained by calculating the Intraclass Correlation (ICC). Raudenbush and Bryk (2002) define the ICC as "the proportion of the variance in the outcome that is between the level-2 units" (p. 24). The ICC can be estimated by the equation:

\[ \rho = \frac{\tau_{00}}{\tau_{00} + \sigma^2}. \]  

Using the final estimation of variance components produced by this model, I calculated the ICC as \(0.0743 / (0.0743 + 0.9232) = 0.0744\). That is, only 7.44% of the total variance in TSE was associated with schools as opposed to the large proportion of variance that was associated with teachers. This finding is consistent with the findings of previous research. For example, Bryk and Driscoll (1988, as cited in Raudenbush & Bryk, 2002) found an overall variability of 0.084 among school means on TSE, using an American sample. In most organizational research, based on Heck and Thomas (2000, p. 16), the percentage of between-school variance is generally low.

Although no absolute standard value for ICC has been established (Avolio, Zhu, Koh, & Bhatia, 2004), I will follow Heck and Thomas (2000, p. 66) and treat a significant \(p\) value as sufficient to conduct a multilevel examination of the current model. This small component of variance at the school level (7.44%) was significantly different from zero. Thus, the null hypothesis was rejected using a one-way random ANOVA \(\chi^2 = 293.28, df = 97, p < .001\). This finding indicates that there is significant variability in the means of TSE across schools. This significance is important as a motivator to carry out the multilevel analysis.
The output of this model also gives the estimated grand mean of TSE which was 94.74. Based on the ICC value (reported above), this mean varies from school to school. HLM also produces the average within level-2 unit reliability across the 98 schools which was $\lambda = .64$. This value indicates an accepted within-reliability value, thus suggesting that the estimated differences in TSE between schools (reported through the ICC value) were reliable indicators of actual differences among schools’ population means (Heck & Thomas, 2000).

Compared to other studies (e.g., Bryk & Driscoll, 1988, as cited in Raudenbush & Bryk, 2002; Lee et al., 1991), the obtained reliability value ($\lambda = .64$) seems reasonable to carry out the analysis.\(^{35}\) This is supported by the significant ICC value reported earlier. Both of these indicators should be accounted for as a basis for adapting between-school analyses. Furthermore, because of the violation of independence of all observations in group data, multilevel models are needed (Maas & Hox, 2002).

4.3.3. Examining the TPCE Mediational Model:

The Between-School Prediction Model

This model is the most important model in the analysis, as the hypotheses of the mediational model are examined through a series of equations. Following Baron and Kenny (1986), three prerequisite conditions must be met in order to examine the mediational role of TPCE in the effects of the four subscales of school climate on TSE. Three regression equations, therefore, are needed.

In the first equation, in which the mediator (i.e., TPCE) is regressed on the four predictor variables (i.e., school climate dimensions), these predictor variables need to predict

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\(^{35}\) As the reliability estimates go down, the correlation between school-level variables and other variables becomes biased toward zero; thus, an inappropriate conclusion about causes and effects might be reached because of measurement error (Rowan et al., 1991, p. 246). Based on Rowan et al., high values indicate that the between-school analyses will be robust against measurement error which allows the estimation of school effects on teachers’ sense of efficacy. The researchers, however, did not give clear guidelines about the value to be considered appropriate.
the mediator. If this is true, then the first condition is met. The findings of this first equation help in examining hypotheses five through eight, which postulate a positive direct relationship between each of the school climate dimensions and TPCE.

Second, where the outcome variable (i.e., TSE) is regressed on the predictor variables (i.e., school climate dimensions), again, these predictor variables must predict the outcome variable. If prediction is found, then the second condition is fulfilled. The results of this equation allow for an examination of hypotheses one through four and, thus, answer the first question of the study: *What dimensions of the school climate directly relate to TSE?*

Third, TPCE should predict TSE in the third equation, when TSE is regressed on both TPCE and the four dimensions of school climate. If TPCE is found to predict TSE, then the third condition is met and hypothesis nine is true.

If all of these conditions are met and in agreement with the predicted direction, it is important that the associations between the school climate dimensions (i.e., the predictor variables) and TSE (i.e., the outcome variable) should be weaker in the third equation than in the second. An ideal mediation is achieved if these associations disappear when TPCE is controlled (Baron & Kenny, 1986; see also Holmbeck, 1997). The results from the three conditions, along with the change found in the associations between school climate dimensions and TSE, should answer the second question of this study: *What is the role, if any, of TPCE in the relationship between the four dimensions of school climate and TSE?*

Each step of examining the mediational model is discussed separately. I report these equations in the same order as that suggested by Baron and Kenny (1986) for examining mediational models. The only difference from their administration is that the last two of these
equations are done through multilevel modeling, while the first equation is examined within one level (i.e., the school level).\footnote{The use of multilevel modeling is required only when the outcome variable (TSE) is included in the equations (i.e., the second and third equations). This multilevel modeling was not needed to examine the path between the predictors (school climate subscales, at the school level) and the mediator (TPCE, at the school level, too). This latter path, based on Krull and MacKinnon (2001) involves only group variables and, thus, a single-level model is appropriate (p. 272).}

4.3.3.1. First Step:

The First Condition: School Climate Must Predict TPCE

This single-level analysis aimed to examine the relationship between the four school climate subscales (i.e., predictor variables) and TPCE (i.e., the mediator). In this analysis, TPCE is treated as an outcome variable and was regressed on the four predictor variables.\footnote{In all subsequent equations and tables, the abbreviations TPF, CLD, ACP, and COM will be used to refer to teacher professionalism, collegial leadership, academic press, and community engagement, respectively.} In equation form, the model represents a normal OLS regression model and is written:

\[
TPCE_j = \beta_0 + \beta_1 \text{School size}_j + \beta_2 \text{Type}_j + \beta_3 \text{District}_j + \beta_4 \text{CLD}_j + \beta_5 \text{TPF}_j + \beta_6 \text{ACP}_j + \beta_7 \text{COM}_j + r_j
\]  

(4)

The associations between the school climate subscales and the TPCE were examined while controlling for three school-level covariates: type of school, school district, and school size.\footnote{Because HLM software does not allow the treatment of a level-2 variable as an outcome variable, I tricked the software to perform this equation in which the TPCE is an outcome variable at the school level. First, the school-level SPSS file was imported to HLM software as a level-1 file. Variables of importance to this equation were imported. The same school-level file was also imported to HLM as a level-2 file while selecting unrelated variables. Thus, the school-level variables now are placed in the level-1 environment where HLM allows for specifying an outcome variable. TPCE was selected as an outcome while the four school climate dimensions were entered into the model as predictors (with three school-level covariates being controlled). At level-2, there was no selection of variables. However, an important piece of tricking HLM is by removing the error term (i.e., constraining the variance) associated with the level-1 intercept in the level-2 equation. This model could have been done using OLS regression function in SPSS. Similar results were obtained from both HLM software and SPSS.} Table 4-5 represents the findings of this model. None of the covariates was statistically significant. Among the four predictor variables, only the teacher professionalism...
(\beta = .49, p < .001) and community engagement (\beta = .33, p = .003) subscales were statistically
significant predictors of the TPCE. Hence, the first condition of the mediational model was
met for only two of the four predictor variables.

Table 4-5

Summary of Multiple Regression Analysis for School Climate Subscales Predicting TPCE
(Step 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>\beta</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>20.687</td>
<td>3.898</td>
<td>-</td>
<td>.000</td>
</tr>
<tr>
<td>District</td>
<td>-0.143</td>
<td>0.101</td>
<td>-0.090</td>
<td>.158</td>
</tr>
<tr>
<td>Type</td>
<td>0.308</td>
<td>0.548</td>
<td>.036</td>
<td>.575</td>
</tr>
<tr>
<td>School Size</td>
<td>0.001</td>
<td>0.001</td>
<td>.027</td>
<td>.685</td>
</tr>
<tr>
<td>TPF</td>
<td>1.051</td>
<td>0.176</td>
<td>.489</td>
<td>.000</td>
</tr>
<tr>
<td>CLD</td>
<td>-0.031</td>
<td>0.086</td>
<td>-0.029</td>
<td>.715</td>
</tr>
<tr>
<td>ACP</td>
<td>0.316</td>
<td>0.249</td>
<td>.151</td>
<td>.207</td>
</tr>
<tr>
<td>COM</td>
<td>0.601</td>
<td>0.195</td>
<td>.331</td>
<td>.003</td>
</tr>
</tbody>
</table>

Note. R^2 = .718, \Delta R^2 = .696.

TPF = teacher professionalism; CLD = collegial leadership; ACP = academic press; COM =
community engagement.

The findings of this model help examine four hypotheses (out of nine) proposed for
the current data. These four hypotheses describe the relationship between the four dimensions
of school climate and TPCE. These are hypotheses five, six, seven, and eight in the literature review chapter. I discuss each hypothesis in relation to this model’s findings.

**H5**: The collegial leadership dimension of school climate will have a direct relationship with TPCE.

The results of this model failed to support this hypothesis. Collegial leadership was found not to predict TPCE ($\beta = -.03, p = .715$). Previous theoretical research emphasized the role of leaders in promoting collective perceptions of their staff (Bandura, 1997, p. 501). Little empirical work, however, had been done on this subject and no examination was reported for the independent influence of collegial leadership on TPCE (e.g., Ross et al., 2004; Olivier, 2001). Previous studies reported a moderate to high correlation that is similar to the present study’s bivariate correlation, as reported earlier ($r = .54, p < .01$). However, when examined with the other dimensions, collegial leadership does not seem to exert any significant influence on TPCE in this study.

**H6**: The teacher professionalism dimension of school climate will directly predict TPCE.

This hypothesis was supported. Teacher professionalism was found to be the strongest predictor of TPCE among the four school climate dimensions investigated in the present study ($\beta = .49, p < .001$). The present finding supports Dale’s (2004) finding that both teachers’ collaboration ($\beta = .30, p < .01$) and teacher-teacher trust ($\beta = .19, p < .05$) significantly predicted their perceived collective efficacy. The high bivariate correlation found in my study ($r = .77, p < .01, N = 98$) between the teacher professionalism dimension and TPCE is consistent with previous correlations reported in Western studies (e.g., Olivier, 2001, $r = .71, p < .05, N = 65$). This association is important because it emphasizes the role of collaborative
and supportive relationships among teachers on promoting the collective perception of staff efficacy.

H7: As a dimension of school climate, the academic press of a school will have a direct relationship with TPCE.

This hypothesis was not supported. Academic press did not predict TPCE. Contrary to what was theoretically expected and empirically supported in previous research (Hoy et al., 2002b), this dimension did not relate to TPCE ($\beta = .15, p = .207$). This finding may relate to the weak psychometric properties found for the subscale used to examine this dimension, rather than to an absence of association between academic press and the Omani teachers’ collective perceptions of efficacy. I return to this topic in the Discussion Chapter.

H8: The community engagement dimension of school climate will be a statistically significant predictor of TPCE.

This eighth hypothesis was supported by the current Omani sample. Community engagement statistically and positively predicted TPCE ($\beta = .33, p = .003$), over and above the significant prediction reported earlier for teacher professionalism. This finding is important because the present study is the first to examine this dimension in relation to TPCE. The results of the current study highlight the importance of community engagement in relation to school-related variables.

In sum, this model (Step 1) provides support for two hypotheses: Both teacher professionalism and community engagement were statistically significant predictors of TPCE. Thus, the first condition of examining a mediational model was supported for these two dimensions. The other two dimensions of school climate (i.e., collegial leadership and
academic press) did not predict TPCE. Thus, the first condition was not met for these two dimensions.

4.3.3.2. Second Step:

The Second Condition: School Climate Must Predict TSE

In this step, the aim of the model was to examine the relationship between the four dimensions of school climate (i.e., the predictor variables) and TSE (i.e., the outcome variable). A multilevel model was implemented in this step because this model involves variables from different levels.

Due to the inconsistent findings of the effects of demographic variables on TSE, I ran this between-school prediction model while controlling for eight teacher and school demographic covariates. There were five covariates at the teacher level that included: gender, degree, major, experience, and experience at the current school. There were another three covariates at the school level that included: type of school, school district, and school size (total number of students).

This between-school prediction model involves the development and estimation of a school-level model (level-2). For each school, there is a regression coefficient (Raudenbush & Bryk, 2002) that is conceived of as an outcome variable in this school level model. This regression coefficient is predicted by the four subscales of the school climate. The model at the teacher-level is written:

\[
TSE_{ij} = \beta_0 + \beta_1 \text{Male}_{ij} + \beta_2 \text{First Field}_{ij} + \beta_3 \text{Second Field}_{ij} + \beta_4 \text{Third Field}_{ij} + \beta_5 \text{Fourth Field}_{ij} + \beta_6 \text{Intermediate College}_{ij} + \beta_7 \text{Experience}_{ij} + \beta_8 \text{Experience at the current School}_{ij} + r_{ij},
\]  

(5)
The model at the school-level is written:

\[ \beta_{0j} = \gamma_{00} + \gamma_{01} \text{School size}_j + \gamma_{02} \text{General-Education Schools}_j + \gamma_{03} \text{Muscat}_j + \]

\[ \gamma_{04} \text{Al-Batina N}_j + \gamma_{05} \text{Al-Batina S}_j + \gamma_{06} \text{Al-Dakhliyah}_j + \gamma_{07} \text{Al-Sharkiyah S}_j + \]

\[ \gamma_{08} \text{Al-Sharkiyah N}_j + \gamma_{09} \text{Al-Dhahirah}_j + \gamma_{10} \text{Dhofar}_j + \gamma_{11} \text{CLD}_j + \gamma_{12} \text{TPF}_j + \]

\[ \gamma_{13} \text{ACP}_j + \gamma_{14} \text{COM}_j + u_{0j} \quad (6) \]

\[ \beta_{1j} = \gamma_{10} \quad (7) \]

\[ \beta_{2j} = \gamma_{20} \quad (8) \]

\[ \beta_{3j} = \gamma_{30} \quad (9) \]

\[ \beta_{4j} = \gamma_{40} \quad (10) \]

\[ \beta_{5j} = \gamma_{50} \quad (11) \]

\[ \beta_{6j} = \gamma_{60} \quad (12) \]

\[ \beta_{7j} = \gamma_{70} \quad (13) \]

\[ \beta_{8j} = \gamma_{80}. \quad (14) \]

In this multilevel model, I only specified the intercept term as a random coefficient, while other coefficients were fixed. The left side of Table 4-6 represents the results from this model. Again, this second condition was only met for teacher professionalism (\(\beta = .10, p = .041\)) and community engagement (\(\beta = .13, p = .034\)) subscales.

These findings help in answering the first question of this study: *What dimensions of the school’s organizational climate directly predict TSE?* Among the four subscales of school climate (as measured by the SCI), only teacher professionalism and community engagement significantly predicted TSE.
### Table 4-6

*Summary of the two Between-School Prediction Models (Steps 2 & 3): (Standardized Coefficients, β)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Estimated Effects (β)</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Climate</td>
<td>Climate &amp; TPCE</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td>-.0334</td>
<td>.1425</td>
</tr>
<tr>
<td>Teacher-Level Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>.1752</td>
<td>.0661</td>
</tr>
<tr>
<td>First Field</td>
<td></td>
<td>.0770</td>
<td>.0519</td>
</tr>
<tr>
<td>Second Field</td>
<td></td>
<td>.2359**</td>
<td>.2182**</td>
</tr>
<tr>
<td>Third Field</td>
<td></td>
<td>.0889</td>
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</tr>
<tr>
<td>Fourth Field</td>
<td></td>
<td>.0991</td>
<td>.0809</td>
</tr>
<tr>
<td>Intermediate College</td>
<td></td>
<td>-.0443</td>
<td>-.0433</td>
</tr>
<tr>
<td>General Experience</td>
<td></td>
<td>.2425***</td>
<td>.2363***</td>
</tr>
<tr>
<td>Experience at the Current School</td>
<td></td>
<td>-.0508*</td>
<td>-.0547*</td>
</tr>
<tr>
<td>School-Level Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General-Education Schools</td>
<td></td>
<td>-.1530</td>
<td>-.1408*</td>
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<tr>
<td>School Size</td>
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<td>.0006</td>
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<td>Muscat</td>
<td></td>
<td>-.1634</td>
<td>-.2262</td>
</tr>
<tr>
<td>Al-Batina N</td>
<td></td>
<td>-.1046</td>
<td>-.1930</td>
</tr>
<tr>
<td>Variables</td>
<td>Step 2</td>
<td>Step 3</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------</td>
<td>------------</td>
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</tr>
<tr>
<td></td>
<td>Climate</td>
<td>Climate &amp; TPCE</td>
<td></td>
</tr>
<tr>
<td>Al-Batina S</td>
<td>-.0671</td>
<td>-.1377</td>
<td></td>
</tr>
<tr>
<td>Al-Dakhliyah</td>
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<td>-.2435*</td>
<td></td>
</tr>
<tr>
<td>Al-Sharkiyah S</td>
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<td>-.2277</td>
<td></td>
</tr>
<tr>
<td>Al-Sharkiyah N</td>
<td>-.6765***</td>
<td>-.6254***</td>
<td></td>
</tr>
<tr>
<td>Al-Dhahirah*</td>
<td>-.1920</td>
<td>-.2106</td>
<td></td>
</tr>
<tr>
<td>Dhofar</td>
<td>.2022</td>
<td>.2258</td>
<td></td>
</tr>
</tbody>
</table>

**School-Climate Dimensions**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Professionalism</td>
<td>.0980*</td>
<td>-.0561</td>
</tr>
<tr>
<td>Collegial Leadership</td>
<td>.0461</td>
<td>.0354</td>
</tr>
<tr>
<td>Academic Press</td>
<td>-.0235</td>
<td>-.0521</td>
</tr>
<tr>
<td>Community Engagement</td>
<td>.1259*</td>
<td>.0363</td>
</tr>
</tbody>
</table>

**TPCE**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TPCE</td>
<td>.3080***</td>
</tr>
</tbody>
</table>

**Unexplained Variance**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unexplained Variance</td>
<td>.0362***</td>
</tr>
</tbody>
</table>

**% of Variance Explained \( (R^2) \)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Variance Explained ( (R^2) )</td>
<td>.5127</td>
</tr>
</tbody>
</table>

**Note.** One category was used as a base category for comparison and, thus, was omitted from each categorical variable.

TPCE: Teachers' Perceived Collective Efficacy.
Al-Dhahirah-North and Al-Dhahirah-South districts are treated as one in the Ministry's records. Thus, in this analysis, their data were merged to represent one district.

*p < .05. **p < .01. ***p < .001.

These findings also permit an examination of the first four hypotheses that describe the relationship between the four dimensions of school climate and TSE. I examine each of these hypotheses based on this multilevel model's findings.

**H1:** The collegial leadership dimension of the school's organizational climate will directly predict TSE.

The results of the current sample failed to support the hypothesized effect of collegial leadership on TSE ($\beta = .05, p = .320$). This finding is different from previous findings that showed leadership as a significant predictor of TSE (Hoy & Woolfolk, 1993; Newmann et al., 1989). There are, however, a few studies that found no relationship between leadership and TSE when examined with other dimensions (e.g., Raudenbush, Rowan, et al., 1992). The effects of collegial leadership on TSE seem not to persist when other school climate dimensions are present in the model. Differences in the measures used to examine this dimension and the level of data analysis implemented across studies may explain this inconsistency in findings. This is discussed further in the next chapter.
**H2:** The dimension of teacher professionalism of the school's organizational climate will directly predict TSE.

