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Leadership Influence on Collective Teacher Efficacy in Multi-cultural Teams: A Mixed-Methods Study

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By YaRu Zhou

A dissertation submitted in partial fulfillment

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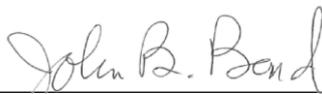
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Abstract

As evidence for positive effects of collective teacher efficacy on student performance and teacher well-being grow, increasing efforts have been made worldwide to understand how teachers' beliefs in the team's capacity form in schools. This study adopts a mixed-methods approach; 90 teachers from seven international schools in China participated in the survey, and eight teachers from these schools joined focus group interviews. This paper seeks to understand the relationship between teachers' perceptions of instructional school leadership and collective efficacy, and how individual leaders' character strength of encouragement and structural factors, including school levels and cultural dimensions, affect the relationship. Quantitative results show a significant correlation between instructional school leadership and collective teacher efficacy. Power distance is a significant moderator in the relationship, but school-level and cultural dimension of collectivism are not. Although leaders' character strength of encouragement is not a significant mediator in the influence of instructional school leadership on collective teacher efficacy, it significantly mediates the influence of collective efficacy on teachers' perceptions of instructional school leadership. Focus group participants recognized leadership as a critical factor in the formation of collective teacher efficacy at the school level and identified four categories of leadership practices shaping the formation: *Developing School Learning Climate, Defining School Mission, Supervising and Evaluating Instruction*, and *Leading by Example*. Findings, study limitations, and implications for future research and practice are further discussed.

Chapter One: Introduction

Background

Since Hattie introduced collective teacher efficacy (CTE) as the number one influence on students' achievement, this concept has been under the spotlight (Waak, 2018). CTE is "the perception of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard, et al., 2000, p. 503). In the 1970s, RAND researchers first introduced the concept of teacher efficacy as "the extent to which the teacher believes he or she can affect student performance" (McLaughlin & Marsh, 1978, p. 84). Bandura (1977, 1997) developed the theoretical foundation of teacher efficacy based on his acclaimed concept of self-efficacy and social cognitive theory, which posit that people are capable agentic operators who exercise influence over what they do and contribute to what happens to them. CTE is an extension of individual teacher efficacy (Tschannen-Moran, et al., 1998).

As an essential aspect of organizational socialization and school culture, CTE creates a normative press that encourages the team to pursue excellence and overcome challenging obstacles (Goddard, et al., 2000, Goddard, Hoy, et al., 2004). In a school with high collective teacher efficacy, students' performance and emotional engagement increase, and teachers exhibit higher self-efficacy and job satisfaction, less stress and burnout, and a more positive attitude toward professional development and students with special educational needs (Donohoo, 2018). The impressive positive findings promote a significant increase in CTE research in the U.S and around the world. However, the majority of the literature has focused on the influence of CTE on

students' learning and teachers' well-being. Little attention has been paid to the formation of CTE within schools (Klassen et al., 2011), and there is a very modest understanding of how teachers' collective efficacy is impacted by school leadership, particularly in a multi-cultural environment.

Leadership has long been considered a key influencer in organizational development and plays a crucial role in building organizational culture and promoting organizational performance (Yukl, 2012). A healthy school leadership improves school effectiveness, promotes a positive organizational culture, encourages students' learning, and facilitates staff commitment and capacity (Leithwood, 2005). Instructional School Leadership (ISL) is a widely studied school leadership model, and empirical findings of ISL research has revealed a significant positive impact of ISL on student learning and school improvement (Hallinger, 2003; Kovačević & Hallinger, 2019). Over the past two decades, research that has investigated the relationship between ISL and CTE showed mixed results. The effect of instructional leaders on fostering CTE within schools appeared to be stronger at the elementary level than at the secondary level (Fancera & Bliss, 2011; Goddard et al., 2015). The effect of ISL on CTE also appeared to be stronger in Muslim countries (Çalik et al., 2012; Hallinger et al., 2018), where leaders prefer protective style than in the United States, where preference leans toward charismatic leaders who hold appealing visions, inspire followers with emotional appeals to values and ideologies, and act in unconventional ways to achieve their visions (Global Leadership and Organizational Behavior Effectiveness [GLOBE], 2020; Yukl, 2012).

Purpose of the Study

Informed by existing gaps in current literature, this study intended to examine how principal's instructional leadership affected teachers' perceptions of collective efficacy and investigated this relationship from two levels: on the individual level, the author examined leaders' character strengths of encouragement; on the structural level, the author examined school factors such as school levels and socio-cultural factors such as cultural dimensions. The author sampled seven K12 American international schools in mainland China and attempted to fill the gaps and gain a deeper understanding of the relationship between instructional leadership and collective teacher efficacy. By studying Chinese and international K12 teachers, the study aimed to answer the following questions: 1) whether there were differences between Chinese and international teachers in their perceived ISL and CTE, 2) whether there were differences between school levels (i.e., primary versus secondary) in teachers' perceived ISL and CTE, 3) how teacher's perceived ISL may be associated with their beliefs in their teams' collective efficacy in improving student's achievement, 4) if there were the potential moderating power of school levels and cultural dimensions, such as power distance, collectivism and individualism, in the relationship between ISL and CTE, and 5) how leaders' character of encouragement mediated and accounted for the relationship between ISL and CTE.

Significance

This research contributes to the literature in at least three ways. First, empirical evidence for ISL's impact on CTE is ambiguous (Çalik et al., 2012;

Goddard et al., 2015; Hallinger et al., 2018). The paper sheds light on the potential

causes of the ambiguity and leads to a deeper understanding of these two important

concepts' relationship. Second, collective efficacy has often been speculated to be

contextually sensitive, but it has rarely been tested (Klassen et al., 2011). This study

adopted a mixed-methods approach and exposed how individual cultural values and

school factors shaped teachers' group efficacy beliefs. Last, there is a very limited

understanding of leadership at international schools, in particular in non-Western

countries (Bailey & Gibson, 2020; Calnin et al., 2018). The study drew a sample from

international schools in mainland China to fill this research gap.

Defining Terms

Leadership: the process of influencing others to understand and agree about what

needs to be done and how to do it, and the process of facilitating individual and

collective efforts to accomplish shared objectives (Yukl, 2012, p.23).

Instructional Leadership: a type of school leadership, in which formal administrative

roles (such as the principal) are considered as the primary source of educational

expertise, school culture builders, and goal-oriented leaders focusing on increased

student growth (Hallinger, 2003).

Collective Teacher Efficacy: the perceptions of teachers in a school that the efforts of

the faculty as a whole will have a positive effect on students (Goddard, Hoy, & Hoy,

2000, p. 480).

Power Distance: a cultural dimension, which is defined as the extent to which the less

powerful members of institutions and organizations within a country expect and

accept that power is distributed unequally (Hofstede et al, 2010, p. 61).

Individualism: societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family (Hofstede et al, 2010, p. 92).

Collectivism: societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (Hofstede et al, 2010, p. 92).

Encouragement: the expression of affirmation through language or other symbolic representations to instill courage, perseverance, confidence, inspiration, or hope in a person(s) within the context of addressing a challenging situation or realizing a potential (Wong, 2015, p.182).

However, in the definition of encouragement, it is not limited to interpersonal communication or affirmation. Encouragement can be conceptualized as a character strength (Wong, 2015), which in and of itself is a morally valued attribute, has trait-like qualities and describes the type of person an individual aspires to be (Peterson & Park, 2009).

Research Questions and Hypotheses

This study seeks to answer five research questions.

1. How does teachers' perceived ISL associate with their beliefs in their teams' CTE?

    H_0: Teachers' perceived ISL has no associations with their perceived CTE.

    H_a: Teachers perceived ISL is correlated with their perceived CTE.

2a. Is there a statistically significant difference between elementary teachers and secondary teachers in their perceived ISL?

H_0: There is no statistically significant difference in perceived ISL between elementary and secondary teachers.

H_a: There is a statistically significant difference in perceived instructional school leadership between elementary and secondary teachers.

2b. Is there a statistically significant difference in perceived ISL between international staff and local Chinese staff?

H_0: There is no statistically significant difference in perceived ISL between international staff and local Chinese staff.

H_a: There is a statistically significant difference in perceived ISL between international staff and local Chinese staff.

3a. Is there a statistically significant difference in perceived CTE between elementary teachers and secondary teachers?

H_0: There is no statistically significant difference in perceived CTE between elementary and secondary teachers.

H_a: There is a statistically significant difference in perceived CTE between elementary and secondary teachers.

3b. Is there a statistically significant difference in perceived CTE between international staff and local Chinese staff?

H_0: There is no statistically significant difference in perceived CTE between international staff and local Chinese staff

H_a: There is a statistically significant difference in perceived CTE between international staff and local Chinese staff

4a. How may school-level moderate the relationship between perceived ISL and CTE?

H_0: School level is not a significant moderator between perceived ISL and CTE.

H_a: School level is a significant moderator between perceived ISL and CTE.

4b. How may cultural dimensions, such as power distance and collectivism, moderate the relationship between perceived ISL and CTE?

H_{01}: Collectivism/Individualism is not a significant moderator between perceived ISL and CTE.

H_{a1}: Collectivism/Individualism is a significant moderator between perceived ISL and CTE.

H_{02}: Power Distance is not a significant moderator between perceived ISL and CTE.

H_{a2}: Power Distance is a significant moderator between perceived ISL and CTE.

5. How may leaders' character trait of encouragement mediate and account for the relationship between ISL and CTE.

H_0: Encouragement is not a significant mediator in the relation between perceived ISL and CTE.

H_a: Encouragement is a significant mediator in the relation between perceived ISL and CTE.

Structure of the Dissertation

The remainder of this dissertation is divided into four subsequent chapters. The organization of these chapters follows.

Chapter Two examines the conceptual development of collective teacher efficacy and empirical findings on its significant consequences. This chapter also introduces instructional school leadership and summarizes studies investigating its effect on collective teacher efficacy. The chapter ends with an overview of the construct of encouragement and two of Hofstede's cultural dimensions, power distance and collectivism versus individualism.

Chapter Three describes the methodology used in this study, including sampling, instrumentation, data collection, and data analyses.

Chapter Four presents the results of this study. Quantitative results are organized by research questions, and qualitative results are presented by categories.

Chapter Five provides a summary and the author's analysis of the findings organized by research questions. Implications, limitations of the study, and recommendations for future study are also provided in this chapter.

Chapter Two: Literature Review

This chapter provides a literature review of the key concepts involved in the study. First, the author introduces the definition of CTE, its empirical research findings, and the development of its theoretical framework. In the second section, the author discusses ISL and research findings of its influence on CTE. The chapter ends with the introduction of two cultural dimensions, power distance and collectivism.

Collective Teacher Efficacy

Overview

"Collective teacher efficacy (CTE) is the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard et al., 2000, p. 480). At the Collaborative Impact Conference in 2017, John Hattie, the author of *Visible Learning*, and his team presented CTE as the "new number one influence" on student achievement, with an outstanding effect size of $d = 1.57$ (Waack, 2018). Hattie's conclusion is based on Eells' (2011) meta-analysis of the relationship between CTE and student achievement. Even though CTE is a relatively new topic in the field of educational research, it has drawn considerable attention from researchers due to the increasing empirical evidence supporting CTE's positive and significant associations with student outcomes.

In 2001, Goddard reported a significant positive correlation between collective efficacy and between-school differences in student achievement. The study aimed to test the relationship between CTE and student academic outcomes and involved 47 elementary schools from one large urban Midwestern school district. A

total of 452 K5 teachers completed the collective efficacy survey (Goddard, 2001), which is a 21-item Likert scale from 1 (strongly disagree) to 6 (strongly agree). The school district provided student personal data (e.g., gender, race, SES, and longitudinal student achievement data). The results showed that CTE accounted for 26.6% of the variance in students' mathematics achievement and 19.5% of reading achievement that occurred between schools in the full multilevel model.

The positive relationship between CTE and student achievements is also found in subsequent studies (e.g., Goddard, LoGerfo, et al., 2004; Tschannen-Moran & Barr, 2004). Eells (2011) analyzed 26 studies investigating CTE published from 1994 to 2010 and found strong positive effect size for the relationship between CTE and student achievement cross all subject areas measured and regardless of the timing of measurement. The largest effect size was found for CTE and reading achievement, and the lowest was for CTE and social studies achievement.

Ramos et al. (2014) found similar patterns in their analysis of 30 articles about collective teacher efficacy published in English and Portuguese between 2000 and 2013. Twelve of the thirty articles aimed to examine the relationship between CTE and students' achievement, and all found a positive correlation.

Improvement of students' performance is not the only fruit a team with high collective teacher efficacy can bear. According to Donohoo (2018), empirical research has found a number of productive behaviors associated with collective efficacy, including more in-depth implementation of school improvement plans, increased teacher leadership, receptiveness to new ideas, and a greater sense of efficacy to

communicate with parents. In addition, Donohoo states that teachers who perceive a strong sense of collective efficacy exhibit a positive attitude toward professional development, higher job satisfaction, and commitment to the teaching profession, with less stress or burnout. They are more willing to take risks and overcome challenges to meet students' needs. Studies also revealed that, in schools with high collective efficacy, students were more likely to be engaged emotionally, and fewer students were excluded due to behavior issues. Finally, collective teacher efficacy is positively related to teacher self-efficacy.

Evidence of the positive effect of CTE from empirical research is overwhelming, but what is collective teacher efficacy? More importantly, how do you develop and promote teachers' collective efficacy? These questions are addressed in the following sections.

Theoretical Background

The concept of collective efficacy was introduced by Bandura (1997) 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), which is rooted in Bandura's social cognitive theory and his concept of self-efficacy.

Social Cognitive Theory.

Social cognitive theory posits that people are capable agentic operators who exercise influence over what they do and contribute to what happens to them (Bandura, 1986a). Human agency operates within an interdependent causal structure involving triadic reciprocal causation shown in Figure 1 below (Bandura, 1997).

Figure 1

The Relationship Between the Three Major Classes of Determinants in Triadic

Reciprocal Causation
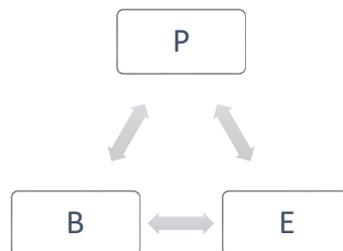
Note. Adapted from "Self-Efficacy: The Exercise of Control," by A. Bandura, 1997,

p.6. Copyright 1997 by W.H. Freeman and Company.

 B stands for behavior; *P* for internal personal factors in the form of

cognitive, affective, and biological events; and *E* for external environment (Bandura,

1997). Although the interaction and influence of these three major classes of

determinants vary for different activities, under different circumstances, and at

different paces, they have a crucial impact on what we believe about ourselves, the

choices we make, and the actions we take.

  Self-Efficacy and Collective Efficacy.

 Self-efficacy is the core concept of Bandura's social cognitive theory. In his

book, *Self-Efficacy: The Exercise of Control*, Bandura (1997) defined it as "beliefs in

one's capabilities to organize and execute the courses of action required to produce

given attainments" (p.3). Efficacy expectations are distinctive from response-outcome

expectations (Bandura, 1977, p.193). Perceived self-efficacy influences behavior

choices. People try to avoid dangerous activities and conditions that they believe

exceed their capacity and participate assuredly in those they believe they are capable

of handling. Perceived self-efficacy also determines coping efforts, how much effort

to put in, and how long to persist when people encounter difficulties and intimidating

situations. People's thought patterns and emotional reactions are also influenced by

perceived self-efficacy (Bandura, 1986, pp.393-394). Bandura (1997) pointed out that

"psychological theories postulating that expectations influence actions focused almost

exclusively on outcome expectations" (p. 19). Outcome expectations, which can

provide incentives and disincentives for a given behavior, depend highly on people's

judgment of how well they will be able to perform in a given task. The relationship

between efficacy expectations and outcome expectations is illustrated in Figure 2

(Bandura, 1986, 1997).

Figure 2

The Conditional Relationships Between Efficacy Beliefs and Outcome Expectancies

PERSON ⟶ BEHAVIOR ⟶ OUTCOME

| **EFFICACY BELIEFS** Level Strength Generality | **OUTCOME EXPECTANCIES** Physical Social Self-evaluative |
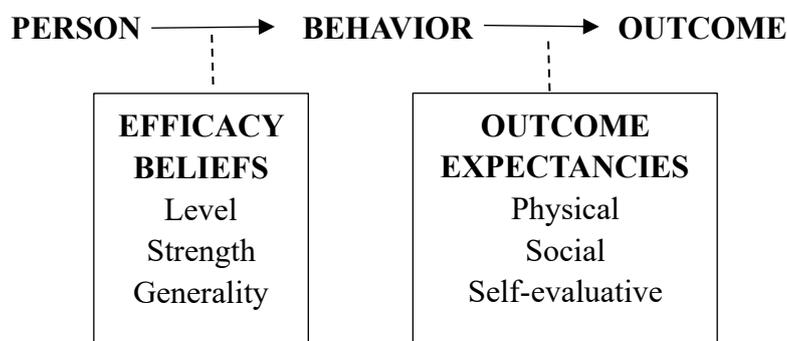
Note. In given domains of functioning, efficacy beliefs vary in level, strength, and

generality. The outcomes that flow from a given course of action can take the form of

positive or negative physical, social, and self-evaluation effects. Adapted from "Self-

Efficacy: The Exercise of Control," by A. Bandura, 1997, p. 22. Copyright 1997 by

W.H. Freeman and Company.

Bandura (1997) postulated four sources of self-efficacy: enactive mastery experience, vicarious experience, verbal persuasion, and physiological and affective states. Enactive mastery is the most powerful source out of the four since it is based on personal mastery experiences. Successful performances raise efficacy beliefs, whereas repeated failures lower them. However, the effect of failure will be reduced if it occurs after strong efficacy expectations developed through repeat success. For a first-year kindergarten teacher, a smoothly run first day of school promotes his or her efficacy, and a chaotic one might hurt it, but the teaching efficacy will grow if the teacher gets positive feedback frequently in his or her daily practice. Vicarious experiences happen when people observe others modeling the skill in question. Its effects on self-efficacy depend on the degree to which the observer identifies with the model. Close identification leads to a substantial impact on efficacy and vice versa. For example, while observing a seasoned teacher managing a class with ease may have little effect on improving a first-year teacher's classroom management efficacy, seeing another novice teacher doing so might advance it. Social persuasion is widely used for its availability but providing social persuasion alone may have a limited influence on self-efficacy. However, if people are persuaded to take action or work harder on the given task, this social persuasion experience can contribute to successful performances that create enduring increases in self-efficacy. In schools, the recognition of teaching potential from the mentor or principal often motivates first-year teachers to try harder and overcome obstacles, which, in turn, promotes their efficacy. Modifications of physiological and affective states, such as enhancing

physical states, reducing stress levels and negative emotional proclivities, are the fourth significant way of altering efficacy beliefs (Bandura, 1977, 1997). When a teacher delivered a class successfully, the delightfulness and sense of fulfillment reinforce the belief in his or her teaching capability. However, if a teacher is highly stressed or depressed, they tend to doubt their capability, which often leads to negative teaching feedback, a vicious circle.