This hypothesis was supported. Teacher professionalism was a statistically significant predictor of TSE ($\beta = .10, p = .041$). This finding is important because it shows the positive effects of teachers' collaboration, support, and respect for their colleagues' professionalism on their individual sense of efficacy. Previous research has continuously reported a significant link between this dimension and TSE, even with the presence of other personal and organizational factors ($\beta = .09, p \leq .001$, Lee et al., 1991). Taylor and Tashakkori (1995) reported that both faculty collegiality and faculty communication significantly and positively predicted TSE ($\beta = .16$ and $\beta = .24$, respectively, $ps < .001$). An elaborative discussion about the implications of this finding is given in the Discussion Chapter.

**H3:** The achievement press dimension of the school's organizational climate will directly predict TSE.

The present finding did not support this hypothesis ($\beta = -.02, p = .768$). Two interpretations of this finding can be discussed. First, achievement press does not seem to be related to the development of these Omani teachers' sense of efficacy. The weak psychometric properties found for the scores of this dimension suggest that the Omani teachers may not identify with the construct of academic press. Alternatively, the absence of the relationship may be attributed to how this dimension was conceptualized in the current study.\(^{39}\) Previous research did not investigate this dimension as conceptualized in the current study.

\(^{39}\) Other studies used indicators such as student discipline, orderliness and safety of school environment as indicators of academic press. In contrast, the present study views academic press as the school's people and parents' press for high achievement that is recognized by the school and reflected in the students' academic behavior.
study, except for one study that has found a significant relationship between academic press and TSE ($\beta = .19, p < .05, \text{Hoy & Woolfolk, 1993}$). Hoy and Woolfolk's study, however, examined this association using a single-level analysis, which might be misleading when applied to multilevel data. I elaborate on these interpretations in the next chapter.

$H_4$: The community engagement dimension will directly predict TSE.

An interesting link was found between community engagement and TSE. This dimension was the strongest dimension of school climate to predict TSE ($\beta = .13, p = .034$). This finding is consistent with previous research that shows community engagement as a strong predictor of school-related variables, such as student math and English achievement ($\beta = .52, p = .01; \beta = .50, p = .05, \text{Tschannen-Moran et al., in press}$). The statistically significant path between community engagement and TSE in my study implies that the latter is enhanced when the school adopts bridging strategies for strengthening its connection with the community. I discuss the importance of this finding in the conceptualization of this dimension of school climate and its implications for the development of teachers' efficacy beliefs in the next chapter.

An examination of the proportion of variance explained in the variance components of this model informs us about how much variance is accounted for by this first between-school prediction model compared to the initial base model reported earlier. Based on Heck and Thomas (2000), this examination can be done by calculating the ICC using the proportion of variance explained in TSE in the base-only and the between-school prediction models: $(.0743 -.0362) / .0743 = .5127$.

Hence, this between-school prediction model accounted for 51% of the initial between-school variance in TSE. This percentage is moderately high given the few school
climate dimensions included in the model. Lee et al. (1991) used various variables that included: principal leadership, perceived sense of community and support, average teacher control, student disorder, and few demographic variables, including SES. The researchers reported that 75% of the variance in TSE was accounted for by their final model.

The intercept variance component produced in the output signifies the extent to which TSE varies across schools (see the unexplained variance at the bottom of Table 4-6). The chi-square test indicates that some significant variation in TSE still exists across schools ($\chi^2 = 160.15, df = 83, p < .001$). This variation seems not to be accounted for by the current teacher- and school-level variables included in this first between-school prediction model.

4.3.3.3. Third Step:

The Third Condition: TPCE must predict TSE

The last model examined involves the regression of TSE (i.e., the outcome variable) on both TPCE (i.e., the mediator) and the four dimensions of school climate (i.e., the predictor variables). Similar to the model in step 2, this model has variables of different levels and, thus, a multilevel model was used to examine the relationships among these variables. The level-1 model stayed the same as in step 2 (Equation 5). The level-2 model changed to include TPCE as a predictor variable:

\[
\beta_{0j} = \gamma_{00} + \gamma_{01} \text{School size}_j + \gamma_{02} \text{General-Education Schools}_j + \gamma_{03} \text{Muscat}_j + \\
\gamma_{04} \text{Al-Batina N}_j + \gamma_{05} \text{Al-Batina S}_j + \gamma_{06} \text{Al-Dakhliyah}_j + \gamma_{07} \text{Al-Sharkiyah S}_j + \\
\gamma_{08} \text{Al-Sharkiyah N}_j + \gamma_{09} \text{Al-Dahirah}_j + \gamma_{10} \text{Dhofar}_j + \gamma_{11} \text{CLD}_j + \gamma_{12} \text{TPF}_j + \\
\gamma_{13} \text{ACP}_j + \gamma_{14} \text{COM}_j + \gamma_{08} \text{TPCE}_j + u_{0j}.
\]  

(15)

In addition, at this level-2 model, equations 7 through 14 stayed the same.
Similar to the multilevel model in step 2, all parameters were fixed and only the intercept term was allowed to vary. Results of this model are displayed in the right side of Table 4-6. Results show that the third condition of mediation was met. The TPCE significantly predicted TSE ($\beta = .31, p < .001$). Thus, the three conditions hold to examine the mediational role of TPCE on the effect of two predictor variables (i.e., the teacher professionalism and community engagement subscales) on TSE.

These findings support the ninth hypothesis of the current study, which indicates that:

**H9:** TPCE will be a significant predictor of differences among schools in TSE.

Consistent with previous research, TPCE appeared to be a significant positive predictor of differences among schools in TSE ($\beta = .31, p < 001$). Indeed, TPCE was the strongest predictor among the five main variables (excluding demographic ones) used to predict TSE in step 3. An increase of one standard deviation in TPCE was associated with an increase of .31 standard deviation in TSE.

The chi-square statistic reported for the final estimation of variance components was not significant after TPCE was added in this second between-school prediction multilevel model ($\chi^2 = 91.42, df = 82, p = .223$). This finding indicates that having TPCE in the model "explains away the remaining between-school variance" in TSE (Heck & Thomas, 2000, p. 81). Accordingly, the TPCE seems to be an important variable in predicting TSE. This final model, therefore, has accounted for all of the between school variance. Compared with the first between-school prediction model (Step 2, in which TPCE was not included) that accounted for 51% of the variance, this final model accounts for 90.44% of the initial between-school variance in TSE reported in the base-only model. This percentage was obtained by using the proportion of variance explained by the base model and this second between-school prediction model: $(.0743 - .0071) / .0743 = .9044$. This powerful role of
TPCE in predicting TSE has been empirically supported by Goddard and Goddard (2001), who used path analysis to predict TSE using TPCE as a predictor variable. A similar conclusion was reported.

4.3.3.4. Is TPCE a Mediator?

The major criterion for showing a mediational function of the TPCE is that the effects of teacher professionalism and community engagement on TSE in the final model (step 3) should have decreased or disappeared compared to their effects found in the previous model (step 2). Indeed, when controlling for TPCE (by entering it into the equation), the previously significant effects of teacher professionalism and community engagement on TSE no longer exist ($\beta = -.05, p = .180; \beta = .03, p = .433$, respectively).

These findings provide an answer to the second major question of the current investigation: TPCE plays a perfect mediational role on the relationships between only two school climate dimensions and TSE. These results show that positive school climate, characterized by collaborative supportive relationships among teachers and positive community engagement in school activity, predicts teachers’ perceptions of the group’s ability to influence student learning, which in turn predicts the individual teacher’s sense of efficacy. This result is consistent with previous research that suggests links between school climate and TPCE as two organizational-level variables (Hoy et al., 2002a). It also confirms the social cognitive theory proposition that TPCE and TSE are two interconnected efficacy belief constructs (Bandura, 1997). Figure 4-3 shows the TPCE mediational model with standardized coefficients assigned for each of the nine paths.
In this section, I examined the proposed mediational model of the current investigation. Due to the nested nature of the data collected for this investigation, a rationale was given for the importance of using multilevel modeling when examining the current data. The HLM allowed us to decompose the variation in TSE into within- and between-school components. The significant variation in TSE found between schools ($\chi^2 = 293.28, p < .001$) in the base model was a starting point from which to carry out subsequent analyses using multilevel modeling.

The three steps of a mix of single-level and multilevel models answered the two questions that (a) examined the relationships between the four school climate dimensions and TSE and (b) proposed a mediating role for TPCE in these relationships. While the first
question was answered by the findings of step 2, the second question was answered by the combined findings of the three steps. Step 1 examined hypotheses five through eight; step 2 examined hypotheses one through four; and step 3 explored hypothesis nine.

In step 1, a single school-level model examined the relationship between the four subscales of school climate and TPCE. The results showed that the teacher professionalism and the community engagement subscales were statistically significant predictors of TPCE, while the collegial leadership and academic press subscales were not. These findings correspond to hypotheses five through eight of the proposed model guiding the current study. Accordingly, the first condition of the mediational model was met for teacher professionalism and community engagement subscales only.

In step 2, a multilevel model was used to predict TSE using the four school climate predictor variables. This model was run while controlling for five teacher-level covariates and another three school-level covariates. Again, only the community engagement and teacher professionalism subscales appeared to be statistically significant predictors of TSE. Thus, the second condition of the mediational model was met for these two predictor variables. The results of this step also answered the first question about the direct relationship between the four subscales of school climate and TSE. The findings correspond to hypotheses one through four of the proposed mediational model.

In step 3, TPCE was added to the multilevel model that was used in step 2. TPCE significantly predicted TSE, fulfilling the third condition of examining the mediational model and supporting the ninth hypothesis of the present study.
Collectively, the three steps indicated that the three conditions of a mediational model were supported but only for teacher professionalism and community engagement.\textsuperscript{40} Comparing the results in steps 2 and 3, I examined the major criterion of the proposed mediational role of TPCE in the relationship between the two subscales of school climate and TSE. That is, the significant effects of the two predictor variables found in step 2 completely disappeared after controlling for TPCE in step 3. While answering the second major question, this change reflected a perfect mediational role of TPCE on the relationships between these two predictor variables (i.e., teacher professionalism and community engagement) and TSE.

Finally, the study utilized standardized regression coefficients (beta weights) to describe the strength and direction of the nine paths corresponding to the nine theoretical hypotheses. Figure 4-3 shows each path with its obtained standardized regression coefficient.

\textsuperscript{40} As I noted earlier in Chapter 3, the use of a mediational model (rather than a moderator model) is justified for the current investigation. The findings from the model equations all fit the requirements of establishing a mediational model. Baron and Kenny (1986, p. 1174) asserted that the desirable condition for a moderator model is when the moderator variable is uncorrelated with either the predictor or the outcome variables. None of these conditions would have been appropriate for the current study, considering the high bivariate correlations reported between TPCE and both the independent and the outcome variables. Mediational models are preferred when examining relationships that are similar to the ones under investigation of the current study.
Chapter 5

DISCUSSION

5.1. Overview

This study explored the relationship between school climate dimensions and teachers' sense of efficacy. Both of these variables are important for the success of a school. School climate has been related to many educational variables including student achievement (Tschannen-Moran et al., in press). Teachers’ sense of efficacy is found to predict both teacher and student behavior (Gibson & Dembo, 1984; Olivier, 2001).

Although school climate dimensions have been conceptually and empirically linked to teachers’ sense of efficacy, there has been little empirical research, if any, that focuses on the processes by which school climate dimensions predict teachers’ sense of efficacy. Recognizing that a variety of different processes may be involved in this relationship, I explored the potential role of teachers’ perceived collective efficacy (TPCE).

A mediational model was developed based on the theoretical correspondence of these two variables. The model proposed a mediational role for TPCE, which may represent the mechanism through which the dimensions of school climate predict teachers’ sense of efficacy. Empirical research has suggested that school climate dimensions is a predictor of TPCE and teachers’ sense of efficacy (Dale, 2004; Hoy & Woolfolk, 1993; Lee et al., 1991). Similarly, TPCE was found to predict teachers’ sense of efficacy (Goddard & Goddard, 2001). Previous research, however, stayed within the bivariate examinations of these interrelated variables. In this study, the multilevel mediational model was used to examine relationships among the three variables.

Within this proposed framework, I developed two research questions that guided the current research. These were:
1. What dimensions of the school's organizational climate can directly predict teachers' sense of efficacy?

2. What is the role, if any, of TPCE in the relationship between the dimensions of school climate and teachers' sense of efficacy?

To answer these two questions, two studies were undertaken to validate the instruments through which the three major variables comprising these questions could be measured. Once validated, these measures were used to collect data using Omani elementary teachers' responses. A total of 2,381 cases were included in the actual analysis. Descriptive data analyses were run and the proposed nine hypotheses were tested using a hierarchical linear modeling (HLM). The results of these analyses indicated the following:

1. The three measures were appropriate for examining the research questions. These measures demonstrate adequate reliability and construct validity evidence.

2. Descriptive analyses indicated moderate to high bivariate correlations among the main variables, supporting the findings of previous research about the relationships among these variables.

3. The examination of the paths proposed in the TPCE model revealed support for five of the proposed hypotheses, while it failed to support the other four. This multilevel examination of the mediational model suggested:

   a. Collegial leadership did not predict either teachers' sense of efficacy or TPCE.

   b. Teacher professionalism significantly predicted teachers' sense of efficacy directly and indirectly through TPCE.

   c. Achievement press failed to predict any of the two efficacy belief constructs.
d. Among school climate dimensions, community engagement was the strongest predictor of teachers' sense of efficacy. It also predicted teachers' sense of efficacy indirectly through TPCE.

e. The mediating role of TPCE was supported. TPCE mediated the relationship between teacher professionalism and community engagement and teachers' sense of efficacy.

This chapter consists of three sections. In the first section, I discuss the major findings with links to the previous theoretical and empirical findings reported in the literature. In the second section, I synthesize both the theoretical and practical implications of the findings. Then, in the third section, I report the strengths and limitations of the study, along with recommendations for possible future research directions in both Arabic and Western contexts.

5.2. Discussion of the Findings

5.2.1. The TPCE Mediation Model Findings

My findings support previous research that links two dimensions of school climate to teachers' sense of efficacy (e.g., Hoy & Woolfolk, 1993) and TPCE (e.g., Dale, 2004). At least in the present sample of Omani elementary teachers, the results suggest that teacher professionalism and community engagement (as two dimensions of school climate) are associated with teachers' perceptions of collective efficacy, which is associated with teachers' individual sense of efficacy. In addition, these two dimensions directly predict teachers' sense of efficacy. This study failed to support the previously reported associations of collegial leadership and academic press with either one of the efficacy belief constructs.

Next, I discuss the results of the proposed model through an examination of the statistically significant relationships between teacher professionalism and community
engagement and teachers' sense of efficacy, along with the mediating role found for TPCE. I also report on the non-significant associations between collegial leadership and academic press and the two efficacy belief constructs and present possible interpretations of the findings.

5.2.1.1. Teacher Professionalism Predicted both Teachers' Sense of Efficacy and TPCE

Two hypotheses were stated in predictive form about possible relationships between teacher professionalism and teachers' sense of efficacy and TPCE. Both of these hypotheses were supported. Teacher professionalism predicted teachers' sense of efficacy directly (H2) and indirectly through TPCE (H6).

In the first link, teacher professionalism predicts teachers' sense of efficacy. A one standard deviation change in teacher professionalism was linked to a .10 standard deviation change on teachers' sense of efficacy. This link between teacher professionalism and teachers' sense of efficacy in the Omani sample, though small, is consistent with previous research findings (e.g., Harris, 2004). Selove (1984), for example, found that teachers' relationships significantly predicted teachers' sense of efficacy in the presence of another four organizational variables (β = .22, see discussions in Chapter 2). Similarly, among five dimensions of school climate, Taylor and Tashakkori (1995) reported “faculty communication” to be the best predictor of teachers' sense of efficacy (β = .24, p < .001).

In the second link, teacher professionalism predicts TPCE. As the teacher professionalism dimension increased one standard deviation, an increase of a .49 standard deviation was observed in TPCE. The moderate association found between this dimension and TPCE reinforces previous studies' findings of the importance of teacher professionalism in forming TPCE. Dale (2004) reported that collaboration predicted TPCE (β = .30, p < .01), along with the presence of other variables. These effects reported in the current study and
previous research are consistent with the high bivariate correlations found for teacher professionalism and both teachers' sense of efficacy and TPCE in the present and past studies (Olivier, 2001; Ross et al., 2004).

While it was not the focus of this research, the associations between teacher professionalism and the two efficacy belief constructs can be understood through Bandura's social cognitive theory (1997) and recent work on information sources of efficacy beliefs (e.g., Goddard, Hoy, et al., 2000; Ross et al., 2004).

Ross et al. (1997) interpreted the effects of collaboration on teachers' sense of efficacy by stating that collaboration fosters a climate that legitimates help-seeking, promotes collective instructional experimentation, and allows for joint problem-solving. Through this collaboration, teachers tend to work on teams in which they share their teaching concerns with their colleagues, exchange ideas, and become involved in common planning (Warren & Payne, 1997). During these collaborative opportunities, teachers are not only socially persuaded by their colleagues but also cognitively influenced by the successful vicarious experiences of their colleagues.

Based on Ross et al. (1997), collaboration allows teachers to receive resources and materials, new teaching strategies and directions, ideas, and guidelines about instructional materials. In addition, teachers' anxieties about their influence on their student performance are reduced by comparing their methodology and student achievement to that of other teachers and, thus, their feeling of success is fortified. In addition, through collaboration, teachers feel emotionally supported and their personal expectations of success become more realistic (Ross et al., 1997). Thus, teachers are able to face teaching challenges while preserving high levels of efficacy beliefs.
To conclude, this finding is important because teachers' sense of efficacy predicts teacher behavior and teaching practices as described in Chapter 2. It is also important because teacher professionalism has been found to relate to many school-related variables such as the organizational citizenship behavior of teachers, an important construct in current school effectiveness research (DiPaola & Tschanne-Moran, 2001).

5.2.1.2. Community Engagement Predicted both Teachers' Sense of Efficacy and TPCE

Two hypotheses were also proposed for the relationship between community engagement and both teachers' sense of efficacy and TPCE. Both of these hypotheses were supported. The present study shows that community engagement (as a dimension of school climate) predicted teachers' sense of efficacy both directly ($H_4$) and indirectly through its prediction of TPCE ($H_8$).

This finding shows that, by itself, community engagement is important in predicting teachers' sense of efficacy and TPCE over and above the predictive role of teacher professionalism. A one standard deviation change in community engagement was linked to .13 and .33 standard deviations on teachers' sense of efficacy and TPCE, respectively. This indicates that schools which advance productive connections with the community are likely to have teachers with a strong sense of personal and collective efficacy.

This finding is important because the present study is the first to examine the link between this dimension and both teachers' sense of efficacy and TPCE. This link is consistent with previous research that found that parental involvement in children learning was related to teachers' sense of efficacy (Hoover-Dempsey et al., 1987).

Contrary to the previously-held conviction that teachers build their efficacy beliefs independently from community support (e.g., Tschanne-Moran & Woolfolk Hoy, 2002), the teachers of this sample might depend on community engagement to promote their efficacy.
beliefs, both at the individual level and the collective level. Bandura (1993) argues that one way to promote school effectiveness is by establishing good connections among home, school, and the larger community (pp. 143-144). Cumulative evidence shows that parental involvement in children’s schooling predicts children’s achievement levels (Desimone, 1999; Grolnick & Slowiaczek, 1994).