People do not live in isolation but depend on each other to produce certain desired results. The growing interdependence of modern society underlines the pressing need to study collective action designed to shape the course of events. Therefore, besides individual self-efficacy, Bandura (1997) also presented collective efficacy, which is the group members' shared beliefs in the group's operative capabilities. Bandura believes that the interaction and dynamics of the members produce the functioning of an organization. Therefore, collective efficacy is more than the sum of the individual attributes (Bandura, 1997).

Teacher Efficacy.

Teacher efficacy is "teachers' belief or conviction that they can influence how well students learn, even those who may be difficult or unmotivated" (Guskey & Passaro, 1994, p.4). While Bandura (1997) identified teacher efficacy as a type of self-efficacy, there is another conceptual strand for teacher efficacy (Tschannen-Moran et al., 1998).

Teacher efficacy was first defined by RAND researchers as "the extent to which the teacher believes he or she can affect student performance" (McLaughlin &

Marsh, 1978, p. 84). In 1976, RAND researchers put two items in a questionnaire for a study examining the efficiency of certain reading interventions and programs. Item I reads: "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment." Item II reads: "If I really try hard, I can get through to even the most difficult or unmotivated students" (Tschannen-Moran et al., 1998).

They found that "teacher efficacy, determined by summing scores on the two items, was strongly related to variations in reading achievement among minority students" (Tschannen-Moran et al., 1998, p. 204). Since Item I measures beyond the individual capabilities of a particular teacher, it was later labeled as General Teaching Efficacy (GTE), and Item II was labeled as Personal Teaching Efficacy (PTE) because it is more specific to the teacher's individual ability (Tschannen-Moran et al.,1998).

RAND researchers stated that the two items were inspired by Rotter's theory on the locus of control. Rotter (1966) proposed that the control of reinforcement lies either in the internal factors, such as a person's behaviors, or external environment factors. Students' achievement and motivation have been considered as an essential reinforcement for teachers' behaviors. According to the locus of control, "teachers who believe that they could influence student achievement and motivation assume that they could control the reinforcement of their actions, thus have higher efficacy" (Goddard et al., 2000, p. 481).

The two different but interweaving conceptual strands have caused considerable confusion and a lack of clarity of conceptualization, which limits theory

construction. Gibson and Dembo (1984) tried to apply Bandura's two-component model of self-efficacy to define the two factors of teacher efficacy:

> Outcome expectancy would essentially reflect the degree to which teachers believed the environment could be controlled (General Teaching Efficacy, GTE), that is, the extent to which students can be taught given such factors as family background, I.Q., and school conditions. Efficacy beliefs would indicate teachers' evaluation of their abilities to bring about positive student change (Personal Teaching Efficacy, PTE). (p.570)

However, Guskey and Passaro's (1994) study revealed that "teachers' perceptions of their personal influence on student learning are not solely based on, nor strongly related to, their perceptions of the influence of external environmental conditions. The personal versus teaching efficacy distinction does not appear to hold" (pp. 639-640).

Based on previous research, Tschannen-Moran et al. (1998) proposed an Integrated Model. This model interweaved the major theoretical influences on teacher efficacy research and suggested new areas for research (see Figure 3).

Tschannen-Moran et al. (1998) agreed that the attributional analysis and interpretation of Bandura's four sources of information are the main influences on teacher efficacy. Meanwhile, they believed that analyzing the teaching task and its context is necessary when making judgments of one's strengths and weaknesses since teacher efficacy is context-specific. Teachers may feel competent teaching one particular subject than others or teaching some students than the rest of their students.

Figure 3

The Cyclical Nature of Teacher Efficacy
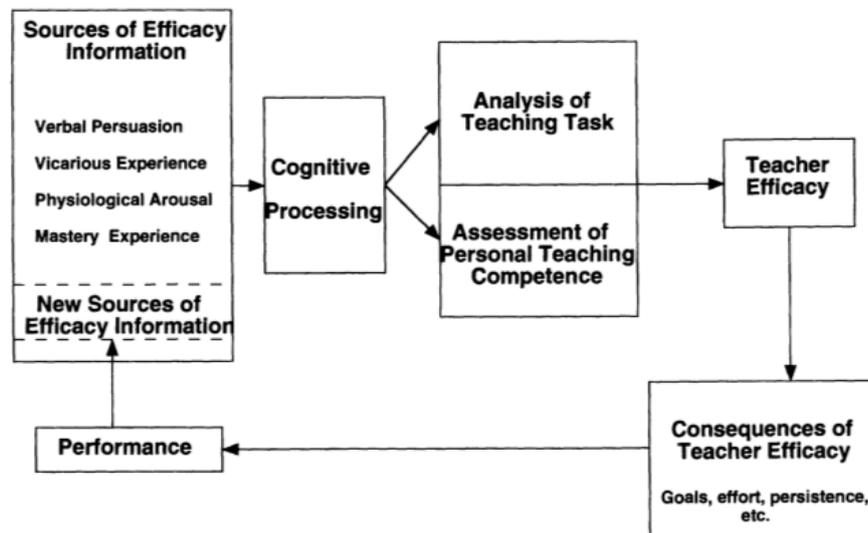
Note. Adopted from "Teacher Efficacy: Its Meaning and Measure," by M. Tschannen-Moran, A. W. Hoy, and W. K. Hoy, 1998, *Review of Educational Research, 68*(2), p. 228. Copyright 2018 by the American Educational Research Association.

This model's dimensions are related to (but not identical with) the two factors, GTE and PTE. In analyzing the teaching task and its context, the relative importance of factors that make teaching difficult or act as constraints is weighed against an assessment of the resources available that facilitate learning. In assessing the self-perceptions of teaching competence, the teacher evaluates personal capabilities such as skills, knowledge, strategies, or personality traits balanced against personal weaknesses or liabilities in this particular teaching context (Tschannen-Moran et al., 1998).

Collective Teacher Efficacy and A Model of Its Formation, Influence, and Change.

Collective teacher efficacy is an extension of individual teacher efficacy (Tschannen-Moran et al., 1998). Goddard et al. (2000) defined it 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).

Bandura (1997) believed that "perceived personal and collective efficacy differ in the unit of the agency, but in both forms, efficacy beliefs have similar sources, serve similar functions, and operate through similar processes" (p. 478). Developed from this notion, Goddard et al. (2000) extended self-efficacy theory to the collective level by applying the assumptions of social cognitive theory to the organization level and build a model of collective teacher efficacy based on Tschannen-Moran's Integrated Model of Teacher Efficacy (see Figure 4).

Figure 4

A Simplified Model of Collective Teacher Efficacy
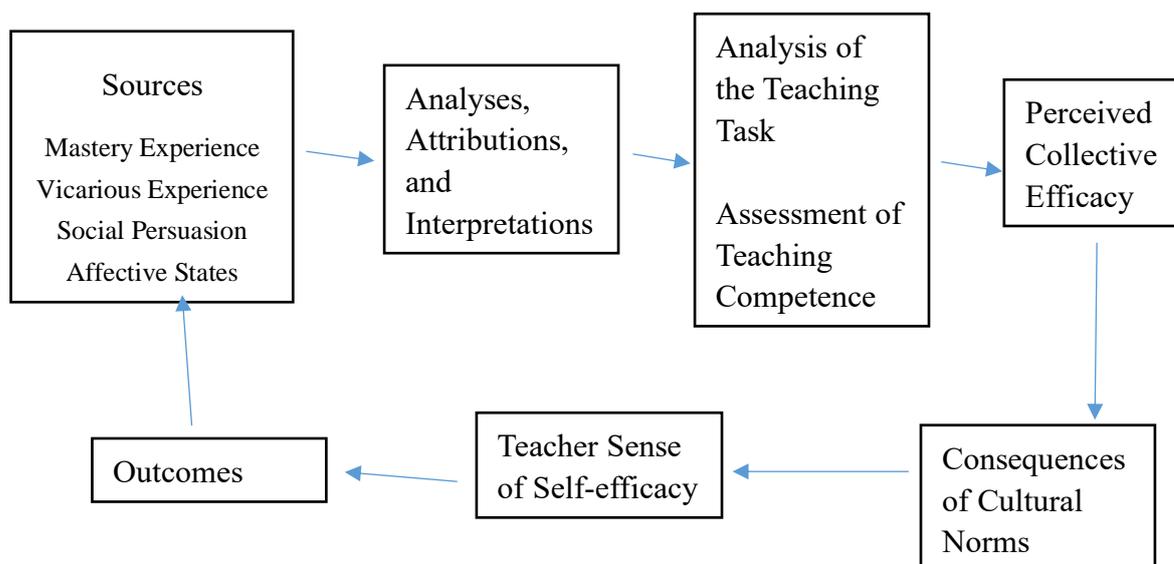
Note. Adopted from "Collective Efficacy Beliefs: Theoretical Developments, Empirical Evidence, and Future Directions," by R.D. Goddard, W. K. Hoy, and

W. A. Hoy, 2004, *Educational Researcher, 33*(3), p. 11.

Mastery Experience.

Mastery experience is considered the most important source in forming collective efficacy (Bandura, 1997; Goddard, Hoy et al., 2004). A critical mass of studies demonstrates the positive effect of experience on organization performance (Huber, 1991). Schools, as an organization, learn from their direct experience. Past successes of the school enhance the team's perceived collective efficacy, whereas failures tend to lower beliefs. Attributions are also a key element. For example, when success is attributed to the team's ability or effort, collective efficacy is strengthened, and if the failure is attributed to bad luck or uncontrollable causes, the perceived collective efficacy may not be undermined. However, if successes are often and too easy, failure is more likely to produce discouragement (Goddard, Hoy et al., 2004). Goddard et al. (2000) believed that "a resilient sense of collective efficacy probably requires experience in overcoming difficulties through persistent effort" (p. 484).

Goddard (2001) examined CTE in 47 elementary schools involving 452 teachers and 2,536 students within one large urban Midwestern school district. The findings showed that mastery experience, which explained 80% of the variability in the study, was a significant positive predictor of differences among schools in collective efficacy. Moreover, after controlling for mastery experience, school-level SES and race were no longer statistically significant in predicting differences in CTE among schools.

Vicarious Experience.

According to Huber (1991), "organizations commonly attempt to learn about the strategies, administrative practices, and especially technologies of other organizations" (p. 96). It is not uncommon for schools to replicate successful educational programs or borrow from other schools aiming to achieve similar success. Collective teacher efficacy may also be strengthened by learning from successful schools, particularly the ones sharing similar organization goals and/or facing similar opportunities and challenges. However, it should be noted that research on how organizations learn from vicarious experience has not been sufficiently developed. To better understand the impact of observational learning on collective efficacy, more studies are needed.

Social Persuasion.

Social persuasion is another approach to strengthening teachers' beliefs that they have the capability to accomplish the goals established. Staff meetings, professional development opportunities, workshops, and talks in the teachers' lounge could all serve to inspire actions. Though acting alone, social persuasion may not generate profound organizational changes, but combined with positive direct or vicarious experience, it is likely to serve as a powerful influence on shaping a group's collective beliefs. Social persuasion is a means of conceiving ongoing organizational socialization. Organizations are filled with social exchanges that communicate expectations, rewards, and sanctions. New teachers in schools with firm collective beliefs quickly learn the high expectation for collective actions and performances from interactions with other teachers and administrators. Collective teacher efficacy

as an essential aspect of the organizational socialization and school culture creates a normative press that encourages the team to pursue excellence and overcome challenging obstacles (Goddard, et al., 2000, Goddard, Hoy et al. 2004).

Affective States.

Just as individual efficacy is susceptible to anxiety or excitement, organizations react to stress also. According to Goddard, Hoy et al. (2004), "affective states may influence how organizations interpret and react to the myriad challenges they face" (p.6). Schools, possessed by a strong belief in group capability, intend to rise to the challenge and have a high tolerance to pressure and crises. In contrast, less efficacious schools tend to overreact or react dysfunctionally when confronted with disruptive forces.

These four sources provide information, but according to Bandura (1997) "changes in perceived efficacy result from cognitive processing of the diagnostic information that performances convey about capability rather than the performances per se" (p. 81). This cognitive process has been adapted in Goddard, Hoy et al.'s (2004) model as two intertwined processes: the analysis of the teaching task and assessment of teaching competence.

Analysis of the Teaching Task.

Goddard et al. (2000) call the process of teachers assessing what will be required as they engage in teaching as the analysis of the teaching task: "factors that characterize the task include the abilities and motivations of students, the availability of instructional materials, the presence of community resources and constraints, and

the appropriateness of the school's physical facilities" (p. 485). In other words, teachers analyze what contributes to successful teaching, the challenges and barriers faced, and the resources available to overcome the limitations and achieve excellence.

Assessment of Teaching Competence.

Teachers analyze the team's teaching competency, including teaching skills, methods, training, and expertise, in conjunction with an examination of the teaching task. For example, "judgments of teaching competence might also include positive faculty beliefs in the ability of all children in their school to succeed" (Goddard et al., 2000, p. 485).

Furthermore, Goddard, Hoy et al. (2004) proposed that to foster collective efficacy, schools need to provide "practices that enable group members to exert influence and exercise organizational agency" (p.10). Results of their study showed that, after adjusting for school context, perceived CTE was positively associated with the extent to which teachers could exert influence over instruction-related school decisions. In other words, when teachers were able to take part in important school decision-making, they tended to have a strong sense of collective efficacy. Bandura (1997) refers to such practices as "group enablement" and observed that "… collective enablement programs take many different forms, but the shared assumption is that they work in part by enhancing people's sense of efficacy to bring about change in their lives" (p.503).

Goddard's work has made a great contribution to the construction of the CTE theoretical framework and laid a solid foundation for CTE research. At the same

time, increasing efficacy research has brought new evidence and provided new perspectives for conceptual development. Adams and Forsyth (2006) dug deeper into the "group enablement" topic and proposed the enabling school system as a type of proximate source of collective teacher efficacy. An enabling school system is a structure that is formed by enabling formalization and centralization (Hoy & Sweetland, 2000), in which the rules, regulations, and procedures foster trust among teachers and between teachers and the principal, encourages truth-telling, and limits role conflict.

Adams and Forsyth (2006) referred to Bandura's four sources of efficacy as the remote sources and postulated contextual environment, including the enabling school system, was a proximate source of teacher perceived group efficacy. They examined a cross-section of 79 schools randomly drawn from 101 school districts in one quadrant of a Midwestern state to investigate the relationships between prior academic performance, enabling school structure, socioeconomic status, school level, and collective teacher efficacy. Consistent with previous research, results showed that prior academic performance ($\beta = .46$, $p < .001$) accounted for the most variance in collective teacher efficacy, followed by enabling school structure ($\beta = .36$, $p < .001$), socioeconomic status ($\beta = -.23$, $p < .001$), and school level ($\beta = -.24$, $p < .001$). The combined effects of the three contextual variables (enabling school structure, socioeconomic status, and school level) accounted for an additional 20 percent of the explained variance in collective teacher efficacy, over and above the explained effect of mastery experience (i.e., prior academic performance).

The idea that teachers' shared beliefs could be shaped by external influences is not new. Fuller and Izu (1986), after examining data from 145 elementary and 39 secondary schools involved in California's School Improvement Program, concluded that ideological convergence could be shaped by school managers and "the external sources of legitimacy and material resources (e.g., Federal funding, state budget, or community) on which the organization depends" (p. 527). The findings of these two studies suggest a new path for CTE theoretical research. Educational researchers should start to see CTE, also, as an organizational behavior and study both the external and internal factors contributing to its formation instead of seeing it as entirely motivated by personal factors.

Furthermore, Cheung's (2008) comparative study on primary in-service teachers' perceived self-efficacy in Hong Kong and Shanghai revealed three factors: respect and confidence placed in them by students and parents, the training they received from universities, and the experience they gained from daily teaching practice. Among the three, only the last one, experience, is directly related to Bandura's sources of self-efficacy, namely mastery experience. Also, teacher self-efficacy is subject- and context-specific, but little research has evaluated how teachers' collective efficacy differs in diverse contextual environments. In particular, Cheung found that teachers in Shanghai identified being respected by students and parents as a factor shaping their perceived efficacy. China is a collectivistic society that places a high emphasis on education and high values on its educators. As such, it is likely that the culture of a society plays a role in the formation of collective teacher

efficacy.

Instructional School Leadership

In his book, *Leadership in Organizations*, Yukl (2012) defined leadership as "the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives" (p. 23). After decades of research, there is little doubt that this process of influence plays a critical role in organizations. Over the past century, a range of educational leadership paradigms have evolved, and instructional leadership is one of those that gained the most attention (Hallinger, 2000, 2019; Leithwood et al., 2010).

The image of the principal as an instructional supervisor first appeared in the middle of the 19th century. St. Louis Superintendent William Torrey Harris reported in 1871 that as principals became supervisors and instructors, the degree of school excellence improved (Cuban, 1986). However, instructional leadership did not draw much attention until the early research on effective schools in the early 1980s and quickly became a normatively desirable role that principals wanted to fulfill. Decades later, the instructional leadership construct is still active in educational policy, research, and school management practices, and the increasing concerns on accountability have seemly rekindled interest in this concept (Hallinger, 2005).

Instructional leadership was described as a rational leadership model (Bolman & Deal, 1992; Bossert et al., 1982) and proposed that schools would improve when principals set clear academic goals, aligned teaching and learning

activities, monitored progress, and motivated staff and students to work toward achieving the desired academic outcomes. Influential instructional leaders align the school's strategies and activities with the academic mission, and manage and lead from a combination of expertise and charisma (Halllinger, 2005).