The associations between community engagement and teachers’ efficacy beliefs (at both levels) can be understood through the social persuasion source of efficacy information discussed in Chapter 2. Positive feedback from parents predicts teachers’ beliefs about their ability to have a positive effect on student learning. Similarly, community groups’ acknowledgement of a school’s efforts regarding teaching children enhances the whole school faculty’s perceptions of collective efficacy.

5.2.1.3. TPCE Predicted Teachers’ Sense of Efficacy

The significant associations reported above between both efficacy belief constructs and teacher professionalism and community engagement fulfilled the required conditions (hypotheses 2, 4, 6, and 8) of the proposed mediational role of TPCE in the relationship between these two climate dimensions and teachers’ sense of efficacy. Another condition for this mediational role was also supported: TPCE was found to predict teachers’ sense of efficacy (H9).

The results show that when collective efficacy beliefs are high, individual teachers feel more competent about performing their teaching tasks. The current finding is consistent with Goddard and Goddard’s study (2001) of the relationship between TPCE and teachers’ sense of efficacy. The present study shows that a one standard deviation increase in TPCE is associated with a .31 standard deviation increase in teachers’ sense of efficacy. Goddard and Goddard reported an increase of .24 standard deviation. Similarly, when TPCE is considered
in the model, the two studies showed that the remaining variation in teachers' sense of efficacy was insignificant (i.e., it was not statistically different from zero). Based on this cumulative finding, it seems reasonable to conclude that teachers' sense of efficacy is higher in schools that are characterized by high levels of TPCE and that the latter could explain the between-school variance in the former. This strong association between TPCE and teachers' sense of efficacy was also observed in the high bivariate correlations found between these two variables in the present study and in previous studies (Goddard, Hoy, & et al., 2000; Olivier, 2001; Parker, 1994).

The statistically significant relationship between these two efficacy belief constructs (i.e., teachers' sense of efficacy and TPCE) supports Bandura's social cognitive theory, which asserts that these two efficacy constructs are interrelated. Bandura (1997) contends that the difference between these two constructs is in the unit of agency (i.e., individual versus organization). Otherwise, these two constructs function through similar processes and depend on similar sources (p. 478).

To conclude, the mediating function found for TPCE shows its effective role in relation to teachers' sense of efficacy, a role that is perceived as central in the school effectiveness research. Tschannen-Moran and Barr (2004) concluded that TPCE "constitutes a powerful factor affecting different arenas of the school organization, influencing attitudes, affective, motivational, and behavioral aspects of teacher functioning within the school" (p. 192). Accordingly, educators need to establish a good school climate that promotes TPCE as a means of raising teachers' efficacy beliefs, which in turn enhance student learning.

5.2.1.4. Collegial Leadership and Efficacy Beliefs

In contrast, hypotheses that suggested the collegial leadership dimension to be a significant predictor of teachers' sense of efficacy (H1) and TPCE (H5) were not supported.
Even though this dimension showed high bivariate correlations with both teachers' sense of efficacy ($r = .35$, $p < .01$, $N = 2,381$) and TPCE ($r = .54$, $p < .01$, $N = 98$), it did not have a statistically independent effect on either one of these efficacy belief constructs.

High correlations between this dimension and teachers' sense of efficacy are consistent with previous studies (Newmann et al., 1989; Olivier, 2001; Ross et al., 2004). However, the non-significant prediction contradicts previous research findings that principals' behavior is a significant predictor of teachers' sense of efficacy (Coladarci & Breton, 1997; Hoy & Woolfolk, 1993; Lee et al., 1991; Newmann et al., 1989; Selove, 1984; Taylor & Tashakkori, 1995).

A closer examination of these studies' findings indicates that they reported small standardized coefficients for the effects of this dimension on teachers' sense of efficacy (Coladarci & Breton, 1997: $\beta = .13$; Newmann et al., 1989: $\beta = .18$; Taylor & Tashakkori, 1995: $\beta = .19$). Woolfolk and Hoy (1993: $\beta = .23$) reported the highest coefficient but the fact that they used single-level analysis (instead of multilevel analysis) makes a comparison between my study and theirs invalid.

In contrast, other studies indicated that the association between collegial leadership and teachers' sense of efficacy decreases (though stays significant) with the presence of other school characteristics dimensions (e.g., Selove, 1984; Lee et al., 1991). Raudenbush, Rowan, et al. (1992) found no relationship between principal leadership and efficacy when other variables were included. Similarly, Coladarci (1992) reported an insignificant correlation between teachers' sense of efficacy and the principal/school-climate composite.

Only one study could be located that examined leadership in relation to TPCE. Dale (2004) examined teacher-principal collaboration and teacher-principal trust in relation to TPCE. Neither one of these variables predicted TPCE, a consistent finding with mine.
The statistically insignificant association between collegial leadership and teachers' efficacy beliefs may not indicate the complete absence of a relationship. Rather, this may only reflect the presence of multicollinearity and suppression (Tschannen-Moran & Barr, 2004). Alternatively, this finding may indicate that the association between this dimension and the two efficacy belief constructs is not as strong. Similarly, other researchers showed that collegial leadership dimension was not significantly associated with student achievement when it was examined with other school climate dimensions (Hoy et al., 1998; Tschannen-Moran et al., in press). Hoy et al. (1998) argued that, while principals are important in schools, they are "one step removed from teaching" (p. 355) and, thus, not highly implicated in teachers' sense of efficacy and TPCE.

This interpretation becomes plausible when looking at the changes happening in the roles of principals in Oman. I argue that there is a reduction in the degree of principals' involvement in teachers' teaching-related issues as a result of the recent educational reform implemented in these Omani schools. My conversations with many teachers suggest that the role of principal might have been minimized with the increasing number of administrative staff in the school. Other teachers attributed the decline to a new position called "The first-teacher." In this position, a teacher is assigned as "a resident supervisor of his/her field/major

41 This means, the predictive ability of teacher professionalism and community engagement in this analytical procedure has been maximized to the degree that there is no shared variance remaining in the outcome variable that could be explained by other predictors. When collegial leadership was examined alone with teachers' sense of efficacy and TPCE, this dimension showed significant prediction of these two efficacy belief constructs (β = .13, p < .001, β = .50, p < .001, respectively). The high relationships between each of the two efficacy belief constructs and teacher professionalism and community engagement, however, did not leave sufficient variance for collegial leadership to explain (Tschannen-Moran & Barr, 2004, p. 204).

42 My wife, a middle and high school teacher, used to teach in a school where there was no administrative staff, except the principal. My wife and her colleagues felt more attached to the principal, loyal to their school and highly motivated to increase the school achievement level. Having moved to another school where there is an administrative staff, my wife no longer talks about gleaning strength from the relationship with the principal. Rather, her comments are always about how supportive the school's vice-principal and the school's secretary are. Sometimes she does things that she would never normally do (such as take on an additional work load) just because of the motivational source found in her vice-principal. In many cases, during my visits to schools while collecting the current data, the vice-principal was running the school instead of the principal, who attends district-level meetings and probably has more links to administrative functions, such as corresponding with upper educational level representatives outside the school.
who is responsible for coordinating, teaching, and discussing teaching issues with other teachers of the same field/major” (Omani Ministry of Education, 2005). This is not to say that the role of principals might have diminished; rather, there are increasing sources of strength for teachers that might come from other administrative people who run the school and from the first-teachers of each subject.

Furthermore, the effects of collegial leadership might have been masked by how long each principal had been in his or her school. For example, Tschannen-Moran and Barr (2004) excluded schools which had recently changed principals from their sample (p. 198). Since a large number of these Omani schools were built recently, many of the principals have not been in the schools for very long. Future research should attend to principals’ general experience and the number of years they have spent in any given school.

It is also possible that the absence of significant associations between collegial leadership and both efficacy belief constructs reflects limitations on how this dimension was measured. This subscale may have omitted other behaviors that are found to directly predict teacher efficacy and were examined in the literature review. For example, recently, Ross and Gray (in press) found transformational leadership significantly predicted TPCE ($\beta = .42, p < .001$).

5.2.1.5. Academic Press and Efficacy Beliefs

Two hypotheses were proposed to examine the relationship between academic press and the two efficacy belief constructs. It was hypothesized that academic press would predict teachers’ sense of efficacy directly ($H_3$) and indirectly through TPCE ($H_7$). Neither hypothesis was supported. The findings of this study show that Omani teachers’ sense of efficacy and their perceived collective efficacy might not be predicted by the press for high achievement standards by the school’s people and the parents.
This finding contradicts previous research that has found academic press to predict teachers’ sense of efficacy (Hoy & Woolfolk, 1993; Lee et al., 1991; Moore & Esselman, 1992; Newmann et al., 1989; Selove, 1984). A closer examination of these studies, however, indicates that none of them (but Hoy and Woolfolk’s study, 1993) conceptualized this dimension in the way it is conceptualized in the organizational climate literature and in the current study (see footnote 39). The effects found in Hoy and Woolfolk’s study may be attributed to the single level analysis used in their study.

Only one study could be identified that examined this dimension in relation to TPCE. Hoy et al. (2002b) found academic press to predict TPCE, even after controlling for SES ($\beta = .47, p < .05$). This finding cannot be compared with my finding because Hoy et al. did not examine any other dimensions of school climate in the same study. When TPCE regressed on academic press only, the current study showed that this dimension predicted TPCE, even after controlling for three school-level covariates ($\beta = .71, p < .001$). However, this relationship disappeared when other school climate dimensions were included in the model, suggesting that the dimension of academic press does not contribute significantly to TPCE compared to teacher professionalism and community engagement.

A possible explanation of this finding is that achievement press issues were not perceived by the Omani teachers participating in this study. There was some evidence of this during the test adaptation process. The low reliability of the subscale scores in the second pilot study and in the actual study (at the individual level, though above the adopted cut score) may support this explanation. Accordingly, results obtained for this subscale cannot be considered valid (Thompson, 2003). Findings of the factor analysis supported this conclusion.

I was not able to obtain Arabic studies against which the argument of this dimension being indiscernible to the Omani participants could be examined. If my argument is correct,
cultural differences may exist with regard to the existence of this dimension as a component of the Omani school climate. Accordingly, if this is true, the non-significant association found between the two efficacy belief constructs and achievement press might not generalize to other populations.

To conclude, this first section showed that the data obtained from the Omani teachers supported a mediational role of TPCE for two of the four dimensions of school climate investigated in the study. Teacher professionalism and community engagement each had an independent statistically significant association with teachers' sense of efficacy, both directly and indirectly through their independent significant associations with TPCE. The findings of this study also showed that collegial leadership and academic press (as dimensions of school climate) did not independently explain variance in teachers' sense of efficacy or TPCE over and above what was explained by teacher professionalism and community engagement.

5.3. Implications of Findings

These findings indicate that a more complete understanding of what drives levels of teachers' sense of efficacy would need to account for two things: (1) the levels of teachers' perceived collective efficacy and (2) the characteristics of the school climate, in terms of teachers' relationship with each other and the school's connection with the community. It appears from the mediational model findings that, increased levels of school climate dimensions correspond to increased levels of TPCE and individual teachers' sense of efficacy. Theoretical and practical implications can be generated from this finding.

5.3.1. Theoretical Implications

5.3.1.1. Sources of Efficacy Information

Since the findings of this study—as well as others—are consistent with Bandura's social cognitive theory, understanding predictors of teachers' sense of efficacy can best be
approached through Bandura’s conceptualization of the sources of efficacy information. This conceptualization differentiates among the importance of each of the four sources of efficacy information in the development of teachers’ sense of efficacy. School climate dimensions are linked to three of the four sources: social persuasion, vicarious experiences, and emotional status. The findings that two dimensions of school climate predict the two efficacy belief constructs support the importance of these three sources of efficacy information in the development of efficacy beliefs.

An interesting finding is that school climate’s relationships with TPCE were not identical to its relationships with teachers’ sense of efficacy. Its associations with TPCE were stronger. This finding is important for two reasons. First, it suggests that the weak associations previously expected between school climate and efficacy beliefs may not be true when examining school climate’s association with TPCE. Second, this differing relationship of school climate with each of the efficacy belief constructs supports Bandura’s view of these two as distinct constructs, whose roles may differ in relation to other variables (Bandura, 1997; Goddard & Goddard, 2001).

The current findings of the relationships between school climate and both teachers’ sense of efficacy and TPCE also provided empirical support for Tschannen-Moran et al.’s model about the importance of analysis of teaching task resources and constraints in the development of efficacy beliefs. Despite the challenges teachers face, teachers in this sample were able to preserve their efficacy beliefs depending on the resources and support provided by their colleagues and the community. The mean score obtained for the current sample shows that these teachers hold high levels of individual efficacy beliefs and moderately high levels of TPCE. Similar support of Tschannen-Moran et al.’s model was reported by
Tschannen-Moran and Woolfolk Hoy (2002) who found that teachers' sense of efficacy was associated with social support.

To conclude, Bandura's theory and Tschannen-Moran et al.'s model provide a good framework for the investigation of teachers' efficacy beliefs' sources. Future research should continue to look at the function of these sources using different samples and also expand the investigation to other possible factors that are not measured here. The large percentage of within-school variance suggests that future research should perhaps give more attention to explaining the large within-school variance found in this and in previous studies (Goddard & Goddard, 2001; Lee et al., 1991), using within-teacher variables. Examples include: teachers' preparedness to teach, content familiarity and links to teachers' intellectual backgrounds and interests, students' engagement (Raudenbush et al., 1992), teachers' goals (Ross, 1995), class sizes, different levels of students' abilities, different contents, (Ross et al., 1996), classroom climate, and other variables that comprise teachers' actual experiences.

5.3.1.2. The Organizational Climate of Schools

One important implication that can be drawn from the present study's findings is the importance of treating each of the dimensions of school climate separately when researchers wish to examine them in relation to efficacy beliefs. Supported by the current study, previous researchers (e.g., Imants & Zoelen, 1995) have asserted that since each dimension might have its own unique relationship with teachers' sense of efficacy, it is not practical to depend on a general total score of the construct.

The inclusion of community engagement as a dimension of school climate symbolizes "a positive change from earlier definitions of organizational climate" (Tschannen-Moran et al., in press, p. 27). The relationships found for community engagement with both efficacy
belief constructs confirmed Hoy et al.'s speculation (2002a) about the possible important role of "positive forces and cooperative endeavors between the school and community" (p. 48).

This conceptualization of school climate, developed by Hoy et al. (2002a), modified by Tschannen-Moran et al. (in press), and tested in the current study, can be further examined in relation to other related variables. Hoy et al. (2002a) questioned how this new conceptualization of school climate would behave in relation to principals' sense of efficacy. There is little research that focuses on principals' sense of efficacy. Tschannen-Moran and Gareis (2004) examined principals' sense of efficacy and found that it related significantly and positively to both trust in teachers and trust in students and parents and negatively to alienation from work.

Furthermore, besides teachers' perceptions of school climate, another variable that researchers can examine in relation to school climate is principals' perceptions of school climate. Research indicates that there is a discrepancy between teachers' and principals' perceptions of school climate (Hipp & Bredeson, 1995, p. 146; Taylor, 1992, p. 64).

Finally, it might be suggested to measure the relationships of school climate and teachers' efficacy beliefs at different times of academic year, especially as the relationships among school people develop as the school year progresses. Research examining the association between teachers' sense of efficacy and student achievement found different results when this association was examined at different times of year for the same people (Anderson et al., 1988). Taking these previous studies' findings into consideration, the strength of the relationships among school people themselves and with the society may not be consistent across the school year, thus demonstrating changes in the associations.
5.3.1.3. **Construct Comparability and Test Adaptation**

Even though this was not a focus of this study, the findings of this study imply that the manifestation of these three constructs (i.e., teachers’ sense of efficacy, TPCE, and school climate) in Oman seems to be consistent with their manifestation in the Western culture (with the exception of academic press dimension of school climate), providing evidence for the comparability of the three constructs across these cultures. This conclusion, however, should be viewed with caution. The present study used only one sample from Oman and did not include a comparable sample from Western countries. A better cross-cultural comparison can be achieved by sampling from both cultures (Hambleton, 2005). This would allow for a better control of the two samples’ participants’ characteristics and their research procedures and instruments. In contrast, the use of a single sample limits researchers’ use of more effective statistical techniques in examining construct comparability of measures, such as item-level analysis. Furthermore, the current study used only exploratory factor analysis (EFA), a limited technique of measuring construct comparability (Zumbo, 2003).

This evidence of construct comparability is also limited by the variables investigated in the current study. I argued earlier in Chapter 2 that if more culturally sensitive variables are included, possible cultural differences may be found to exist. Examples include school climate, school size, school level, and SES. This argument was not supported for the school climate, as its scores appeared to be parallel to Western scores (with the exception of academic press). Similarly, school size did not function differently from what is found in Western school contexts (e.g., Goddard & Goddard, 2001). Future research may examine how school level and SES function when examined in relation to Arabic teachers’ efficacy beliefs.
Furthermore, the current study supports the usefulness of the ITC guidelines for test adaptation (Hambleton & de Jong, 2003). The good psychometric properties found for the final versions of the three measures can be attributed to the comprehensive test adaptation process taken to prepare these measures. Ercikan (1998) stated that piloting questionnaire items before using them in the actual study helps to reduce translation-related problems.43

Future research may further improve on these measures properties. Stronger predictive power for each of the measures could be achieved by linking items to certain contexts or challenges. For example, the TSES items could specify certain classrooms, specific subjects, or particular groups of students. It is possible that some items included in the TSES might not be interpreted similarly by art teachers compared to teachers of science, math, or Islamic education. Similarly, specification of TPCE items can include efficacy for engagement, instruction, discipline, and resource management. When either one of these efficacy belief constructs are measured in relation to school climate, specificity may strengthen the relationship (Kruger, 1997). For example, efficacy for management can be examined in relation to specific support (in terms of source and type) obtained by teachers with regards to management issues.

Arabic researchers, in particular, need to follow up in examining these measures. These researchers should build on each other's work instead of adapting a new measure for each study, as found in previous Arabic research that adapted Gibson and Dembo’s Teacher

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43 Indeed, item 21 of the TSES would have gone unnoticed had the TSES not been piloted before the actual study. This item loaded on the instruction subscale instead of the management subscale. When the translation was reexamined, it appeared that there was confusion in the Arabic word selected to translate the “defiant students” phrase of this item. This mistranslation made it measure efficacy for instruction instead of measuring efficacy for management.
Efficacy Scale (1984). This cumulative work is one important step in test validation (Hambleton & Patsula, 1999).^{44}

5.3.2. Practical Implications

There are several practical implications that can be derived from my findings. These implications are meant to help educators and school improvement researchers understand how theoretical and empirical findings can help enhance teachers' sense of efficacy and, correspondingly, other positive outcomes in schools (e.g., student achievement).

5.3.2.1. Enhancing Positive School climate

Unlike other variables in the school settings (e.g., SES), school climate dimensions are subject to change. Educators can facilitate positive relationships among teachers that are characterized by peer support, exchange of instructional materials, respect, and enthusiasm for group work (Harris, 2004). The absence of a collaborative and supportive climate in schools is associated with self-doubt and low efficacy beliefs on the part of teachers (Milner & Woolfolk Hoy, 2002).

This finding should encourage educators and school administrators to transcend "the barriers and teacher isolation that are so common in schools" (Dale, 2004, p. 71; Harris, 2004) and invent more opportunities for collaborative work among teachers within and across subjects. Dale (2004) reported that one barrier against more collaborative work among teachers is lack of time. Indeed, in the case of Omani schools, lack of time seems to be an important reason for the absence of more collaborative engagement in schools. An observed trend in the Omani school is the clustering of teachers who teach the same subject. This clustering was enhanced by the establishment of the "first-teacher" position. Promises of

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^{44} Recently, an Omani researcher used this study measure of efficacy (i.e., the TSES) and found high reliability coefficient using a sample of middle and high school teachers (K. Al-Hanaei, personal communication, December 17, 2005).
more collaborative work can be seen in the promotion of the role of first-teachers. However, I stress these teachers' need for preparation to acquire the collegial leadership skills that are necessary for working with other teachers. Since these teachers are not currently trained for the role of "first teachers," conflicts may arise unless a careful plan is developed to enable teachers to work together and with input from "first teachers."

The findings of the importance of community engagement should help principals and teachers in forming a better conceptualization of how and what kind of relationship should be established between school and its community. Omani teachers' ratings for the community engagement items indicate more could be done to connect their schools and communities. Principals and teachers should establish possible activities through which a school can encourage community engagement. Examples include a sports day, educational workshops, celebrations of cultural days, and a school newsletter (Aldhafri, 2005, pp. 20-21). Education policy makers have a strong influence on how much the community gets involved with the school. Up to this point, community engagement in school activity is low to moderate and an organized plan from the Ministry of Education could facilitate more interdependence and communication between schools and their communities.

5.3.2.2. Teacher Education and Professional Development Programs

Preservice and inservice professional development programs need to attend closely to how various school characteristics predict teachers' efficacy beliefs. It is not realistic to expect student teachers to begin their tasks with an established sense of efficacy (Hoy & Woolfolk, 1993, p. 369). Teacher programs should help fledgling teachers acquire the communication skills they will need to solicit support from colleagues and cope with the uncertainties of teaching tasks. Because of the importance of collaborative relationships,
Ashton (1984) considered it an important part of any educational program that aims to strengthen teachers’ sense of efficacy.

Similarly, the first years in teaching represent a critical period for the development of teacher efficacy (Shaughnessy, 2004; Woolfolk Hoy, 2000) because efficacy beliefs are more malleable early in the learning years than in later years (Bandura, 1993). Thus, professional development programs should integrate elements of teachers’ collaboration and community engagement especially for new teachers. It is essential to equip teachers with productive ways of communicating with parents and getting their support regarding their children’s learning. Schools should expose the school staff to the rich experiences of community-school connections.

To conclude, professional development programs should not limit themselves to content knowledge and pedagogical skills (Ghaith & Shaaban, 1999). These programs should target all sources of efficacy information. Previous research has shown that teachers’ sense of efficacy can be enhanced through long-term intervention programs (e.g., Shechtman et al., 2005). Ross (1995) reviewed some of these studies, identified their design problems, and suggested valuable guidelines to implement good interventions that are likely to produce positive changes in teachers’ efficacy beliefs.

5.3.2.3. The Study’s Measures as Diagnostic Tools

The new measures examined in the present study can be used as diagnostic tools for teachers’ efficacy beliefs and school climate (Hoy et al., 2002a). School improvement researchers may use the TSES and the TPCES to monitor changes in teachers’ efficacy beliefs.
before and after reforms are implemented. The cumulative research shows that efficacy beliefs are related to reforms and policy changes (Ross et al., 1997).

The SCI is also a valuable tool not just for school improvement researchers but also for individual schools. The SCI provides a theoretical framework for identifying and solving school organizational problems (Hoy et al., 1990; Hoy et al., 2002a). The validation of this school climate measure should help school administrators apply formative evaluations of administrative practices and self-assessment of their own practices (Hoy et al., 1990). This evaluation, however, should be preceded by the development of a climate of collegiality and trust among school faculty. Such evaluation will help remove, or at least reduce, barriers to the development of schools as effective organizations, by encouraging teachers to reflect on their professional practices. Similar tools may be developed to examine the community’s perceptions of school-community relations.

5.4. Strengths, Limitations, and Recommendations

In this final section of this chapter, I discuss my study’s strengths, limitations, and future research recommendations. This discussion should help readers evaluate the current study and its findings and conclusions.

5.4.1. Strengths

Several strengths can be observed in the current study. First and foremost, this study expands the research on school climate and teachers’ efficacy beliefs to the Omani culture, an Arabic culture that is under-represented in the efficacy and school climate literature. The second strength of the current study was the synthesis and integration of recent theoretical and empirical work to better understand how the three variables investigated here are theoretically

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45 Since there are tens of schools that are still run with the old traditional school system in Oman, the Ministry of Education should consider the two efficacy scales developed in this study, along with its findings, in order to reevaluate the effects of reforms on teachers’ efficacy beliefs.
linked. Little theoretical explanation is provided in early research about why school climate may predict teachers’ sense of efficacy and TPCE. Building on Bandura’s sources of efficacy information, recent work has improved in offering some theoretical explanation of these relationships (e.g., Goddard, Hoy, & et al., 2000; Ross et al., 2004; Hoy et al., 2002b). The mediational model improves on previous research that used bivariate designs and allows an examination of school climate dimensions with both efficacy belief constructs.

Third, this study is the first to answer a question posed by previous researchers about whether school climate dimensions (with its new parsimonious structure represented by the OCI and customized in the SCI) would relate to teachers’ sense of efficacy and TPCE (Hoy et al., 2002a, p. 48).

Another strength of the current study stems from its comprehensive process of test adaptation that was undertaken to prepare the instruments for the actual study. In addition, the current study used a large sample (N = 2,381 from 98 schools) of Omani teachers. This size of sample is important, especially with the use of the hierarchical linear modeling (HLM) technique for data analysis, which requires a large number of observations at both levels of analysis.

5.4.2. Limitations

This study is not without limitations. Caution should be exercised regarding the types of inferences drawn from the present study’s results because of these limitations. I discuss these limitations with possible remedies suggested for future research.

5.4.2.1. Self-Report Instruments

Similar to other studies that use self-report questionnaires (DiPaola & Tschannen-Moran, 2005), the conclusions of this study are limited by its dependence on teachers’ self-reports about their perceptions of the three constructs measured by the study model. Other
ways of measuring school climate dimensions may have generated differing findings. Nevertheless, participants’ subjective perceptions are vital for capturing the perceived reality for any examined construct. Bronfenbrenner (1976) indicated “the impact of the setting cannot be understood without some information on how the setting, and its various elements, were perceived by the participants” (p. 8).

The understanding of these investigated constructs can be enhanced by the use of qualitative approaches. Tschannen-Moran et al. (1998) argue that understanding the process of developing efficacy beliefs requires qualitative approaches “that allow for deeper examination of the specifics of teacher self-efficacy in contexts and considering cultural factors” (Milner & Woolfolk Hoy, 2002, p. 15). There are many qualitative methodologies that can be used such as focus groups, open-ended questionnaires (Hebert et al., 1998), case studies, interviews, observational data (Milner & Woolfolk Hoy, 2002), and “think aloud” sessions (Coladarci, 1992, p. 335).

5.4.2.2. The Use of Correlational Designs

In addition, because this study is based on a descriptive model, the associations found in this study do not imply any causal relationship among the investigated variables; rather, it is merely a correlational conclusion. Whether changes in school climate and TPCE will lead to changes in teachers’ sense of efficacy remains an unanswered question that needs further study. It is likely that several other school and teacher characteristics may predict efficacy beliefs. Also, reciprocal relationships between teachers’ sense of efficacy and school’s organizational climate are possible (Hoy & Woolfolk, 1993). Hence, the conclusions that suggest directionality of the effects are interpretations.

In addition, the use of regression in examining the mediational model has some limitations (Baron & Kenny, 1986). Regression techniques assume that the mediator is not
caused by the dependent variable and that no measurement error exists in the mediator (Baron & Kenny, 1986, p. 1177), both of which are not possibly controlled. Based on Baron and Kenny (1986), these limitations of regression can be avoided by using other models, such as Structural Equation Modeling (SEM, for more discussion, see Baron & Kenny, 1986, p. 1177; Holmbeck, 1997, p. 600).46

Nevertheless, previous research that compared the two approaches of examining mediational models (regression and SEM) suggests that both approaches yield virtually identical coefficients (e.g., Sue-Chan & Ong, 2002). Holmbeck (1997) concluded that, even though SEM techniques provide more appropriate approaches for analyzing mediational models, “proper use of regression techniques can also provide meaningful tests of hypotheses” (p. 600).

5.4.2.3. Sampling Procedure and Participants’ Characteristics

Finally, the study is also limited in terms of its non-random sampling procedure and the characteristics of its participants (i.e., being Arabic, volunteer participants, and elementary school teachers). Yet, within these limits, generalizations can be obtained. The inclusion of different school settings, co-educational and single-sex schools, and the large number of participating teachers allow generalizing the findings to similar school settings and populations inside and outside Oman.

The findings of this study raise many questions about what constitutes a positive school climate that is likely to promote teachers’ and collective perceived efficacy.

Examining these questions using similar and different teacher populations across cultures

46 However, the use of path analysis, while accounting for the hierarchical nature of my data, is not supported in the current versions of either HLM software or SPSS. Other advanced HLM models exist (e.g., M-Plus, MLn). The researcher’s limited experience with advanced software did not allow their use. Thus, future research needs to apply these advanced multilevel path analysis models to avoid the limitations of using regression when examining mediational models.
should enhance our understanding of the development of teacher efficacy beliefs that are found to be critical to a well-functioning schooling system. Some recommendations for future studies follow.

5.4.3. Recommendations for Future Research

If teacher efficacy beliefs are associated with higher levels of competence, success, and persistence, then a continuous focus on this teacher attribute is vital to the enhancement of student learning. Future research should adhere to a clear conceptualization of teachers' sense of efficacy that allows differentiating this construct from other constructs to which efficacy has been attached (e.g., responsibility and outcome expectations). Additional future research recommendations are given below.

5.4.3.1. Investigating TPCE

Future studies should look for other possible antecedents and consequences of TPCE because of the scant research done in this area (Tschannen-Moran & Barr, 2004). The fact that there has been so little research done on TPCE until recently has been attributed to the absence of valid measures. The presence of the TPCES, the CTBS (Tschannen-Moran & Barr, 2004), and the CE-Scale (Goddard, Hoy, et al., 2000) should advance research on TPCE across cultures.

TPCE conceptualization can be extended to include other individuals in the school, such as principals, counselors, parents, and community (Henderson, Jones, & Self, 1998). This suggestion is valuable especially when the construct is viewed to reflect the school's collective efficacy beliefs.

When this construct is viewed to reflect teachers' collective efficacy beliefs, it may be more productive to link it to each group of teachers. For example, perceived collective efficacy of particular subject teachers can be examined instead of all school teachers'
perceptions. In large schools, for example, teachers may not be able to convey the collective perceptions of the whole school, as one of the teachers participating in this study declared. Bandura (1982) argues that capturing the development of collective efficacy cannot be achieved unless "measures of perceived group efficacy are tied closely to explicit indices of group performance" (p. 144).

To borrow from social psychology (particularly the Individualist-Collectivist paradigm, Triandis, 1989), this argument can be conceptualized based on ingroup and outgroup forms of people’s associations with others (see discussion and definitions in Triandis, 1989). Teachers of the same subject may represent ingroup members and tend to associate largely with other ingroup members because of shared concerns and challenges. The probability of accurate collective efficacy perceptions of the subject’s members (ingroup members) is greater than that of the school’s members. For an organization like the school, communication among same-subject teachers is expected to be better than communication among the entire teacher population.

Future research may also examine the possibility of differing interactions between TPCE and dimensions of school climate in individualist versus collectivist cultures. Triandis (1989) reviewed research in which “intimacy” of relationships and emphasis on harmony differ between people of different cultures as a result of shared norms and cost/benefit determination (p. 515). These differences are possible in the school settings. Previous research has asserted that sources of efficacy information are more influential on teachers’

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47 In some large Omani schools, a total of seventy teachers or so work in the same school. One important factor can contribute to the accuracy of the individual perception of TPCE in these large schools: whether or not teachers share spaces where they can sit, meet, and talk. In some schools, this is not available. Thus, the collective perception may not be as accurate in these schools as in others that have enough spaces for teachers. In larger schools, spaces are divided based on subject taught. This structure was promoted by the recent position of "the first teacher" for each subject.
efficacy beliefs when more school cohesiveness exists in the school (Goddard, Hoy, et al., 2000; Ross et al., 2004).

5.4.3.2. School Level

Another possible direction for future research is to compare how this model fits within different school level contexts. Previous quantitative and qualitative research has shown that these three variables may differ across school level (Ashton et al., 1986; Cowley, 1999; Dale, 2004; Parkay et al., 1988; Tschannen-Moran & Woolfolk Hoy, 2002). Generally, these studies indicate that elementary teachers show significantly higher efficacy scores than middle and high school teachers and that the school climate of elementary schools is more positive, healthy, and open than middle and high school climates.

Previous Arabic research that examined the relationship between school level and teachers’ sense of efficacy did not find a significant relationship between these two variables (e.g., Al-Nahar & Al-Rababea, 1992). However, this finding may not necessarily reflect an actual absence of a relationship, considering the design of these studies. With changes in the structure of elementary schools in some Arabic countries (including Oman), the factors accounted for in these previous findings may have changed.

5.4.3.3. Recommendations for Arabic Researchers

One important variable that is still missing in Arabic research is students’ socioeconomic status (SES). Cybulski et al. (2005) and Tschannen-Moran et al. (in press) contend that, for findings to be of significant use to researchers and educators, a study should attend to the measurement of SES whenever TPCE and achievement are under investigation. In most research of achievement, school climate, and efficacy beliefs, SES shows independent significant contribution to the construct being measured (Hoy et al., 1998; Hoy et al., 2002b; Tschannen-Moran & Barr, 2004). One challenge in measuring SES in the Omani schools is
the lack of indicators in school records. Schools and districts should establish data-bases that help researchers examine the influence of SES on their educational constructs. Examples of possible indicators were given in the Method Chapter.

Building on Western findings of associations among many school-related variables, I suggest that Arabic researchers expand the research on the two constructs of school climate and efficacy beliefs to identify potent factors that contribute to effective schools and school improvement as means for preparing youngsters for better learning. Researchers can navigate through the following questions: How are the four dimensions of school climate related to student achievement? Do these four dimensions relate to trust? How do they interact with principals' sense of efficacy? Can these four dimensions predict teachers' commitment to the organization? What are the effects of school climate on organizational citizenship behavior?

Other possible questions that relate to efficacy beliefs may include: Do teachers' efficacy beliefs interact with teachers' implementation of reforms' changes? What is the role of the first-teacher on the enhancement of teachers' sense of efficacy? What are other aspects of school climate that may predict teachers' sense of efficacy and TPCE? How does principals' sense of efficacy relate to teachers' sense of efficacy and TPCE? Do efficacy beliefs predict student achievement? What are possible school-related factors that may have reciprocal relationships with efficacy beliefs? Are there differences in efficacy and climate across school levels? How can we plan interventions to promote teachers' sense of efficacy? What are the important factors about all these aforementioned variables in student achievement? The list could go on endlessly but the scant research in the Arabic countries on these issues should be a motivation for conducting more research, without which no real development can be made in their educational systems.
5.5. General Conclusion

Two questions guided the present study: What dimensions of school climate directly predict teachers' sense of efficacy? And what is the role, if any, of TPCE in the relationship between these school climate dimensions and teachers' sense of efficacy?

To answer the first question, four hypotheses were proposed and empirically tested. Each one of the hypotheses suggested a positive direct link between one of the four school climate dimensions (i.e., collegial leadership, teacher professionalism, academic press, and community engagement) and teachers' sense of efficacy. Only two hypotheses were supported: teacher professionalism and community engagement were the only dimensions found to predict teachers' sense of efficacy.

To answer the second question, five additional hypotheses were examined. Four of these hypotheses suggested a statistically significant relationship between each one of the four school climate dimensions and TPCE, two of which were supported. Again, only teacher professionalism and community engagement were found to predict TPCE. The last hypothesis suggested a positive direct relationship between TPCE and teachers' sense of efficacy. Indeed, TPCE was found to be the strongest predictor of teachers' sense of efficacy. Together, these findings suggest that TPCE mediates the relationships between teacher professionalism and community engagement (as school climate dimensions) and teachers' sense of efficacy.

Educators should focus on these two aspects of the organizational climate of schools in order to enhance teachers' perceptions about their abilities as individuals and as a collective to promote student learning. Evidently, more research is needed to further explore the variables that underlie and account for the variations in teachers' sense of efficacy within and across schools. Future inquiries may build upon the current study's findings and previous
research to examine the individual and the organizational variables that might predict teachers’ sense of efficacy.
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Appendix A

Special Thanks

An endless list of people has contributed to the success of this dissertation. Their efforts should be acknowledged. I list here people that helped during different parts of my journey with this dissertation—the majority having helped in either data collection or test adaptation. All of you have made my data collection possible.

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**Friends:** Sultan Albousaidi, Ahmed Al-Hasni, Yaser Albolushi, Abdullah Alalwai, Dawood Alriyami, and Aamer Alhabsi.
Appendix B

The 13 Steps of the ITC's Test Adaptation Guidelines

Step 1 – Ensure that construct equivalence exists in the language and cultural groups of interest.\footnote{Adopted, with permission, from (Hambleton & Patsula, 1999). It is also available on line at http://www.testpublishers.org/journal01.htm}

Step 2 – Decide whether to adapt an existing test or develop a new test.

Step 3 – Select well-qualified translators.

Step 4 – Translate and adapt the test.

Step 5 – Review the adapted version of the test and make necessary revisions.

Step 6 – Conduct a small tryout of the adapted version of the test.

Step 7 – Carry out a more ambitious field test.

Step 8 – Choose a statistical design for connecting scores on the source and target language versions of the test.

Step 9 – If cross-cultural comparisons are of interest, ensure equivalence of the language versions of the test.

Step 10 – Perform validation research as appropriate.

Step 11 – Document the process and prepare a manual for the users of the adapted test.

Step 12 – Train users.

Step 13 – Ongoing monitoring of the adapted test.
Appendix C
The Teacher Demographic Questionnaire (in Arabic)

1. ما المادة التي تدرسها؟

2. هل هي نفس المادة التي تخصصت فيها أثناء دراستك بالكلية أو الجامعة؟

3. كم العدد الإجمالي للطلاب في جميع الصفوف التي تدرسها؟

4. كم عدد سنوات الخبرة في التدريس مطلقًا، مع حساب السنة الحالية؟

5. كم عدد سنوات تدريسك في هذه المدرسة، مع حساب السنة الحالية؟

6. المؤهل الأكاديمي: □ دبلوم كلية □ بكالوريوس □ بكالوريوس مع دبلوم تأهيل □ ماجستير

7. هل لديه طلاب ذوي احتياجات خاصة في الصفوف التي تدرسها وكم عددهم؟

إذا كانت الإجابة بنعم، فما مقدار التحدي الذي تواجهه بوجود هؤلاء الطلاب في صفوفك؟ □ لا يوجد تحدي □ تحدي قليل □ متوسط □ كبير □ كبير جدا

8. كيف تقيّم المصادر التعليمية في مدرستك المهيئة لك لاستخدامها في تدريسك؟ □ ضعيفة جدا □ ضعيفة □ متوسطة □ جيدة □ جيدة جدا

9. كيف تقيّم المستويات الدراسية للطلاب في الصفوف التي تدرسها؟ □ ضعيفة □ متوسطة □ جيدة □ جيدة جدا □ جيدة جدا جدا
Appendix D

The Teacher Demographic Questionnaire

Direction: Please respond to these questions that relate to some demographic information.