Over the past four decades, instructional leadership has evolved from classroom instruction-focused structures to comprehensive frameworks that give considerable weight to school's noninstructional elements (Leithwood & Louis, 2012). One of the most frequently used frameworks was developed by Hallinger (Hallinger, 2003; Leithwood et al., 1999). Hallinger (2003, 2005) proposed three dimensions of the construct for this model: defining the school's mission, managing the instructional program, and promoting a positive school-learning climate (see Table 1), and stressed that the instructional leadership role in recent years more broadly focuses on the dimensions of defining a school mission and creating a positive school culture. These dimensions were further depicted in ten instructional leadership functions: setting up school goals, communicating goals, supervising and evaluating instruction, coordinating the curriculum, monitoring student progress, creating incentives for teachers and learning, affirming high visibility, encouraging professional development, and protecting instructional time. Hallinger and Heck (1999) classified these leadership practices into three categories: purpose, people, and structures.

From 1980 to 2000, over 125 empirical studies employed instructional leadership constructs in an effort to understand the nature of leadership and its impact

in schools. Research conducted in the 1990s found that school leaders impacted

school effectiveness and student achievement indirectly through the actions they took

in daily school operation, particularly in regard to shaping the purposes of the school

and aligning the school system with the school mission (Goldring & Pasternack,

1994; Hallinger & Heck, 1996). Research also indicated that school context played a

role in the exercise of instructional leadership ((Bamburg & Andrews, 1990; Hallinger

& Murphy, 1986). Thus, it is critical for school leaders to take into consideration the

level, size, and socioeconomic status of the school when adopting instructional

models and approaches.

Table 1

Hallinger's Instructional Leadership Model

Dimensions	Functions
Defining the school mission	1. Frame the school's goals 2. Communicates the school's goals
Managing the instructional program	3. Coordinates the curriculum 4. Supervise and evaluate instruction 5. Monitors student progress
Developing the school learning climate	6. Protects instructional time 7. Provides incentives for teachers 8. Provides incentives for learning 9. Promotes professional development 10. Maintains high visibility

Influence of Instructional School Leadership on Collective Teacher Efficacy

In a study on students' collective efficacy in a project-based high school

classroom, Huh et al. (2014) observed that groups with identified leaders were likely

to have higher collective efficacy than groups without leaders. Goddard and Salloum

(2012) reviewed studies on collective efficacy and pointed out that leadership as a strong predictor of collective efficacy can be evidenced across various disciplines, including education, athletics, and the military. Over the past two decades, there were a handful of studies that investigated the relationship between CTE and leadership practices, and below are findings of research that examined the influence of instructional leadership on CTE.

Goddard et al. (2015) examined the first-year data from the large-scale longitudinal School Leadership Improvement Study to evaluate the relationship between instructional leadership, teacher collaboration, collective teacher efficacy, and students' achievement in reading and mathematics. The sample included 93 elementary schools located in rural, high poverty areas in the northern regions of a Midwestern state in the U.S., and over 1,606 teachers participated in the survey. The findings suggested that instructional leadership is a significant predictor of teacher collaboration in instructional improvement (β = .70) and teacher collaboration is positively associated with CTE (β = .27 for math; β = .28 for reading). Instructional leadership was indirectly related to CTE through teacher collaboration (β = .19). These results confirmed the assumption that leadership was a significant positive predictor of CTE through its influence on teacher collaboration.

In a similar study conducted in Ankara, Turkey, Çalik and his colleagues (2012) found a direct positive correlation between principals' instructional leadership and CTE. The research sample consisted of 328 teachers from public primary schools in the center of Ankara. Teacher collective efficacy was measured by Goddard et al's

(2000) Collective Efficacy Scale, and principals' instructional leadership behaviors were evaluated with the Instructional Leadership Scale developed by Şişman (2002). The results revealed that "instructional leadership had a significant and positive effect on CTE ($\beta = .34$, $p < .01$), and the highest level of correlation was between collective efficacy and the fourth dimension of instructional leadership ($r = .39$, $p < .01$).

Hallinger et al.'s (2018) research in Iran supported Çalik and his colleagues' conclusion. Hallinger and colleagues analyzed data collected from 111 principals and 345 teachers from 229 elementary schools in the city of Mashad, Iran, in an effort to understand the relationships between principal self-efficacy, instructional leadership, collective teacher efficacy, and teacher commitment. The Principal Instructional Management Rating Scale, a five-point Likert scale (PIMRS; Hallinger, n.d.) and a nine-item scale (Tschannen-Moran & Barr, 2004) were selected as the measurements for principals' instructional leadership behaviors and CTE. The findings revealed that the positive relationship between principal instructional leadership and CTE was the strongest among those indicated in the conceptual model (see Figure 5) Hallinger et al. proposed in the paper.

The positive relationship between instructional leadership and CTE, however, was not always replicated. Fancera and Bliss' (2011) study on the effects of instructional leadership functions on CTE in school academic improvement did not find a statistically significant relationship between the leader's instructional behaviors and CTE. The authors analyzed data collected from 53 high schools in New Jersey, USA through instruments including the Collective Efficacy Scale (CES; Goddard,

2002) and the Principal Instructional Management Rating Scale (PIMRS; Hallinger,

n.d.) to examine whether instructional leadership functions had a positive influence on

CTE to improve school achievement. Pearson r was computed and reported to

demonstrate relationships between school SES, instructional leadership, CTE, and

students' achievement. Moreover, path coefficients were reported to determine the

direct and indirect effects of each of the variables. The authors concluded that neither

instructional leadership nor any of its ten functions defined in the PIMRS showed a

significant correlation with CTE.

Figure 5

Path Relationships Among the Variables in the Structural Equation Model
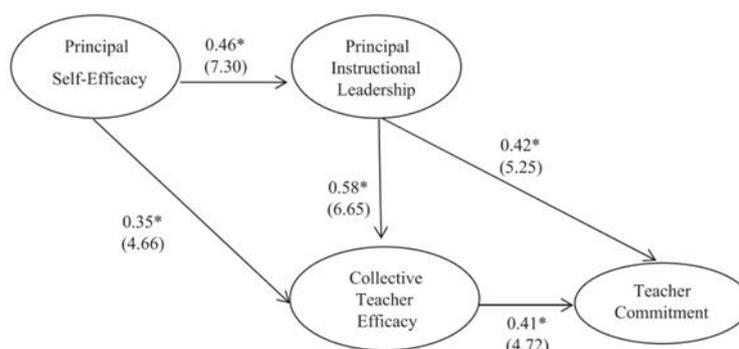
Note. Adopted from "Do Beliefs Make a Difference? Exploring How Principal Self-

Efficacy and Instructional Leadership Impact Teacher Efficacy and Commitment in

Iran," by P. Hallinger, R. Hosseingholizadeh, N. Hashemi, & M. Kouhsari, 2018,

Educational Management Administration and Leadership, 46(5), p. 809

(https://doi.org/10.1177/1741143217700283).

p < .05

   It is worth noting that, like instructional leadership's impact on school

effectiveness, the association between this leadership behavior and CTE was mostly observed at the elementary level. Also, the significant direct correlation between instructional leadership and CTE was found in studies conducted in Middle Eastern countries but not observed in the research setting in the United States. Therefore, the author included school-level and cultural dimensions as moderating variables in this study in an effort to explain the inconsistent research findings.

Cultural Influences on Leadership and Collective Efficacy

Culture has long been considered an influential power that shapes individual and organizational behaviors. Cultural values could alter individuals' perception of leadership, inspire convergent beliefs, and disrupt organizational socialization (GLOBE, 2020; Hofstede, 2010; Trandis,1989). For instance, GLOBE researchers found that Anglo managers tended to favor a charismatic, participative, and humane leadership approach, whereas Middle Eastern leaders tended to prefer the protective style to the charismatic one (Bohman & Deal, 2017). In this era of globalization, it is impossible to study leadership without considering a cultural influence (Hofstede et al, 2010). Therefore, this study adopted Hofstede's construct of cultural dimensions to examine the role culture plays in ISL and CTE's relationship.

Hofstede et al. (2010) considers culture as a mental software, "the collective programming of the mind that distinguishes the members of one group or category of people from others," (p. 6) and introduced six dimensions of national cultures to explain differences among cultures: power distance, individualism-collectivism, masculinity-femininity, uncertainty-avoidance, long-and short-term orientation, and

indulgence-restraint. This study employs two of these dimensions, power distance and collectivism versus individualism.

Power Distance

Hofstede et al. (2010) defined power distance (P.D.) as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (p. 61). In societies or groups with high power distance, inequalities are expected and desired, whereas people in groups with lower power distance tend to be more concerned with maintaining equality. Most Asian countries, such as Malaysia, the Philippines, China, and Singapore, tend to score high on power distance values. Countries like Denmark, Germany, Israel, United States, and Great Britain tend to score low.

Considerable differences in values and relationship dynamics can be observed in every setting, including families, schools, and health care environments, between societies with low and high power distance. For example, families in societies with high-power-distance value respect and obedience, whereas those in societies with low power distance celebrate equality and independence (Hofstede et al., 2010). In a workplace situation, subordinates and supervisors in low-power-distance cultures consider each other equal, and the ideal boss in subordinates' eyes is an accessible, resourceful democrat. As such, subordinates expect to be consulted and to participate in the decision-making process, and participative leadership is found more effective. On the other hand, subordinates from high power distance cultures respect and feel comfortable with a benevolent autocrat supervisor, a "good father"

figure. They expect to be told what to do, and paternalistic and vertical guidance of formal rules were found to be more effective (Apler, 2019; Hofstede, 2010). Leaders who encourage participation are likely to be considered weak and incompetent (Newman & Nollen, 1996). Similarly, empowerment was found to affect performance and job autonomy negatively and was deemed much less important for group cohesiveness in societies with high power distance (Eylon & Au, 1999).

P.D. has been indicated as an essential factor in leadership development and organizational behavior, particularly in multi-cultural teams (Zhang & Begley, 2011). Research shows that, in Chinese societies, P.D. is one of the most effective sociocultural moderators in explaining possible variations in studies of leadership (Guo & Lu, 2018). Earley (1999) investigated the role of power distance and group efficacy and found that, in low-status groups, members provide an equal contribution to collective efficacy judgment, whereas, in high-power-distance cultures, group efficacy judgments were more strongly tied to higher-status rather than to lower-status group judgments.

Collectivism Versus Individualism

The cultural dimension of collectivism versus individualism (IDV) has been considered as particularly suitable for understanding cross-cultural social differences (Triandis, 1989), and is often used to compare respondents from Western countries and East Asian societies in studies of culture and efficacy beliefs (Hardin et al., 2007). In *Cultures and Organizations: Software of the Mind*, Hofstedes et al. (2010) posited that,

Individualism pertains to societies in which the ties between individuals are

loose: everyone is expected to look after him- or herself and his or her

immediate family. Collectivism as its opposite pertains to societies in which

people from birth onward are integrated into strong, cohesive in-groups,

which throughout people's lifetime continue to protect them in exchange for

unquestioning loyalty. (p. 92)

IDV portrays the relations between the individual and the group in society. In most

collective cultures, children grow up with an extended family and learn naturally to

conceive of themselves as a part of a "we." Maintaining harmony with one's social

environment, family and beyond, is placed in high value. Thus, "direct confrontation

of another person is considered rude and undesirable" (p.106). In contrast, in

individualist cultures, speaking one's mind is considered a sign of sincerity and

honesty. A clash of opinions is valued as a path to a higher truth. Coping with conflict

is a norm in family life, through which individuals learn to take direct feedback

constructively.

Workers in individualist societies are "economic persons" who have their

own needs and act according to their own interests. Work should be organized in a

way to coincide with the employee's self-interest and the employer's interest. The

relationship between employer and employee is primarily perceived as a business

transaction that can be legitimately terminated for reasons like poor performance or a

better offer from another employer. On the other hand, the workplace in a collectivist

culture may become an in-group, and the relationship between employer and

employee resembles a family relationship with moral ties, "mutual obligations of

protection in exchange for loyalty" (Hofstedes et al., 2010, p. 120). The employer

hires a worker as a member of an in-group. The employee acts according to the

interest of the in-group, which may or may not reflect his or her self-interest (Chen et

al., 1998). Performance and skills weigh in on the decision of the distribution of the

assignments but are not a legitimate reason for dismissal.

It is important to point out that society is a collection of a wide variety of

individuals with various personal values. At the society level, collectivism and

individualism can be seen as two ends of a spectrum, but at the individual level, they

should be treated as two different dimensions. It is not unusual that a person from a

collectivistic culture scores high on individualistic values or grew up in individualistic

society rates high on collectivistic values, or either high or low on both dimensions. In

his book, Hofstedes et al. (2010) described Earley's experiment to illustrate the

differences in work ethos between individuals with collectivistic and individualistic

values. In the experiment, management trainees from southern China and the United

States were given a value test to determine their personal CI values and an "in-basket

task," which consisted of forty separate 2 to 5-minute projects. Earley found that,

> The Chinese collectivist participants performed best when operating with a
>
> group goal and anonymously. They performed worst when operating
>
> individually and with their names marked on the items produced. The
>
> American individualist participants performed best when operating
>
> individually and with their names marked but abysmally low when operating

as a group and anonymously. A minority of the Chinese scored individualist,

and these performed according to the U.S. pattern; a minority of the

Americans scored collectivist, and these performed like the Chinese. (p. 121)

Collectivistic and individualistic orientations are an essential factor to be taken into

account when investigating leadership theories and organizational behaviors. Ensari

and Murphy (2003) found that in individualistic cultures, leadership effectiveness was

perceived based on how well he or she fits the characteristics of a "good" or

"effective" leader, whereas, in collectivistic cultures, it was based on group

performance outcomes. Team members in collectivistic cultures showed lower

resistance to teams and were more likely to see groups as "entities," which in turn

increased team effectiveness (Chiu et al., 2000; Kirkman & Shapiro, 2001). In

addition, a significant positive correlation between group effectiveness and group

efficacy could be witnessed in groups high in collectivism, according to Gibson

(1999). Hardin et al. (2007) came to a similar conclusion in their study evaluating

culture and efficacy beliefs in global virtual teams. The improvement of Computer

Collective Efficacy was significantly greater for the collectivistic team members than

for the individualistic team members. Specifically, "those members from collectivistic

cultures (where greater value is placed on group accomplishments than on individual

accomplishments) saw a significant increase in their collective efficacy over self-

efficacy beliefs" (p. 149).

In short, in multi-cultural teams, members bring in a wide variety of cultural

values, which infuse daily group interaction and socialization and shape their

understandings and beliefs about the group. This study measured individual teachers'

cultural values to examine the impact on their personal perceptions of leadership and

understand how collective beliefs were understood and expressed in diverse settings.

Leadership by Encouragement

"We live by encouragement and we die without it, slowly, sadly, and angrily."

-Celeste Holm

Encouragement is ubiquitous. People from all walks of life, religions, and

cultures use encouragement as a means to express support for each other. In the New

Testament, the Greek word that was often translated as encouragement is *parakalein*,

a word that originated from two Greek words: *para*, which means alongside of, and

kaleo, which means to call. Hence, encouragement occurs when people come

alongside us, inspiring renewed courage, spirit, and hope in us during difficult times

(Dinkmeyer & Eckstein, 1996; Jeremiah, 1994). Alfred Adler (1956) suggested that

encouragement is a core feature of human development, and Adlerian scholars were

acknowledged as the first psychologists to underscore the construct of

encouragement.

At its most basic level, encouragement is the expression of affirmation

through language or other symbolic representations to instill courage, perseverance,

confidence, inspiration, or hope in a person(s) within the context of addressing a

challenging situation or realizing a potential (Wong, 2015, p.182) However,

encouragement is not limited to an act of interpersonal communication or expression.

Adlerian scholars advocated two foci of encouragement: a) instilling courage and

confidence to change and b) inspiring a fully functioning person. Wong (2015) further

elaborated that encouragement should be conceptualized as a character strength,

which in and of itself is a morally valued attribute, has trait-like qualities, and

describes the type of person an individual aspires to be (Peterson & Park, 2009). In

short, encouragement is not simply about changing one's behaviors to benefit others

but also about motivating oneself to live the good life (Wong, 2015).

   Despite its ubiquity and significance in everyday life, the conceptual

boundaries of encouragement remained blurry. After a critical review of literature on

encouragement, Wong (2015) stressed that encouragement should be conceptualized

more as a phasic character strength rather than a tonic (or signature) strength.

According to Peterson and Seligman (2004), tonic strengths, such as kindness and

curiosity, tend to apply to many settings, whereas phasic strengths, such as bravery or

encouragement, are relevant in specific situations that call for it. For example, in a

leadership setting, the character strength of encouragement may be demonstrated by

leaders when they notice their teams are facing a challenging situation or when they

see unrealized potential in their team members. Furthermore, encouragement as a

character strength has been associated with great benefits not only for the recipients of

encouragement but also for the encouragers themselves (Wong, 2015). For example,

college students with higher levels of encouragement character strength tend to have

greater social connectedness and psychological well-being. Noncollege adult

encouragers are also more likely to form a secure attachment and experience

generativity (Shea et al., 2019; Wong et al., 2019).

Based on these conceptualizations of encouragement, Wong et al. (2019) developed the 12-item Encouragement Character Strength Scale (ECSS), which measures an individuals' enjoyment and perceived ability to express affirmations to motivate others. Details of the ECSS will be discussed under the Method section. ECSS can be self-reported or other-reported. For the purpose of this study, respondents were asked to evaluate their principals' or leaders' character strength of encouragement.

Leadership by encouragement is believed to be an essential strategy in motivating employees toward desired performance (Dinkmeyer & Eckstein, 1996). For example, principal encouragement was found to affect teachers' motivation, self-esteem, and confidence, whereas teachers' responses to the encouragement directly influence classroom instruction (Blase & Blase, 2004). As an important type of verbal persuasion, encouragement is considered a source of one's efficacy beliefs (Bandura, 1997; Wong, 2015). Therefore, it is reasonable to infer that encouragement will play a mediating role in the relationship between instructional leadership and teachers' collective efficacy.

Summary

Collective teacher efficacy is a shared belief among teachers in a school or department about their ability to positively impact students' learning. A significant increase in research on collective teacher efficacy has been witnessed in the United States and worldwide due to compelling empirical findings on its positive consequences, for example, higher students' achievement and increasing teachers' job

satisfaction and positive attitude toward professional development. In spite of the

interest, there has been comparatively little attention paid to the possible sources of

teachers' collective efficacy. As Klassen et al. (2011) pointed out, we understand near

to nothing about how collective efficacy forms at schools. The majority of existing

CTE theoretical research sees collective efficacy as an extension of self-efficacy, so it

should be informed by the same resources, mastery experiences, vicarious

experiences, social persuasion, and affective states. However, Fuller and Izu (1986)

and Adams and Forsyth (2006) suggested a different path. They posited that at the

organizational level, CTE could be shaped by contextual influences, like school

leadership and the enabling school system. This research resonated with this idea and

attempted to explore the relationship between school leadership, in particular ISL, and

the formation of teachers' collective efficacy from three angles: leaders' character trait

encouragement, school-level influence, and cultural influence.