Write your answer in front of the question:

1. What is the subject that you are teaching this semester? ............

2. Have you specialized in the subject that you teach? ............

3. What is the total number of your students in all classes you teach? ............

4. How many years have you been teaching at any school (including this year)? ............

5. How many years have you been teaching at this school (including this year)? ............

6. What is the highest degree that you have obtained (Select one)?
   □ Intermediate College   □ B.ED   □ BA & Education Diploma
   □ Master   □ PhD

Select the option that represents your own view of each statement

7. Do you have special education students in your classrooms? ............
   If yes, how challenge is it to have some special education students inside your classrooms?
   □ No challenge   □ A little   □ Some challenge   □ Moderate   □ A big deal

8. How can you rate the available teaching resources in your school that are made accessible for you?
   □ Very boor   □ Poor   □ Average   □ Good   □ Excellent

9. How can you rate the qualities of students in your classrooms?
   □ Very boor   □ Poor   □ Average   □ Good   □ Excellent
Appendix E

The Teacher Sense of Efficacy Scale (Original TSES)

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, by marking one of the nine responses in the columns on the right side. Your answers are confidential.

<table>
<thead>
<tr>
<th>Nothing</th>
<th>Very Little</th>
<th>Some Degree</th>
<th>Quite Able</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Efficacy for Engagement:**

1. How much can you do to get through to the most difficult students?
2. How much can you do to help your students think critically?
3. How much can you do to motivate students who show low interest in school work?
4. How much can you do to get students to believe they can do well in school work?
5. How much can you do to help your students value learning?
6. How much can you do to foster student creativity?
7. How much can you do to improve the understanding of a student who is failing?
8. How much can you assist families in helping their children do well in school?

**Efficacy for Instruction:**

9. How well can you respond to difficult questions from your students?
10. How much can you gauge student comprehension of what you have taught?
11. To what extent can you craft good questions for your students?
12. How much can you do to adjust your lessons to the proper level for individual students?
13. How much can you use a variety of assessment strategies?
14. To what extent can you provide an alternative explanation or example when students are confused?
15. How well can you implement alternative strategies in your classroom?
16. How well can you provide appropriate challenges for very capable students?
Efficacy for Management

(3) How much can you do to control disruptive behavior in the classroom?
(5) To what extent can you make your expectations clear about student behavior?
(8) How well can you establish routines to keep activities running smoothly?
(13) How much can you do to get children to follow classroom rules?
(15) How much can you do to calm a student who is disruptive or noisy?
(16) How well can you establish a classroom management system with each group of students?
(19) How well can you keep a few problem students from ruining an entire lesson?
(21) How well can you respond to defiant students?
Appendix F

The Back-Translation of the Arabic Version of the TSES

Directions: This questionnaire aims at measuring your personal teaching efficiency as a teacher in the school. You are asked to read the statements and circle one number according to your self-evaluation. You answers will be confidential.

A Very Great Deal  Some Degree  A Great Deal  Little  Very Little  Nothing

(6) (5) (4) (3) (2) (1)

Efficacy for Engagement:

(1) To what extent can you influence the most difficult students to treat?
(2) To what extent can you help your students to think in critical way?
(4) To what extent are you able to motivate the students who show less interest in schoolwork (classroom activities and non-classroom activities)?
(6) To what extent are you able to make the students believe in their abilities of doing their schoolwork better?
(9) To what extent are you able to make your students appreciate the teaching process?
(12) To what extent are you able to develop you students' innovation?
(14) To what extent are you able to improve the understanding of students who fail?
(22) How accurate are you in helping the families to help their children?

Efficacy for Instruction:

(7) How accurate are you in answering your students' difficult questions?
(10) To what extent are you able to measure the students' understanding of what you have taught?
(11) How accurate are you in writing good questions for your students?
(17) To what extent are you able to change your levels of teaching (teaching skills) to match with the all students' levels in the class?
(18) To what extent are you able to use different ways of evaluation?
(20) How accurate are you in giving different examples when your students do not understand a particular point?
(23) How accurate are you in applying alternative strategies (evaluating and teaching) in your classroom?
(24) How accurate are you in giving appropriate challenges for the students who are able to handle the challenge?

**Efficacy for Management**

(3) To what extent can you control the misbehaviors in the classroom?
(5) To what extent are you able to make clear expectations about your students' behavior?
(8) How accurate are you in establishing rules in the classroom to help in doing the activities easily?
(13) To what extent are you able in making your students stay with the classroom rules?
(15) To what extent are you able in controlling naughty and misbehaving students?
(16) How accurate are you in establishing classroom rules for each group of the students inside the classroom?
(19) To what extent are you able to stop troubling students from wasting the lesson?
(21) How accurate are you in responding to the challenging students (those with high mental abilities)?
Appendix G

Changes Made on the Translated TSES

As discussed in Chapter 3, the TSES was adapted to be used with the Omani teachers. A full test adaptation process has been taken. While adapting the TSES, changes were made in terms of the sentence structure and the selection of the Arabic words.

The meaning of the codes is as follows:

- **Translators** = There were some disagreements among the three translators in selecting the appropriate words, which were then discussed and resolved. Examples are given when disagreements appeared in the Arabic translation of the English words between the three translators. When English words are used in front of the bolded single word, they indicate the translation of the Arabic words that the translators showed disagreement about. When Arabic words are given in front of the English word, it indicates that the translators gave several Arabic words because of the absence of a specific Arabic word equivalent for the English one. However, these Arabic words should give exactly the same English meaning.
- **Teachers** = Clarifications or changes were suggested by the ten teachers who responded to the tryout version of the TSES.
- **ATSES** = Back translation of the Arabic version of the TSES done by an independent translator.
- **Changes** = The researcher’s notes of the changes appeared in the administered Arabic version when compared to the original English version.

**Note:** Changes that the translators and the teachers made in the use of verbs instead of nouns, the order and/or number of words, and the tense of the verbs are not included here, as they give exact meaning.

<table>
<thead>
<tr>
<th>TSES 1</th>
<th>How much can you do to get through to the most difficult students?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>To get through: to reach – to communicate – to success.</td>
</tr>
<tr>
<td>Teachers</td>
<td>Specifying “the most difficult” by adding “in treatment.”</td>
</tr>
<tr>
<td>ATSES 1</td>
<td>To what extent can you influence the most difficult students to treat?</td>
</tr>
<tr>
<td>Changes</td>
<td>“To get through” was replaced by “To influence” and adding “to treat” in the end.</td>
</tr>
<tr>
<td>TSES 2</td>
<td>How much can you do to help your students think critically?</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 2</td>
<td>To what extent can you help your students to think in critical way?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 3</th>
<th>How much can you do to control disruptive behavior in the classroom?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Control: تتحكم أو تسيطر. Disruptive: الفوضوي أو المشين</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 3</td>
<td>To what extent can you control the misbehaviors in the classroom?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 4</th>
<th>How much can you do to motivate students who show low interest in school work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>To motivate: to reinforce – to use incentive. Interest: الميول أو الاهتمام</td>
</tr>
<tr>
<td>Teachers</td>
<td>“School work” was clarified by adding (in and outside classroom activities).</td>
</tr>
<tr>
<td>ATSES 4</td>
<td>To what extent are you able to motivate the students who show less interest in schoolwork (classroom activities and non-classroom activities)?</td>
</tr>
<tr>
<td>Changes</td>
<td>Adding (classroom activities and non-classroom activities).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 5</th>
<th>To what extent can you make your expectations clear about student behavior?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 5</td>
<td>To what extent are you able to make clear expectations about your students’ behavior?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
<tr>
<td>TSES 6</td>
<td>How much can you do to get students to believe they can do well in school work?</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 6</td>
<td>To what extent are you able to make the students believe in their abilities of doing their schoolwork better?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 7</th>
<th>How well can you respond to difficult questions from your students?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Respond: الإجابة أو الدقة How well: المعايير أو الدقة</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 7</td>
<td>How accurate are you in answering your students' difficult questions?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 8</th>
<th>How well can you establish routines to keep activities running smoothly?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>“routines” as (specific ways).</td>
</tr>
<tr>
<td>Teachers</td>
<td>“routines” as (consistent system).</td>
</tr>
<tr>
<td>ATSES 8</td>
<td>How accurate are you in establishing rules in the classroom to help in doing the activities easily?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 9</th>
<th>How much can you do to help your students value learning?</th>
</tr>
</thead>
</table>
| Translators | Value: تقييم أو التقييم | }
<p>| Teachers | -                                                                   |
| ATSES 9 | To what extent are you able to make your students appreciate the teaching process? |
| Changes | -                                                                   |</p>
<table>
<thead>
<tr>
<th>TSES 10</th>
<th>How much can you gauge student comprehension of what you have taught?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Comprehension: فهم أو استيعاب</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 10</td>
<td>To what extent are you able to measure the students' understanding of what you have taught?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 11</th>
<th>To what extent can you craft good questions for your students?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Craft: provide – write well – prepare.</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 11</td>
<td>How accurate are you in writing good questions for your students?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 12</th>
<th>How much can you do to foster student creativity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 12</td>
<td>To what extent are you able to develop your students' innovation?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 13</th>
<th>How much can you do to get children to follow classroom rules?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>“Rules” to be instructions.</td>
</tr>
<tr>
<td>ATSES 13</td>
<td>To what extent are you able in making your students stay with the classroom rules?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
<tr>
<td>TSES 14</td>
<td>How much can you do to improve the understanding of a student who is failing?</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td><strong>Failing</strong>: low achieving - failing.</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 14</td>
<td>To what extent are you able to improve the understanding of students who fail?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 15</th>
<th>How much can you do to calm a student who is disruptive or noisy?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 15</td>
<td>To what extent are you able in controlling naughty and misbehaving students?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 16</th>
<th>How well can you establish a classroom management system with each group of students?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 16</td>
<td>How accurate are you in establishing classroom rules for each group of the students inside the classroom?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 17</th>
<th>How much can you do to adjust your lessons to the proper level of individual students?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 17</td>
<td>To what extent are you able to change your levels of teaching (teaching skills) to match with the all students' levels in the class?</td>
</tr>
<tr>
<td>Changes</td>
<td>“teaching skills” were added after “your lessons.”</td>
</tr>
<tr>
<td>TSES 18</td>
<td>How much can you use a variety of assessment strategies?</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td><strong>Assessment</strong>: تقييم أو تقييم</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
</tr>
<tr>
<td>ATSES 18</td>
<td>To what extent are you able to use different ways of evaluation?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 19</th>
<th>How well can you keep a few problem students from ruining an entire lesson?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>“A few problem students” was not clear.</td>
</tr>
<tr>
<td>ATSES 19</td>
<td>To what extent are you able to stop troubling students from wasting the lesson?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 20</th>
<th>To what extent can you provide an alternative explanation or example when students are confused?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 20</td>
<td>How accurate are you in giving different examples when your students do not understand a particular point?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 21</th>
<th>How well can you respond to defiant students?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td><strong>Defiant</strong>: Hesitant – Challenging.</td>
</tr>
<tr>
<td>Teachers</td>
<td>Defiant is not clear. More specification was needed.</td>
</tr>
<tr>
<td>ATSES 21</td>
<td>How accurate are you in responding to the challenging students (those with high mental abilities)?</td>
</tr>
<tr>
<td>Changes</td>
<td>Adding (those with high intellectual abilities) after “defiant students.”</td>
</tr>
<tr>
<td>TSES 22</td>
<td>How much can you assist families in helping their children do well in school?</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ATSES 22</td>
<td>How accurate are you in helping the families to help their children?</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSES 23</th>
<th>How well can you implement alternative strategies in your classroom?</th>
</tr>
</thead>
</table>
| Translators | **Alternative strategies**: alternative methods and strategies – various strategies.  
**Implement**: Implement – use – execute. |
| Teachers | “Alternative strategies” was ambiguous. |
| ATSES 23 | How accurate are you in applying alternative strategies (evaluating and teaching) in your classroom? |
| Changes | Adding (evaluation, teaching, etc…) after “alternative strategies.” |

<table>
<thead>
<tr>
<th>TSES 24</th>
<th>How well can you provide appropriate challenges for very capable students?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td><strong>Provide</strong>: give – make available – provide.</td>
</tr>
<tr>
<td>Teachers</td>
<td>“Appropriate challenges” was ambiguous.</td>
</tr>
<tr>
<td>ATSES 24</td>
<td>How accurate are you in giving appropriate challenges (activities, questions,…) for the students who are able to handle the challenge?</td>
</tr>
<tr>
<td>Changes</td>
<td>Adding (activities, questions, etc…) after “appropriate challenges.”</td>
</tr>
</tbody>
</table>
Appendix H
The Arabic Version of the TSES (First Pilot Study)

استبيان الفاعلية الذاتية

التعليمات: يهدف هذا الاستبيان إلى قياس الفاعلية التدريسية الذاتية لك كعميل في المدرسة. المطلوب منك قراءة الفقرات التالية ووضع دائرة حول التقدير الذي ينطبق عليك وفقاً للتدرج التالي:

لا تأثير تأثير قليل جداً تأثير كبير جداً
(1) (2) (3) (4) (5) (6)

إذن الطلبية:

1. ما مقدار عملك للتأثير في أكثر الطلاب صعوبة في التعامل؟
2. ما مقدار القيام به لمساعدة طلابك على التفكير بطريقة فعالة؟
3. ما مقدار عملك لتخفيف الطلاب الذين يظهرون اهتماماً أقل بالعمل المدرسي (الأنشطة الصغرى واللاصفية)؟
4. ما مقدار القيام به لجعل الطلاب يتعلمون بأنهم قادرون على القيام بالأعمال المدرسية بشكل جيد؟
5. ما مقدار من مساعدتك طلابك في تقدير عملية التعلم؟
6. ما مقدار القيام به لتمكين طلابك من إبداع طلباتك؟
7. ما مقدار الطلبية لتحسين فهم الطالب الذي يفشل؟
8. ما مقدار امكانيتك لمساعدة الأسرة أثناء آداؤها على الأداء الجيد في المدرسة؟

التدريس:

7. ما مدى دقتك في الرد على الأسئلة الصغرى لطلابك؟
8. ما مدى أستعدادك الحكم على مدى استعداد الطلبة بما قمت بتدريسهم؟
9. ما مدى مهارة طلابك في شيء جيد للمدرسة؟
10. ما مدى أستعدادك لمتابعة مستوى دروسك (مهارات التدريس) لتناسب مع مستوى كل طالب في الصف؟
11. ما مدى أستعدادك استخدام أنواع مختلفة من التقييم؟
12. ما مدى أستعدادك استخدام أنواع مختلفة من التقييم؟
13. ما مدى أستعدادك استعداد طلابك بناءً على نقاط معاً؟
14. ما مدى دقتك في تطبيق استراتيجيات بديلة (تقويم، تدريس،...) في صفك؟
15. ما مدى دقتك في تقديم تحديات مناسبة (أنشطة، أسلحة،...) لكل الطلبة القادرين على التحدي؟
إدارة الصف:

3. ما مقدار ما يمكنك عمله للسيطرة على السلوك الفوضوي في غرفة الصف؟

5. إلى أي مدى تستطيع أن تجعل توقعاتك واضحة عن سلوك طلبتكم؟

8. ما مدى دقتكم في تأسيس نظام مستمر في غرفة الصف للقيام بالأنشطة بسهولة؟

13. ما مقدار ما يمكنك القيام به لجعل الطلبة يتزمن بقواعد الصف؟

15. ما مقدار ما يمكنك عمله لتهديد الطالب الفوضوي أو المزعج؟

16. ما مدى دقتكم في وضع نظام لإدارة الصف مع كل نوعية من نواعيات الطلبة داخله؟

19. ما مدى دقتكم في منع الطلبة ذوي المشكلات القليلة من إضاعة الدرس بأكمله؟

21. ما مدى دقتكم في الرد على الطلبة ذوي التحدي (القدرات العقلية العليا)؟
Appendix I
The Collective Efficacy Scale (Original CE-Scale)

DIRECTIONS: Indicate your level of agreement with each of the following statements from STRONGLY DISAGREE STRONGLY AGREE

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
</table>

**Group Competence**

*Positive Items*

(1) Teachers in the school are able to get through to the most difficult students.
(2) Teachers here are confident they will be able to motivate their students.
(5) If a child doesn’t learn something the first time teachers will try another way.
(6) Teachers in this school are skilled in various methods of teaching.
(7) Teachers here are well-prepared to teach the subjects they are assigned to teach.
(9) Teachers in this school have what it takes to get the children to learn.
(21) Teachers in this school truly believe every child can learn.

*Negative Items*

(3) If a child doesn’t want to learn teachers here give up.
(4) Teachers here don’t have the skills needed to produce meaningful student learning.
(8) Teachers here fail to reach some students because of poor teaching methods.
(11) Teachers in this school do not have the skills to deal with student disciplinary problems.
(12) Teachers in this school think there are some students that no one can reach.
(20) Teachers here need more training to know how to deal with these students.

**Teaching Task analysis**

*Positive Items*

(13) The quality of school facilities here really facilitates the teaching and learning process.
(14) The students here come in with so many advantages they are bound to learn.
(15) These students come to school ready to learn.
(17) The opportunities in this community help ensure that these students will learn.
Negative Items

(10) The lack of instructional materials and supplies makes teaching very difficult.
(16) Drugs and alcohol abuse in the community make learning difficult for students here.
(18) Students here just aren’t motivated to learn.
(19) Learning is more difficult at this school because students are worried about their safety.
Appendix J

Changes Made on the Translated CE-Scale

As indicated in chapter 3, the CE-Scale was modified in its structure based on the recommendation of the translators and the ten teachers. That is, twelve sentences of the CE-Scale started with a verb instead of a noun. In addition, teachers suggested dropping the phrase “in the school” from many items whenever it was added to teachers. Furthermore, the word “teachers” have two Arabic parallels, thus, teachers suggested using one of them throughout the questionnaire. In all items, “a child” was replaced by “a student.” Below, I present other changes suggested by translators and teachers. The meaning of the codes is as follows:

**CE-S** = The English version of the Collective Efficacy Scale (Goddard, Hoy, & Woolfolk Hoy, 2000).

**Translators** = There were some disagreements among the three translators in selecting the appropriate words, which were then discussed and resolved. Examples are given when disagreements appeared in the Arabic translation of the English words between the three translators. When English words are used in front of the bolded single English word, they indicate the translation of the Arabic words that the translators showed disagreement about. When Arabic words are given in front of the English word, it indicates that the translators gave several Arabic words because of the absence of a specific Arabic word equivalent for the English one. However, these Arabic words should give exactly the same English meaning.

**Teachers**: Clarifications or changes were suggested by the ten teachers who responded to the tryout version of the CE-S.

**ACES** = Back translation of the Arabic version of the Collective Efficacy Scale.

**Changes** = The researcher’s evaluation of the changes appeared in the administered Arabic version when compared to the original English version.