Over the past two decades, studies evaluating the association between ISL

and CTE presented inconsistent findings across school levels and cultural settings.

According to the literature reviewed in this chapter, the relationship between these

two variables appeared to be statistically significant in elementary schools but not in

secondary schools. Also, the CTE and ISL association is more likely to be observed in

schools in collectivist-oriented societies such as Middle Eastern countries rather than

in individualist-oriented societies like the United States. It is reasonable to speculate

that school-level and cultural orientations may impact the association between ISL

and CTE. In addition to the school and societal variables, the author explored the

influence of leaders' encouragement as an individual-level variable in an attempt to

gain a comprehensive understanding of the relationship between instructional

leadership and teacher collective efficacy.

Chapter Three: Methods

By analyzing data collected from teachers working in multi-cultural teams, this study examined the effect of instructional leadership on teachers' sense of collective efficacy in cross-cultural environments and the role of encouraging character strength, school levels and cultural dimensions (Power Distance, Individualism and Collectivism) played in the relationship between instructional leadership and teachers' collective efficacy. This chapter introduces research methodology, including research design, sampling scheme, data collection strategies, and data analysis methods.

Research Questions and Hypotheses

1. How does teachers' perceived ISL associate with their beliefs in their teams' CTE?

   H_0: Teachers' perceived ISL has no associations with their perceived CTE.

   H_a: Teachers perceived ISL is correlated with their perceived CTE.

2a. Is there a statistically significant difference between elementary teachers and secondary teachers in their perceived ISL?

   H_0: There is no statistically significant difference in perceived ISL between elementary and secondary teachers.

   H_a: There is a statistically significant difference in perceived instructional school leadership between elementary and secondary teachers.

2b. Is there a statistically significant difference in perceived ISL between international staff and local Chinese staff?

   H_0: There is no statistically significant difference in perceived ISL between

international staff and local Chinese staff.

H_a: There is a statistically significant difference in perceived ISL between

international staff and local Chinese staff.

3a. Is there a statistically significant difference in perceived CTE between elementary

teachers and secondary teachers?

H_0: There is no statistically significant difference in perceived CTE between

elementary and secondary teachers.

H_a: There is a statistically significant difference in perceived CTE between

elementary and secondary teachers.

3b. Is there a statistically significant difference in perceived CTE between

international staff and local Chinese staff?

H_0: There is no statistically significant difference in perceived CTE between

international staff and local Chinese staff

H_a: There is a statistically significant difference in perceived CTE between

international staff and local Chinese staff

4a. How may school-level moderate the relationship between perceived ISL and

CTE?

H_0: School level is not a significant moderator between perceived ISL and CTE.

H_a: School level is a significant moderator between perceived ISL and CTE.

4b. How may cultural dimensions, such as power distance and collectivism, moderate

the relationship between perceived ISL and CTE?

H_{01}: Collectivism/Individualism is not a significant moderator between perceived

ISL and CTE.

H_{a1}: Collectivism/Individualism is a significant moderator between perceived ISL and CTE.

H_{02}: Power Distance is not a significant moderator between perceived ISL and CTE.

H_{a2}: Power Distance is a significant moderator between perceived ISL and CTE.

5. How may leaders' character strength of encouragement mediate and account for the association between ISL and CTE?

H_0: Encouragement is not a significant mediator in the relation between perceived ISL and CTE.

H_a: Encouragement is a significant mediator in the relation between perceived ISL and CTE.

Research Design

This study employed a mixed-methods research design, precisely, a quantitative dominant convergent design (QUAN + qual). Johnson et al. (2007) defined mix-methods research as "the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches for the broad purposes of breadth and depth of understanding and corroboration" (p.123). A range of different typologies of mixed methods have been developed over the past decades, and one significant distinction exists between convergent and sequential designs (Biesta, 2017).

In the convergent design (see Figure 6), a researcher brings together the

results of the quantitative and the qualitative data analysis in order to

obtain a more complete understanding of a problem, to validate one set of

findings with other, or to determine if participants respond in a similar way if

they check quantitative predetermined scales and if they are asked open-

ended qualitative questions. (Creswell & Plano Clark, 2017, p. 65)

In convergent designs, the elements of the qualitative and the quantitative approaches

occur at the same time in the same study, whereas "in sequential designs quantitative

and qualitative elements alternate" (Biesta, 2017, p. 161).

Figure 6

General Diagrams of the Three Core Mixed-Methods Designs

The Convergent Design
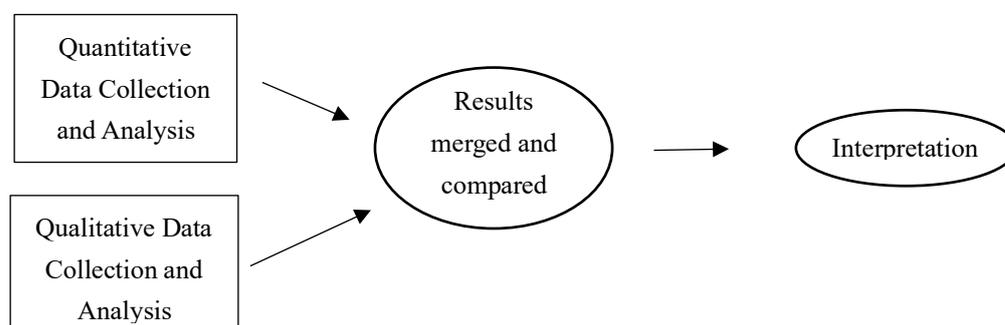
The Explanatory Sequential Design
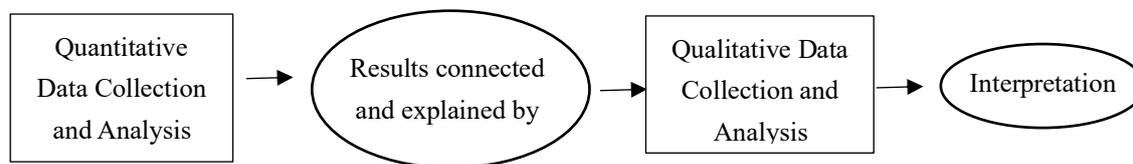
The Exploratory Sequential Design
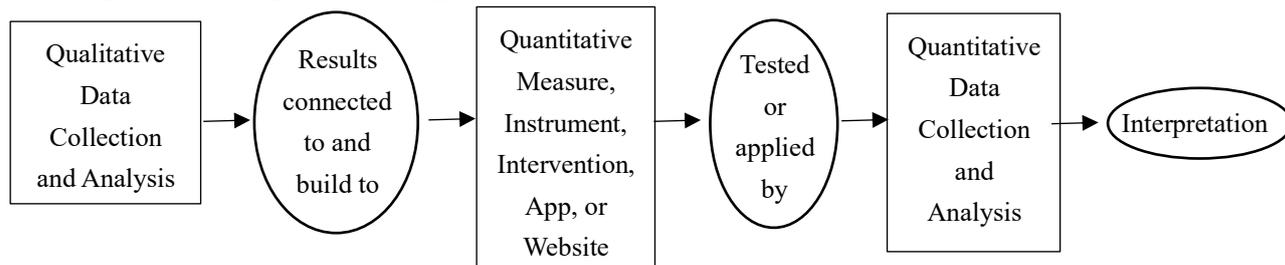
Note. Adopted from "Designing and Conducting Mixed Methods Research," by J. W.

Creswell and V. L. Plano Clark, 2017, p. 66. Copyright 2018 by SAGE Publications, Inc.

In this study, both quantitative and qualitative data collection methods were selected at the beginning of the research design process and followed the protocol, as seen in Figure 7.

Figure 7

Convergent Mixed-methods Design

The quantitative data were collected via an anonymous electronic survey, which assessed teachers' perceptions of the school leadership, collective teacher efficacy and their individual cultural values. Quantitative data analysis aimed to address all of the hypotheses and provide information on: whether there was any relationship between ISL and CTE, whether there was any difference between various teacher groups, and what role the leaders' encouragement, school-level, and cultural dimensions played in the ISL and CTE association.

Three voluntary online focus groups, one for Chinese staff and two for international teachers, were conducted in Chinese and English, respectively, after survey responses were collected and analyzed. These interviews allowed the researcher to hear directly from teachers about their opinions on the issues analyzed quantitatively earlier. With specific examples from their work experience, teachers'

conversations helped the author gain a deeper understanding of how cultural elements shaped teachers' understanding of the leadership and their beliefs in the team's capabilities, and how leadership behaviors facilitated or jeopardized the formation of teachers' collective efficacy.

Focus groups are "group interviews that are structured to foster talk among the participants about particular issues" (Bogdan & Biklen, 2007, p. 105). One reason for selecting focus groups over individual interviews was to stimulate conversation from multiple perspectives and gain a range of views on the topic. In a well-facilitated group discussion, informants could be encouraged and inspired to articulate and talk thoughtfully about their views on the issue (Bogdan & Biklen, 2007). Another reason was efficiency. The researcher currently lives in the United States, and the majority of the interviewees are in mainland China. Given the different locations and time zones, it was more feasible and effective to conduct online focus groups than multiple individual interviews.

Interview questions were built upon quantitative analysis findings to generate more focused and insightful discussions in focus groups. It is important to clarify that, even though the qualitative approach was administered after the quantitative procedure and its results were used to provide interview question design guidelines, this research is not an explanatory sequential design. It does not meet two primary criteria for explanatory sequential design. First, the qualitative procedure is not designed to follow the quantitative results. Secondly, the qualitative results do not serve the purpose of explaining or expanding the quantitative findings. These two

phases sequenced in time but not in rationale. The results of both approaches were compared and combined to gain a more wholesome understanding of the topic, which is the central character of the convergent mixed-methods design (Creswell & Plano Clark, 2017).

Population, Sampling, and Data Collection

Population and Sampling

This study focused on international school teachers and intended to understand and examine the relationship between leadership and collective beliefs in multi-cultural teams. There are currently over 11,000 English-medium international schools around the world serving over 5.6 million students, according to data from International School Consultancy (n.d.). The number has grown three-fold since 2000, and 57.1% of these schools (6,638) are located in Asia. Among them, China has seen the fastest increase in English-medium international schools' demand over the past two decades. (International School Consultancy, 2020).

The convenience sampling scheme was chosen for this study. The researcher's connection with organization X gave her access to teachers in seven international schools in mainland China. X is a nonprofit organization that has offered PreK12 college preparation education to international students for over four decades. X has six PreK12 schools serving international students and one sister school offering PreK12 international education for Chinese students. The anonymous electronic survey went out to all 300+ teachers at X and the sister school. The approximate participant pool for this survey is 300. One hundred seventy-seven responses were

collected. However, only 90 participants completed at least one measurement in the survey. The valid response rate was 30%. Among the 90 valid responses, 28.9% (n = 26) were Chinese, 67.8% (n = 61) were international teachers, and 3.3% (n = 3) did not indicate nationality. 44.4% (n = 40) were from elementary schools, 54.4% (n =4 9) from secondary, and 0.2% (n = 1) did not indicate his or her school level (see Table 2). 43.3% (n = 39) of the teachers worked with the principal less than one year, 42.2% (n = 38) had two to four years of experience working with the principal, 8.9% (n = 8) had between five to nine years of experience, 2.2% (n = 2) had between ten to fifteen years of experience, and 3.3% (n = 3) worked with the principal more than fifteen years (see Figure 8). While 8.9% (n = 8) of the participants were first-year teachers, the majority of the participants, 76.6% (n = 69), had over five years of teaching experience, with 21.1% (n = 19) of the participant sample teaching for more than 15 years (see Figure 9).

Table 2

Nationality and School Levels of Survey Respondents

	n	%
Nationality		
Chinese	26	28.9
International	61	67.8
Not indicated	3	3.3
School Level		
Elementary	40	44.4
Secondary	49	54.4
Not indicated	1	1.2

Figure 8

Years Working with the Principal
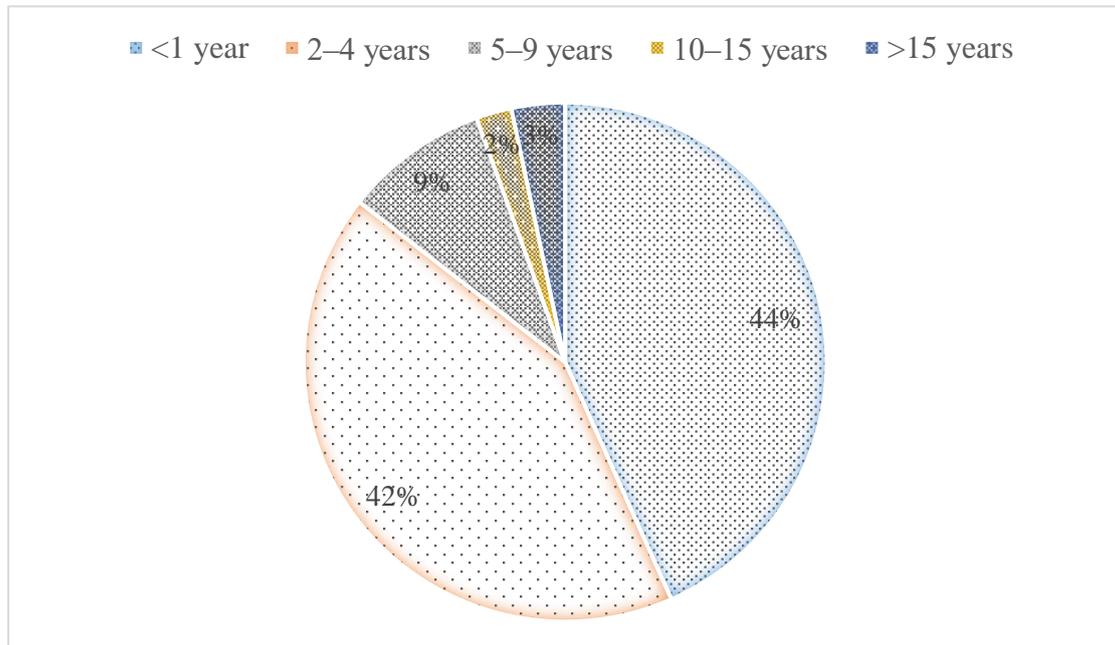
Figure 9

Teaching Experience of Survey Respondent
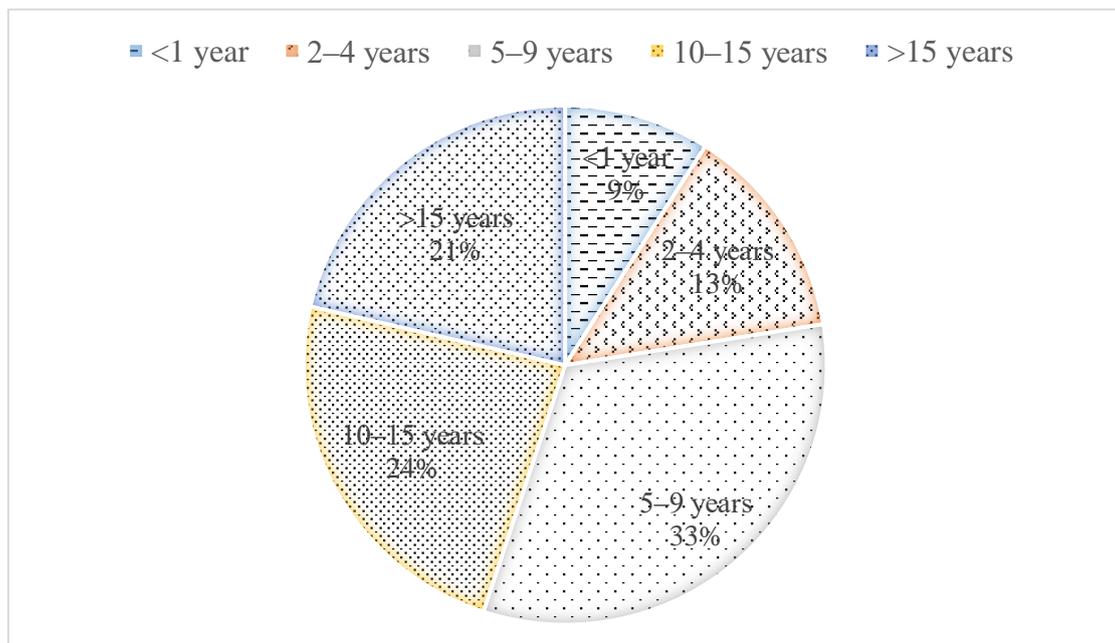
A separate link was embedded at the end of the survey to recruit participants

for follow-up focus groups so that their survey responses would not be linked to their identity. Three Chinese teachers and three international teachers responded via the link. However, one Chinese teacher did not reply to the author's follow-up email, and one international teacher was not able to participate due to time differences. The author recruited two more Chinese teachers and two more international teachers through former colleagues at X. In the end, there were four teachers in the Chinese focus group interview, and four international teachers participated in the English interviews. Three out of four Chinese teachers had less than 15 years of teaching experience, whereas all international participants reported having more than 15 years of teaching experience and having lived in China for more than three years. Participants' demographic information is summarized in Table 3.

Table 3

Demographic Information of Qualitative Participants

Participant	Gender	Nationality	School-Level	Teaching Experience	Location in China
C2	Female	China	NA	NA	East Coast
C3	Female	China	Primarily Elementary	<15 years	Southwest
C4	Female	China	Primarily Elementary	>15 years	East Coast
C5	Female	China	Secondary	<15 years	East Coast
I2	Female	USA	Secondary	>15 years	Southwest
I3	Female	USA	Primarily Elementary	>15 years	East Coast
I4	Female	New Zealand	Elementary	>15 years	East Coast
I5	Male	USA	Secondary	>15 years	Central

Instruments

The digital questionnaire consisted of four instruments, PIMRS Teacher Short Form for instructional leadership, CES for collective teacher efficacy, ECSS for leader trait encouragement, and CVS for individual culture values. The author made a few adjustments to each instrument to adapt to research needs and international schools' situation in China. Therefore, the instruments were subjected to reliability tests, the results of which are discussed in Chapter 4.

PIMRS Teacher Short Form.

Principal Instructional Management Rating Scale (PIMRS) is an instrument of choice when studying principal leadership and has been used to collect data in over 700 studies conducted in 26 different counties (Hallinger, 2011; Hallinger et al., 2013). Hallinger et al. (2013) analyzed 43 studies that had employed the PIMRS for data collection in their meta-analysis to assess this scale's reliability. The results are displayed in Table 4.