**Note**: changes that the translators and the teachers made in the use of verbs instead of nouns, the order and/or number of words, and the tense of the verbs are not included here, as they give exact meaning.
| CE-S 1 | Teachers in the school are able to get through to the most difficult students. |
| Translators | **To get through**: to influence — to communicate to — to treat. |
| Teachers | This item is ambiguous. |
| ACES 1 | Teachers are able to influence the students who have difficulties in dealing with others. |
| Changes | To get through was replaced by influencing and treatment was added after “difficult students.” |

| CE-S 2 | Teachers here are confident they will be able to motivate their students. |
| Translators | **To motivate**: to use incentives — to motivate. |
| Teachers | - |
| ACES 2 | Teachers are confident in their ability of motivating their students. |
| Changes | - |

| CE-S 3 | If a child doesn’t want to learn teachers here give up. |
| Translators | **Give up**: Do not care — give up. |
| Teachers | This item should be restated. |
| ACES 3 | Teachers give up if the students are less motivated. |
| Changes | “Doesn’t want to learn” was replaced by “his/her motivation to learn decreases.” |

<p>| CE-S 4 | Teachers here don’t have the skills needed to produce meaningful student learning. |
| Translators | - |
| Teachers | - |
| ACES 4 | Teachers do not have the necessary skills to make the learning process meaningful. |
| Changes | - |</p>
<table>
<thead>
<tr>
<th>CE-S 5</th>
<th>If a child doesn’t learn something the first time teachers will try another way.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 5</td>
<td>If a student does not understand for the first time, the teachers try to use different ways to develop understanding.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 6</th>
<th>Teachers in this school are skilled in various methods of teaching.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 6</td>
<td>Teachers have many different skills related to teaching methods.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 7</th>
<th>Teachers here are well-prepared to teach the subjects they are assigned to teach.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td><strong>Prepared</strong>: prepared – ready.</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 7</td>
<td>Teachers are well prepared to teach their subjects.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 8</th>
<th>Teachers here fail to reach some students because of poor teaching methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td><strong>Reach</strong>: reach – influence.</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 8</td>
<td>Teachers fail to influence the students because of the ineffectiveness of the teaching methods.</td>
</tr>
<tr>
<td>Changes</td>
<td>“Ineffectiveness” instead of “poor.”</td>
</tr>
<tr>
<td>CE-S 9</td>
<td>Teachers in this school have what it takes to get the children to learn.</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>“What it takes” was ambiguous.</td>
</tr>
<tr>
<td>ACES 9</td>
<td>Teachers have what is needed to make their students learn (increasing student motivation for learning).</td>
</tr>
<tr>
<td>Changes</td>
<td>Adding (increasing student motivation) after “what it takes.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 10</th>
<th>The lack of instructional materials and supplies makes teaching very difficult.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 10</td>
<td>The lack of the instructional materials and resource makes the teaching process very difficult.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 11</th>
<th>Teachers in this school do not have the skills to deal with student disciplinary problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 11</td>
<td>Teachers do not have the necessary skills to deal with the problem of misbehaving students.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 12</th>
<th>Teachers in this school think there are some students that no one can reach.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Reach: reach – influence.</td>
</tr>
<tr>
<td>Teachers</td>
<td>“No one can reach” is ambiguous.</td>
</tr>
<tr>
<td>ACES 12</td>
<td>Teachers believe that some students are very difficult to be influenced by teachers.</td>
</tr>
<tr>
<td>Changes</td>
<td>“No one can reach” was replaced by “No one can influence them.”</td>
</tr>
<tr>
<td>CE-S 13</td>
<td>The quality of school facilities here really facilitates the teaching and learning process.</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 13</td>
<td>Good facilities inside the school help to develop the two processes of teaching and learning.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 14</th>
<th>The students here come in with so many advantages they are bound to learn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Bound to learn: connected to learning – ready to learn – having ideas about learning process limits.</td>
</tr>
<tr>
<td>Teachers</td>
<td>&quot;Bound to learn&quot; was ambiguous.</td>
</tr>
<tr>
<td>ACES 14</td>
<td>Students come to school with different distinguished characteristics relate them to studying.</td>
</tr>
<tr>
<td>Changes</td>
<td>Bound to learn was replaced by &quot;with many advantages that connect them to learning.&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 15</th>
<th>These students come to school ready to learn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 15</td>
<td>Students come to school ready to learn.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 16</th>
<th>Drugs and alcohol abuse in the community make learning difficult for students here.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Suggested dropping drugs.</td>
</tr>
<tr>
<td>Teachers</td>
<td>Suggested dropping drugs or adding cigarettes.</td>
</tr>
<tr>
<td>ACES 16</td>
<td>The spread of drugs, alcohol and smoking in the society makes the teaching process in school very difficult.</td>
</tr>
<tr>
<td>Changes</td>
<td>Adding smoking to the sentence.</td>
</tr>
<tr>
<td>CE-S 17</td>
<td>The opportunities in this community help ensure that these students will learn.</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>“Opportunities” was ambiguous.</td>
</tr>
<tr>
<td>ACES 17</td>
<td>The good chances (financial abilities, the availability of opportunities) in the society help in teaching the students.</td>
</tr>
<tr>
<td>Changes</td>
<td>Adding (financial abilities, the availability of opportunities, etc...) after “The opportunities.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 18</th>
<th>Students here just aren’t motivated to learn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td><strong>Motivated:</strong> دافعية أو حافظ</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 18</td>
<td>Students are not motivated to learn.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 19</th>
<th>Learning is more difficult at this school because students are worried about their safety.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>“Worried about their safety” was ambiguous.</td>
</tr>
<tr>
<td>ACES 19</td>
<td>Learning in school is very difficult because students are worried about their own safety (ex. School violence, psychological safety, roads safety).</td>
</tr>
<tr>
<td>Changes</td>
<td>Adding (in terms of school violence, psychological safety, traffic safety) after “worried about their safety.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CE-S 20</th>
<th>Teachers here need more training to know how to deal with these students.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td>ACES 20</td>
<td>Teachers need more training to learn how to deal with students in the schools.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>CE-S 21</strong></td>
<td>Teachers in this school truly believe every child can learn.</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>-</td>
</tr>
<tr>
<td><strong>ACES 21</strong></td>
<td>Teachers strongly believe that each student is able to study.</td>
</tr>
<tr>
<td>Changes</td>
<td>-</td>
</tr>
</tbody>
</table>
Appendix K

The Back-Translation of the Arabic CE-Scale

Directions: This questionnaire aims at measuring the teachers' efficiency as a whole in the school where you teach. You need to read the statements then circle the number as it is shown below.

Strongly Agree  Agree  Likely to Agree  Likely to Disagree  Disagree  Strongly Disagree
(6)  (5)  (4)  (3)  (2)  (1)

Group Competence

Positive Items

(1) Teachers are able to influence the students who have difficulties in dealing with other.
(2) Teachers are confident in their ability of motivating their students.
(5) If the students do not understand for the first time, the teachers try to use different ways to develop understanding.
(6) Teachers have many different skills related to teaching methods.
(7) Teachers are well prepared to teach their subjects.
(9) Teachers have what is needed to make their students learn (increasing student motivation for learning).
(21) Teachers strongly believe that each student is able to study.

Negative Items

(3) Teachers give up if the students are less motivated.
(4) Teachers do not have the necessary skills to make the learning process meaningful.
(8) Teachers fail to influence the students because of the ineffectiveness of the teaching methods.
(11) Teachers do not have the necessary skills to deal with the problem of misbehaving students.
(12) Teachers believe that some students are very difficult to be influenced by teachers.
(20) Teachers need more training to learn how to deal with students in the schools.
Teaching Task Analysis

Positive Items

(13) Good facilities inside the school help to develop the two processes of teaching and learning.
(14) Students come to school with different distinguished characteristics relate them to studying.
(15) Students come to school read to learn.
(17) The good chances (financial abilities, the availability of opportunities) in the society help in teaching the students.

Negative Items

(10) The lack of the instructional materials and resource makes the teaching process very difficult.
(16) The spread of drugs, alcohol and smoking in the society makes the teaching process in school very difficult.
(18) Students are not motivated to learn.
(19) Learning in school is very difficult because students are worried about their own safety (e.g., School violence, psychological safety, roads safety).
Appendix L
The Arabic Version of the CE-Scale

استبيان الفاعلية الجماعية المدرسية

المعلومات: يهدف هذا الاستبيان إلى قياس الفاعلية التدريسية للمعلمين ككل في المدرسة التي تتمي إليها. المطلوب منك قراءة الفقرات التالية ووضع دائرة حول الرأي الذي تقدمه في هذا الموضوع وفقاً للتدرج التالي:

غير موافق بدرجة أكثر بقليل من الموافق (1)
موافق بدرجة أكثر بقليل من عدم الموافق (2)
موافق (3)
أوافق (4)
أوافق بشدة (5)
أوافق بشدة (6)

فاعلات المجموعة:

عبارات لثنيته:

1. المعلمين قادرون على التأثير على أكثر الطلبة صعوبة في التعامل.
2. المعلمون واقون من قدرتهم على تحفيز طلابهم.
3. إذا لم يتعلم الطالب شيئاً من المادة الأولى فإن المعلمين يجرون بطرق أخرى.

عبة المعلمون مهارات في طرق التدريس المختلفة.

4. تم إعداد المعلمين إعداداً جيداً لتدرير المواد التي تولع إليهم.
5. لدى المعلمين ما يلزم لجعل طلابهم يتعلمون (زيادة دافعة الطلبة للتعلم).

عبارات مؤقتة:

6. يعتقد المعلمون بشكل أكيد وو наличие بأن كل طالب يستطيع أن يتعلم.

7. يتأس المعلمون إذا قلت دافعة الطالب للتعلم.
8. ليس لدى المعلمين المهارات اللازمة لتعليم عملية تعلم الطلبة ذات معنى.
9. يفشل المعلمون في التأثير على بعض الطلبة بسبب قلة فاعلية طرق التدريس المستخدمة.
10. ليس لدى المعلمين المهارات اللازمة لتعليم مع مشكلات انضباط الطلبة.

11. يعتقد المعلمون بأن هناك بعض الطلبة لا أحد يستطيع التأثير فيهم.
12. المعلمون بحاجة إلى مزيد من التدريب ليعرفوا كيف يتعلمون مع طلبة المدرسة.
تحليل عملية التدريس:

عبارات مثبتة:

13. تسهل جودة التسهيلات المتوافقة في المدرسة فعليا عمليتي التعلم والتعليم.

14. يتأتي الطلبة إلى المدرسة بكثير من المميزات التي تربطهم بالتعلم.

15. يتأتي الطلبة إلى المدرسة وهم جاهزون للتعلم.

17. تساعد الفرصة المتاحة في المجتمع (الإمكانات المادية، توفر الفرص) على ضمان تعلم الطلبة.

عبارات منفية:

10. ينقص المواد التعليمية والمصادر يجعل عملية التدريس صعبة جدا.

16. يصعب إدمان المخدرات والكحول والسجائر في المجتمع من عملية تعلم الطلبة في المدرسة.

18. ليس لدى طلبة المدرسة دافعًا للتعلم.

19. التعلم صعب في المدرسة لأن الطلبة قلقون على سلامتهم (من حيث العنف المدرسي، الأمان النفسي، السلامة المروية).
Appendix M
The Arabic Version of the TSES
(Actual Study)

قياس الكفاية الذاتية

التعليمات: يهدف هذا القياس إلى قياس الكفاية التدريسية الذاتية (الفردية) للآلي. المطلوب منك قراءة الفقرات التالية
ووضع دائرة حول التقدير الذي يتناسب عليك فعلياً (وليس كما ترغب أن يكون عليه هذا السؤال). وفقاً للتدرج التالي:

<table>
<thead>
<tr>
<th>غير كل</th>
<th>كبير جداً</th>
<th>كبير</th>
<th>متوسط</th>
<th>متوسط سيئ</th>
<th>سيئ</th>
</tr>
</thead>
<tbody>
<tr>
<td>لا شيء</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

إجمال الطلبة:

1. ما مقدار عملك للتأتيل في أكثر الطلبة صعوبة في التعامل؟
2. ما مقدار من عملك للمساعدة طالب على التفكير النافذ؟
3. ما مقدار من عملك لتحسين الطلبة الذين يظهرون اهتماماً أقل بالعمل المدرسي (الأنشطة الصفية واللاصفية)؟
4. ما مقدار من عملك على تقديم الطلبة بفهمهم قدراتهم على القيام بالأعمال المدرسية بشكل جيد؟
5. ما مقدار من عملك لمساعدة طالب يبحث أهدافه على التعلم؟
6. ما مقدار من عملك لمساعدته إعداد طلبك؟
7. ما مقدار من عملك لتحسينهم في الطلب المشجع جداً؟
8. ما مقدار من عملك لمساعدة الأسر لمساعدة أبنائها على الأداء الجيد في المدرسة؟
9. التدريس:
10. إلى أي مدى تتلقى الرد على الأسئلة الصعبة لطلابك؟
11. إلى أي مدى يمكنك استيعاب الطلبة لما قمت بتدرسه؟
12. إلى أي مدى يمكنك صياغة أسئلة جيدة لطلابك؟
13. ما مقدار من استخدام أنواع مختلفة من التقويم؟
14. إلى أي مدى يمكنك أن تقدم قويمًا بديلًا أو مجال آخر عندما لا يفهم طالب نقطة ما؟
15. إلى أي مدى تتلقى استراتيجيات بديلة (تقويم، تدريس،...) في صفك؟
16. إلى أي مدى تتلقى تقدمات مناسبة (أنشطة، أسئلة...) لمستوى الطلاب ذوي القدرات العالية؟

49 Items in bold are items that were modified after the first administration in the first pilot study.
إدارة الصف:

3. ما مقدار ما يمكنك عمله للسيطرة على السلوك الفوضوي في غرفة الصف؟
5. إلى أي مدى تستطيع أن تجعل توقعاتك واضحة عن سلوكيات طلبتلك؟
8. ما مدى دقتلك في تأسيس نظام مستمر في غرفة الصف للقيام بالأنشطة بسهولة؟
13. ما مقدار ما يمكنك القيام به لجعل الطلبة يلتزمون بقوانين الصف؟
15. ما مقدار ما يمكنك عمله لتفعيل الطالب الفوضوي أو المزعج؟
16. ما مدى دقتلك في وضع نظام لإدارة الصف مع كل نوعية من نواعي الطلبة داخليه؟
19. ما مدى دقتلك في منع قلة من الطلبة المشاغبين من إضاعة الدروس بأكمله؟
21. إلى أي مدى تتقن التعامل مع الطلبة العدوانيين؟
Appendix N
The Arabic Version of the new Teachers’ Perceived Collective Efficacy Scale

مقاييس الكفاءة الجماعية المدرسة (الدراسة التجريبية الثانية)

التعليمات: لقد تم إعداد هذا المقياس للتعرف على التحديات التي تواجه المعلمين كل في أنشطتهم المدرسية. يهدف هذا المقياس إلى قياس الكفاءة التعليمية للمعلمين كمجموعة (وليس فرداء) في المدرسة التي تنتمي إليها. المطلوب منك قراءة الفقرات التالية وإعطاء رأيك حول كل منها من خلال وضع دائرة حول أحد الخيارات في الجانب الأيسر وفقاً للتدرج التالي:

<table>
<thead>
<tr>
<th>تأثير قليل</th>
<th>متوسط</th>
<th>كبير جدا</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

الرجاء الإجابة على الأسئلة باعتبار الوضع الحالي للقدرات والمصادر والفرص الموجودة في مدرستك لقيم المعلمين بكل مهمة من المهمات التالية (وليس كما ترغب أن يكون عليه هذا السلوك).

فاعلية التدريس:

1. ما مقدار ما يمكن أن يقوم به معلومتك مدرستك لجعل تعلم الطلبة ذا معنى؟
2. ما مقدار ما يمكن أن يقوم به معلومتك مدرستك لمساعدت الطلاب على إتقان الأجزاء الصعبة من المحتوى؟
3. ما مقدار ما يمكن أن يقوم به معلومتك مدرستك لمساعدت الطلاب على التفكير النقدي؟
4. ما مقدار ما يمكن أن يقوم به معلومتك مدرستك لدعم (تعزيز) الفهم العميق للمفاهيم الدراسية؟
5. ما مقدار ما يمكن أن تقوم به مدرستك لتنمية إبداع الطلبة؟
6. ما مقدار ما يمكن أن تقوم به مدرستك لاقتراح الطلبة تقديرهم على أداء الأعمال المدرسية بشكل جيد؟
7. ما مقدار ما يمكن أن تقوم به معلومتك مدرستك لتكوين دروسهم لتناسب مستوى الفرد الطلب؟
8. ما مقدار تمكن المعلمين في مدرستك من استخدام أنواع مختلفة من التدريس مع طلابهم؟
9. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة (أناشطة، أسلحة،....) لمستوى الطلاب ذوي القدرات العالية؟
10. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة أذون العلم؟
11. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتعزيز الطلاب؟
12. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب؟
13. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على التعلم؟
14. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
15. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
16. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
17. ما مدى استطاع المعلمين في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
18. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
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20. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
21. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
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23. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
24. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
25. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
26. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
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28. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
29. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
30. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
31. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
32. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
33. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
34. ما مدى استطاع المعلمن في مدرستك أن يقدموا تقييمات مناسبة أنهم يقومون بتشجيع الطلاب على المشاركة؟
37. ما مقدار ما يمكن أن يقوم به معلم مدرستك لجعل طلبته يقومون بمشاريع لاصفية؟
38. إلى أي مدى يستطيع معلم مدرستك أن يعدوا اختبارات تقييم متنوعة متنوعة لمستويات التعلم لدى الطلاب؟

فعالية إدارة (ضيق) الطلاب:
2. إلى أي مدى يستطيع الطلاب في مدرستك وضع قواعد وأنظمة تفاعل عملية التعلم؟
6. ما مقدار ما يمكن أن يقوم به معلم مدرستك لجعل الطالب يلتزم بمنظمة المدرسة وقوانينها؟
10. ما مقدار ما يمكن أن يقوم به الطلاب في مدرستك للسيطرة على السلك الفضائي داخل المدرسة؟
14. إلى أي مدى يستطيع معلم مدرستك توضيح ما يتوقعونه من سلوكات مقبولة لطلابهم؟
18. إلى أي مدى يتلقى معلمو مدرستك التعامل مع الطلاب العدوانيين؟
22. ما مقدار ما يمكن للمدرسة أن تفعله لجعل الطلبة يشعرون بالأمان فيما يكونون بالمدرسة؟
25. إلى أي مدى يمكن للمعلمين في مدرستك وضع نظام إداري للمدرسة يناسب نواعيات الطلبة داخلها؟
31. إلى أي مدى يستطيع معلم مدرستك أن يتعاملوا مع مشكلات عدم أضطهاد الطلبة؟
35. إلى أي مدى يستطيع معلم مدرستك أن يطلقوا من الغاب المدرسي؟
38. إلى أي مدى يستطيع معلم مدرستك أن يطلقوا من الإقطاعات التام للطلاب عن الدراسة؟
41. ما مقدار ما يمكن أن يقوم به معلم مدرستك لمنع المشكلات السلوكية بين الطلبة في فناء المدرسة؟

المصادر والعقبات:
4. ما مقدار ما يمكن أن يقوم به معلم مدرستك للتغلب على التحديات القريبة لظروف المجتمع على تعلم الطلاب؟
8. ما مقدار ما يمكن أن يقوم به معلم مدرستك لتعزيز عملية التعلم في ظل غياب الإلهام والمتابعة من الأسرة؟
12. ما مقدار ما يمكن أن يقوم به معلم مدرستك للتغلب على نقص المواد والمصادر التعليمية؟
16. إلى أي مدى يمكن للمتعلم في مدرستك استغلال الإمكانيات المتاحة في المدرسة لضمان تعلم الطلبة؟
20. إلى أي مدى يمكن للمتعلم في مدرستك استغلال استغلال الدراسة؟
23. إلى أي مدى يستطيع معلم مدرستك أن يستخدموا الفرص المتاحة في المجتمع المحلي (الإمكانيات المادية، الخدمات العامة) لضمان تعلم الطلبة؟
27. إلى أي مدى يستطيع معلم مدرستك أن يستخدموا من فرص النمو المهني المقدمة لهم لرفعهم من المستوى الوظيفي في المدرسة؟
30. إلى أي مدى يستطيع معلم مدرستك أن يستخدموا من المواد والمصادر التعليمية في تحسين عملية تعلم الطلاب؟
33. ما مقدار ما يمكن أن يقوم به معلم مدرستك للتغلب على صعوبة المحتوى الدراسي لبعض المناهج؟
36. ما مقدار ما يمكن أن يقوم به معلم مدرستك لتشويه حاجات الطلاب من خلال المناهج الحالي؟
39. إلى أي مدى يستطيع معلم مدرستك أن يستخدموا استراتيجيات التعلم الجديد (المعلم)؟
42. إلى أي مدى يمكن للمعلمين في مدرستك أن يمارسوا عملهم بفاعلية في ظل العدد المتزايد من المهام الملقاة على عاتقهم؟
Appendix O
The new TPCES
(Second Pilot Study)

This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers in their school activities.