Table 4

Meta-analysis of Teacher Reliability by Cultural Context and School Level

Generalizability Theory Reliability: From Raw Data				
Variable	Whole Scale	D1. Create Mission[a]	D2. Manage Instruction[a]	D3. Develop Climate[a]
Culture				
United States	.99	.98	.98	.98
Asia	.99	.96	.96	.99
School-level				
Primary	.99	.98	.98	.99
Secondary	.99	.95	.97	.98

Note. Adopted from "Assessing the Measurement Properties of the Principal

Instructional Management Rating Scale: A Meta-Analysis of Reliability Studies," by

P. Hallinger, W. Wang, and C. Chen, 2013, *Educational Administration Quarterly,*

49(2), p. 295 (http://doi.org/10.1177/0013161X12468149). Copyright 2013 by Sage

Publications.

[a]D = Dimension

To increase the efficiency of data collection, this study employed the 22-item PIMRS Teacher Short Form instead of the 50-item Teacher Form. The instrument is composed of two sections: Part 1. Demographic data on school level, teaching experience, principal's years of experience, etc., and Part 2 is a 5-point, 22-item Likert scale, where teachers mark the option 1 (*Almost Never*) to 5 (*Almost Always*), that best fits the principal's job behavior during the past school year. The Gen Theory Reliability results for the Likert scale were 0.94 for the whole scale, 0.935 for ISL Dimension 1, 0.901 for ISL Dimension 2, and 0.912 for ISL Dimension 3 and met the reliability standards for research instruments. All factor loadings were above 0.7, the goodness of fit index = 0.965, root mean square error of approximation = 0.088. These indicate the robust validity of the instrument (Hallinger & Wang, 2015).

The researcher made a couple of modifications to the PIMRS Teacher Short Form in accordance with the specific situation of X schools: 1) added the "Not Applicable" option to each item, and 2) changed school-wide goals into school/department-wide goals. In X school system, a teacher often works under two principals, the head principal of schools and the divisional principal (e.g., the elementary principal and secondary principal). In general, the divisional principal is a

teacher's direct supervisor who provides evaluation and instructional support, and the

head principal sets school-wide goals and communicates them with faculty, staff and

parents. However, in some cases, neither the divisional principal nor the head

principal is the teacher's direct supervisor. For instance, English language support

teachers and special education teachers are under the lead of their department heads.

Since divisional principals are typically the ones who work closely with teachers and

are directly involved in students' learning, the researcher encouraged survey

participants to rate their divisional principals but allowed the head principal's rating if

it was deemed necessary. In that case, some items might not be applicable, for

example, the item "Meet individually with teachers to discuss student progress."

Therefore, modifications were made to meet the needs of and generate more accurate

data from these particular teacher groups.

Collective Efficacy Scale.

Collective teacher efficacy is measured by Goddard's (2002) 6-point, 12-

item Likert Collective Efficacy Scale, in which teachers indicate their level of

agreement with each statement from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). The

measurement includes two dimensions: Group Competence (6 items) and Task

Analysis (6 items). The most commonly used collective teacher efficacy measures are

variations of Goddard et al. (2000) 21-item Collective Teacher Efficacy Scale or its

revised 12-item short version. Goddard's work has laid the foundation for collective

efficacy research and made an outstanding contribution to the development of this

research area. Scores from the 12-item scale and the 21-item scale were highly related

(r = .983). The 12-item short scale is a more theoretically pure version with high

internal consistency (Goddard, 2002). Details of reliability and validity are listed in

Table 5.

Table 5

Comparison of the Original and Short Collective Efficacy Scales

Attribute	Short Form	Original
Number of items	12	21
Internal consistency (alpha)	.94	.96
Eigenvalue from principal axis factor analysis	7.69	7.53
Proportion of variance explained with single factor	.64	.58

Note. Adapted from "A Theoretical and Empirical Analysis of the Measurement of

Collective Efficacy: The Development of a Short Form," by R. Goddard, 2002,

Educational and Psychological Measurement, 62, p. 108. Copyright 2002 by Sage

Publications.

A few of the items, such as "Learning is more difficult at this school

because students are worried about their safety," might not be applicable in Chinese

society or the community X serves. Hence, in this study, the author added the option

"Not Applicable" to each item to ensure the questionnaire's accuracy.

Cultural Values Scale (CVScale).

CVScale is a 7-point, 26-item five-dimensional scale developed to assess

Hofstede's cultural dimensions at the individual level (Yoo et al., 2011). The present

study includes two dimensions (11 items) of this scale: power distance and

collectivism. The scale measures participants' individual cultural values by asking

them to rate the degree to which they agree with each statement from 1 (*Strongly*

Disagree) to 7 (*Strongly Agree*). In the original validity test of the scale development, the authors took two adult samples, American and Korean. The CVScale was highly reliable in both samples. The reliability of power distance and collectivism are .91 and .89, respectively. Since then, this measurement has been used in a wide range of countries, including Portugal, Australia, Egypt, Hong Kong, the United Kingdom, and the United Arab Emirates, and showed satisfactory reliability in these studies.

Encouragement Character Strength Scale (ECSS).

Principals' character strength of encouragement was reported with ECSS, a 6-point, 12-item Likert scale that measures an individual's enjoyment and perceived ability to express affirmations to motivate others (Wong et al., 2019). ECSS can be self-reported and other-reported. This study asked respondents to evaluate their principals' character strength of encouragement. Respondents rated the degree to which they agreed with each statement from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). Items describe one's perceived ability to encourage others (e.g., "knows how to use words of affirmation to address someone's deepest fears") and the enjoyment of encouragement (e.g., "enjoys saying or writing something to others to encourage them to pursue their dreams"). Half of the items are challenge-focused (e.g., "likes to share words of encouragement with others who are feeling dejected"), while the other half focus on nurturing full potential (e.g., "positive words have given someone the courage to pursue new opportunities that she/he didn't previously consider").

The validity of ECSS has been tested in various groups, including non-college adults, Latinx-majority college students, and psychotherapists, and results

provided evidence for robust construct validity (Wong et al., 2019). Wong and

colleagues (2019) examined the test-retest reliability of ECSS with a racially diverse

sample (96.5% identified as racial minority) from a West Coast university over a 2-

week period. The bivariate correlation for Time 1 and Time 2 ECSS was .82 and .90,

respectively, showing temporal stability.

Procedures

Permission to collect data has been obtained through the Institutional

Review Board at Seattle Pacific University. The anonymous online survey was

administrated and stored in a password-protected website, Qualtrics. The electronic

survey link was sent to the leadership of organization X and then distributed to the

teachers of each school by the principals in early December 2020. Teachers were

given six weeks to respond to the survey, during which the principals sent out two

reminders to encourage teachers to take the survey.

A total of eight Chinese and international teacher volunteers from five X

schools participated in three separate one-hour focus group interviews, one in Chinese

and two in English, on Zoom to discuss their viewpoints on the leadership and the

teams' collective efficacy.

To keep their identities anonymous, participants were given the option to

turn their cameras off and use pseudonyms during the interviews. Zoom interviews

were recorded and converted to transcripts for coding, and the Chinese interview

transcript was translated to English by the author since other qualitative data coders

did not read Chinese. The participants' pseudonyms were replaced with code names.

Any information that may disclose their identities was encrypted.

Due to the time limit of the interview, the researcher designed five questions to guide the discussions. As mentioned earlier, interview questions were constructed after the quantitative analyses' primary steps when general trends in the data were exposed to generate more meaningful conversations. Questions are listed below:

1. What does collective efficacy mean to you? "If you haven't heard of the term, no problem. Hearing this term, what do you think a collective sense of efficacy would mean to you?

2. Based on your personal experience or observation, what factors might shape a teacher's collective efficacy?

    a) Probe: In what ways do you think your school has shaped your collective efficacy? provide specific examples if you could.

    b) Probe: In what ways do you think your school could have done better? Please provide specific examples if you could.

3. What does an effective leader look like? Based on your personal experience or observation, what characteristics must an effective leader have? Could you give me an example?

4. How do you think your principal's behaviors have influenced your team's work/capability in improving students' performance? Please provide specific examples if you could.

5. How do you think your team's collective efficacy has influenced your interaction and perception of the leader/principal's effectiveness?

Data Analysis

Quantitative data analyses were completed using SPSS. Raw data were sorted, cleaned, and converted into a valuable form for analysis. Descriptive analyses (e.g., the mean, standard deviation) were conducted on demographic information and all major variables. T-tests were conducted to compare leadership and CTE differences between two school levels (elementary and secondary) and two culture groups (Chinese local and international teachers). Assumption tests, including normality, homogeneity of variance, and follow-up tests, like the post-hoc test, were conducted to ensure the assumptions were met. Moderation analyses were conducted to examine whether school-level, power distance, and collectivism were moderators in the ISL and CTE relationship. Finally, mediation analyses were conducted to determine the mediating power of encouragement in the ISL and CTE relationship. Hayes' (2013) PROCESS macro in SPSS v. 27 was utilized to conduct the moderation and mediation analyses.

Qualitative data analysis followed the qualitative data analysis spiral and moved in analytic circles (see Figure 10, Creswell & Poth, 2018). The process began with data management. The focus-group interview recordings and Word transcripts were labeled with focus group pseudonyms and the interview date and stored in organized digital folders on the author's personal OneDrive account. The author and two doctoral students, who are not connected to this study, independently performed qualitative data analyses and audits. The researcher's experiences as a Chinese international school teacher and administrator empowered her to understand the

phenomenon at a deeper level (Merleau-Ponty, 1956). However, the researcher's

experiences could also impose potential bias in data analyses and interpretation.

Bracketing is setting aside one's perceptions and experiences, as much as possible, to

take a fresh perspective and be faithful to the phenomenon under examination

(Creswell & Poth, 2018). It was necessary for the author to acknowledge and bracket

past knowledge and experiences. Two independent coders, with different cultural

backgrounds and teaching experiences, who were not familiar with the constructs of

ISL and CTE, were involved in the data analysis process. With their independent data

analyses, quantitative results, and literature-informed rationale, the author used

triangulation to guard against bias and ensure the validity of the qualitative phase

(Creswell & Plano Clark, 2017).

Figure 10

The Qualitative Data Analysis Spiral
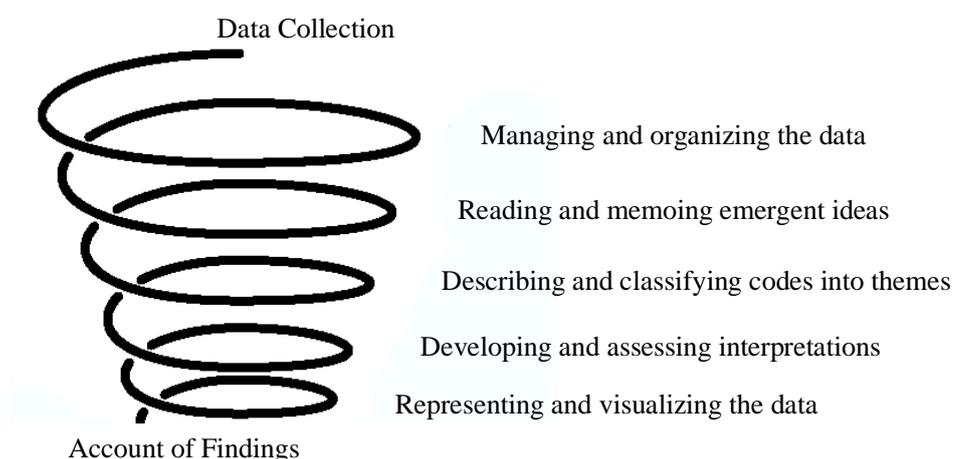
Note. Adapted from "Qualitative Inquiry & Research Design: Choosing Among Five

Approaches," by J. W. Creswell, and C. N. Poth, 2018, p. 186. Copyright 2018 by

SAGE Publications, Inc.

All data were analyzed manually using Microsoft Word, Google Docs, and the online collaboration platform Miro, without qualitative data analysis software. The data analysis technique involved in this study is constant comparison analysis (Onwuegbuzie et al., 2009). The method of constant comparison, developed by Glaser and Strauss, was first used in grounded theory research but is suited for analyzing many types of data, including focus group data. The process consisted of three major stages. First was open coding, where each coder, individually, read through the text, made margin notes, and formed initial codes. Then, the author compared three initial-code lists, grouped initial codes into categories, and developed themes and patterned regularities. Finally, the process ended with interpreting and making sense of the findings, mainly through the comparison with quantitative data results. Significant qualitative findings, such as supporting or contradicting the quantitative ones, are reported in the following chapter. The qualitative reporting focused more on a description of participants' experiences and less on the researcher's interpretation (Moustakas, 1994). However, it is important to note that "all writing is positioned and within a stance" (Creswell & Poth, 2018, p. 228). The author is aware and acknowledges that qualitative writing reflected the author's own interpretation based on the cultural, social, gender, class, and personal politics that she brought to the research.

Chapter Four: Results

The results of this study are presented in two sections. The first section

reports the results of quantitative analyses. After the introduction of survey reliability,

quantitative results are presented according to each research question. The second

section reports the findings of focus-group interviews. As stated in Chapter Three, the

qualitative section of this research was designed with the intention to gain a deeper

understanding of the quantitative findings. Thus, qualitative results are organized

following the logic of significant quantitative findings and classified into two foci:

ISL influence on CTE and CTE impact on ISL.

Quantitative Results

Survey Reliability

In this study, the author had made a few modifications to the existing

measurements included in the questionnaire and administered the questionnaire to

Chinese teachers and international teachers working in mainland China. Internal

consistency estimates of reliability were calculated for the four instruments, PIMRS

Teacher Short Form, CES, ECSS, and PD & CO sections of CVScale, to check the

reliability of the instruments. The Cronbach's Alpha coefficient for PIMRS and ECSS

were $\alpha = .975$ and $\alpha = .985$, respectively, indicating a very good level of reliability

(Gall et al., 1996). After negative items being reversed and added to the analysis, the

Cronbach's Alpha coefficient for CTE was at a satisfactory level, $\alpha = .834$.

Furthermore, Cronbach's Alpha coefficient for PD & CO sessions of CVS were α

$= .787$ and $\alpha = .758$, respectively. While not reaching the level obtained by Yoo et al.

(2011) ($\alpha = .91$ and $\alpha = .89$), they were still at an acceptable level.

Preliminary Analysis

The author tested the relationship between ISL, CTE, and other variables in the study. The correlations, means, and standard deviations for the study variables are displayed in Table 6. ISL and ECSS are significantly and positively correlated with CTE. Mean scores of the study variables by nationality groups and school levels are displayed in Table 7.

Table 6

Bivariate Correlations, Means, and Standard Deviations for the Study Variables

Variable	Range	*M*	*SD*	1	2	3	4	5
1. ISL	1–5	3.81	0.94	-	.46**	.77**	0.07	0.07
2. CTE	1–6	4.82	0.74		-	.41**	0.20	-0.10
3. ECSS	1–6	4.67	1.34			-	0.19	0.04
4. CO	1–7	4.23	1.02				-	.23*
5. PD	1–7	2.09	0.95					-

Note. N = 90. ISL = Instructional School Leadership; CTE = Collective Teacher Efficacy; ECSS = Encouragement Character Strength Scale; CO = Collectivism; PD = Power Distance

*$*p < .05$. $**p < .01$

Table 7

Mean Scores of Study Variables for Different Groups

	n	ISL		CTE		ECSS		CO		PD	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Chinese	26	4.07	.90	5.08	.67	4.96	1.26	4.49	1.12	2.36	1.39
International	61	3.68	.96	4.67	.74	4.51	1.40	4.17	.97	2.00	.72
Elementary	40	3.88	1.02	4.86	.71	4.74	1.43	4.47	1.00	2.07	1.15
Secondary	49	3.75	.89	4.80	.78	4.61	1.30	4.04	1.01	2.1	.77

Research Question 1

Research question one examines the relationship between ISL and CTE.

The null hypothesis is teachers' perceived ISL has no associations with their

perceived CTE. Correlation analyses were carried out between mean scores of ISL

and CTE and each ISL function and CTE dimension. This paper follows Cohen's

(1992) classification of effect sizes as small ($r = .1$), medium ($r = .3$), and large ($r

= .5$) to determine the effect size of these associations. The results (see Table 8)

showed a statistically significant, positive and moderate correlation between CTE

and ISL ($r = .460, p < .01$) and all the dimensions and functions of ISL ($.305 < r < .

493, p < .01$), with the strongest correlation between the function of "Communicate

School Goals" ($r = .493, p < .01$) and the dimension of "Developing School Learning

Climate" ($r < .463, p < .01$). The null hypothesis is rejected. Further analyses

demonstrated that the CTE dimension "Group Competence" showed a significant

large correlation with ISL ($r = .501, p < .01$) and significantly was associated with all

the dimensions and functions of ISL (.345 < r < .527, p < .01), with the strongest

correlation also with the function of "Communicate School Goals" (r = .527, p < .01)

and the dimension of "Developing School Learning Climate" (r = .518, p < .01). On

the other hand, the CTE dimension "Task Analysis" had a significant but weak

correlation with ISL (r = .284, p < .05), all three dimensions (.245 < r < .280, p

< .05) and five of the ten function (see Table 8), with "Supervise and Evaluate

Instruction" demonstrating a moderate association (r = .366, p < .01).

Research Question 2

The second question aims to detect differences in ISL perception between

elementary and secondary teachers and international and Chinese local teachers. The

null hypotheses are a) There is no statistically significant difference in perceived ISL

between elementary and secondary teachers, and b) There is no statistically significant

difference in perceived ISL between international staff and local Chinese staff. An

independent samples t-test was used to compare the mean scores of two independent

groups. The investigator plotted the data and ran the Kolmogorov-Smirnov test to test

normality. Elementary ISL, $D(39) = 0.134$, $p = 0.74$, Secondary ISL, $D(49) = 0.081$, p

= .200, Chinese ISL, $D(26) = 0.161$, $p = .080$, International ISL, $D(60) = .084$, p

= .200, did not deviate significantly from normal. P-P plots and Q-Q plots confirmed

the K-S results. Levene's test was conducted to test homogeneity of variance. For ISL,

the variances were equal for elementary and secondary, $F(1, 75)$, $p = .175$, and for

Chinese and international teachers, $F(1,73)$, $p = .068$. These results satisfied the

assumptions of the t-test.

Table 8

Correlation Coefficients of Collective Teacher Efficacy and Instructional Leadership

	CTE	GC	TA	ISL	Mission	1	2	Manage	3	4	5	Climate	6	7	8	9	10
CTE	-	.914**	.838**	.460**	.419**	.344**	.493**	.409**	.466**	.340**	.339**	.463**	.401**	.425**	.305**	.385**	.462**
Group Competence (GC)	.	-	.546**	.501**	.466**	.410**	.527**	.425**	.446**	.365**	.370**	.518**	.441**	.487**	.345**	.473**	.464**
Task Analysis (TA)	.	.	-	.284*	.245*	0.169	.317**	.280*	.366**	0.214	0.213	.267*	.244*	.230*	0.174	0.170	.332**
ISL	.			-	.894**	.863**	.845**	.950**	.832**	.865**	.875**	.945**	.804**	.831**	.799**	.774**	.723**
Mission				.	-	.972**	.936**	.857**	.794**	.797**	.739**	.731**	.691**	.627**	.616**	.549**	.554**
1. Frame school goals				.	.	-	.826**	.825**	.719**	.760**	.756**	.709**	.660**	.604**	.597**	.548**	.529**
2. Communicate school goals						.	-	.808**	.828**	.761**	.635**	.694**	.662**	.601**	.561**	.519**	.542**
Management				.				-	.879**	.921**	.898**	.830**	.789**	.693**	.720**	.654**	.652**
3. Supervise and evaluate instruction									-	.740**	.707**	.696**	.690**	.539**	.618**	.571**	.551**
4. Coordinate the curriculum										-	.734**	.746**	.742**	.641**	.624**	.550**	.615**
5. Monitor student progress											-	.802**	.728**	.689**	.687**	.667**	.592**
Climate												-	.764**	.912**	.835**	.844**	.768**
6. Protect instructional time													-	.637**	.512**	.616**	.595**
7. Provide incentives for teachers														-	.750**	.695**	.575**
8. Provide incentives for learning															-	.655**	.495**
9. Promote professional development																-	.548**
10. Maintain high visibility																	-

*Note. *p < .05. **p < .01*

After assumptions were met, t-tests were conducted to compare ISL means between elementary and secondary and between Chinese and international teacher groups. The robust method of bootstrapping at 95% percentile confidence interval was applied for the t-test analysis to reduce the impact of outliers. Bootstrapping is a computer-intensive nonparametric procedure that takes thousands of bootstrap samples from the observed data set and estimates the precision of the statistic from these bootstrap samples (Wright et al., 2011), and is considered one of the best choices to reduce the impact of bias brought by small sample size and outliers (Field, 2013).

Results indicated that elementary teachers' perception of ISL ($M = 3.85$, $SE = 0.19$) was higher than secondary teachers' perceptions ($M = 3.77$, $SE = 0.13$). However, the difference, 0.08, BCa 95% CI [-0.390, 0.527] was not statistically significant $t(75) = 0.35$, $p = .733$. The results fail to reject the null hypothesis 2a that here is no statistical significance between elementary and secondary teachers' perception of ISL. Chinese teachers' perception of ISL ($M = 4.16$, $SE = 0.16$) was significantly higher $t(73) = 2.25$, $p < .05$ than international teachers' perceptions ($M = 3.63$, $SE = 0.14$) with a difference in mean scores of 0.53, which is statistically significant, BCa 95% CI [0.069, 0.961]. Thus, null hypothesis 2b is rejected.

Research Question 3

The third question asks whether there were differences in perceived CTE between teachers from different school levels and cultural backgrounds. The null hypotheses are a) There is no statistically significant difference in perceived CTE

between elementary and secondary teachers, and b) There is no statistically significant difference in perceived CTE between international staff and local Chinese staff. Independent samples t-test analysis was chosen to answer this question. Levene's test was conducted to test homogeneity of variance. For CTE, the variances were equal for elementary and secondary, $F(1, 75) = .080$, $p = .778$, and for Chinese and international teachers, $F(1,73) = 1.390$, $p = .242$.

Kolmogorov-Smirnov test results (see Table 9) showed that p-values of Elementary CTE, Secondary CTE, Chinese CTE, and International ISL were non-significant; in other words, these variables followed a normal distribution. However, skewness and kurtosis of Chinese CTE ($n = 23$), -1.332 and 2.506, respectively, raised concerns for the identification of its normality. In general, skewness is expected to be close to 0 (Field, 2013), and kurtosis should be between -2 and +2 to indicate normal univariate distribution (George & Mallery, 2010). To make an accurate decision, the author built a histogram and plotted it (see Figure 11). Values of Chinese CTE fell reasonably close on the plot's diagonal, indicating the variable was normally distributed (Field, 2013). Histogram and Q-Q Plot confirmed the K-S results.

After assumptions were checked, the independent samples t-test with bootstrapping at 95% percentile confidence interval was applied to compare CTE mean scores between elementary and secondary teachers and Chinese and international teachers. In addition to bias correction, bootstrapping offers an alternative and allows the analysis to bypass the normality issue discussed earlier (Wright et al., 2011). Elementary teachers' perceptions of CTE ($M = 4.85$, $SE = 0.13$)

was higher than secondary teachers' perceptions ($M = 4.80$, $SE = 0.12$). However, the difference, 0.05, BCa 95% CI [-0.303, 0.366] was not statistically significant $t(75) = 0.31$, $p = .756$. The results supported the null hypothesis 3a that there is no statistical significance between elementary and secondary teachers' perceptions of CTE. For null hypothesis 3b, results revealed that Chinese teachers' perceptions of CTE ($M = 5.08$, $SE = 0.14$) was significantly higher $t(73) = 2.29$, $p < .05$ than international teachers' perceptions ($M = 4.67$, $SE = 0.10$), with a difference of 0.41, BCa 95% CI [0.079, 0.741]. Thus, null hypothesis 3b is rejected.

Table 9

Normality of Elementary CTE, Secondary CTE, Chinese CTE, and International CTE

	N	K-S p-value	Skewness	Kurtosis
Elementary CTE	34	.200	-.323	-.671
Secondary CTE	44	.125	-.724	-.301
Chinese CTE	23	.133	-1.332	2.506
International CTE	53	.200	-.347	.731

Figure 11

Q-Q Plot of Chinese CTE
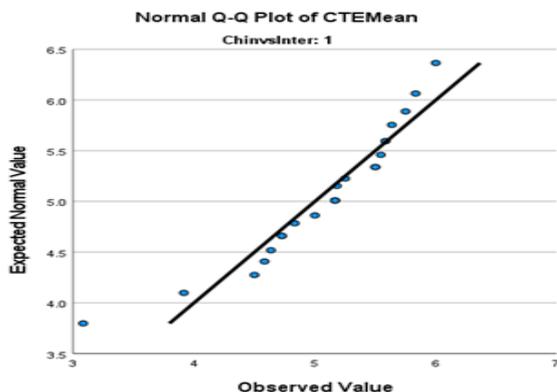
Figure 12

Histogram of Chinese CTE

Simple Histogram of CTEMean
Chinvsinter: 1

Mean = 5.0814
Std. Dev. = .66559
N = 23
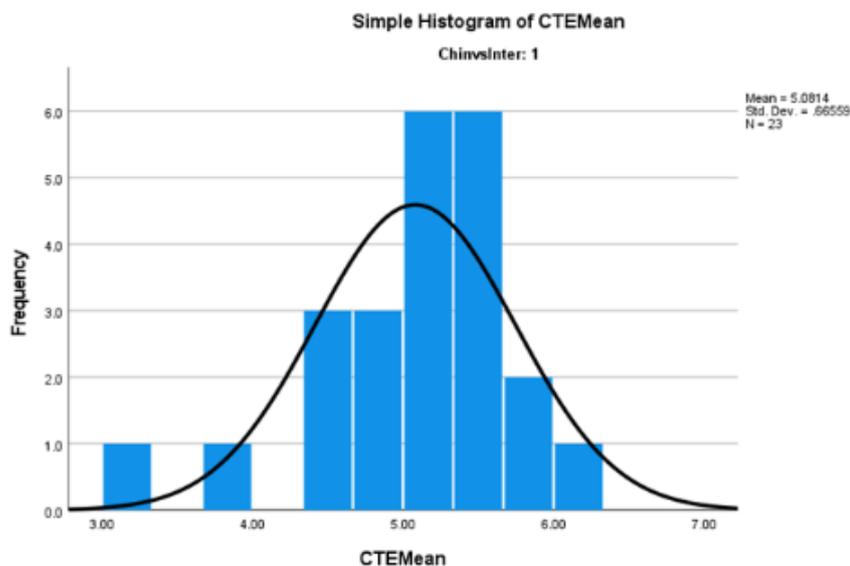
Research Question 4

Question 4 explores the role of three potential moderators: school level, collectivism, and power distance. For an established relationship between two variables, a moderator variable changes the strength of the connection (Field, 2013). It may increase, decrease, or change the direction of the relationship as the moderator changes. 4a asks how school-level may moderate the relationship between perceived ISL and CTE. The null hypothesis is school-level was not a significant moderator between perceived ISL and CTE. Moderation analyses were conducted via Hayes' (2013) PROCESS macro in SPSS v. 27 to examine how the independent variable ISL would interact with school-level in their influence on CTE using a regression-based model with bootstrapping method. Results indicated that the interaction between instructional leadership and school level (B = -0.31, p = .057) was not statistically

significant. School-level was not a significant moderator between perceived ISL and CTE.

Question 4b examines the indirect effect of perceived instructional leadership on teachers' collective efficacy through two moderators – collectivism and power distance. The null hypotheses are 1) Collectivism is not a significant moderator between perceived ISL and CTE, and 2) Power Distance is not a significant moderator between perceived ISL and CTE. Moderation analyses were conducted via Hayes' (2013) PROCESS macro in SPSS v. 27 to examine how the independent variable ISL would interact with CO and PD in their influence on CTE using a regression-based model with bootstrapping method. Results indicated that the interaction between instructional leadership and collectivism (B = -0.05, p = .568) was not statistically significant. In short, collectivism was not a significant moderator between perceived ISL and CTE.

On the other hand, PD significantly moderated the relationship between ISL and CTE (B = 0.23, p < .05; see Table 10 for details). The null hypothesis 4b2 is rejected. Moreover, the author examined how ISL interacted with PD in their influence on CTE using a regression-based model. The interaction was probed by testing the conditional effects of ISL at three levels of PD—one standard deviation below the mean, at the mean, and one standard deviation above the mean. As shown in Table 11, teachers' collective efficacy was significantly related to their perception of instructional leadership only when power distance was at the mean (p < .001) and above the mean (p < .001) but not when it was below the mean (p = .449). In other

words, when PD is at average level or above, an increase in ISL was more likely to result in a greater increase in CTE as indicated by sharper slopes. As shown in Figure 12, the strength of the association between ISL and CTE was not as strong as indicated by a flatter slope when PD was below average, which means CTE might not change much when ISL increases. These results are consistent with Earley's (1999) findings that perceptions of the higher-status weights more on members' group efficacy judgments in groups with high power distance than in low-status groups.

Table 10

CTE Predicted from ISL and PD

Predictors	*B*	*p*	95% CI	
ISL	-0.16	.508	-0.630	0.314
PD	-1.08*	.021	-1.990	-0.166
ISL x PD	0.23*	.031	0.021	0.434

*p < .05.

Table 11

Conditional Effect of ISL on CTE at Values of PD

PD	β	*p*	95% CI	
One SD below mean	0.10	.449	-0.166	0.370
At the mean	0.32***	.0005	0.145	0.495
One SD above mean	0.54***	.0001	0.277	0.800

***p<.001

Figure 13

Conditional Effects of ISL on CTE at Three Levels of PD
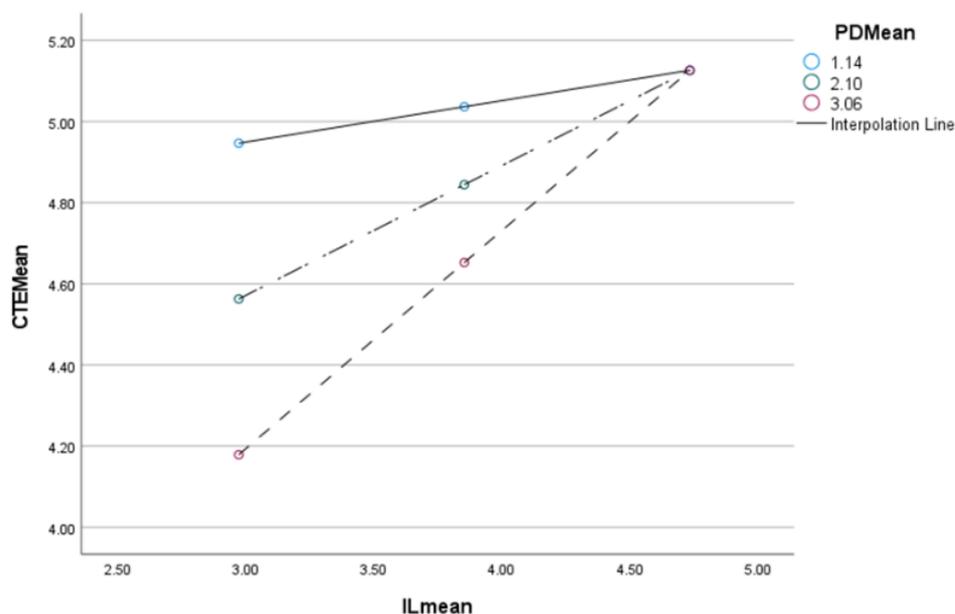
Research Question 5

The final research question investigates whether leaders' character strength
of encouragement would mediate the association between ISL and CTE. A mediator
variable specifies how or why a particular effect or relationship occurs and describes
the psychological process to create the relationship (Field, 2013). Question five
investigates whether the relationship between ISL and CTE operates via a third
variable (i.e., the leader's character strength of encouragement). The null hypothesis is
that encouragement is not a significant moderator between perceived ISL and CTE.
Hayes' (2013) PROCESS macro in SPSS v. 27 was utilized for the mediation
analyses. Results demonstrated that ISL had a significant direct effect on CTE ($B =$
0.28, $p < .05$) and explained 22% ($R^2 = .22$) of the variance in CTE. However, the
indirect effects of ISL on CTE through leaders' encouragement ($B = 0.08$, $p = .402$)

was not significant.

Given the possible bi-directionality of the two main variables, ISL and CTE, mediation analysis testing the effect of CTE on ISL through encouragement was conducted. Results revealed a significant direct effect of CTE on ISL ($B = 0.21$, $p < .05$), and CTE explained 21% of variance in ISL ($R^2 = .21$). The indirect effects of CTE on ISL through leaders' encouragement ($B = 0.38$; [BC] 95% CI [0.178, 0.635]) was statistically significant. Together the model of CTE and encouragement character strength explained 64% ($R^2 = .64$) of the variance in ISL. In sum, teachers' collective efficacy and its interaction with leaders' character strength of encouragement had a significant positive influence on teachers' perceptions of instructional leadership. Although leaders' encouragement was not a significant mediator in the influence of instructional leadership on teachers' collective efficacy, it was a significant mediator in the influence of teachers' collective efficacy on their perceptions of instructional leadership. The hypothesis that encouragement character strength is a significant mediator is supported, but not in the expected direction.

Qualitative Findings

Quantitative findings informed interview questions to collect participants' understanding of CTE, insights on leadership, and views on factors shaping CTE at school. The questions are:

1) What does collective efficacy mean to you?

2) Based on your personal experience or observation, what factors might shape a teacher's collective efficacy?

3) What does an effective leader look like? Based on your personal experience or observation, what characteristics must an effective leader have?

4) How do you think your principal's behaviors have influenced your team's work/capability in improving students' performance?

5) How do you think your team's collective efficacy has influenced your interaction and perception of the leader/principal's effectiveness?

Focus group participants were not familiar with the concept of CTE, and many of them had never heard of this term before taking the survey. Their first impression of CTE was about teamwork and the effectiveness of the team. However, after the author shared its definition and its value at schools, they could see it in their team and showed a good understanding of CTE and its relationship with leadership in the discussions.

ISL Influence on CTE

All the participants recognized leadership as a critical/essential influencer in CTE formation at schools and shared various aspects of leadership that shaped their collective efficacy. Following a process of thematic coding (Creswell & Poth, 2018) and receiving feedback from two colleagues who conducted independent coding, four categories of leadership factors for CTE were identified. These categories are developing school learning climate, defining school mission, supervise and evaluating instruction, and leading by example.

Developing School Learning Climate.

There are five major factors in this category: building a caring community,

creating a collaborative environment, promoting smooth communication flow,

providing incentives for teachers, and maintaining high visibility, two of which are

highly similar to ISL functions.

Caring Community.

The majority of participants, including both Chinese and international

teachers, highlighted the role care and relationship played in their careers and in

shaping their perceptions of collective efficacy.

> It does feel like a family here…that is what keeps me here, even though
>
> sometimes things are rough, like I'm devoted to the school to this community
>
> because they built that kind of community morale. – I2

> It is the care of the group for the teachers. It affects me. The care teachers get
>
> from the team will overflow in his or her teaching. – C5

Many participants emphasized the importance of building a sense of community, and

that the "relationship is more important than the results."

> It is helpful in knowing the people you're working with pretty well. And then
>
> we've right now at least got a pretty good mix, pretty good core of people
>
> that have been around for at least a few years. And so that gives us a sense of,
>
> we kind of know who does what kind of fits into what rules for the most part,
>
> at least I'd say, it helps a little bit to kind of build that sense of teamwork
>
> when you come some longer standing relationships. –I5

All three female international participants stressed that leaders taking time to get to

know teachers personally is critical in building a caring community, but this view did

not appear in Chinese participants' dialogues.

Collaborative Environment.

Across the groups, participants underscored the importance of a leader's ability to involve all stakeholders and promote collaboration in forming CTE in school, which confirmed with previous research findings that collaboration is a significant mediator for the relationship between ISL and CTE.

It is important to note that, in the face of challenges posed by the diverse culture, participants' concerns and expectations for a collaborative environment are more than team collaboration. A Chinese participant used the word "unite." Chinese society places top value on the unity of a team, community, and society. International participants used similar phrases, like "rallies the troops," "build consensus," and "we are all in this together." These words indicate shared knowledge and beliefs, a team-oriented approach, opportunities to collaborate, clearly defined roles and responsibilities, and fair and open communication.

Smooth Communication Flow.

On top of collaboration, communication was another major concern expressed by of participants. They voiced concerns over ensuring smooth vertical and horizontal communication flow in a multi-cultural environment.