Directions: Please indicate your opinion about each of the questions below by marking one of the five responses in the columns on the right side.

Nothing Little Some Degree A Great Deal A Very Great Deal
(1) (2) (3) (4) (5)

Please respond to each of the questions by considering the current ability, resources, and opportunity of the teaching faculty at your school to do each of the following. Your answers are confidential.

Items of this scale come from several previous scales. The meaning of the codes is as follows:
CTBS = Collective Teacher Beliefs Scale (Tschannen-Moran & Barr, 2004).
TSES = Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001)
CES = Collective Efficacy Scale (Goddard, Hoy, & Woolfolk Hoy, 2000).
Bandura = Bandura’s Teacher Self-Efficacy Scale (2001).
NEW = New items written for the present study.

### Efficacy for Instruction

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Original Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>How much can teachers in your school do to produce meaningful student learning?</td>
<td>CTBS 1</td>
</tr>
<tr>
<td>3.</td>
<td>How much can teachers in your school do to help students master complex content?</td>
<td>CTBS 2</td>
</tr>
</tbody>
</table>

Note that the items wording reported here is a translation of the Arabic version used in the pilot study after the changes suggested by the 13 judges. As indicated in the method chapter, these changes were minor to add more clarity to the items.
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>How much can teachers in your school do to help students think critically?</td>
<td>CTBS 5</td>
</tr>
<tr>
<td>7</td>
<td>How much can teachers in your school do to promote deep understanding of academic concepts?</td>
<td>CTBS 6</td>
</tr>
<tr>
<td>9</td>
<td>How much can your school do to foster student creativity?</td>
<td>CTBS 9</td>
</tr>
<tr>
<td>11</td>
<td>How much can your school do to get students to believe they can do well in schoolwork?</td>
<td>CTBS 10</td>
</tr>
<tr>
<td>13</td>
<td>How much can your school adjust their lessons to the proper level for individual students?</td>
<td>TSES 17</td>
</tr>
<tr>
<td>15</td>
<td>How well can teachers in your school use a variety of assessment strategies with their students?</td>
<td>TSES 18</td>
</tr>
<tr>
<td>17</td>
<td>To what extent can teachers in your school provide appropriate challenges (e.g., activities, questions) for very capable students?</td>
<td>TSES 24</td>
</tr>
<tr>
<td>19</td>
<td>How much can teachers in your school do to make students value learning?</td>
<td>TSES 9</td>
</tr>
<tr>
<td>21</td>
<td>How much can teachers in your school do to motivate students who do not want to learn?</td>
<td>TSES 4</td>
</tr>
<tr>
<td>24</td>
<td>To what extent can teachers in your school use various effective teaching methods?</td>
<td>CES 6</td>
</tr>
<tr>
<td>26</td>
<td>To what extent can teachers in your school teach the subjects they are assigned to teach?</td>
<td>CES 7</td>
</tr>
<tr>
<td>28</td>
<td>How much can teachers in your school do to get through to treat the most difficult students?</td>
<td>CES 1 TSES 1</td>
</tr>
<tr>
<td>29</td>
<td>To what extent can teachers in your school motivate their students?</td>
<td>CES 2</td>
</tr>
<tr>
<td>32</td>
<td>How much can your school teachers do to get students to work together?</td>
<td>Bandura</td>
</tr>
<tr>
<td>34</td>
<td>How much can your school teachers do to encourage their students to produce in-classroom projects?</td>
<td>NEW</td>
</tr>
<tr>
<td>37</td>
<td>How much can your school teachers do to get their students to do their out-classroom projects?</td>
<td>NEW</td>
</tr>
<tr>
<td>40</td>
<td>To what extent can your school teachers construct tests to examine various levels of student learning?</td>
<td>NEW</td>
</tr>
</tbody>
</table>
Efficacy for Discipline (Management)

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Original Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>To what extent can school personnel in your school establish rules and procedures that facilitate learning?</td>
<td>CTBS 3</td>
</tr>
<tr>
<td>6.</td>
<td>How much can teachers in your school get students to follow school rules?</td>
<td>CTBS 4</td>
</tr>
<tr>
<td>10.</td>
<td>How much can school personnel in your school do to control disruptive behavior?</td>
<td>CTBS 7</td>
</tr>
<tr>
<td>14.</td>
<td>To what extent can teachers in your school make expectations clear about appropriate student behavior?</td>
<td>CTBS 8</td>
</tr>
<tr>
<td>18.</td>
<td>How well can teachers in your school respond to defiant students?</td>
<td>CTBS 11</td>
</tr>
<tr>
<td>22.</td>
<td>How much can your school do to help students feel safe while they are at school?</td>
<td>CTBS 12</td>
</tr>
<tr>
<td>25.</td>
<td>To what extent can your school teachers establish an appropriate school management system with each group of students?</td>
<td>TSES 16</td>
</tr>
<tr>
<td>31.</td>
<td>To what extent can teachers in your school deal with student disciplinary problems?</td>
<td>CES11</td>
</tr>
<tr>
<td>35.</td>
<td>To what extent can you school teachers reduce school absenteeism?</td>
<td>Bandura</td>
</tr>
<tr>
<td>38.</td>
<td>To what extent can your school teachers reduce school dropout?</td>
<td>Bandura</td>
</tr>
<tr>
<td>41.</td>
<td>How much can your school teachers do to prevent problem behavior on the school grounds?</td>
<td>Bandura</td>
</tr>
</tbody>
</table>
### Efficacy for Resources and Constraints

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Original Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>How much can your school teachers do to overcome the influence of adverse community conditions on students’ learning?</td>
<td>Bandura</td>
</tr>
<tr>
<td>8.</td>
<td>How much can your school teachers do to promote learning when there is a lack of support from the home?</td>
<td>Bandura</td>
</tr>
<tr>
<td>12.</td>
<td>How much can teachers in your school overcome the lack of instructional materials and supplies?</td>
<td>CES10</td>
</tr>
<tr>
<td>16.</td>
<td>To what extent can teachers in your school use the advantages that students have at home to ensure students’ learning?</td>
<td>CES 14</td>
</tr>
<tr>
<td>20</td>
<td>How well can teachers in your school make use of students’ readiness to learn?</td>
<td>CES15</td>
</tr>
<tr>
<td>23.</td>
<td>To what extent can teachers in your school use the opportunities in this community (e.g., financial, general services) to ensure that these students will learn?</td>
<td>CES17</td>
</tr>
<tr>
<td>27.</td>
<td>To what extent can teachers in your school make use of professional development opportunities to increase the overall achievement of the school?</td>
<td>NEW</td>
</tr>
<tr>
<td>30.</td>
<td>To what extent can your school teachers benefit from classroom supplies to improve student learning?</td>
<td>NEW</td>
</tr>
<tr>
<td>33.</td>
<td>How much can your school teachers do to overcome the difficulty of the curriculum?</td>
<td>NEW</td>
</tr>
<tr>
<td>36.</td>
<td>How much can your school teachers do to fulfill students’ needs with the use of the current curriculum?</td>
<td>NEW</td>
</tr>
<tr>
<td>39.</td>
<td>To what extent can your school teachers use the new continuous evaluation strategies?</td>
<td>NEW</td>
</tr>
<tr>
<td>42</td>
<td>How well can your school teachers perform effectively with the increasing number of duties?</td>
<td>NEW</td>
</tr>
</tbody>
</table>
Appendix P
The Organizational Climate Index (Original OCI)

DIRECTIONS: The following are statements about your school. Please indicate the extent to which each statement characterizes your school by circling the appropriate response.

RO = Rarely Occurs  SO = Sometimes Occurs  O = Often Occurs  VFO = Very Frequent Occurs

Collegial Leadership

(1) The principal explores all sides of topics and admits that other opinions exist.
(3) The principal treats all faculty members as his or her equal.
(5) The principal is friendly and approachable.
(10) The principal lets faculty know what is expected of them.
(20) The principal puts suggestions made by the faculty into operation.
(27) The principal is willing to make changes.

Professional teacher behavior

(8) Teachers help and support each other.
(18) Teachers accomplish their jobs with enthusiasm.
(21) Teachers respect the professional competence of their colleagues.
(23) The interactions between faculty members are cooperative.
(25) Teachers in this school exercise professional judgment.
(28) Teachers “go the extra mile” with their students.
(29) Teachers provide strong social support for colleagues.

Achievement Press

(7) The school sets high standards for academic performance.
(11) Students respect others who get good grades.
(15) Students seek extra work so they can get good grades.
(16) Parents exert pressure to maintain high standards.
(17) Students try hard to improve on previous work.
(19) Academic achievement is recognized and acknowledged by the school.
(22) Parents press for school improvement.
(24) Students in this school can achieve the goals that have been set for them.

**Institutional vulnerability**

(2) A few vocal parents can change school policy.
(6) Select citizens groups are influential with the board.
(9) The principal responds to pressure from parents.
(12) Teachers feel pressure from the community.
(26) The school is vulnerable to outside pressures.
Appendix Q
Community Engagement Dimension of the School Climate Index (SCI)

(1) Our school makes an effort to inform the community about our goals and achievements.
(2) Our school is able to marshal community support when needed.
(9) Parents and other community members are included on planning committees.
(10) Community members are responsive to requests for participation.
(25) Community members attend meetings to stay informed about our school.
(26) Organized community groups (e.g., PTA, PTO) meet regularly to discuss school issues.
(27) School people are responsive to the needs and concerns expressed by community members.
Appendix R

Changes Made on the Arabic Version of the OCI

Similar to the other two questionnaires, some changes were made on wording and structure of the OCI items. The meaning of the codes is as follows:

OCI = The English version of the Organizational Climate Index (Hoy et al., 2002a).

Translators: There were some disagreements among the four translators in selecting the appropriate words, which were then discussed and resolved. Examples are given when disagreements appeared in the Arabic translation of the English words between the three translators. When English words are used in front of the bolded single English word, they indicate the translation of the Arabic words that the translators showed disagreement about. When Arabic words are given in front of the English word, they indicate that the translators gave several Arabic words because of the absence of a specific Arabic word equivalent for the English one. However, these Arabic words should give exactly the same English meaning.

Teachers & Judges: Clarifications or changes that were suggested by the 18 teachers who responded to the tryout version of the AOCI and by the expert judges.

AOCI = The English backward translation of the Arabic version of the OCI that was used in the 2nd pilot study.

<table>
<thead>
<tr>
<th>OCI 1</th>
<th>The principal explores all sides of topics and admits that other opinions exist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 1</td>
<td>The principal explores all sides of topics and admits the existence of other opinions.</td>
</tr>
</tbody>
</table>

*Three items of the OCI are not used in the scoring of the four subscales; thus, their translation notes are not reported here. These are items 4, 14, and 30 in the original English OCI.*
<table>
<thead>
<tr>
<th>OCI 2</th>
<th>A few vocal parents can change school policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td><strong>Vocal</strong>: important – good speakers.</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>How are they important? Where is their influence located?</td>
</tr>
<tr>
<td>AOCI 2</td>
<td>It is possible that few important parents can change the school policy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 3</th>
<th>The principal treats all faculty members as his or her equal.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>“Faculty members” was replaced by teachers.</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 3</td>
<td>The principal treats all teachers equally.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 5</th>
<th>The principal is friendly and approachable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 5</td>
<td>The principal is friendly and can be easily approached.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 6</th>
<th>Select citizens groups are influential with the board.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>The board was changed to parents’ council (i.e, at the school level).</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>“Select citizens” was ambiguous: based on what is this selection?</td>
</tr>
<tr>
<td>AOCI 6</td>
<td>A group of citizens are influential in the parental council.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 7</th>
<th>The school sets high standards for academic performance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>Needed clarification; Are high standards for teachers or students?</td>
</tr>
<tr>
<td>AOCI 7</td>
<td>The school sets high standards of student school achievement.</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>OCI 8</td>
<td>Teachers help and support each other.</td>
</tr>
<tr>
<td></td>
<td>Teachers &amp; Judges</td>
</tr>
<tr>
<td>AOCI 8</td>
<td>Teachers support and help each other.</td>
</tr>
<tr>
<td>OCI 9</td>
<td>The principal responds to pressure from parents.</td>
</tr>
<tr>
<td></td>
<td>Teachers &amp; Judges</td>
</tr>
<tr>
<td>AOCI 9</td>
<td>The principal responds to parental pressures.</td>
</tr>
<tr>
<td>OCI 10</td>
<td>The principal lets faculty know what is expected of them.</td>
</tr>
<tr>
<td></td>
<td>Faculty was replaced by teachers.</td>
</tr>
<tr>
<td></td>
<td>Teachers &amp; Judges</td>
</tr>
<tr>
<td>AOCI 10</td>
<td>The principal explains for teachers what is expected from them.</td>
</tr>
<tr>
<td>OCI 11</td>
<td>Students respect others who get good grades.</td>
</tr>
<tr>
<td></td>
<td>Teachers &amp; Judges</td>
</tr>
<tr>
<td>AOCI 11</td>
<td>Students respect their classmates who get good grades.</td>
</tr>
<tr>
<td>OCI 12</td>
<td>Teachers feel pressure from the community.</td>
</tr>
<tr>
<td></td>
<td>Teachers &amp; Judges</td>
</tr>
<tr>
<td>AOCI 12</td>
<td>Teachers feel pressure from the community.</td>
</tr>
<tr>
<td>OCI</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>OCI 13</td>
<td>The principal maintains definite standards of performance.</td>
</tr>
<tr>
<td></td>
<td><strong>Translators</strong></td>
</tr>
<tr>
<td></td>
<td><em>Definite:</em> رصينة - أكيدة - واضحة</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>“Definite standards” was ambiguous in its meaning and whether it was intended for teachers’ or students’ performance.</td>
</tr>
<tr>
<td>AOCl 13</td>
<td>The principal maintains specific standards for general performance of school.</td>
</tr>
<tr>
<td>OCI 15</td>
<td>Students seek extra work so they can get good grades.</td>
</tr>
<tr>
<td></td>
<td><strong>Translators</strong></td>
</tr>
<tr>
<td></td>
<td><em>Seek:</em> request – search – seek.</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCl 15</td>
<td>Students search for additional work to get high grades.</td>
</tr>
<tr>
<td>OCI 16</td>
<td>Parents exert pressure to maintain high standards.</td>
</tr>
<tr>
<td></td>
<td><strong>Translators</strong></td>
</tr>
<tr>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCl 16</td>
<td>Parents press for high school performance standards.</td>
</tr>
<tr>
<td>OCI 17</td>
<td>Students try hard to improve on previous work.</td>
</tr>
<tr>
<td></td>
<td><strong>Translators</strong></td>
</tr>
<tr>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCl 17</td>
<td>Students work hard to improve on their previous performance.</td>
</tr>
<tr>
<td>OCI 18</td>
<td>Teachers accomplish their jobs with enthusiasm.</td>
</tr>
<tr>
<td></td>
<td><strong>Translators</strong></td>
</tr>
<tr>
<td></td>
<td><em>Accomplish:</em> ينجز - يحقق - يؤدي</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCl 18</td>
<td>Teachers perform their works with enthusiasm.</td>
</tr>
<tr>
<td>OCI 19</td>
<td>Academic achievement is recognized and acknowledged by the school.</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 19</td>
<td>The school acknowledges and encourages students’ high achievement.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 20</th>
<th>The principal puts suggestions made by the faculty into operation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>Faculty was replaced by teachers.</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 20</td>
<td>The principal puts teachers’ suggestions into practice.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 21</th>
<th>Teachers respect the professional competence of their colleagues.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 21</td>
<td>Teachers respect the professional competence and uniqueness of their colleagues.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 22</th>
<th>Parents press for school improvement.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>School improvement was ambiguous.</td>
</tr>
<tr>
<td>AOCI 22</td>
<td>Parents press for school performance improvement.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 23</th>
<th>The interactions between faculty members are cooperative.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>“Faculty members” was replaced by teachers.</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 23</td>
<td>The interaction among teachers is collaborative.</td>
</tr>
<tr>
<td>OCI 24</td>
<td>Students in this school can achieve the goals that have been set for them.</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 24</td>
<td>Students in this school can achieve the goals that have been put for them.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 25</th>
<th>Teachers in this school exercise professional judgment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 25</td>
<td>Teachers of the school evaluate topics in a professional manner.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 26</th>
<th>The school is vulnerable to outside pressures.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>“Outside pressures” was ambiguous; it needed specification of the pressure. District pressure might not be perceived as pressure but as regulations needed for the school work to continue. Two sentences were included:</td>
</tr>
<tr>
<td>AOCI 26</td>
<td>The school is vulnerable to a group of social pressures. The school is vulnerable to the school district pressure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCI 27</th>
<th>The principal is willing to make changes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>-</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>It needed clarification: Is it when teachers suggest these changes or somebody else?</td>
</tr>
<tr>
<td>AOCI 27</td>
<td>The principal is ready to make changes in the school if changes are suggested.</td>
</tr>
<tr>
<td>OCI 28</td>
<td>Teachers “go the extra mile” with their students.</td>
</tr>
<tr>
<td>Translators</td>
<td><strong>Go the extra mile</strong>: two translators translated it literally while the other two translated it to “make additional effort.”</td>
</tr>
<tr>
<td>Teachers &amp; Judges</td>
<td>-</td>
</tr>
<tr>
<td>AOCI 28</td>
<td>Teachers make additional efforts with their students.</td>
</tr>
</tbody>
</table>

| OCI 29 | Teachers provide strong social support for colleagues. |
| Translators | - |
| Teachers & Judges | “**Social support**” was ambiguous: What is kind of social support? |
| AOCI 29 | Teachers provide strong social support for their colleagues. |
Appendix S

The Arabic Version of the OCI (Second Pilot Study)

مقياس المناخ التنظيمي للمدرسة

التعليمات:

 فيما يلي مجموعة من العبارات تتعلق بمظاهر من المناخ المدرسي، يرجى قراءتها بدقة، ووضع دائرة حول الرقم المناسب في ضوء السلوك الفعلي الذي يمارس في مدرستك (وليس كما ترغب أن يكون عليه هذا السلوك). نرجو الإجابة بدقة وصراحة، مع شكري وتقديري، والله الموفق.