In terms of vertical communication, participants stated that transparency of the leadership helps promote CTE. They expressed appreciation for reachable, responsive, and proactive leaders. Communication skills were viewed as vital, including being a good listener, utilizing multiple means to encourage teacher

feedback, and efficiently conveying ideas to employees and parents.

> One thing is the openness, like we kept in the loop, so we were told what
> goes on. So we nothing is kind of hidden level and unless it's hidden for a
> reason. Yeah, generally that, that open communication has been a good thing.
> – I4

> No matter how minor the issue is, and when you go to him, he always replies
> to you. And when you disagree with him, he will explain to you the reasons
> behind his actions or ideas. It makes people feel that he trusts every
> employee, he wants us to grow, to be better and better. –C2

> A good leader, she somehow needs to find ways to hear from those who don't
> usually speak out as much. Get the consensus of the majority who may not be
> speaking out. I think it's hard to find leaders that do that. –I2

The impact of vertical communication will also be mentioned in the category of defining school mission.

In terms of horizontal communication, participants emphasized the importance of a culturally sensitive environment and advocated for multiple and more individual approaches to encourage effective communication in the team. Participant C3 pointed out that,

> Cross-cultural communication at our school is a big problem. But since he
> came to our school, I remember he once told me that cultural conflict
> happens, in the Admin team, in all aspects of school teaching, but he said, "I

am half Chinese, so I am trying my best to find the balance in my work. I

am in both cultures. I will make efforts to strike a balance."

Participant I5 also stressed the importance of "working outside of what we're

comfortable with culturally…not to overreact or justify ourselves, but instead of just

to listen and try to find ways to collaborate that are going to be meaningful for

everyone."

Incentives for Teachers

Conventional incentives, like *Salary, Performance Reward Mechanism*, and

HR System, were discussed. The concern behind comments over salary and

performance reward mechanism was that efforts should be rewarded appropriately

according to workload. "We (teachers in general) are all overworked and underpaid,"

said I3. When talked about space for school to improve, C4 mentioned, "I feel the

workload is getting heavier and heavier. I've been stretched, so I think if we can make

reasonable arrangements and adjustments to the school's human resources." It was

also about a sense of fairness, and a sense of recognition and value.

Maintain High Visibility

All international participants had comments related to maintaining high

visibility. For example, I3 expressed her frustration, "last year at our school and

teachers didn't know when to catch the principal, and they had school issues to talk

about." Meanwhile, none of the Chinese participants highlighted this issue. They

expressed high appreciation when leaders were responsive and attentive to their needs

but did not stress a desire for high visibility.

Defining School Mission.

Communication of school goals was a major theme in the conversations over ISL influence on CTE with international participants and reoccurred in their answers to all the interview questions, from characteristics of effective leaders to school and leadership factors shaping CTE. International participants expressed two expectations for goal communications: being open and clear, as well as, proactive and thorough. To get teachers' buy-in, leaders need to be transparent, thoroughly explain the why behind the goals and the changes, and convince the teachers that it is the right thing to do for the students. They acknowledged the challenges leaders often encounter in due process. For instance, teachers are used to ruling their classes and having things their way. Particularly at international schools, it is even harder to bring on-board teachers from so many different backgrounds. However, suppose leaders allow teachers to process and follow through not with words but in action. In that case, teachers will get on-board eventually. Their trust in leadership and beliefs in the team will be enhanced through the process.

Chinese participants also valued leaders openly communicating the vision and goals. Still, it was more about being transparent, understanding the leader's reasoning and expectations, and bringing everyone on the same page than getting the buy-in. In fact, setting meaningful goals weighed more on their judgment of leadership capability and perception of team efficacy than communicating the goals. To the Chinese participants, an effective leader was a man or woman with a vision, a decisive plan-maker who knows how to bring the team there.

Supervising and Evaluating Instruction.

The second strongest correlation between CTE and an ISL function was for supervise and evaluate instruction, which was the only theme associated with the ISL dimension managing instructional program to reoccur in the focus group interviews. There were several leader behaviors, participants noted, that would enhance or jeopardize teachers' views of their groups' effectiveness.

Support from Leadership.

Every participant acknowledged administration's support an influence on their view of the team. I2 stated, "my administration backed me up and support me when I am in need. I can get the help I need. We were really enabled a lot in the understanding and the producing of it before we were given deadlines."

Situational Awareness.

The leaders understood the team and school, and recognized individual needs, strengths, and potentials. As I5 explained, "competence is helpful when you feel like your leader knows what's going on." C4 added, "the leader needs to process to think through what teachers and employees need when it comes to achieving a particular goal or task; how the teachers and staff would think or feel about it."

Another relevant piece was that several international participants underscored the value of personal connections in professional settings, like setting a few minutes aside to ask how teachers are doing and what they need, or putting a small note in a teacher's mailbox to show appreciation, as I2 stated,

When we feel like they, the leadership notices and appreciates that, and

even just a note of thank you. For some reason, it's enough to keep us going and to think of how much money they're saving by just taking a minute, a couple of minutes to write a quick thank you note.

Accountability.

The third was failing to take on the responsibility of being a leader, for example, negligence of supervision duties, lack of ability to hold hard conversations, and shirking responsibilities and making subordinates take the blame. When talking about situational awareness or accountability, a few participants mentioned people-pleaser leaders who failed to confront "lazy bombs" or make reasonable decisions that genuinely benefit the team. These concerns linked back to the sense of fairness discussed in the salary and performance reward section and also referred to the sense of recognition and value.

Consistency.

Constant change is a norm at international schools and a considerable challenge that often causes teacher burnout and distrust in leadership. Teachers complained that it just got exhausting when "changes didn't last" and the leadership "came in with new idea again." Leaders should spare no effort in keeping the consistency of the policies and strategies and think twice, three times, or more before making significant changes.

Leading by Example.

When asked in what ways leadership had shaped their collective efficacy, one category that merged in all the conversations but was not associated with the

ISL model was leading by example. I2 mentioned that "you see them working just as hard towards whatever the goal that they've said, and so that encourages me to join." C3 also expressed "although there are many challenges, I see that he is both fulfilling and compromising, and making great efforts. So he, in fact, made me feel very touched."

Leading by example, as stated by participants, means "getting out there into the trenches with everybody," and being involved, being part of the process. It also means "working hard", "making great efforts," being a role model of professionalism, building relationships, and even living a balanced life. Leading by example shows integrity, "whether the leader is sincere about his words," (I3) and demonstrates an understanding, care, and support for teachers, which results in trust and respect toward the leadership and motives teachers to follow suit. A servant leader is a term often used to compare to the "self-centered" leaders who only care for them themselves or their boss.

CTE Influence on ISL

In the focus group interviews, participants were asked to elaborate how they felt CTE had shaped their interactions and perceptions of the leader/principal's effectiveness. I5 shared, "I'm put at ease by the way things are kind of, you know, sort of the, by the environment. I can see where our principal's trying to go." For him, who is "not naturally prone to trust people", the team's environment lowered his guard and made it easier to understand the leader and follow her lead. I4 talked about her experience of moving to teach in another department. She gained an excellent first

impression of the leader because of the team's positive efficacy.

> I kind of felt at home straight away because they had that really closeness
> and they included me in that. So, obviously, as you know, the leader had
> obviously worked really hard to, to kind of make that group the way it was.

I3 shared a similar story of moving to a new school.

> You observe how the other interaction is of the other colleagues, to the
> principle, more professional but friendly, because it's a given, take the banter,
> maybe before a meeting, or is it just or business leave me alone, kind of like
> an invisible wall around them, because they're setting up and you don't want
> to… I observe that and that influences my knowledge of how approachable
> the leader is.

C5 also attributed her perception of the leader's approachability to the microclimate of her team: "I think that our group's supportive atmosphere affects me that I can go and ask our leaders for help without hesitation."

In general, the microclimate of the team shaped participants' judgment over whether a leader was approachable and trustworthy. A few participants brought up the impact of leaders' encouragement. It was usually paired with terms like "inspiring," "positive thinking," and linked to specific challenges. For example, as a new member of the team, a participant shared how grateful she felt for the principal who "encouraged her where she was at." Another participant described her principal as a leader with a growth mindset, often encouraging people to regard challenge as an opportunity to learn and grow.

Summary

Quantitative results showed a significant correlation between ISL and CTE ($r = .460$, $p < .01$), and mediation analyses further confirmed ISL as a significant predictor of CTE ($B = 0.28$, $p < .05$). All three dimensions and ten functions of ISL were significantly correlated with CTE and teachers' perceptions of group competence. Elementary teachers scored higher on their perceptions of ISL ($M = 3.85$, $SE = 0.19$) and CTE ($M = 4.85$, $SE = 0.13$) than secondary teachers on ISL ($M = 3.77$, $SE = 0.13$) and CTE ($M = 4.80$, $SE = 0.12$), but the differences were not statistically significant ($p = .733$, $p = .756$). Meanwhile, Chinese teachers' perception of ISL ($M = 4.16$, $SE = 0.16$) and CTE ($M = 5.08$, $SE = 0.14$) were significantly higher ($p < .05$) than international teachers' mean scores on ISL ($M = 3.63$, $SE = 0.14$) and CTE ($M = 4.67$, $SE = 0.10$).

Moderation analyses indicated that PD was a significant moderator in the relationship between ISL and CTE ($B = 0.23$, $p < .05$), but school level ($B = -0.31$, $p = .057$) and cultural dimension of collectivism ($B = -0.05$, $p = .568$) are not. Mediation analyses show no significant indirect effect of ISL on CTE through leaders' encouragement character strength ($B = 0.08$, $p = .402$). At the same time, the results revealed a significant indirect effect of CTE on ISL through leaders' encouragement character strength ($B = 0.21$, $p < 0.5$). In other words, leaders' encouragement character strength was a significant mediator in explaining the influence of CTE on perceptions of leadership.

In regard to the quantitative findings, focus group participants recognized

leadership as a critical factor in CTE formation at schools and, also, the teams'

influence on their views of the leadership. Analyses identified four categories of

leadership practices that shaped CTE. These categories are developing school learning

climate, defining school mission, supervise and evaluating instruction, and leading by

example.

Chapter Five: Discussion

The purpose of this paper is to examine the relationship between teachers'
collective efficacy beliefs and their perception of principals' instructional leadership.
The author explored this relationship from two levels: 1) on the individual level,
examining the impact of leaders' character strengths of encouragement and 2) on the
structural level examining the influence of school-level and cultural dimensions. This
chapter presents the discussion of the study findings in three sections. The first section
discusses the quantitative and qualitative results, organized by research question. The
second section addresses research limitations. The last section presents theoretical and
practical implications and offers suggestions for future research.

Discussion of Quantitative and Qualitative Findings

Research Question One

Correlation analyses found a significant correlation between ISL and CTE
($r = .460$, $p < .01$). Path analyses further confirmed that ISL had a significant direct
effect on CTE ($B = 0.28$, $p < .05$). These results align with the direct effect of ISL on
CTE reported by Çalik et al. (2012) and Hallinger et al. (2018) in their research
conducted in Middle Eastern countries. Qualitative findings from the focus group
interviews seem to support quantitative results. All focus-group participants attributed
the team's collective efficacy to some types of leadership behaviors and identified
leadership behavior as a critical influencer in determining CTE. As I5 stated, "we've
actually had principals at our school this year or secondary principal, and there is just
a noticeable difference in the collaboration that we see and the openness and kind of a

general sense of competence and organization."

All three dimensions and ten functions of ISL were significantly correlated with CTE and teachers' perceptions of group competence. The dimension developing school learning climate displayed the strongest correlation with CTE ($r = .463$, $p < .01$). The top three functions correlated with CTE were communicate school goals ($r = .493$, $p < .01$), supervise and evaluate instruction ($r = .466$, $p < .01$), and maintain high visibility ($r = .462$, $p < .01$). Qualitative findings about participants' daily experiences confirmed the importance of providing instructional support and maintaining clear and transparent communication about goals and expectations. Qualitative findings revealed a few additional leadership factors not included in Hallinger's ISL model, such as creating a collaborative environment, building a caring community, securing communication flow, and leading by example.

These results are not surprising. Meaningful and communicated goals bring a focus to individual and collective work and rally the team. The precision, detail, and heart poured into supporting and supervising set the example and build teachers' capacity, leading to a sense of mastery. Developing a fair, caring, and collaborative workplace is conducive to accomplishing goals and can provide teachers with a sense of satisfaction, achievement, and confidence in the team's capability (Hallinger, 2005; Leithwood, 2012; Leithwood & Louis, 2012).

The leadership and working environment impact on CTE revealed in both quantitative and qualitative results supported Adams and Forsyth's (2006) proposal that contextual environment, such as an enabling school system, can be a significant

source of teacher-perceived group efficacy. In an enabling school system, leaders play a role as "enablers," and the rules, regulations, and procedures foster trust, encourage truth-telling, and reduce role conflict. Teachers' collective efficacy grows as leaders work with the team through clear communication and action to develop an enabling system where mutual trust and respect are fostered.

Research Question Two and Three

T-test results indicated that elementary teachers' perception of ISL ($M = 3.85$, $SE = 0.19$) and CTE ($M = 4.85$, $SE = 0.13$) were higher than secondary teachers' ratings on ISL ($M = 3.77$, $SE = 0.13$) and CTE ($M = 4.80$, $SE = 0.12$). However, the difference was not statistically significant, $p = .733$, $p = .756$. This finding is not consistent with previously reported school-level effects on ISL and CTE (Hallinger 2003; Lin 2013). One possible explanation is that this study sampled teachers from high-end K–12 private schools, which often hold synthesized and systemized visions, goals, and school structures. The difference between school levels may be insignificant in such a homogeneous school climate and culture.

On the other hand, t-test analyses revealed that Chinese teachers' perception of ISL ($M = 4.16$, $SE = 0.16$) and CTE ($M = 5.08$, $SE = 0.14$) were significantly higher ($p < .05$) than international teachers' mean scores on ISL ($M = 3.63$, $SE = 0.14$) and CTE ($M = 4.67$, $SE = 0.10$). One possible explanation for the difference could be that Chinese teachers in organization X have a more optimistic attitude toward their leaderships and teams than their international counterparts, brought about by home-court advantage. Transitions and cultural differences add more challenges to

expatriate teachers' already stressful work-life (Bailey, 2015) and are more likely to

cause misunderstanding and a more negative attitude toward the leadership than their

local Chinese counterparts spared of these additional stresses (Bailey & Gibson, 2020;

Caffyn, 2018). Another explanation could be that Chinese teachers tend to give higher

ratings on leadership-related practices (Guo & Lu, 2018). Chinese society has

traditionally held high regard to powerful authorities and high expectations for its

leaders' integrity and moral conduct (Farh & Cheng, 2000; Li & Shi, 2005). Thus,

Chinese teachers, in general, are more likely to give positive comments on leadership

out of deference and respect to the principal.

Qualitative findings also revealed subtle differences between Chinese and

international participants in the values placed on various leadership practices. Chinese

participants highlighted leaders' ability to set goals and make strategic plans. To them,

the leader is the one who holds the map and is responsible for designing effective

strategies to move the team forward. They portrayed an outstanding leader as a role

model, working hard and making great efforts. At the same time, international

participants underscored leaders' ability to get the buy-in from teachers. They see an

effective leader as one who is "in it" with them and value high visibility. They also

appreciate leaders taking the time to get to know them personally.

Research Question Four

Question 4 explores the role of three potential moderators: school level,

collectivism, and power distance. Results indicated that the interaction between

instructional leadership and school level (B = -0.31, p = .057) was not statistically

significant. School level was not a significant moderator between perceived ISL and CTE. As discussed earlier, it is probable that at schools with a more homogenous climate and culture, the difference between school levels is likely to be insignificant, and therefore the influence of its interaction with ISL on CTE may be moderate.

Moreover, results demonstrated that the interaction between instructional leadership and collectivism ($B = -0.05$, $p = .568$) was not statistically significant. Contrary to previous findings (Chiu et al., 2000; Gibson, 1999; Hardin et al., 2007; Kirkman & Shapiro 2001), collectivism was not a significant moderator between perceived ISL and CTE. One explanation for the inconsistency might be that the strong organizational culture associated with a faith-based organization may have diminished potential cultural differences between Chinese and international teachers. Almost all interview participants highlighted the influence of religious values on their team and environment, such as a caring community that is supportive where people covering for each other. In such an environment, the staff is likely to show higher homogeneity in certain cultural values, such as collectivism.

In terms of power distance, analyses indicated that PD significantly moderated the relationship between ISL and CTE ($B = 0.23$, $p < .05$). Specifically, teachers' perceptions of instructional leadership were significantly and positively associated with their collective efficacy only when power distance was at the mean ($p < .001$) and above the mean ($p < .001$) level but not when it was below the mean ($p = .449$). In other words, when PD was at an average or above-average level, an increase in ISL was more likely to yield a greater increase in CTE, but when PD was

below the mean, each increase in ISL was not going to generate much change in CTE. These results are consistent with Earley's (1999) findings that group members are more likely to look at the higher-status when making group efficacy judgments in groups with high power distance than in groups with low power distance.

The influence of PD was observed in the qualitative findings as well. While international participants implied a value on shared or distributed leadership, Chinese participants' expectations suggested a more paternalistic style, a benevolent father. Paternalism is one of the most salient cultural characteristics of Pacific Asian cultures, with a strong emphasis on patriarchal, patrilocal, and patrilineal relationships within the family unit (Aycan, 2006).

Naturally, different perceptions bear different behaviors. Chinese and international participants differed in their views on transparent communication with the leader. When Chinese participants talked about open communication, it was more about understanding the task, situation, and the leader's thoughts and expectations. A leader with listening ears is considered trustworthy, and keeping the team informed shows his or her trust in the team. Meanwhile, international teachers believed it was critical to be "kept in the loop," for leaders to convince teachers to get buy-in, and equally important to have a voice and to be heard. They felt valued to be involved in decision-making.

Interestingly, international participants in both interviews expressed the perceptions that "American" staff are "outspoken" and "sway the group decision" when "the majority may not have necessarily felt that way." Whereas national staff at

international schools are "timid about speaking up or speaking out" and "do what they're told" and "will not speak out and say something contrary to what the leadership is saying." These comments might not be entirely accurate but, to an extent, illustrated the cultural impact on the team.

This study supports previous research findings that, in Chinese societies, power distance might be one of the strongest sociocultural moderators in explaining the possible association between leadership and employee behaviors (Farh et al., 2007; Guo & Lu, 2018) and stresses the need for leaders of multicultural teams in China to pursue a genuine understanding for all staff and draw out valuable insights from them.

Research Question Five

Mediation analyses indicated that ISL had a significant direct effect on CTE ($B = 0.28$, $p < .05$) but the indirect effects of ISL on CTE through leaders' encouragement character strength ($B = 0.08$, $p = .402$) was not significant. Meanwhile, teachers' narratives revealed that school leaders shaped teachers' group efficacy in three ways: 1) working with the team to shape the purposes to meet the particular needs of the school; 2) developing a working environment that provides teachers with a sense of achievement, satisfaction, and pleasure; and 3) modeling values and practices that create a climate promoting teaching and learning. These findings suggest that leaders are more likely to shape teachers' collective efficacy beliefs through output (what they can do for the team), such as promoting team collaboration (Goddard, 2015), than inherent characteristics (i.e., who they are, what

they are good at), like character strength of encouragement.

At the same time, it is important to note that mediation analyses revealed a significant direct effect of CTE on ISL ($B = 0.21$, $p < 0.5$) and significant indirect effects of CTE on ISL through leaders' encouragement ($B = 0.38$; [BC] 95% CI [0.178, 0.635]). Put in another way, while leaders' character strength of encouragement was not a significant mediator in the influence of instructional leadership on teachers' collective efficacy, it was a significant mediator in the influence of teacher's sense of collective efficacy on their perceptions of instructional leadership. Past research generally regarded leadership as an independent variable and CTE as an outcome variable. However, since this study examines teachers' perceptions, it is reasonable to speculate that teachers' beliefs in the team's capability could have influenced the way they perceive or evaluate leadership effectiveness. When asked this question in the focus group interviews, most teachers had never thought that their team's capability might influence their views toward leadership. However, their reflection provided insights for this possible connection. I4 shared a positive first impression of the leader's effectiveness when moving to a new department due to the team's positive efficacy,

> I kind of felt at home straight away because they had that really closeness and they included me in that. So, obviously, as you know, the leader had obviously worked really hard to, to kind of make that group the way it was.

I2 went further and pointed out that "there are different pockets of people who feel differently towards leadership…then in response, they're gonna get a certain response

back."

As stated in social cognitive theory, socialization (environment) supplies for our cognitive beliefs that lead to certain behaviors, and the consequences of such behaviors, in turn, reinforce our beliefs and guide our socialization. In a team with high collective efficacy, teachers are more likely to trust the leaders and seek help or consult, and thus they may be more able to see or engage with their leaders' strength of encouragement or other leadership effectiveness, which reciprocally enhance teachers' sense of trust and collective beliefs in their team.

Study Limitations.

There are a few limitations to this study. The first potential limitation is the instructional leadership measurement issue. Despite the fact that PIMRS Teacher Short Form demonstrated psychometric soundness, recent research suggests instructional leadership studies in China should use scales better fitting in the cultural context, for example, the Chinese version of PIMRS (Qian et al., 2017). Since this study focuses on a multicultural environment, the author adopted the PIMRS original short form for both foreign and Chinese teachers to make results from both groups comparable. This decision allows the findings of this research to be compared with those published in Western countries.

Another limitation is the sample size. The digital survey was sent to over 300 international teachers, and only 90 of the 176 responses are valid. The survey was administered in the midst of the global pandemic where teachers feel stressed and even overwhelmed, which might affect the survey response rate. The small sample

size may limit the power of quantitative analyses. The author adopted the robust

method of bootstrapping to reduce the impact of sample size and gain statistical

power.

The third limitation is the COVID-19 impact on international school daily

operation. Due to the pandemic, a large number of international teachers were not able

to return to their campuses and had to teach remotely. This dramatic change in daily

teaching routine and team interaction surely affected teachers' perceptions of their

teams and leaders, particularly for first-year teachers who can only get to know their

leaders over Zoom.

Last, X is a faith-based organization, and the majority of teachers, in

particular international teachers, identified themselves as Christian. According to

Tracey et al. (2014), "collective identity like organizational identity is often intimately

connected to religion" (p. 10). This factor may, to some extent, limit the

generalizability of the findings.

Implications and Future Directions

Study Strengths and Implications for Future Research

This paper makes several primary contributions to the literature on

collective teacher efficacy and instructional leadership. First, this study demonstrates

a relationship between instructional leadership and teachers' collective efficacy in a

sample of multicultural teachers drawn from international schools in China, providing

further evidence for the influence of leadership behavior on promoting teachers'

collective efficacy. More empirical evidence is needed to understand how leadership

shapes CTE formation in schools (Çalik et al, 2012; Goddard, 2015; Hallinger et al., 2018). This study found leaders' inherent characteristic encouragement not a statistically significant mediator in ISL's influence on CTE. Focus group participants' narrative suggested that leaders were more likely to influence CTE formation through output (i.e., what they can do for the team), such as promoting team collaboration (Goddard, 2015). A recent study by Ma and Marion (2021) reported that ISL's effect on teacher self-efficacy is partially mediated by faculty trust. The author suggests future research to investigate the mediation effect of other leadership practice outcomes, such as trust, to discover how leadership impacts the formation of CTE.

Second, Adams and Forsyth (2006) proposed the contextual environment as a proximate source of teacher-perceived group efficacy compared to the four "remote sources" of efficacy beliefs postulated by Bandura in social cognitive theory. Quantitative results of the leadership influence on CTE and focus group participants' insight on how an empowering working environment shapes their perception of group capacity support Adams and Forsyth's theory. Coladarci (1992) reported that principals could shape teachers' self-efficacy through building positive and supportive environments. Future empirical research needs to examine and provide evidence for how contextual environment, such as enabling school system, shapes teachers' collective efficacy beliefs.

Third, although some researchers have conducted studies in other cultural settings (Çalik et al., 2012; Hallinger et al., 2018), they did not empirically investigate the potential impact of cultural values on teachers' collective efficacy. This study

adopted a mixed-methods approach and explored cultural values' impact on the relationship between school leadership and group efficacy through survey data and teachers' narratives. The significant moderation function of power distance offers a possible explanation for the inconsistent findings on the relationship between leadership and CTE in Middle Eastern countries versus the United States (Çalik et al., 2012; Fancera & Bliss, 2011; Goddard et al., 2015; Hallinger et al., 2018). More studies, especially comparative studies, are needed to understand how collective teacher efficacy forms in various cultures.

Also, many focus group participants mentioned the influence of their schools' religious culture on their team and leadership perceptions. Collective identity is often closely tied to religion (Tracy et al., 2014). Future research could investigate the influence of spirituality and religiosity on collective efficacy.

Fourth, the decision to test the study model in an international school setting is due to the pressing need to understand effective school leadership practices in multicultural environments as numbers of international schools and cross-cultural educational collaboration surged over the past two decades (ISC, 2020). Cross-cultural transitions pose unique challenges in multicultural organizations and question the transportability of educational research models from one society to another (Bailey & Gibson, 2020; Qian et al., 2014). The wide range of individual cultural values poses a unique school leadership challenge at an international school. However, there are few studies of international school leadership (Calnin et al., 2018). Little has been written about how to prepare them for the job (Bailey & Gibson,

2020). This study contributes to understanding teachers' perceptions of leadership and a benevolent working environment and provides evidence for building an effective leadership model at international schools. More studies, especially qualitative and longitudinal research, need to be conducted to gain insights on international teachers' and leaders' needs and provide transferable social study models for international school improvement. For example, change is often the norm at international schools and demands consistent cultural adoptions. Many interview participants reported the adverse impact of frequent changes. Future research could examine social support and uncertainty as moderators in the relationship between teachers' perceptions of leadership and group efficacy.

Last, study results revealed a significant direct effect of teachers' collective efficacy on their perceptions of school leadership and that the leaders' character strength of encouragement was a significant mediator in this association. The focus of collective teacher efficacy research often lies in its effects on students' learning and teacher wellbeing. Little attention has been paid to its influence on teachers' perceptions of school leadership. This study offers a new perspective and pathway for school administration research, particularly how leaders could inspire a positive attitude toward leadership through their character strength and use of encouragement in promoting group efficacy.

The character strength of encouragement is a relatively new construct in positive and counseling psychology. This study confirmed previous research that leaders' encouragement yield benefits not just for the recipient of encouragement but

also the encourager (Wong, 2015). Teachers' collective efficacy and its interaction with leaders' encouragement had a significant positive influence on teachers' perception of instructional leadership. More empirical studies, in particular qualitative studies, need to be conducted to understand both the teachers' and the principal's views on encouragement and its effect on employee attitudes and behaviors.

Implications for Practice

Instructional Leadership in Promoting Collective Teacher Efficacy.

The study findings agree with previous research that influential instructional leaders need to incorporate both instructional elements (e.g., instructional support, professional development) and school's noninstructional elements (e.g., community building, relationship) to build teacher beliefs (Halllinger, 2005; Leithwood & Louis, 2012; Ma & Marion, 2021).

Focus group interviews showed that teachers admired servant leaders who were not self-centered but had a humble heart willing to help others grow. They respected leaders who showed competence and accountability, knew what was going on, and jumped right in to do the hard work and take responsibility. They expected transparent, proactive, and effective communication that promotes collaboration and unity.

A collaborative climate is key to create collective efficacy (Donohoo, 2017; Goddard, 2015). In focus group interviews, Chinese participants used the word "unity." The Chinese place a high value on the unity of a team, community, and society. It is more than collaboration and similar to a phrase one international teacher

used, "we are all in this together," which includes shared knowledge and beliefs, a team-oriented approach, opportunities to collaborate, roles and responsibilities that are clearly defined, and a process that is fair and open.

In short, leaders build the team's efficacy beliefs through setting and effectively communicating meaningful goals, providing precise individualized support to build teacher capacity, developing a fair, caring, collaborative workplace, and modeling the practices and values aligning with the school mission and vision. These effective leadership practices yield mutual respect and trust between teachers and leaders, and mutual respect and trust are the nutrients for collective teacher efficacy to grow.

Leadership Practice in International Schools.

Conventional western-centered school administrative models face challenges in teams with a wide range of cultural backgrounds. For instance, distinct from the theories well-supported in western-based research, perceived organizational support does not necessarily lead to increased work performance of Chinese workers with high power distance or traditional values (Farh et al., 2007). As this research demonstrated, cultural values, like power distance and traditionality, are significant factors in explaining employee attitudes and behaviors in China (Farh et al., 2007; Guo et al., 2021; Qian et al.,2014).

Chinese international school workforce values are increasingly diverse, ranging from high power distance Chinese, to those with low power distance with a strong Western cultural influence, to international teachers from the four corners of

the world. Competing interests, personal agendas and aspirations, and various personalities and backgrounds pose a high risk of social conflict. If not handled carefully, such diversity could drain the active energy of the school and jeopardize the efforts to create a collaborative community (Caffyn, 2018). International schools need to evaluate and strengthen the principal preparation program and support system. It is critical to help principals understand how leadership functions in international schools where diverse, competing groups and individuals interact and create cultural, political, and psychosocial complexity. It is equally valuable to provide principals with skills and resources to tackle the problems and complexity they face in running and managing disparate groups (Bailey & Gibson, 2020; Caffyn, 2018). The study findings encourage international school principals to take an individualized approach to model values and practices that foster mutual respect and trust. Specifically, leaders should pay attention to individual differences, take time to get to know every teacher, understand their needs, and give individualized support. For instance, leaders can provide multiple means, including email, small group meetups, anonymous opinion boxes, and surveys, to collect feedback and get the consensus of the majority. At the same time, leaders need to show the team their determination to build a supportive and collaborative community by modeling clear communication, transparency, caring, and accountability. Finally, challenges faced by each international school are unique, and there is no one-size-fits-all solution. Ultimately, international school leaders need to make contextually relevant decisions based on what is right for the students given the specific situation, a key underpinning effective school leadership (Bailey &

Gibson, 2020).

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Appendix A

CTE in Multi-cultural Environments Survey

Please provide the following information about yourself:

School Name

_____

 I am

○ a Chinese staff

○ an international staff (Please list your nationality below.)   _____

○ I prefer not to say.

At the end of this school year, how many years have you worked with the current divisional principal (This can be your Head principal, if you don't work under a divisional

principal):

○ 0-1 (1)

○ 2-4 (2)

○ 5-9 (3)

○ 10-15 (4)

○ more than 15 (5)

At the end of this school year, how many years of experience do you have as a teacher?

○ 0-1 (1)

○ 2-4 (2)

○ 5-9 (3)

○ 10-15 (4)

○ more than 15 (5)

School level you teach currently:

○ Elementary or Preschool   (1)

○ Secondary   (2)

Gender of this principal:

○ Male   (1)

○ Female   (2)

○ I prefer not to say   (3)

Nationality or Ethnicity of this principal:

_____

PIMRS

   Instructions: You are asked to consider each question in terms of your observations of this principal's leadership over the past school year. Please read each statement carefully and choose the option that best fits the specific job behavior or practice of this principal during the past school year. In some cases, these responses may seem awkward; use your judgment in selecting the most appropriate response to such questions. Please try to answer every question. Q13 To what extent does your principal...?

	Almost Never	Seldom	Sometimes	Frequently	Almost Always	Not Applicable
	1	2	3	4	5	

1.   Develop a focused set of annual school/department-wide goals

2.   Use data on student performance when developing the school/department's academic goals

3. Develop goals that are easily understood and used by teachers in the school/department

4. Communicate the school's mission effectively to members of the school community

5. Refer to the school's academic goals when making curricular decisions with teachers

6. Ensure that the classroom priorities of teachers are consistent with the goals and direction of the school

7. Review student work products when evaluating classroom instruction

8. Make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, vice principal, or teacher-leaders)

9. Draw upon the results of school-wide testing when making curricular decisions

10. Participate actively in the review of curricular materials

11. Meet individually with teachers to discuss student progress

12. Use tests and other performance measure to assess progress toward school/department goals

13. Encourage teachers to use instructional time for teaching and practicing new skills and concepts

14. Take time to talk informally with students and teachers during recess and breaks

15. Attend/participate in extra- and co-curricular activities

16. Compliment teachers privately for their efforts or performance

17. Acknowledge teachers' exceptional performance by writing memos for their personnel files

18. Create professional growth opportunities for teachers as a reward for special contributions to the school

19. Lead or attend teacher in-service activities concerned with instruction

20. Set aside time at faculty meetings for teachers to share ideas or information from in-service activities

21. Recognize superior student achievement or improvement by seeing in the office the students with their work

22. Contact parents to communicate improved or exemplary student performance or contributions

ECSS

Instructions: We're hoping to understand your perceptions of your principal. Below is a list of statements about your principal's character strengths. Please read each statement carefully and rate the degree to which you agree with each statement.   Describe your principal as she/he generally is now, not as you wish her/him to be in the future or how you think most people would answer. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can. Please be

assured that **your responses will not be shared with your principal.**

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
	1	2	3	4	5	6

1. My principal's words of encouragement provided hope during a difficult time in my or my colleagues' lives.

2. My principal has just the right words of affirmation for someone who is feeling down.

3. My principal knows how to use words of affirmation to address someone's deepest fears.

4. My principal's words of encouragement motivated me or my colleagues to consider a new opportunity.

5. My principal has just the right words to help others believe they can achieve at the highest level.

6. My principal's positive words have given someone the courage to pursue new opportunities that she/he didn't previously consider.

7. My principal enjoys saying or writing something positive to encourage others to persevere in the face of hardship.

8. My principal shares words of inspiration with those who lack confidence

9. My principal likes to share words of encouragement with others who are feeling dejected.

10. My principal gets excited about inspiring others to fulfill their potential.

11. My principal enjoys saying or writing something to others to encourage them to pursue their dreams.

12. When my principal sees others doing a good job, he or she encourages them to keep up the good work.

CES

Instructions: This section is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Please indicate your level of agreement with each of the following statements from Strongly Disagree (1) to Strongly Agree (6).

Please respond to each of the questions by considering the current ability, resources, and opportunity of the teaching staff in your school to do each of the following.

	Strongly Disagree 1	2	3	4	5	Strongly Agree 6	Not Applicable

1. Teachers in this school are able to get through to difficult students.

2. Teachers here are confident they will be able to motivate their students.

3. Teachers in this school really believe every child can learn.

4. If a child doesn't want to learn teachers here give up.

5.   Teachers here don't have the skills needed to produce meaningful student learning.

6.   These students come to school ready to learn.

7.   Homelife provides so many advantages the students here are bound to learn.

8.   Students here just aren't motivated to learn.

9.   The opportunities in this community help ensure that these students will learn.

10.   Learning is more difficult at this school because students are worried about their safety.

11.   Drug and alcohol abuse in the community make learning difficult for students here.

12.   Teachers in this school do not have the skills to deal with student disciplinary problems.

CVScale

Please read each statement carefully and rate the degree to which you agree with each statement.

Strongly Disagree	Disagree	Somewhat	Disagree Neither Agree or Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Individuals should stick with the group even through difficulties.

People in higher positions should make most decisions without consulting people in lower positions.

Individuals should sacrifice self-interest for the group (either at school or the work place).

People in higher positions should not ask the opinions of people in lower positions too frequently.

Group loyalty should be encouraged even if individual goals suffer.

People in higher positions should avoid social interaction with people in lower positions.

People in lower positions should not disagree with decisions by people in higher positions.

Group success is more important than individual success.

People in higher positions should not delegate important tasks to people in lower positions.

Group welfare is more important individual rewards.

Individuals should only pursue their goals after considering the welfare of the group.

You have reached the end of the survey. Thank you for your time. If you are interested in participating in a follow-up, one-hour focus group interview (6-10 people) and

further share your thoughts and insights on leadership and collective teacher efficacy, please click on this link. It will take you to a separate page to enter your contact information. Your identity will not be linked to your survey response. Focus group participants will be given pseudonyms, and each participant will receive a US$15 (or equivalent) gift card. Thank you for your consideration.

Appendix B

Focus Group Interview Questions

1. What does collective efficacy mean to you? "If you haven't heard of the term, no problem. Hearing this term, what do you think a collective sense of efficacy would mean to you?

2. Based on your personal experience or observation, what factors might shape a teacher's collective efficacy?

    a) Probe: In what ways do you think your school has shaped your collective efficacy? provide specific examples if you could.

    b) Probe: In what ways do you think your school could have done better? Please provide specific examples if you could.

3. What does an effective leader look like? Based on your personal experience or observation, what characteristics must an effective leader have? Could you give me an example?

4. How do you think your principal's behaviors have influenced your team's work/capability in improving students' performance? Please provide specific examples if you could.

5. How do you think your team's collective efficacy has influenced your interaction and perception of the leader/principal's effectiveness?