<table>
<thead>
<tr>
<th>لا يحدث</th>
<th>نادراً ما يحدث</th>
<th>يحدث أحياناً</th>
<th>يحدث دائماً</th>
<th>يحدث باستمرار</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

العلاقة مع المدير والإدارة المشتركة:

1. يكتشف المديرون جميع جوانب الموضوعات ويقر بوجود أراء للآخرين.
6. يتعامل مدير المدرسة كافة المدرسون بالتساوي.
11. مدير المدرسة شخص ودود يسهل الوصول إليه ومحادثته.
16. يوضح المديرين ما هو متوقع منهم.
19. يشارك المديرين في اتخاذ القرارات المتعلقة بالمدرسة.
21. يحافظ المدير على معايير محددة للأداء العام للمدرسة.
26. يضع مدير المدرسة اقتراحات المعلمين موضوع التطبيق.
31. المدير على استعداد للقيام بتغييرات في المدرسة إذا اقترح عليه ذلك.

علاقات المعلمين ببعضهم البعض:

4. يشيع التكافل الاجتماعي بين المعلمين.
9. يساند ويساعد المعلمين بعضهم البعض.
14. يعطي المعلمين أعمالهم بحماس.
17. يحارب المعلمين الكفاية والتمييز المهني لزملائهم.
24. ينسف التفاعل بين المعلمين بالتعاون.
27. يُقيم معلمو المدرسة الأمور المختلفة بشكل موضوعي يتصور بالمهنية.
32. يبذل المعلمين جهداً إضافياً مع طلابهم.
34. يقدم المعلمين دعماً اجتماعياً قوياً لزملائهم.

---

52 More items appear in this Arabic version than in the English one because of the inclusion of some items of the SCI for testing before the actual study (e.g., the community engagement dimension) and some other new items suggested in the test adaptation processes.
تقييم المستوى المتميز للمدرسة والاهتمام به:
3. تضع المدرسة معايير عالية للتحصيل الدراسي للطلاب.
8. يحترم الطلاب زملائهم الذين يحصلون على تقديرات جيدة.
13. يبحث الطلاب عن أعمال إضافية لكي يحصلوا على تقديرات جيدة.
18. يمارس أولياء الأمور ضغوطا للمحافظة على معايير الأداء العالية للمدرسة.
23. يبذل الطلاب قصارى جهدهم لتحسين أدائهم السابق.
28. يضغط أولياء الأمور من أجل تحسين أداء المدرسة.
29. تقدر المدرسة التفوق الدراسي المتميز للطلاب وتشجعه.
35. يستطيع الطلاب في هذه المدرسة تحقيق الأهداف التي وضعت لهم.

الضغوط الواقعة على المدرسة:
2. تتعرض المدرسة لمجموعة من الضغوط الاجتماعية.
7. من الممكن أن يغير بعض الآباء المهمين سياسة المدرسة.
12. تعد مجموعات معينة من المواطنين مؤثرة في مجلس الآباء.
22. يشعر المعلمون بالضغط الواقع عليهم من المجتمع.
33. إن المدرسة معرضة لضغوط الإدارة التعليمية المركزية.
36. يستجيب المدير لضغوطات أولياء الأمور.

الندماج المدرسة مع المجتمع:
5. تبذل مدرستنا جهدا لإعلام (إحاته) المجتمع بأهدافها ومنجزاتها.
10. تستطيع مدرستنا الحصول على دعم المجتمع عند الحاجة إليه.
15. يشارك أولياء الأمور وأفراد المجتمع الآخرون في اللجان التخطيطية للمدرسة.
20. يستجيب أفراد المجتمع عند طلب مشاركتهم.
25. يحضر أفراد المجتمع الاجتماعات حتى يكونوا مطلعين على أحوال مدرستنا.
30. يستجيب أفراد المدرسة لمطالب وتحاليف أفراد المجتمع.
Appendix T
The Arabic Version of the new 18-item TPCES
(Actual Study)

The Arabic Version of the new 18-item TPCES

المراجعات: لقد تم إعداد هذا المقياس للتعريف على التحديات التي تواجه المعلمين بكل في أنشطتهم المدرسية. يهدف هذا المقياس إلى قياس الكفاءة التدريسية للمعلمين كمجتمعة (وليس فرديًا) في المدرسة التي تنتمي إليها. المطلوب منك قراءة الفقرات التالية وإعطاء رأيك حول كل منها من خلال وضع دائرة حول أحد الخيارات في الجانب الأيسر وفقاً للدرج التالي:

<table>
<thead>
<tr>
<th>كبير جدا</th>
<th>كبير</th>
<th>متوسط</th>
<th>تأثير قليل</th>
<th>لا يوجد تأثير</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

الرجاء الإجابة على الأسئلة باعتبار الوضع الحالي للقدرات والمصادر والفرص الموجودة في مدرستك لقيام المعلمين بكل مهمة من المهام التالية (وليس كما ترغب أن يكون عليه هذا السلوك).

الفاعلية الجماعية للتدريس:
1. ما مقدار ما يمكن أن يقوم به معلمك لجعل تعلم الطلبة ذا مفعّل؟
2. ما مقدار ما يمكن أن يقوم به معلمك لمساعدة الطلاب على إتقان الأجزاء الصعبة من المحتوى؟
3. ما مقدار ما يمكن أن يقوم به معلمك لمساعدة طلابهم على التفكير النقدي؟
4. ما مقدار ما يمكن أن يقوم به معلمك لتعميق الفهم العميق للمفاهيم الدراسية؟
5. ما مقدار ما يمكن أن تقوم به مدرستك لتنمية إبداع الطلبة؟
6. ما مقدار ما يمكن أن يقوم به معلمك من استخدام أنواع مختلفة من التقويم مع طلابهم؟

الفاعلية الجماعية لإدارة المدرسة وضبط الطلاب:
7. إلى أي مدى يستطيع معلمك أن يتعاملوا مع مشكلات عدم اضطباب الطلبة؟
8. ما مقدار ما يمكن أن يقوم به معلمك لجعل الطلبة يلتزمون بأنظمة المدرسة وقواعدها؟
9. ما مقدار ما يمكن أن تقوم به العاملون في مدرستك لضمان أن يكون الوضع الفوضوي داخل المدرسة؟
10. ما مقدار ما يمكن للإدارة أن تفعله لجعل الطلبة يشعرون بالأمان عندما يكونون بالمدرسة؟
11. ما مقدار ما يمكن أن يقوم به معلمك من تشغيل المشكلات السلوكيّة بين الطلبة في فئة المدرسة؟
12. إلى أي مدى يتقن معلمك التعامل مع الطلبة الضعفاء؟
الفاعلية الجماعية للإستفادة من المصادر والتغلب على العقبات:

2. إلى أي مدى يستطيع معلم مدرستك أن يستخدموا الفرص المتاحة في المجتمع المحلي (الإمكانات المادية، الخدمات العامة) لضمان تعلم الطلبة؟

8. إلى أي مدى يستطيع معلم مدرستك أن يستفيدوا من فرص التمكين المهني المقدمة لهم ليرفعوا من المستوى التحصيلي للمدرسة؟

11. إلى أي مدى يستطيع معلم مدرستك أن يستخدموا استراتيجيات التقييم الجديد (المستمر)؟

12. إلى أي مدى يستطيع معلم مدرستك أن يستفيدوا من المواد والمصادر التعليمية في تحسين عملية تعلم الطلاب؟

16. ما مقدار ما يمكن أن يقوم به معلم مدرستك للتغلب على صعوبة المحتوى الدراسي لبعض المناهج؟

17. ما مقدار ما يمكن أن يقوم به معلم مدرستك لتلبية حاجات الطلاب من خلال المناهج الحالي؟
Appendix U

The new 18-item TPCES
(Actual Study)

This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers in their school activities.

Directions: Please indicate your opinion about each of the questions below by marking one of the five responses in the columns on the right side.

Nothing          Little         Some Degree    A Great Deal    A Very Great Deal
(1)               (2)           (3)            (4)              (5)

Please respond to each of the questions by considering the current ability, resources, and opportunity of the teaching faculty at your school to do each of the following. Your answers are confidential.

Efficacy for Instruction:
1. How much can teachers in your school do to produce meaningful student learning?
3. How much can teachers in your school do to help students master complex content?
5. How much can teachers in your school do to help students think critically?
7. How much can teachers in your school do to promote deep understanding of academic concepts?
9. How much can your school do to foster student creativity?
15. How much can teachers in your school use a variety of assessment strategies?

Efficacy for Discipline:
4. To what extent can teachers in your school deal with student disciplinary problems?
6. How well can adults in your school get students to follow school rules?
10. How much can school personnel in your school do to control disruptive behavior?
13. How much can your school do to help students feel safe while they are at school?
14. How much can you do to prevent problem behavior on the school grounds?
18. How well can teachers in your school respond to defiant students?
Efficacy for Resources and Constraints:

2. To what extent can teachers in your school use the opportunities in this community to ensure that these students will learn?

8. To what extent can teachers make use of professional development opportunities to increase the overall achievement of the school?

11. To what extent can teachers use the continuous evaluation strategies?

12. To what extent can teachers benefit from classroom supplies to influence student learning?

16. How much can teachers do to overcome the difficulty of the curriculum?

17. How much can teachers do to fulfill student needs with the use of the current curriculum?
Appendix V
The Arabic Version of the SCI
(Actual Study)

مقياس المناخ التنظيمي للمدرسة

التعليمات: فيما يلي مجموعة من العبارات متعلقة بمظاهر المناخ المدرسي، يرجى قراءتها بدقة، ووضع دائرة حول الرقم المناسب في ضوء السلوك الفعلي الذي يمارس في مدرستك (وليس كما ترغب أن يكون عليه هذا السلوك). نرجو الإجابة بدقة وصرامة، مع شكري وتقديري، والله الموفق.

لا يحدث

ناذكر ما يحدث

حدث أحيانا

حدث دائما

1 2 3 4 5

العلاقة مع المدير والإدارة المشتركة:

7. مدير المدرسة يدلد ويهدد الوصول إليه ومحادثته.
8. يضع مدير المدرسة اقتراحات المعلمين موضوع التطبيق.
16. يكتشف المدير جميع جوانب الموضوعات ويقر بوجود أراة لأقارين.
17. يتعامل مدير المدرسة كافة المدرسين بالتساوي.
22. المدير على استعداد القيم بتغييرات في المدرسة إذا اقترح عليه ذلك.
23. بوضوح المدير للمعلمين ما هو متوقع منهم.
24. يحافظ المدير على معايير محددة للأداء العام للمدرسة.
26. يشارك المديرين المعلمين في اتخاذ القرارات المتصلة بالمدرسة.

علاقات المعلمين بعضهم البعض:

3. يتصف التفاعل بين المعلمين بالتعاون.
4. يحترم المعلمون الكفاءة والتميز المهني لزملائهم.
11. يساعد ويساعد المعلمون بعضهم البعض.
12. يُقيم معلمو المدرسة الأمور المختلفة بشكل موضوعي يتصف بالمهنية.
13. يهتم المعلمن كثيراً بمساعدة طلابهم.
18. يؤدي المعلمن أعمالهم بحماس.
19. يبذل المعلمن جهداً إضافياً مع طلابهم.
تقدیر المستوى المتميز للمدرسة والاهتمام به:
5. تضع المدرسة معايير عالية للتحصيل الدراسي للطلاب.
6. يحترم الطلاب زملائهم الذين يحصلون على تدريجات جيدة.
14. تقدر المدرسة التفوق الدراسي المتميز للطلاب وتسلمه.
15. يبذل الطلاب قصارى جهدهم لتحسين أدائهم السابق.
20. تُعتبر البيئة التعليمية في مدرستنا بيئة منظمة وجادة.
21. يبحث الطلاب عن أعمال إضافية لكي يحصلوا على تدريجات جيدة.
28. يضغط أولياء الأمور من أجل تحسين أداء المدرسة.

اندماج المدرسة مع المجتمع:
1. تبدل مدرستنا جهدا لإعلام (إحاطة) المجتمع بأهدافها ومنجزاتها.
2. تستطيع مدرستنا الحصول على دعم المجتمع عند الحاجة إليه.
9. يشارك أولياء الأمور وأفراد المجتمع الآخرون في اللجان التخطيطية للمدرسة.
10. يستجيب أفراد المجتمع عند طلب مشاركتهم.
25. يحضر أفراد المجتمع الاجتماعات حتى يكونوا مطلعين على أحوال مدرستنا.
27. يستجيب أفراد المدرسة لمطالب واحتاجات أفراد المجتمع.
Appendix W
The SCI
(Actual Study)

Directions: The following are statements about the climate of your school. Please indicate your opinion about your actual school climate that corresponds to each of the questions below. Please mark one of the five responses in the columns on the right side.

Never    Rarely   Sometimes   Often   Very Frequently
(1)      (2)       (3)         (4)       (5)

Collegial Leadership

(7) The principal is friendly and approachable.

(8) The principal puts suggestions made by the faculty into operation.

(16) The principal explores all sides of topics and admits that other opinions exist.

(17) The principal treats all faculty members as his or her equal.

(22) The principal is willing to make changes.

(23) The principal lets faculty know what is expected of them.


(26) The principal involves teachers in making school-related decision.

Professional teacher behavior

(3) The interactions between faculty members are cooperative.

(4) Teachers respect the professional competence of their colleagues.

(11) Teachers help and support each other.

(12) Teachers in this school exercise professional judgment.

(13) Teachers are committed to helping students.

(18) Teachers accomplish their jobs with enthusiasm.

(19) Teachers “go the extra mile” with their students.
Academic Press

(5) The school sets high standards for academic performance.
(6) Students respect others who get good grades.
(14) Academic achievement is recognized and acknowledged by the school.
(15) Students try hard to improve on previous work.
(20) The learning environment is orderly and serious.
(21) Students seek extra work so they can get good grades.
(28) Parents press for school improvement.

Community Engagement

(1) Our school makes an effort to inform the community about our goals and achievements.
(2) Our school is able to marshal community support when needed.
(9) Parents and other community members are included on planning committees.
(10) Community members are responsive to requests for participation.
(25) Community members attend meetings to stay informed about our school.
(27) School people are responsive to the needs and concerns expressed by community members.
Appendix X

The Introductory Letter to the Study of Teachers’ Efficacy Beliefs and School Climate

Invitation for Participation

Dear Brother/Sister Teacher:

I am requesting your professional assistance in a research study that is being conducted on teachers’ efficacy beliefs and school climate. This questionnaire is part of a research project I am completing as part of my PhD. program at the University of British Columbia, Canada. The Omani Ministry of Education and your school district have given me permission to conduct this research. However, the completed questionnaires will NOT be seen by personnel in the school district or the Ministry of Education. You are not obligated in any way to fill out the questionnaire; your participation is entirely voluntary and anonymous and you may withdraw consent and terminate participation at any time without consequence. However, your cooperation in furthering our understanding of teaching, specifically the relationship between teachers’ efficacy beliefs and school climate, would be most appreciated and valued.

Please fill out the questionnaires in one setting without consulting others. It is very important NOT to discuss the questionnaires with other teachers who intend to complete them or the principal or the school administration. These measures are requested to assure honest, unbiased responses which reflect your point of view only. The four questionnaires should take no longer than 15 minutes to complete and may be completed in the privacy of your own home or as an individual school activity.

While the Omani Ministry of Education has recently implemented a comprehensive educational reform, it becomes important to know how teachers’ confidence is influenced by the school’s interpersonal relationships that may have been affected by this reform. The current study provides an opportunity to gather pertinent data on the Omani schools that might help educators and policy makers to move forward in implementing this educational reform while accounting for its influence on teachers’ efficacy beliefs.

As a working environment, a school has its unique characteristics that may influence the performance of teachers, which in turn influences student learning. As individuals have confidence in themselves, so do schools which may feel capable or incapable of making changes on student life. The data from this study will be used by the researchers to examine
these interrelated characteristics of the school to understand how they influence teachers' motivation.

Your responses to the questionnaire will be kept anonymous to protect you. Please complete the questionnaire within one week, place it in the envelope attached, and then return the sealed envelope to the school secretary. Through the use of the sealed envelope, all responses will remain confidential. So, please make sure that you seal the envelope before returning it to the school secretary. The co-investigator will keep the anonymous questionnaire in his office at Sultan Qaboos University for a period of 5 years past the end of the study and then shred it. Once the data are entered into the computer, the SPSS file will be password-protected and then will be deleted after 5 years.

By completing and returning the questionnaire in the sealed envelope, you are giving your consent to use the data for research purposes. A summary of the study’s findings and implications will be provided to each participating district, without identifying any teachers.

Let me thank you in advance for your valuable time and assistance in this study, which aims to advance our understanding of the relationship between teachers’ efficacy beliefs and a school’s organizational climate.

I would encourage you to contact me directly if you have any questions or concerns regarding this study.

Sincerely,

Said Aldhafri
aldhafri@hotmail.com
99899847

Note: If you have any questions or concerns about this questionnaire, please contact Dr. Nancy Perry, the principal investigator and the supervisor of this study (Email: nancy.perry@ubc.ca or by phone 01-604-822-6410). You may also contact the Office of Research Services at the University of British Columbia at 01-604-827-5112 or via email Shirley.Thompson@ors.ubc.ca In Oman, you may contact the Ministry of Education, Technical Office for Studies and Development (Email: moetosd@moe.gov.om or by phone: 24775701).
Appendix Y
The Questionnaires’ Cover Sheet

Dear Brother/Sister Teacher:

The purpose of this questionnaires’ cover sheet is to ensure that you understand the purpose of these questionnaires, the nature of your involvement, and your rights, as a participant in my study. The cover sheet should provide sufficient information for you to decide whether or not you wish to participate.

Doctoral Dissertation: The Organizational Climate of Omani Schools in Relation to Teachers’ Sense of Efficacy: A multilevel Examination of the Mediating Effects of Teachers’ Perceived Collective Efficacy

Research Personnel. Said Aldhafri, as a co-investigator with Dr. Nancy Perry, is conducting this study in partial fulfillment of the requirements for the degree of doctor of philosophy in the Faculty of Graduate Studies, Department of Educational and Counseling Psychology and Special Education, The University of British Columbia, Canada. If you have any questions or concerns about these questionnaires, please contact any one of the investigators through emails (Nancy’s e-mail is nancy.perry@ubc.ca and Said e-mail’s is Aldhafri@hotmail.com) or phones (Said’s phone is 99899847).

Purpose. The purpose of this study is to investigate the relationship between a school’s organizational context and teachers’ beliefs that they can be effective with students. Understanding how the organizational context influences teachers’ judgment about their efficacy will help promoting teachers’ confidence about their influence on students.

Task Requirements. You will be given four questionnaires. The first asks for personal information that will be used to describe the sample and to examine whether the other questionnaires function the same way for different groups (e.g., males, females). The other three questionnaires assess your personal and your school confidence in influencing student learning, in addition to your perceptions of your school climate. You may fill in the questionnaires at home or inside school. It is important not to discuss the questionnaire with any one in your school.
Duration. It should take about 15 minutes to complete the questionnaire.

Feedback. Feedback will be provided upon request.

Anonymity/Confidentiality. The data collected in this study will be kept confidential. No identifying information will appear on any part of the questionnaires, and you are asked to put your questionnaires in the envelope provided and seal the envelope. This envelope will then be returned to the school secretary who will then return all the envelopes to the researcher. No one will have access to the questionnaires except for the principal investigator and the co-investigator.

Right to Withdraw. You have the right to refuse to answer any specific question or participate in any specific task. You also have the right to withdraw your consent and terminate your participation even once you have started the questionnaires, without any negative consequences. If you have any concerns about your treatment as a participant in this study, please contact any one of the investigators or the ethic offices listed in the letter of invitation.

Consent to Participate. As is standard with anonymous questionnaires, it is assumed that, by completing and returning these questionnaires, you are consenting to participate in this study.